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State Management Program for Recreational Red Snapper

Final Draft Amendment 50A
to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico

Including Programmatic Environmental Impact Statement

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AMENDMENT 50A TO THE FISHERY MANAGEMENT PLAN FOR THE REEF FISH RESOURCES OF THE GULF OF MEXICO INCLUDING A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (EIS)

State Management Program for Recreational Red Snapper

Abstract: This EIS is prepared pursuant to the National Environmental Policy Act to assess the environmental impacts associated with a regulatory action. The EIS analyzes the impacts of a reasonable range of alternatives intended to provide limited authority to Florida, Mississippi, Alabama, Louisiana, and Texas, to manage recreational fishing of red snapper. These actions would allow those states the flexibility to manage recreational fishing of red snapper in federal waters in the Gulf of Mexico adjacent to their state waters. Amendments 50B-F contain draft environmental assessments (EA) that address the authority structure and quota adjustments for each of the states. Those EAs tier off of this programmatic EIS, which analyzes the direct, indirect, and cumulative effects of all six documents.

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measure
APAIS	Access Point Angler Intercept Survey
Bi Op	Biological Opinion
B_{MSY}	stock biomass level at which MSY can be harvested on a continuing basis
CEP	conservation equivalency plan
Council	Gulf of Mexico Fishery Management Council
CS	consumer surplus
DEIS	draft environmental impact statement
DLMToolkit	Data Limited Methods Toolkit
DPS	distinct population segment
EEZ	exclusive economic zone
EFH	essential fish habitat
EFP	exempted fishing permit
EIS	environmental impact statement
EJ	environmental justice
ESA	Endangered Species Act
FGBNMS	Flower Garden Banks National Marine Sanctuary
FKNMS	Florida Keys National Marine Sanctuary
FMP	fishery management plan
Gulf	Gulf of Mexico
HAPC	habitat area of particular concern
LAPP	Limited Access Privilege Program
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
mp	million pounds
MRFSS	Marine Recreational Fishery Statistics Survey
MRIP	Marine Recreational Information Program
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act
nm	nautical miles
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOR	net operating revenue
OFL	overfishing limit
PDARP	Programmatic Damage Assessment and Restoration Plan
PS	producer surplus

RQ	regional quotient
SEAMAP	Southeast Area Monitoring and Assessment Program
Secretary	Secretary of Commerce
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SRHS	Southeast Region Headboat Survey
SSB	spawning stock biomass
SSC	Scientific and Statistical Committee
TAC	total allowable catch
TL	total length
TPWD	Texas Parks and Wildlife Department
USFWS	U.S. Fish and Wildlife Service
VEC	valued environmental components
ww	whole weight

Individual State Amendments: Florida, Alabama, Mississippi, Louisiana, and Texas' State Management for Recreational Red Snapper Amendments

Program Amendment: State Management Program for Recreational Red Snapper Amendment

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EXECUTIVE SUMMARY

From 1996 – 2014, the recreational fishing season for red snapper in federal waters of the Gulf of Mexico (Gulf) became progressively shorter. Despite regular increases in the recreational annual catch limit (ACL) since 2010, shorter federal seasons have continued as the quota is landed quicker and inconsistent (longer) state water seasons result in overages. Recreational fishermen throughout the Gulf have requested more flexibility in recreational red snapper management to provide greater socioeconomic benefits to their local area. The Gulf of Mexico Fishery Management Council (Council) is exploring ways to address this. State management refers to allowing a state to set some recreational regulations (e.g., bag limits and season dates) in contrast to uniform recreational regulations applied to fishing in all federal waters in the Gulf.

This State Management Program for Recreational Red Snapper Amendment (Amendment 50A, Program Amendment) and environmental impact statement (EIS) consists of actions affecting all Gulf states and the overall federal management of red snapper, regardless of whether or not all states pursue a state management program.
These actions are:

Action 1.1 - Components of the Recreational Sector to Include in State Management Programs

Action 1.2 - Mechanism to Implement Optional State Management of Federal For-Hire Vessels

Action 2 - Apportioning the Recreational ACL (Quota)

Action 3 - Procedure for Allowing a Gulf State to Request the Closure of Areas of Federal Waters Adjacent to State Waters to Red Snapper Recreational Fishing

In addition to this Program Amendment, separate State Management for Recreational Red Snapper Amendments (Amendment 50B-F, Individual State Amendments) for each of the five Gulf states are being developed and include environmental assessments that are tiered from this DEIS. Each Individual State Amendment includes the following two actions:

Action 1 - Authority Structure for State Management

Action 2 – Post-Season Quota Adjustments

This Program Amendment and EIS analyze the potential effects of both the state management program structure and the individual state management programs to be developed for the recreational harvest of red snapper through the Individual State Amendments. While the selection of preferred alternatives for each Individual State Amendment will be made within the respective document, the six amendments are directly related and the effects are intertwined. Thus, the direct, indirect, and cumulative impacts related to the reasonably foreseeable actions of the five Individual State Amendments are analyzed in this EIS.

Providing flexibility to states to establish management measures is expected to result in social and economic benefits, as it is assumed that each state would provide fishing opportunities preferred by anglers landing red snapper in that state. Management measures under a state's approved state management program must achieve the same conservation goals as the current federal management measures (e.g., constrain harvest to the state's allocated portion of the recreational sector ACL, rebuild the red snapper stock). Under state management, red snapper would remain a federally managed species. The Council and the National Marine Fisheries Service (NMFS) would continue to oversee management of the stock in federal waters. This includes continuing to comply with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) the mandate to ensure the recreational sector's red snapper stock ACL is not exceeded and that conservation objectives are achieved. The Council's Scientific and Statistical Committee (SSC) would continue to determine the acceptable biological catch (ABC) for red snapper, while the Council would determine the total recreational sector and component ACLs.

In 2015, the recreational sector was divided into a private angling component and a federal for-hire component. Separate fishing seasons are established for each component based on the component annual catch targets (ACT), which are reduced from the component ACLs by the established buffer. The private angling component consists of anglers fishing from privately owned and rented vessels, and for-hire vessels without a federal permit (i.e., state-licensed for-hire vessels). These state-licensed for-hire vessels may not harvest red snapper from federal waters, including under any state management plan. The federal for-hire component consists of anglers fishing from vessels with a federal charter/headboat permit for Gulf reef fish.

In the event all states do not implement a state management program, existing regulations would remain in place as default federal regulations. In that case, these default regulations would apply to defined areas of federal waters off each non-participating state. At the February 2013 Council meeting, representatives from each state marine resource agency agreed on these areas that, if needed, would define waters off each state. The areas are described in more detail in Section 1.1. For a state with an approved state management program, the appropriate default federal regulations would be waived in the defined area off that state and the state would establish its fishing season for red snapper landed in the state from both federal and state waters, and potentially other management measures. Enforcement of state management programs would largely occur in state waters and dockside. One action would allow each state to request area closures in federal waters off that state, which would require identifying the boundaries of federal waters off each state. In both cases (i.e., some states lacking approved state management plans and area closures in federal waters off the individual states), the applicable regulations would apply to all vessels of the managed component of the recreational sector in the defined area of federal waters.

Currently, the recreational harvest of red snapper in federal waters of the Gulf is constrained by a two-fish bag limit, 16-inch total length (TL) minimum size limit, and a fishing season that begins on June 1 and closes when the ACT of each recreational component is projected to be caught. For the 2018 and 2019 red snapper fishing seasons, the private angling component seasons were set by each of the five Gulf states through exempted fishing permits (EFP), while the federal for-hire component season continues to be set by NMFS. The purpose of the EFPs is to allow states

to demonstrate the effectiveness of state management of recreationally caught red snapper and data collection methods through 2-year pilot programs.

Program Amendment

This amendment includes the following actions that affect all Gulf states and the overall federal management of red snapper, regardless of whether all states pursue a state management program.

Action 1.1 – Components of the Recreational Sector to Include in State Management Programs

Action 1.1 would establish the components of the recreational sector to include in state management programs. Alternative 1 (No Action) would retain current federal management of recreational red snapper in federal waters of the Gulf. Preferred Alternative 2 would allow a state with an approved state management program to manage its private angling component only. The state would be required to constrain landings to the state's private angling component ACL as determined in Action 2. The federal for-hire component would continue to be managed Gulf-wide by NMFS. The sunset provision ending the separate management of the private angling and federal for-hire ACLs would be removed. Alternative 3 would allow a state with an approved state management program to manage both its private angling and federal for-hire components. The state management plan would end when the separate private angling and federal for-hire ACLs expire. Alternative 4 would allow a state with an approved state management program to choose whether to manage its private angling component only, or to manage both its private angling and federal for-hire components. The sunset provision ending the separate management of the private angling and federal for-hire ACLs (currently 2022) would be removed. With Alternative 4, a state must indicate its intent to manage its federal for-hire component through a letter to NMFS that must be received within one month following the Council's vote to approve this amendment.

The effects on the physical environment from management actions primarily include changes to interactions of fishing gear with the habitat. Recreational red snapper fishing almost exclusively uses vertical line gear, most frequently rod-and-reel, which is generally suspended over hard bottom. Sometimes the fishing line can become entangled, injuring or killing corals, sponges, and other benthic flora and fauna. Anchor damage is also associated with handline fishing vessels, particularly by the recreational sector where fishermen may repeatedly visit well-marked fishing locations. The cumulative effects of repeated anchoring could damage the physical environment. The magnitude of effects from fishing on the physical environment are generally tied to fishing effort. The greater the fishing effort, the more gear interacts with the bottom. However, changes in fishing effort as a result of this action are expected to be minimal.

Management actions that affect the biological environment mostly relate to impacts of fishing on a species' population size, life history, and the role of the species within its habitat. Removal of fish from the population through fishing reduces the overall population size. For red snapper, the most likely indirect effect on the stock from this action would be on discard mortality. Regulatory discards are fish that are caught, but not kept because they are too small, would put a fisherman over the bag limit, or are caught out of season. A percentage of these fish die and are called dead discards. If fishing effort shifts spatially, the discard mortality rate could change. Red snapper harvested from greater depths have a greater potential of experiencing barotrauma

and mortality, even if properly vented or returned with a descending device. In recent years, private angling fishing effort in deeper federal waters has been limited by the shorter season. If private angling fishing effort shifts offshore because there are no longer inconsistencies between state and federal water seasons, discard mortality could potentially increase.

Under current NMFS management of recreational red snapper in federal waters of the Gulf (Alternative 1), the ACL for the private angling component has been exceeded numerous times. Retaining the current management under Alternative 1 would continue any negative impacts to the physical environment that result from ACL overages. For Preferred Alternative 2, if the state can better constrain the private angling component landings to the ACL, and NMFS continues to constrain the for-hire component landings to the ACL, less fishing effort could occur reducing negative impacts to the physical and biological environments. For Alternative 3, if a state is better able to constrain for-hire and private landings to the ACLs, this alternative could also reduce negative impacts to the physical and biological environments. For Alternative 4, the impacts to the physical and biological environments would be those already captured in Preferred Alternative 2 or Alternative 3 dependent on which components the state chose to manage. Both Preferred Alternative 2 and Alternative 4 remove the sunset on sector separation, which is currently set to expire at the end of 2022. Analysis indicated that charter vessels tend to catch slightly more red snapper per angler on average than private vessels or headboats. If sector separation were to end, the proportion of red snapper harvested by the private angling component could increase similar to what it was before sector separation. If that increase occurs, along with a spatial shift of the private angling component to deeper waters, discard mortality could increase.

Regarding the economic environment, Alternative 1, which precludes the materialization of the assumed benefits of increased flexibility under state management, would be expected to result in negative indirect economic effects. Preferred Alternative 2 would be expected to result in economic benefits to the private angling component due to the additional management flexibility it grants participating states. Alternative 3 could better address the needs of a state's entire recreational angling population, resulting in positive economic effects. Alternative 4 would be equivalent to Preferred Alternative 2, if all participating states elect to manage their respective private angling components only; Alternative 4 would be analogous to Alternative 3 if all participating states decide to manage red snapper for the entirety of their respective recreational sector. However, if states elect to make different management decisions and include different components, i.e., some with and others without their federal for-hire components, the expected economic benefits due to flexibility would be lessened by potential adverse effects that may stem from the increased management complexity of the recreational red snapper sector.

Any social effects would be indirect and relate to whether flexibility for managing toward local preferences is increased or decreased from current management (Alternative 1). A central assumption is that social benefits would increase by allowing greater regional flexibility in the recreational harvest of red snapper, because management measures could be established that better match the preferences of local constituents. However, constraining landings to a greater number of smaller ACLs is more complex and could increase the likelihood of triggering a post-season overage adjustment. Alternately, the states could be more successful at constraining harvests using the individual state data collection programs, resulting in broad positive effects.

Under Preferred Alternative 2, Alternative 3, and Alternative 4, the direct effects would be expected to be similar among the alternatives compared with Alternative 1. The indirect effects that may result among these alternatives would relate to the amount of regulatory complexity or flexibility from having the states manage the federal for-hire component (Alternative 3), or allowing the state to decide whether to manage the federal for-hire component or leave the component's management under federal jurisdiction, which may vary by state (Alternative 4). The magnitude of the expected social benefits for Preferred Alternative 2 would depend on the management measures implemented by each state and the degree to which those management measures line up with the fishing activity and behavior of anglers. Alternative 3 would result in greater flexibility and regulatory complexity than Alternative 1 or Preferred Alternative 2, as 10 ACLs would be established, one for each component in each state. The greater the differences among how the 10 ACLs would be managed, the greater the regulatory complexity, which could result in negative effects for anglers and for-hire operators. The effects for the private angling component would be the same for Alternative 3 as under Preferred Alternative 2. Some additional negative effects may result for the federal for-hire component. Alternative 4 would entail the greatest amount of both flexibility and regulatory complexity among the alternatives and, therefore, has the greatest potential for negative effects due to uncertainty of which states would manage the federal for-hire component. If all states decided to manage the private angling component only, the effects would be similar to Preferred Alternative 2. The negative effects of regulatory complexity under Alternative 4 would be similar to Alternative 3 if all states adopted different regulations for each component.

Regarding the administrative environment, allowing management of the recreational harvest of red snapper by the Gulf states (Alternatives 2-4) would shift some of the administrative impacts from the federal government to the state governments. This would include such things as establishing the red snapper season structure for the harvest of its assigned portion of the recreational sector ACL, and prohibiting further landings of red snapper when the ACL is reached or projected to be reached. Each state has a landings monitoring program in place which they would need to maintain. Florida uses Marine Recreational Information Program MRIP catch estimates paired with their own effort estimates. The programs used by Louisiana, Alabama, Florida, and Mississippi to estimate landings have been certified by MRIP as statistically and scientifically valid. Nevertheless, even with state management of either component of the recreational sector, NMFS would still be obligated through the Magnuson-Stevens Act to monitor landings and prohibit recreational harvest of red snapper if the total recreational ACL is reached. Some administrative impacts would increase on NMFS, specifically to the Southeast Fisheries Science Center (SEFSC). Currently, the Marine Recreational Information Program (MRIP) uses data from Texas and Louisiana's state data collecting programs to assess the red snapper stock and estimate annual landings. However, the SEFSC would need to calibrate landings across the data collection programs. Standardized, peer-reviewed methods must be developed to calibrate the various state estimates in order to produce historic estimates of recreational removals (e.g., landings and dead discards). The potential impact on other fishery dependent inputs (e.g., indices) may also require further evaluation. The 2020 stock assessment will incorporate all data collection programs. An increase in the complexity of the management, i.e., managing one component or two, would increase the burden to the state. Preferred Alternative 2 would shift the least amount of burden to a state because it would only allow state management of the private angling component.

Therefore, management of the for-hire component would be the same as Alternative 1. Alternative 3 would shift the most burden to a state because it would give the state management of both components. The shift in administrative burden would be greatest under Alternative 4. Depending on how many states chose to include the for-hire component, NMFS would need to set seasons for some and not others, and would need to implement a program as outlined in Action 1.2.

Enforcement would also be affected depending on the number of different state management programs developed; if each state has varying seasons and regulations, enforcement would be more complicated. Alternative 1 would keep the same regulations, resulting in no additional impacts to law enforcement. Because in recent years the states have set different seasons for state waters, the impacts on enforcement would be about the same for Preferred Alternative 2 as Alternative 1. Alternative 3 could result in 10 different sets of regulations if all states adopt state management programs and established different management measures for each component; five states with two sets of regulations for each , and would have greater negative impacts than Alternative 1 or 2, but less negative impacts than Alternative 4. Further, Alternative 3 would only be in place through 2022, when both state management and sector separation would expire. Alternative 4 could also have up to 10 different sets of regulations for each state and each component. However, if some states choose not to manage the for-hire component, the federal season and regulations would apply to some for-hire vessels. Alternative 4 has the potential to be the most complicated for enforcement as some for-hire vessels would be managed under state regulations and some would be managed under federal regulations.

Action 1.2 – Mechanism to Implement Optional State Management of Federal For-hire Vessels

Action 1.2 would establish the mechanism to implement state management of federally permitted for-hire vessels. This action would only be applicable if Alternative 4 is selected as the preferred alternative in Action 1.1. Under Alternative 1 (No Action), the federal for-hire component would be managed using the state management areas defined by boundaries that would extend outward from each state into federal waters of the Gulf, as described in Section 1.1 (Figure 1). If a state is managing the federal for-hire component, the owners or operators of federally permitted vessels fishing for or possessing red snapper within that state's management area must follow the regulations specific to that state's management program. If a state is not managing the federal for-hire component, the owners or operators of federally permitted vessels fishing for or possessing red snapper within the federal portion of that state's management area must follow the federal default regulations. Alternative 2 would establish a state-specific red snapper endorsement to the Gulf reef fish charter/headboat permit to fish for or possess red snapper in federal waters of the Gulf. A vessel with an endorsement for a state with an approved state management plan that includes the federal for-hire component must follow the regulations specific to the state program for which the endorsement is issued, regardless of where the vessel is fishing in federal waters. A vessel with an endorsement for a state without an approved state management plan that includes the federal for-hire component, must follow federal default regulations, including federal closed seasons. Option 2a would allow a charter/headboat permit for Gulf reef fish with a red snapper endorsement to land red snapper in one state per fishing year. If an endorsement is associated with a permit that is transferred, an endorsement for a different state would not be issued to the transferred permit until the following fishing year.

Option 2b would allow a charter/headboat permit for Gulf reef fish with a red snapper endorsement to land red snapper in one state per fishing year, unless the permit is transferred. If a charter/headboat permit for Gulf reef fish with an associated endorsement is transferred during the fishing year, a new endorsement may be issued upon request for a different state.

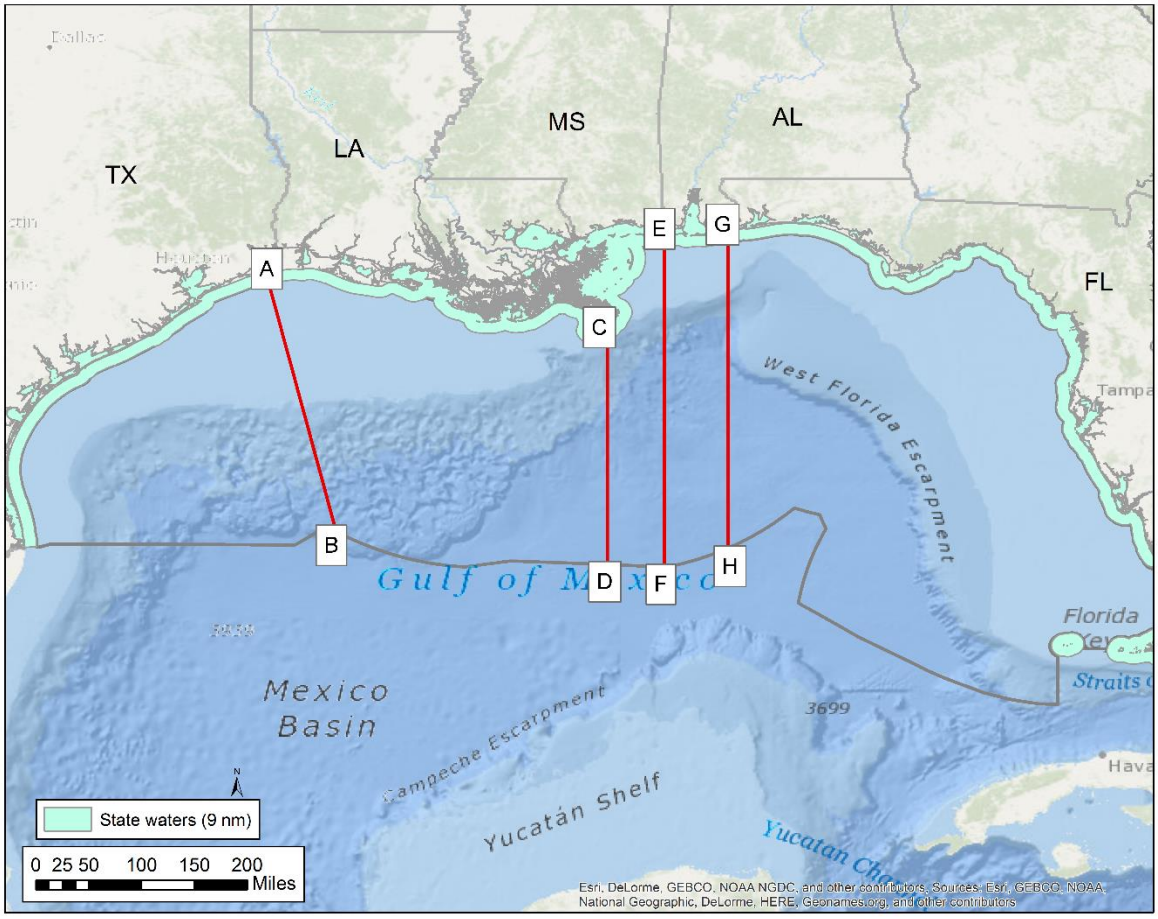

Figure 1. Map with green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The gray line passing through points B, D F, and H indicates the outer boundary for federal waters.

Any effects on the physical or biological environments from this action regardless of the alternatives selected would likely be minimal because no significant change in effort is expected. There is the possibility that effort could shift; however, a shift in effort away from one area would result in an increase in effort elsewhere.

Alternative 1 (No Action), would be expected to result in adverse economic effects due to enforcement difficulties that would result from lines drawn in federal waters and the difficulty in determining where fish were harvested. In contrast to Alternative 1, which relies on the geographical position of vessels to determine which regulations to enforce, Alternative 2 would

allow enforcement officers to identify the applicable state regulations for each vessel based on its endorsement, thereby facilitating their enforcement. Therefore, because of the ease of enforcement it would provide relative to Alternative 1, Alternative 2 would be expected to result in economic benefits that would be derived from a more effective enforcement of applicable regulations, which would then be expected to benefit red snapper resources.

The social environment would be negatively impacted by Alternative 1 because when a season for a state is closed, the federal waters area adjacent to that state would be closed to all for-hire vessels. Thus, for-hire vessels may be prohibited from fishing in federal waters adjacent to other states. When the vessel is from a state with an open season, the use of the endorsement as described in Alternative 2, avoids the use of management areas and allows vessels to fish anywhere in federal waters, provided that the state in which they will land red snapper is open. Thus, positive effects would be expected from Alternative 2, compared to Alternative 1. Option 2a would not allow the permit endorsement to be used to participate in more than one state's season, which may be seen as unfair by those transferring permits. Option 2b would allow a new permit holder to begin using a transferred permit in the same year it was used by the previous permit holder, resulting in some positive effects for the new permit holder.

The boundaries between the states in federal waters would be established though the implementation of this amendment, regardless of whether they are used. Therefore, there would be no additional administrative effects in terms of establishing the boundaries as a result of Alternative 1. However, the use of the boundaries as the means of enforcing state management would result in some administrative burden. Alternative 2 would have a significant effect on the administrative environment because the NMFS Permits Office would need to create an endorsement to the Gulf reef fish charter/headboat permit for each state and be able to assign that endorsement to specific vessels from each state. Under Option 2a, the NMFS Permits Office would need to determine a process by which those new endorsement holders could change the state associated with the endorsement in the following fishing year. Option 2b, would be less burdensome for NMFS because it would be valid at the time of transfer, but could allow an operator or vessel to fish under more than one state quota in a year. However, Alternative 2 would reduce the burden on law enforcement because it would not require the use of multiple boundaries in federal waters.

Action 2 – Apportioning the Recreational ACL (Quota)

Action 2 would apportion the recreational ACL for red snapper among the Gulf states. Alternative 1 (No Action) would not establish an allocation. Alternative 2 would establish an allocation for the private angling and for-hire components based on an average of historical landings, excluding 2010: Option 2a 1986-2015; Option 2b 1996-2015; Option 2c 2006-2015; Option 2d 50% of average historical landings for the years 1986-2015 and 50% of average historical landings for the years 2006-2015. Alternative 3 would calculate the state apportionments under Alternative 2 excluding from the selected time series 2006 landings (Option 3a), 2014 landings (Option 3b), or 2015 landings (Option 3c). Alternative 4 would apportion the ACL among the states based on each state's average of the best ten years of historical landings during the years 1986-2015, excluding 2010. Alternative 5 would establish an allocation based on spatial abundance of red snapper biomass and proportion of recreational

trips from the time series (Options 5a-5c), excluding 2010, and using a weighting (Options 5d-5f).

Alternative 6 would establish an allocation for the private angling component only, based on the allocations set in the exempted fishing permits approved for the states to manage the recreational harvest of red snapper in 2018 and 2019. Alternative 7 would establish an allocation for the private angling component only, based on the allocations requested by each state in its exempted fishing permit application, which totaled 96.22%; and apportioning the remaining 3.78% among the five states proportionally based on their requested allocation. Preferred Alternative 8 would establish an allocation for the private angling component only, based on the allocations requested by each state in its exempted fishing permit application and apportioning the remaining 3.78% between Florida and Alabama.

Establishing the method to apportion the recreational sector component ACL(s) among states would have no direct effects on the physical or biological environments because the total quota would remain the same, and therefore recreational fishing effort for red snapper would remain the same, although it may differ spatially depending on how closely the allocation for each state reflects the current fishing effort for red snapper. The indirect effects would be similar to those stated previously above in the discussion of Action 1.1 and whether these impacts would be positive or negative would be dependent on whether the states would be more effective in constraining landings to the ACL. Any effects on the physical or biological environment from this action would likely be minimal because no significant increase in effort is expected. Dependent upon the final apportionment, there could be a shift in spatial fishing pressure.

Depending on the allocation selected, portions of the red snapper private angling and for-hire ACL may be shifted away from or towards a particular state. Although shifting resources from one state to another would result in distributional effects, with states receiving a larger allocation benefitting at the expense of states receiving less, these distributional effects would not create additional value. It follows that as long as the private angling and federal for-hire component ACLs remain unchanged, their aggregate economic value would remain constant, regardless of the percentages of the ACL harvested by individual states. Therefore, Alternatives 2-7 and Preferred Alternative 8 would not be expected to result in additional economic effects. However, because Alternatives 2-7 and Preferred Alternative 8 would contribute to making state management possible, they would be expected to result in additional positive economic effects due to the potential benefits to be derived by the additional management flexibility afforded to the Gulf states.

The decision to allocate a scarce resource among user groups is controversial as participants from each state contend for the greatest amount of allocation. Under Alternatives 2-4, the magnitude of any social effects would relate to the extent by which each state's average landings for an alternative's time series is greater or less than its current landings. The average landings by states correspond inversely with each other, such that the larger the proportion allocated to one state, the smaller the proportion that is, in turn, allocated to another state. This means that positive and negative effects would result relative to, and in terms of how each apportioned quota is sufficient to satisfy fishing opportunities relative to existing fishing effort and behavior. With Alternative 5, selecting a greater weighting for biomass would provide greater benefits to anglers

of western Gulf states and would negatively affect the fishing opportunities of anglers in the eastern Gulf states, compared with selecting a lower weighting for biomass. Alternatives 6, 7, and Preferred Alternative 8 would be closer to allocations under the EFPs and would be similar in effects.

Under Alternative 1, the component ACLs would not be divided among the states. States would continue to be responsible for management in state areas of jurisdiction for reef fish management, out to nine miles. Under Alternatives 2-7 and Preferred Alternative 8, the amount of the ACL allocated to each state, or the method used to calculate those amounts, would not be expected to affect the administrative environment. However, having several state monitoring programs reporting landings will require that the state data is calibrated to MRIP data which will incur an administrative burden.

Action 3 – Procedure for Allowing a Gulf State to Request the Closure of Areas of Federal Waters Adjacent to State Waters to Red Snapper Recreational Fishing

Action 3 would establish a procedure to allow a Gulf state to request the closure of areas of federal waters adjacent to state waters to red snapper recreational fishing. Alternative 1 (No Action) would not establish a procedure, and states would not have the authority to close federal waters. Preferred Alternative 2 would establish a framework procedure by which a state would request the closure by letter, providing dates and geographic coordinates for the closure. If the request is within the scope of the analysis in this amendment, NMFS would publish a notice in the *Federal Register* implementing the closure. The closure would apply to the recreational sector component(s) included in that state's approved management program.

Texas requested this amendment include analysis of a closure of all federal waters off Texas when a portion of the Texas quota has been landed. The intent would be to maintain a year-round fishing season in state waters during which the specified portion of Texas' quota could be caught. Florida and Alabama requested this amendment include analysis of a closure of federal waters adjacent to Florida and Alabama past the 20-fathom depth curve, or past the 35-fathom depth curve, for the duration of the state's open season. The intent of the closure would be to increase the length of the season in shallower waters, which would also increase the length of the deeper waters closure. Neither Louisiana nor Mississippi provided a potential closure to analyze under Preferred Alternative 2, and indicated they do not anticipate making such a request.

The procedure itself would not have direct effects on the physical and biological environments, however; the resulting action of having specified areas open or closed could. The physical and biological environments could benefit from fewer impacts of recreational red snapper fishing pressure and fishing gear in areas closed to fishing. However, if fishing is concentrated spatially or shifts to smaller areas, those areas would experience more negative impacts to the physical and biological environments due to increased fishing pressure. The negative impacts to the physical environment include those from fishing gear and anchoring as described above in the discussion of Action 1.1. Closing deeper areas could be beneficial to the biological environment by decreasing the amount of dead discards due to barotrauma, and could decrease fishing pressure on older larger red snapper that live in deeper waters. However, since anglers could still fish those areas for other species, increased discards of red snapper may occur.

Alternative 1 (No Action) would not be expected to result in economic effects because it is not expected to alter customary fishing practices or recreational landings. Keeping all other relevant regulations constant, closures in federal waters off participating states (Preferred Alternative 2) would not be expected to result in net economic benefits. However, closures in federal waters in some states would be expected to result in distributional effects because the relative magnitude of recreational harvests in participating states may change. Although these distributional effects cannot be quantified, it is noted that they would be determined by the extent to which a given state's federal waters closure would preclude anglers from neighboring states from enjoying fishing opportunities because of the closures.

Regarding effects to the social environment, the closure of federal waters adjacent to a state could result in negative effects for anglers from other states who would otherwise choose to fish in those federal waters. However, a state intending to close federal waters would do so to extend fishing opportunities for its anglers in shallower waters, as fewer and smaller fish are generally caught closer to shore. Thus, closures in federal waters may provide some benefits to a state's anglers if the length of the season were to be longer, but negatively affect anglers who prefer to catch larger fish further offshore.

Under Alternative 1, no additional closures in federal waters could be established beyond the circumstances described above and there would be no impacts to the administrative environment beyond those previously described in Action 1.1. Under Preferred Alternative 2, the administrative burden would be increased relative to the current management because NMFS could need to publish up to five notices in the *Federal Register*, potentially one for each state. If a state were allowed to request NMFS close an area of federal waters adjacent to that state (Preferred Alternative 2), enforcement could be easier in federal waters during the closure because no one would be allowed to possess red snapper in that area; however, more and smaller closed areas would make enforcement more difficult, and dockside enforcement would not be able to determine where the fish was harvested. If each state had closed areas at different times, enforcement would become more complicated.

<u>Individual State Amendment</u>
In addition to the Program Amendment, the Council developed an Individual State Amendment for each Gulf state. The Individual State Amendments include the following two action.

Action 1 – Authority Structure for State Management

Action 1 establishes the authority structure for state management. Alternative 1 (No Action) would retain current federal regulations for management of recreational red snapper in federal waters of the Gulf. Preferred Alternative 2 (for all states) would delegate management authority for recreational red snapper fishing in federal waters to the state. If NMFS determines a state's red snapper harvest plan is inconsistent with the requirements of delegation, the recreational harvest of red snapper in the federal waters adjacent to a state would be subject to the default federal regulations for red snapper. A state must establish the red snapper season structure for the harvest of its assigned portion of the recreational sector ACL, monitor landings, and prohibit further landings of red snapper when the applicable ACL is reached or projected to be reached.

In addition, delegated authority for managing the recreational harvest of red snapper may include establishing or modifying specific management measures. Preferred Option 2a would delegate the authority to the state to modify the bag limit; Option 2b to modify the prohibition on for-hire vessel captains and crew from retaining a bag limit; Option 2c to modify the minimum size limit within the range of 14 to 18 inches total length (TL); and Option 2d to set a maximum size limit. Under all alternatives, red snapper would remain subject to Gulf-wide closure when the recreational sector ACL is met. For this reason, states would report landings to NMFS during the fishing season, at intervals specified by NMFS based on the state's quota monitoring methods. In addition, each state will provide an update to the Council, as requested, on the status of its state management program, including but not limited to its most recent landings, red snapper fishing season and any other regulations, and its plan to address any quota overruns.

The Council selected Options 2a, 2d, and 2c as preferred for all states; the Council selected Option 2b for all states except Florida. Because the Council's preferred alternative in the Program Amendment is to include the private angling component only, selecting Option 2b would have no effect, as it applies to bag limits on for-hire vessels only. Alternative 3 would establish a management program in which a state submits a plan describing the conservation equivalency measures the state plans to adopt for the management of its portion of the recreational sector ACL in federal waters. The plan, which may be submitted annually or biannually, must specify the red snapper season structure and bag limit for the state's harvest of its assigned portion of the recreational sector ACL. A conservation equivalency plan (CEP) must be reasonably expected to limit the red snapper harvest to the state's assigned portion of the recreational sector ACL. If NMFS determines a state's plan does not satisfy the conservation equivalency requirements, then the recreational harvest of red snapper in the federal waters adjacent to that state would be subject to the default federal regulations for red snapper. Option 3a would require the CEP to be submitted directly to NMFS for review, while Option 3b would require the CEP first be submitted to a technical review committee and then to NMFS. For both Preferred Alternative 2 and Alternative 3 the states could be requested to provide updates to the Council on the status of their state management programs including but not limited to most recent landings, season projections, and management measures to address quota overruns, should they occur.

Establishing the authority structure for state management of recreational red snapper in the Gulf would have no direct effects on the physical environment, because the authority structure alone does not affect fishing effort or how fishing affects the physical environment. Potential effects would be specific to the options within the authority structure. Under delegation, Preferred Options 2a and 2b would not result in any additional positive or negative impacts to the physical environment from status quo because allowing the state to modify the bag limit would not affect fishing effort or total number of fish landed to meet the ACL. For Options 2c, if a state chose to increase the minimum size limit, this could result in an increase in fishing effort to catch a legal size fish. An increase in effort could increase negative impacts on the physical environment. However, the harvest of larger fish could result in more quickly meeting the ACL and reduce the season length, decreasing impacts to the physical environment. For Option 2d, a maximum size limit would likely increase the number of discards and slow the harvest towards meeting the ACL, thereby increasing the season length and potential negative impacts to the physical environment.

This action would have no direct effects on the biological environment because the authority structure alone does not affect fishing effort or how fishing affects the biological environment. Potential indirect effects would be specific to the options within the authority structure. For delegation, Preferred Options 2a and 2b could change impacts to the biological environment from status quo. While a change in bag limits would not change the total number of fish landed to meet the ACL, the number of discards could increase, resulting in negative impacts to the biological environment. For Option 2c the greater the minimum size limit, the more likely fishermen would need to discard undersized fish, and therefore fishing effort and negative effects on the biological environment would increase. However, at the same time larger fish weigh more and would contribute to meeting the ACL quicker and reduce the amount of effort, decreasing negative impacts to the biological environment. More importantly, a higher minimum size limit allows more red snapper to survive longer and contribute reproductively to the stock, which would be beneficial to the biological environment. For Option 2d, a maximum size limit would beneficial to the biological environment because it would reduce fishing mortality of larger, older fish, which contribute to the reproductive potential of the stock more than smaller younger fish. However, larger fish are generally found in deeper water; therefore, fish discarded because they are larger than the maximum size limit would likely have a higher mortality rate due to barotrauma.

Alternative 1 (No Action) would not be expected to result in direct economic effects. Because the devolution of some management responsibilities to participating states could result in management measures better suited to anglers in these states, Preferred Alternative 2 and Alternative 3 would be expected to result in indirect economic benefits that would stem from the management measures implemented following delegation or the approval of CEPs. For anglers, economic benefits would be measured by changes in economic value expected to result from the recreational management measures considered in this action. The positive economic effects expected to result from Preferred Alternatives 2 and Alternative 3 cannot be quantified at this time because they would be determined by the respective portions of the recreational ACL allocated to participating states and by management measures implemented by participating states under delegation or by the contours of the approved conservation equivalency plans.

Although additional effects to the social environment from Alternative 1 (No Action) are not expected from maintaining red snapper management, the dissatisfaction with current management would continue. Positive social effects would be expected under either Preferred Alternative 2 or Alternative 3, each of which would enable some control for decision-making and management to be turned over to individual states. Because this action would provide the management authority to establish state-specific management measures, but does not establish those measures themselves, it is not possible to predict the specific management measures that would result for each state and the effects thereof. Thus, any resulting social effects would be indirect and relate to whether flexibility for managing toward local preferences is increased or decreased from current management (Alternative 1).

For Preferred Alternative 2 and Alternative 3, establishing management of the recreational harvest of red snapper by the Gulf states would increase administrative impacts to states selecting to participate in state management, compared to Alternative 1. The impacts would

include the additional cost and time to analyze fishery data to set management measures such as bag limits and seasons to constraint recreational red snapper landings to the allocated ACL. Under Alternative 3, the states and NMFS would have the additional burden of regularly reviewing CEPs. States would need to submit their CEPs every one or two years for review. Option 3a would only involve review by NMFS, whereas Option 3b would also require the creational of a technical review committee. The review burden for NMFS would be the same for both options, but the burden on the states to establish, maintain, and convene the technical review committee would be greater with Option 3b.

For this action, Louisiana, Mississippi, Alabama, and Texas's Preferred is Alternative 2, Options 2a-2d. Florida's Preferred is Alternative 2, Options 2a, 2c, and 2d.

Action 2 – Post-season Quota Adjustment

Action 2 would establish an overage adjustment (payback) and underage adjustment (carryover) to apply to each state's quota. Alternative 1 (No Action), would retain the current post-season accountability measure for managing overages of the recreational sector ACL in federal waters of the Gulf. If red snapper is overfished and the combined recreational landings exceed the recreational sector ACL, the recreational sector ACL and the applicable recreational component ACL would be reduced in the following year. The applicable component ACT would be adjusted to reflect the established percent buffer. Currently no carryover is allowed in the following year when recreational landings remain below the red snapper quota; however, the Council is developing an amendment to allow carryover of certain species with potential limitations. If that amendment is implemented using the current preferred alternatives, carryover would be allowed for the red snapper recreational sector.

All five states have selected Alternative 2 as preferred in the Individual State Amendments. Preferred Alternative 2 would add a state-specific payback and carryover to the existing post-season accountability measure for the recreational sector red snapper ACL. If the landings of a state exceed that state's ACL, then in the following year the total recreational quota and that state's component ACL would be reduced by the amount of the ACL overage in the prior fishing year. If appropriate, the state's component ACT would be adjusted to reflect the established buffer. If the landings of a state are less than that state's component ACL and the Council has amended the FMP to allow for carryover of uncaught ACL, then in the following year the total recreational quota and that state's component ACL would be increased by the amount of the ACL underage in the prior fishing year. If appropriate, the state's component ACT would be adjusted to reflect the established buffer. If a state has both a private angling ACL and a federal for-hire ACL, the adjustment would be applied only to the component(s) that exceeded or were under the applicable ACL. This would be implemented in 2020 for the private angling component based on each state's 2019 landings under the EFPs. Thus, each state's private angling quota under the first year of state management in 2020 would reflect a quota adjustment based on that state's 2019 landings. Selecting Preferred Alternative 2 would not remove the existing post-season AM that applies if the total recreational sector ACL is exceeded when red snapper is classified as overfished (Alternative 1). Rather, Preferred Alternative 2 would add a state-specific AM to a state management program.

Effects on the physical and biological environments from this action would likely be minimal from the status quo because post-season accountability measures are currently in place to take corrective action in the event of an overage, and in the event of an underage, assessments and projections are based on the assumption that landings will meet the ACL. Both Alternatives 1 and Preferred Alternative 2 would ensure that impacts to the physical and biological environments are constrained, at a maximum, to those attributed to the effort to harvest the recreational ACL. Because Alternative 1 includes only an overage adjustment that does not currently apply because red snapper is not overfished and further, is not codified to apply to a particular state's ACL overage, fewer impacts to the physical and biological environments would result than under Preferred Alternative 2.

Alternative 1 would not be expected to result in Gulf-wide economic effects, but could be perceived as unfair and could potentially be detrimental to some participating states. Gulf states that maintain their red snapper harvests within their ACL could be penalized the same as the states that went over their ACL. However, these potential state-level economic losses would not occur as long as red snapper is not classified as an overfished stock. Preferred Alternative 2, which requires a payback or carryover only from the state and component responsible for the overage or underage, would promote fairness and provide more incentives to the states to stay within their allotted portions of the quota. The National Standard 1 guidelines, revised in October 2016, expressly address carrying over unused quota to the following fishing year. By creating a carryover provision, the foregone yield resulting from a state's early closing for its red snapper harvest could be applied to the following year's state ACL, thereby providing additional economic opportunities without negatively affecting the stock.

Regarding effects to the social environment, under Alternative 1 any uncaught quota would not become available for harvest and the state would not be able to realize an increased portion of the ACL in the following year, by the amount of uncaught quota. Also under Alternative 1, there would be no overage adjustment as long as red snapper is not overfished, which would avoid short-term negative effects from a quota reduction in the following year for a state that exceeds its ACL, but could result in negative long-term effects on the health of the stock. In the event an overage adjustment is triggered for a state under Preferred Alternative 2, some positive effects would be expected for anglers in other states that do not exceed their respective portions of the ACL, as anglers in other states are not affected by the overage. For each state for which Preferred Alternative 2 is implemented, some negative effects would be expected if the state's ACL is exceeded and the following year's ACL is reduced by the amount of the overage, while some positive effects would be expected in the event a carryover is triggered for a state, as the amount of uncaught quota would be added to the state's portion of the ACL (or the state's component ACLs, as applicable) in the following year. (The positive effects of the carryover are contingent upon implementation of the Generic Carryover Amendment.) However, the negative or positive effects would be offset by the respective amount of fishing opportunities that were used in the previous year; the negative effects from an overage adjustment would mitigate the fishing opportunities that were in excess of the state's ACL the previous year, while the positive effects from the carryover adjustment would be mitigation for the lost fishing opportunities from landings not meeting the state's ACL the previous year. By creating a carryover provision, the foregone yield resulting from a state's early closing for its red snapper harvest could be applied

to the following year's state ACL, thereby providing additional fishing opportunities without negatively affecting the stock.

Alternative 1 (No Action) would result in no additional effects to the administrative environment. Because 5-10 state ACLs (depending on the alternative selected in Action 1.1 of the Program Amendment) could be established in addition to the recreational and component ACLs, NMFS could potentially need to adjust up to 13 ACLs each year; therefore, Preferred Alternative 2 would have a greater administrative burden than Alternative 1.

CHAPTER 1. INTRODUCTION

1.1 Background

From 1996 – 2014, the recreational fishing season for red snapper in Gulf of Mexico (Gulf) federal waters became progressively shorter. Despite regular increases in the recreational annual catch limit (ACL) since 2010, shorter federal seasons have continued as the quota is caught in a shorter amount of time (Table 1.1.1) and inconsistent state water seasons became longer. In 2015, the recreational sector was divided into a private angling component and a federal for-hire component. Separate fishing seasons are established for each component based on the component annual catch targets (ACT), which are reduced from the component ACLs by the established buffer.

Table 1.1.1. Recreational red snapper federal season dates, season lengths, and landings (millions of pounds [mp]) from 1996 through 2017.

Year	Season dates in federal waters	Number of days open	Recreational Landings
1996	January 1 – December 31	365	5.286 mp
1997	January 1 – November 27	330	6.690 mp
1998	January 1 – September 30	272	4.827 mp
1999	January 1 – August 29	240	4.905 mp
2000	April 21 – October 31	194	4.710 mp
2001	April 21 – October 31	194	5.245 mp
2002	April 21 – October 31	194	6.522 mp
2003	April 21 – October 31	194	6.094 mp
2004	April 21 – October 31	194	6.460 mp
2005	April 21 – October 31	194	4.676 mp
2006	April 21 – October 31	194	4.131 mp
2007	April 21 – October 31	194	5.809 mp
2008	June 1 – August 4	65	4.056 mp
2009	June 1 – August 14	75	5.597 mp
2010	June 1 – July 23; Oct 1 – Nov. 21 (Fri, Sat., & Sun.)	77	2.647 mp
2011	June 1 – July 18	48	6.734 mp
2012	June 1 – July 16	46	7.524 mp
2013	June 1 – June 28; Oct 1 – Oct 14	42	9.703 mp
2014	June 1 – June 9	9	3.835 mp
2015	June 1 – June 10 (private angling) June 1 – July 14 (federal for-hire)	10 44	3.806 mp 2.153 mp
2016	June 1 – June 11 (private angling) June 1 – July 16 (federal for-hire)	11 46	5.294 mp 2.143 mp
2017	June 1-3; June 16 – Sept 4* (private angling) June 1 – July 19 (federal for-hire)	3 + 39 49	6.593 mp 2.270 mp

*Season was open Fridays through Sundays, plus July 3-4 and September 4.
Source: Southeast Fisheries Science Center (SEFSC) recreational ACL data (June 2018), with SEFSC SEDAR 31 Update (2014) Access Point Angler Intercept Survey adjustments.

The private angling component consists of anglers fishing from privately owned and rented vessels, and for-hire vessels without a federal permit (i.e., state-licensed for-hire vessels). These state-licensed for-hire vessels may not harvest red snapper from federal waters, including under any state management plan. The federal for-hire component consists of anglers fishing from vessels with a federal charter/headboat permit for Gulf reef fish.

Currently, the recreational harvest of red snapper in federal waters of the Gulf is constrained by a 2-fish bag limit, 16-inch total length (TL) minimum size limit, and a fishing season that begins on June 1 and closes when the ACT of each recreational component (i.e., private angling and federal for-hire) is projected to be caught. For the 2018 and 2019 red snapper fishing seasons, the private angling component seasons are set by each of the five Gulf states through exempted fishing permits (EFP), while the federal for-hire component season continues to be set by the National Marine Fisheries Service (NMFS).[1] The purpose of the EFPs is to allow states to demonstrate the effectiveness of state management of recreationally caught red snapper and data collection methods through 2-year pilot programs.

Fishermen from different areas of the Gulf have requested more flexibility in recreational red snapper management so that regulations provide greater socioeconomic benefits to their particular area. The Gulf of Mexico Fishery Management Council (Council) is exploring ways to provide greater flexibility in the management of red snapper for the recreational sector. *State management* refers to allowing a state to set some recreational regulations (e.g., bag limits and season dates) in contrast to uniform recreational regulations applied to fishing in all federal waters in the Gulf.

Federal waters refer to the area extending from the seaward boundaries of the Gulf states of Alabama, Florida, Louisiana, Mississippi, and Texas, as those boundaries have been defined by law, out to 200 nautical miles (nm) from shore. State waters refer to the area from shore out to the seaward boundary of each state. The seaward boundary of Florida on the Gulf coast and Texas is 9 nm from shore. The seaward boundary of Alabama, Mississippi, and Louisiana is generally 3 nm from shore. However, the 2016 Department of Commerce Appropriations Act extended the seaward boundary of Alabama, Mississippi, and Louisiana to 9 nm from shore for purposes of management activities under the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP), which includes the management of red snapper. Therefore, for the purpose of this amendment, state waters extend 9 nm from shore for all five Gulf states.

Scope of Environmental Impact Statement (EIS)

This State Management Program for Recreational Red Snapper Amendment (Amendment 50A), here after referred to as the **Program Amendment**, consists of actions affecting all Gulf states and the overall federal management of recreational red snapper in federal waters of the Gulf, regardless of whether or not all states pursue a state management program. The actions address the components of the recreational sector that would be included under a state's management program; the mechanism to include federally permitted for-hire vessels in state management

[1] For more information, see: http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/LOA_and_EFP/2018/RS%20state%20pilot/home.html

programs; the apportionment of the recreational red snapper ACL among the Gulf states; and a procedure for states to request closures in federal waters. In addition to this Program Amendment, the Council has initiated amendments for each of the five Gulf states (Amendments 50B-F), herein referred to as the **Individual State Amendments**, which would establish the authority structure to be used by each state to implement its program and address post-season quota adjustments. The Council decided to prepare an amendment for each state to allow the flexibility to tailor the scope of each state's management authority. Because the actions in the Program Amendment affect all states, the Council *must* select preferred alternatives and take final action on this Program Amendment prior to taking final action on any of the Individual State Amendments.

This amendment includes a programmatic EIS that analyzes the potential effects of both the state management program structure and the individual state management programs for the recreational harvest of red snapper that are included in the Individual State Amendments. While the selection of preferred alternatives for each amendment will be made within the respective document, the six amendments are directly related and the effects are intertwined. Thus, the cumulative impacts related to the reasonably foreseeable actions of the five Individual State Amendments are analyzed in this Program Amendment.

This program amendment/EIS contains four actions. The first action addresses the recreational sector components that a state management program would manage. In 2014, the Council divided the recreational red snapper ACL into two components: private angling and federal for-hire. Separate fishing seasons are estimated based on each component's ACT (reduced from the component ACL by an established buffer), and a separate season closure is triggered when each component's ACT is estimated to have been met. Initially established for 3 years through Amendment 40 (GMFMC 2014a), management of the separate component ACLs was extended for an additional 5 years, or through 2022, by Amendment 45 (GMFMC 2016). Because the recreational sector ACL is currently divided into two component ACLs, this action is necessary to determine the components that will participate in state management programs.

The second action addresses the mechanism to enable states to optionally incorporate federal for-hire vessels into state management programs. This action would only apply if the alternative in the previous action is selected that allows states to decide whether to include federal for-hire vessels in state management plans. Under this alternative, one state may opt to manage the private angling component only, while a bordering state may opt to manage both the private angling and federal for-hire components. The mechanism selected in this action would specify access for red snapper fishing in federal waters of the Gulf by federal for-hire vessels, by establishing either state management areas that extend into federal waters or an endorsement to the Gulf charter/headboat permit for reef fish that indicates in which state a vessel will land.

The third action would apportion the recreational sector ACL for red snapper among the five Gulf states, thereby determining the portion of the quota that would be provided to a state to manage under an approved state management program. The state would need to constrain landings to its specified portion of the recreational sector ACL, or component ACLs, as appropriate. Because the state would be allocated a designated portion of the ACL, the harvest

by anglers from any states without state management programs would be constrained to the remaining balance of the ACL.

The fourth action would establish a procedure for a state to request NMFS to close areas of federal waters adjacent to the state. The requested closure from a state must be within the scope of a closure analyzed in this EIS. Texas, Florida, and Alabama have proposed areas of federal waters adjacent to their respective state waters for such closures.

Providing flexibility to the states to establish management measures is expected to result in social and economic benefits, as it is assumed that each state would provide fishing opportunities preferred by anglers landing red snapper in the state. Nevertheless, management measures under a state's approved state management program must achieve the same conservation goals as the current federal management measures (e.g., constrain harvest to the state's allocated portion of the recreational sector ACL, rebuild the red snapper stock). Under state management, red snapper would remain a federally managed species. The Council and NMFS would continue to oversee management of the stock in federal waters. This includes continuing to comply with the mandate to ensure the recreational sector's red snapper stock ACL is not exceeded and that conservation objectives are achieved. The Council's Scientific and Statistical Committee (SSC) would continue to determine the acceptable biological catch (ABC) for red snapper, while the Council would determine the total recreational sector ACL which would be allocated among the states and components of the recreational sector.

Section 407(d) of the Magnuson-Stevens Fishery Conservation and Management Act mandates that separate quotas (ACLs) be established for commercial fishing and recreational fishing, which includes both the private angling and federal for-hire components. When the recreational sector quota (which equals the ACL) is reached, further harvest of red snapper must be prohibited for the duration of the year. This means that even if a state under a state management program has remaining quota, NMFS must prohibit further harvest of recreational red snapper from federal waters once the recreational sector ACL is determined to have been met. This amendment does not affect the commercial sector.

In the event not all states implement a state management program, existing regulations would remain in place as default federal regulations. If not all states participate in state management, these default regulations would apply to defined areas of federal waters off each non-participating state. For a state with an approved state management program, the appropriate default federal regulations would be waived in the defined area off that state and the state would establish its fishing season for recreational red snapper landed in the state from both federal and state waters, and potentially other management measures. Based on previous Council discussions, enforcement of state management programs would largely occur in state waters and dockside, as the fishing season and bag limit would be the primary management measures established for a state management program. However, the Council is considering an action that would allow each state to request area closures in federal waters off that state, which would require identifying the boundaries in federal waters between each state. In both cases (i.e., not all states have approved state management plans and area closures off the state), the applicable regulations would apply to all recreational vessels of each component in the defined area of federal waters. Even if all states are participating in state management, NMFS would retain

authority for the remaining regulations including implementing ACL adjustments, regulating federal permits, and managing the commercial sector's harvest of red snapper.

The boundaries in Figure 1.1.1 were agreed upon by the representatives from each state marine resource agency at the February 2013 Council meeting and would represent the boundaries between states for the purpose of any state having an active state management program, if needed.

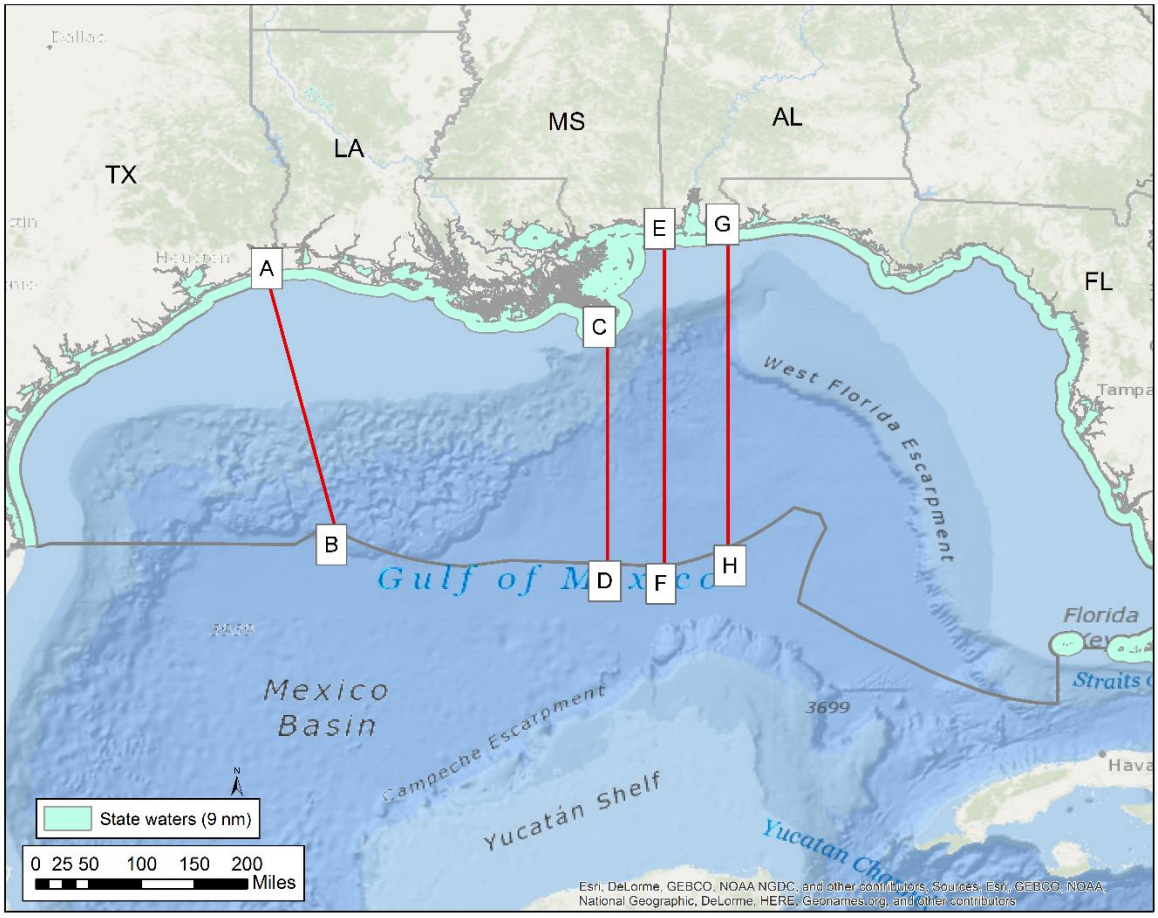

Figure 1.1.1. Map with green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The gray line passing through points B, D F, and H indicates the outer boundary for federal waters.

All lines begin at the boundary between state waters and federal waters. Line A-B, defining federal waters off Texas, is already codified in federal regulations as a line from 29°32.1' N latitude, 93°47.7' W longitude to 26°11.4' N latitude, 92°53.0' W longitude, which is an extension of the boundary between Louisiana and Texas (50 CFR 622.2). Likewise, line G-H, defining federal waters off Florida, is codified as a line at 87°31.1' W longitude extending directly south from the Alabama/Florida boundary (50 CFR 622.2).

The other two lines have not been codified, but were agreed upon by the Council.

Line E-F is a line at 88°23.1' W longitude extending directly south from the boundary between Alabama and Mississippi.

Line C-D is a line at 89°10.0' W longitude extending directly south from the South Pass Light in the Mississippi River delta in Louisiana. Unlike the other lines, this line is not based on the boundary between Louisiana and Mississippi because doing so would be impracticable. Louisiana has jurisdiction over the Chandeleur Islands, which extend into waters south of Mississippi. A line based on the state waters boundary just north of the islands could result in inequitable impacts on Mississippi anglers as it would identify federal waters that are off both Mississippi and Louisiana as being exclusively off Louisiana. A line based on the state land boundary would be even further west and would reduce the extent of federal waters off Louisiana. Therefore, this line was considered a fair compromise by representatives of both states.

History of Council Discussion on State (Regional) Management

The Council has explored the concept of "regional management" for red snapper for several years. Regional management was discussed by the Ad Hoc Recreational Red Snapper Advisory Panel at its October 2008 meeting, and the Red Snapper Advisory Panel at its December 2009 meeting. Staff presented papers exploring red snapper regional management to the Council at the January 2009, August 2010, and October 2010 meetings.[2]

In June 2012, the Louisiana Department of Wildlife and Fisheries presented a proposal to the Council for a recreational red snapper regional management pilot program. The Council requested that Louisiana provide further details of its proposed regional management plan for red snapper, and instructed staff to begin developing a plan amendment for regional management of recreational red snapper (Amendment 39). At the August 2012 meeting, the Council requested development of a scoping document for regional management of recreational red snapper, which was provided and discussed at the October 2012 meeting. Scoping meetings were held in January 2013. The Council reviewed an options paper for regional management at its April 2013 meeting, and the initial public hearing draft at its June 2013 meeting. Public hearings were held around the Gulf in August 2013 and the comments were presented to the Council at its August 2013 meeting.[3]

By the February 2014 meeting, the Council had selected preferred alternatives for all actions with the exception of allocating the recreational red snapper quota among the regions. At its February 2014 meeting, Council staff was directed to postpone further work on Amendment 39 until progress was made on how to allocate the quota among the regions. In turn, the Council moved forward with Amendment 40 (GMFMC 2014a) to establish private angling and federal for-hire components and approved the action at its October 2014 meeting.

[2] http://www.gulfcouncil.org/resources/briefing_book_archive.php
[3] Written comments submitted in response to Reef Fish Amendment 39 can be found at: https://docs.google.com/spreadsheet/ccc?key=0Atgbk2rxQkqhdFViUTB3VERSX2ZwcXJmckl1QTBXZkE#gid=0

At its January 2015 meeting, the Council reviewed a revised set of actions for Amendment 39 reflecting the regulatory changes made to recreational red snapper management since work on the document was postponed. These changes included new AMs and the establishment of separate components and ACLs (quotas) for the recreational harvest of red snapper (GMFMC 2015d). At its June 2015 meeting, the Council requested staff to hold an additional round of public hearings, which were held following the October 2015 Council meeting. At its January 2016 meeting, the Council postponed further work on Amendment 39.

At its April 2017 meeting, the Council resumed discussion and approved the initiation of separate amendments to establish state management for the states of Louisiana, Mississippi, and Alabama. At its August 2017 meeting, the Council approved the initiation of separate amendments to establish state management for the states of Florida and Texas. Actions specific to a state management program for the recreational harvest of red snapper in each state are addressed in those separate amendments.

1.2 Purpose and Need

The **purpose** of this action is to establish a program structure through which a Gulf state may establish a management program that would provide flexibility in the management of the recreational harvest of red snapper for their anglers.

The **need** is to reconsider the management of the recreational harvest of red snapper within the context of the states of the Gulf: to prevent overfishing while achieving, on a continuing basis, the optimum yield from the harvest of red snapper by the recreational sector[4]; take into account and allow for variations among, and contingencies in the fisheries, fishery resources, and catches[5]; 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[6].

1.3 History of Management

This history of management covers events pertinent to recreational red snapper and the Council's consideration of state management for the recreational harvest of red snapper. A complete history of management for the Reef Fish Fishery Management Plan (FMP) is available on the Council's website.[7]

Prior to 1997, the recreational red snapper season was open year-round. Catch levels were controlled through minimum size limits and bag limits. The Sustainable Fisheries Act of 1996 required the establishment of quotas for recreational and commercial red snapper that, when reached, result in a prohibition on the retention of fish caught by each sector, respectively, for the

[4] National Standard 1 https://www.ecfr.gov/cgi-bin/text-idx?SID=71b8c6026001cb90e4b0925328dce685&mc=true&node=se50.12.600_1310&rgn=div8
[5] National Standard 6: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=6b0acea089174af8594db02314f26914&mc=true&r=SECTION&n=se50.12.600_1335
[6] National Standard 8: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=6b0acea089174af8594db02314f26914&mc=true&r=SECTION&n=se50.12.600_1345
[7] http://www.gulfcouncil.org/fishery_management_plans/reef_fish_management.php

remainder of the fishing year. From 1997 through 1999, NMFS implemented the recreational quota requirement through an in-season monitoring process that projected closing dates a few weeks in advance. For the years 1997 through 1999, the recreational red snapper season was closed earlier each year (Table 1.1.1). In 1999, an emergency rule temporarily raised the recreational red snapper minimum size limit from 15 to 18 inches TL towards the end of the season from June 4 through August 29 in an attempt to slow down the retained harvest rate [64 FR 30445]. Without this emergency rule, the season would have closed on August 5. However, the rule resulted in a large increase in dead discards and the size limit was allowed to revert back to 15 inches TL the following year. Additional details regarding the seasons and regulation changes for red snapper are presented in Hood et al. (2007).

A February 2000 regulatory amendment (GMFMC 2000) replaced the system of in-season monitoring and closure projections with a fixed season based on a pre-season projection of when the recreational quota would be reached. The season for 2000 and beyond was initially set at April 15 through October 31, with a 16-inch TL minimum size limit, 4-fish bag limit, and zero bag limit of red snapper by the captain and crew of for-hire vessels. Shortly before the regulatory amendment was submitted to NMFS, the Council, at the request of representatives of the for-hire industry, withdrew the zero bag limit proposal for captain and crew. NMFS recalculated the season length under the revised proposal, and as a result, implemented the regulatory amendment with a recreational fishing season of April 21 through October 31. This recreational fishing season remained in effect through 2007.

In 2008, Reef Fish 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, 16-inch TL minimum size limit, 2-fish bag limit, and zero bag limit for captain and crew of for-hire vessels. The implementing regulations for this amendment created a June 1 through September 30 fishing season by establishing fixed closed seasons of January 1 through May 31, and October 1 through December 31.

The amendment also addressed differences in shrimp and red snapper fishing effort between the western and eastern Gulf, and the impacts of fishing on the red snapper rebuilding plan. The Council considered options for modifying recreational red snapper fishing effort, including different season opening dates and weekend only or consecutive seasons, for the following regions: Texas and the rest of the Gulf; east and west of the Mississippi River; and Gulf-wide regulations. The Council ultimately opted to maintain consistent Gulf-wide regulations, with a recreational season from June 1 through September 15.

The Southeast Data Assessment and Review (SEDAR) 7 red snapper assessment provided an option to set two regional total allowable catches with the Mississippi River as the dividing line (SEDAR 7 2005; SEDAR 7 Update 2009). These assessments assumed there were two sub-units of the red snapper stock within the Gulf, separated commercially at the Mississippi River (shrimp statistical grids 12 and 13) and recreationally at the Mississippi/Louisiana state line. The most information collected and developed thus far is based on the assessment process and follows this particular split, which was included as an alternative for regional management in Amendment 39.

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 2-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 the recreational red snapper season 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 set the 2008 season to be June 1 through August 4 [73 FR 15674]. In 2009, NMFS again recalculated its projections for the season length prior to the start of the recreational season and announced that the recreational season would be June 1 to August 15 [74 FR 21558].

A February 2010 regulatory amendment (GMFMC 2010) increased the total allowable catch, which increased the recreational quota. 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 [75 FR 23186].

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 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 68% of the recreational quota remained unharvested (NMFS 2010). However, due to the fixed October 1 through 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 NMFS 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) [75 FR 58334].

A January 2011 regulatory amendment (GMFMC 2011a) increased the red snapper total allowable catch. The resulting final rule established a 48-day recreational red snapper season, running June 1 through July 19 [76 FR 23911]. On August 12, 2011, NMFS published an emergency rule that, in part, increased the recreational red snapper quota 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, based on available recreational landings data through June, NMFS calculated that 80% of the recreational quota had been caught. With the addition of July landings data plus Texas Parks and Wildlife Department survey data, NMFS estimated that total recreational landings were well above the quota. Thus, no unused quota was available to reopen the recreational fishing season.

A March 2012 regulatory amendment (GMFMC 2012) increased the commercial and recreational quotas and removed the fixed recreational season closure date of October 1. The

recreational season opened 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. Because of the severe weather, NMFS extended the season by 6 days and closed on July 17 [77 FR 39647].

A March 2013 framework action (GMFMC 2013a) increased the commercial and recreational red snapper quotas. This was the result of new rebuilding projections based on the 2009 update assessment (SEDAR 7 Update 2009) that were revised to account for additional landings during 2009-2012. On March 25, 2013, an emergency rule gave NMFS the authority to set the closure date of the red snapper recreational season in federal waters off individual Gulf states [78 FR 17882]. The closure dates were dependent on whether state regulations were consistent with federal regulations for the red snapper recreational season length or bag limit. On May 31, 2013, the U.S. District Court in Brownsville, Texas, set aside that emergency rule.

As a result of the Court decision on the emergency rule, on June 10, 2013, the federal red snapper recreational season was adjusted to be 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 projected the Gulf-wide federal red snapper recreational season could be 28 days long [78 FR 34586].

In July 2013, the Council reviewed a new benchmark assessment (SEDAR 31 2013) which showed that the red snapper stock was rebuilding faster than projected, partly due to strong recruitment in some recent years. Combined with a new method for calculating the ABC, the Council's SSC increased the ABC for 2013, but warned that the catch levels would have to be reduced in future years if recruitment returned to average levels.

After incorporating a buffer to the ACL to reduce the possibility of having to later reduce the quota, the Council further increased the 2013 commercial and recreational quotas (GMFMC 2013b). This increase occurred too late to extend the June recreational season, so the Council requested that NMFS reopen the recreational season. NMFS announced a supplemental season of October 1 through 14, 2013 [78 FR 57313].

In 2014, NMFS initially announced a 40-day recreational season [78 FR 76758]. However, in March 2014, as a result of a legal challenge, the U.S. District Court for the District of Columbia found that there was not an adequate system of AMs in place to prevent the recreational red snapper sector from exceeding its quota and that NMFS did not use the best scientific information available. To address the Court's decision and reduce the probability that the recreational sector would exceed its quota, the projected season length for 2014 needed to be revised to incorporate Marine Recreational Information Program (MRIP) landings, and additional AMs needed to be implemented. NMFS determined that including the 2013 MRIP landings data resulted in a 15-day federal season. During the April 2014 meeting, the Council requested that NMFS implement an emergency rule establishing an ACT determined by applying a 20% buffer to the recreational quota (which is equivalent to the recreational ACL), to take into account uncertainty in recreational landings estimates. Shortly after the April 2014 meeting, Louisiana declared the state's red snapper season would be open through December 31, 2014. Using the ACT selected by the Council and taking into account the extended Louisiana fishing season, NMFS set a 2014 federal red snapper season of 9 days [79 FR 27768].

An October 2014 framework action (GMFMC 2014) implemented permanent AMs that 1) established an ACT that is 20% lower than the quota (equal to the ACL) and set the recreational season length based on the ACT, and 2) established an overage adjustment to be applied while the red snapper stock is overfished that mitigates the effects of a quota overage by reducing the ACL in the following year.

Amendment 40 (GMFMC 2014a) formally adopted the designation of component ACLs for red snapper, established private angling and federal for-hire component ACTs for the years 2015-2017, and established separate in-season closure provisions for each component. Amendment 45 (GMFMC 2016) extended the separate management of the federal for-hire and private angling components for an additional 5 years. Thus, the management of the separate components extends through December 31, 2022.

The Council approved a framework action in April 2015 (GMFMC 2015a) that increased the red snapper stock quota for the years 2015-2017. NMFS estimated the recreational red snapper fishing season length in federal waters for each component and established a 10-day season for the private angling component and a 44-day season for the federal for-hire component [80 FR 24832].

Implemented in May 2016, Amendment 28 (GMFMC 2015b) revised the commercial and recreational sector allocations of the red snapper ACLs by shifting 2.5% of the commercial sector's allocation to the recreational sector. The resulting sector allocations for red snapper were 48.5% commercial and 51.5% recreational and were applied to the 2016 quotas. For 2016, NMFS estimated the recreational red snapper fishing season length in federal waters for each component and established an 11-day season for the private angling component and a 46-day season for the federal for-hire component.

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. For 2017, NMFS initially established a 3-day fishing season for the private angling component and a 49-day season for the federal for-hire component [FR 82 21140]. The short private angling season in 2017 was due in part to a quota overage in 2016, which required an overage adjustment to the 2017 quota because the stock was overfished. The short season was also due to landings projected to occur in state waters while federal waters were closed. Shortly after the private angling season ended, NMFS reopened the private angling fishing season for an additional 39 days. During this time, the fishing season was open Fridays through Sundays, plus July 3-4 and September 4 [82 FR 27777].

An amendment to require electronic reporting by federally permitted charter vessels and to modify electronic reporting by headboats was approved by the Council at its January 2017 meeting (GMFMC 2017b). 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. NMFS approved the amendment on September 19, 2018, and published a proposed rule on October 26, 2018. Currently in early 2019, the Council is holding workshops around the Gulf to inform for-hire operators about the new requirements.

Amendment 44 (GMFMC 2017a) changed the minimum stock size threshold for seven species in the Reef Fish FMP, including red snapper. After the approval of Amendment 44, the Gulf red snapper stock was reclassified as not overfished but rebuilding, because the biomass for the stock is currently estimated to be greater than the minimum stock size threshold but still below the rebuilding target.

For 2018, NMFS established a 51-day red snapper fishing season for the federal for-hire component [83 FR 17623]. For the private angling component, the 2018 and 2019 red snapper fishing seasons were set by the individual states through EFPs approved by NMFS.

The Council recently approved two framework actions that affect recreational red snapper management, which are under review by the Secretary of Commerce. Modification of Gulf of Mexico Red Snapper and West Florida Hogfish Annual Catch Limits (GMFMC 2018a) would increase the private angling and federal for-hire component ACLs and ACTs beginning in 2019. Modification to the Recreational Red Snapper Annual Catch Target Buffers (GMFMC 2018b) would reduce the federal for-hire buffer by setting the ACT at 9% below the component's ACL for the 2019 fishing season only.

CHAPTER 2. MANAGEMENT ALTERNATIVES

In this Program Amendment, the Gulf of Mexico Fishery Management Council (Council) would establish the program structure for each Gulf of Mexico (Gulf) state to manage its recreational harvest of red snapper. This amendment with environmental impact statement (EIS) contains four actions that affect all Gulf states, whether or not they are participating in state management: 1.1) determining the components of the recreational sector to include in state management programs; 1.2) addressing the mechanism to allow states to include federal for-hire vessels in state management plans; 2) apportioning the recreational red snapper annual catch limit (ACL) among the states; and 3) establishing a procedure for states to request NMFS to close areas of federal waters. The Council would need to approve the Program Amendment before approving the Individual State Amendments.

Through each Individual State Amendment, the states could establish state management programs for the recreational harvest of red snapper. These Individual State Amendments contain two actions: 1) the authority structure for state management, and 2) post-season quota adjustments. The effects of the actions in the Individual State Amendments are directly intertwined with the actions in the Program Amendment. Thus, Sections 2.4 and 2.5 of this chapter include discussion of the two actions contained in the Individual State Amendments, as context for the effects analysis in Chapter 4. The analyses in the environmental consequences and cumulative impacts of this Program Amendment include the potential effects of the proposed actions in the Individual State Amendments. The Individual State Amendments/Environmental Assessments tier (40 C.F.R. § 1502.20 and 1508.28) from this Program Amendment/EIS and incorporate by reference the general discussions in this EIS, while concentrating on the issues specific to the individual state amendments/EAs.

2.1 Action 1.1 – Components of the Recreational Sector to include in State Management Programs

Alternative 1: No Action. Retain current federal management of recreational red snapper in federal waters of the Gulf. Until separate private angling and federal for-hire ACLs expire in 2022, continue separate red snapper fishing seasons for the federal for-hire and private angling components based on the components' annual catch targets (ACT), reduced from the components' ACLs by the established buffer.

Preferred Alternative 2: For a state with an approved state management program, the state will manage its private angling component only, and must constrain landings to the state's private angling component ACL as determined in Action 2. The federal for-hire component will continue to be managed Gulf-wide. For states without an approved state management program, a private angling fishing season will be estimated using the remainder of the private angling component ACL, reduced by the established buffer. The sunset provision ending the separate management of the private angling and federal for-hire ACLs (currently 2022) is removed.

Alternative 3: For a state with an approved state management program, the state will manage both its private angling and federal for-hire components and must constrain landings to each of the state's component ACLs, as determined in Action 2. For states without an approved state management program, separate fishing seasons based on the component ACTs for the federal for-hire and private angling components will be estimated using the remainder of the recreational sector ACL. The state management plan will end when the separate private angling and federal for-hire ACLs expire (currently 2022).

Alternative 4: For a state with an approved state management program, the state will choose whether to manage its private angling component only, or to manage both its private angling and federal for-hire components. The state must constrain landings to the state's private angling component ACL and federal for-hire component ACL as determined in Action 2. For states without an approved state management program, separate fishing seasons based on the component ACTs for the federal for-hire and private angling components will be estimated using the remainder of the recreational sector ACL. The sunset provision ending the separate management of the private angling and federal for-hire ACLs (currently 2022) is removed.
A state will indicate its intent to manage its federal for-hire component through a letter to the National Marine Fisheries Service (NMFS) that must be received within one month following the Council's vote to approve this amendment.

Discussion:

Amendment 40 (GMFMC 2014a) apportioned the recreational sector ACL between the federal for-hire and private angling components of the recreational sector for a period of 3 years (2015-2017), and Amendment 45 (GMFMC 2016) extended the separate management of the federal for-hire and private angling components' portions of the recreational sector ACL for an additional 5 years, through 2022.

This action determines whether a state with an approved state management program would manage its private angling component only (**Preferred Alternative 2**), both components (**Alternative 3**), or could choose to manage the private angling component only or both components (**Alternative 4**). Depending on the alternative selected, state private angling ACLs would need to be established (**Preferred Alternative 2**) or state private angling and federal for-hire component ACLs would need to be established (**Alternative 3** and **Alternative 4**). Each state with an approved state management program must constrain its landings to its respective ACL(s).

Alternative 1 (No Action) would continue federal management of recreational red snapper fishing in federal waters of all Gulf states. The separate management of the federal for-hire and private angling components would continue until the sunset date. Currently, the recreational sector ACL is divided into two component ACLs for the years 2015-2022 and will revert to a single recreational sector ACL at the start of 2023.

Under **Preferred Alternative 2**, a state with an approved state management program would manage the state's private angling component only. Depending on the number of states that develop state management programs, up to six recreational ACLs could be established under **Preferred Alternative 2**, in addition to the total recreational ACL: five state private angling ACLs derived from the private angling component ACL, and one federal for-hire component ACL. Management of the federal for-hire component would continue Gulf-wide past 2022 under the federal regulations for the federal for-hire component as the sunset on sector separation would be removed. Based on the Action 2 alternatives, the resulting percentages for the five potential state private angling ACLs are provided in Tables 2.3.1, 2.3.3, 2.3.5, and 2.3.7.

Under **Alternative 3**, a state with an approved state management program would manage both the state's private angling component and federal for-hire component. Two state component ACLs would be established for each state: a state private angling component ACL and a state for-hire component ACL. The state would be responsible for constraining landings to each component ACL (i.e., the component ACLs could not be combined). Depending on the number of states that develop state management programs, up to ten component ACLs could be established under **Alternative 3**, in addition to the total recreational ACL. Federal for-hire and private angling component ACLs would continue to be used for states without an approved state management program. Based on the Action 2 alternatives, the resulting percentages for the ten potential state component ACLs are provided in Tables 2.3.2, 2.3.3, and 2.3.6. Under **Alternative 3**, both sector separation and state management programs would end in 2022, at the time of the sector separation sunset, and a single red snapper fishing season would be set by NMFS for the recreational sector as a whole in subsequent years.

Under **Alternative 4**, a state with an approved state management program would be able to choose whether to manage its private angling component only, or to manage both its private angling component and federal for-hire component. As with **Alternative 3**, two state component ACLs could be established for each state: a state private angling component ACL and a state for-hire component ACL. Depending on the number of states that develop state management programs, up to ten component ACLs could be established under **Alternative 4**, in addition to the total recreational ACL. For a state that decides to manage its private angling component

only, the state's federal for-hire ACL would remain part of the Gulf-wide federal for-hire ACL. Federal for-hire and private angling component ACLs would continue to be used for states without an approved state management program, and management of the separate components would continue past 2022 as the sunset on sector separation would no longer be in effect. For a state to manage both components (**Alternative 3** and optional under **Alternative 4**), the state would specify the management measures to be applied to each component as selected in the Individual State Amendments (see Section 2.4). Further, the state must ensure that the landings by each component are constrained to that component's ACL or ACT, as appropriate.

Under **Alternative 4**, it would be necessary for a state to advise NMFS that it intends to manage its federal for-hire component, because NMFS would need to propose regulations consistent with each state's choice. Thus, the state would inform NMFS that the state will manage its federal for-hire component through a letter that must be received within one month of the Council's vote approving this amendment. However, the implementation of any state management plan would still be contingent on the Council's approval of that state's individual amendment. If a state does not notify NMFS in writing within the specified time period, NMFS would assume that the state intends to manage its private angling component only. Further, a state's decision to manage the private angling component only, or to manage both components, would be a one-time decision; a state could not alternate between managing one or both components.

If all five states have approved state management plans in place and are managing the same components (**Preferred Alternative 2** or **Alternative 3**), the default federal regulations would be waived and each state would establish its fishing season for red snapper landed in the state, from both federal and state waters, and potentially other management measures, depending on which actions or alternatives are selected within the individual state amendments. Federal waters would remain open and recreational vessels fishing from a state with an open season would be able to fish for red snapper in federal waters adjacent to that state as well as in federal waters adjacent to other states, provided they return to shore through state waters that are open. Under this scenario, enforcement is primarily carried out in state waters and dockside, as the fishing season and bag limit would be the primary management measures established for a state management program.

State management plans would be approved on a state-by-state basis through the Individual State Amendments; thus, some states may have state management plans approved and in place while other states do not. In the event not all five states have approved state management plans in place, it would not be possible for federal waters to remain open continuously off all states. For non-participating states, and NMFS would establish a fishing season in federal waters for the private angling component (**Preferred Alternative 2**) or for each component (**Alternative 3**) as part of the federal default regulations. Lines would be used to define federal waters adjacent to each state (Figure 1.1.1). Within the area of federal waters adjacent to each state, either the federal default regulations or the regulations of the approved state management plan would apply to all recreational vessels of each component, as appropriate.

Under **Alternative 4**, some states may choose to manage the federal for-hire component while other states manage the private angling component only. If not all states choose to manage the federal for-hire component, some for-hire vessels would continue to be managed under the

default federal regulations. Action 1.2 provides an alternative mechanism for implementing this optional state management without the use of boundary lines.

Regardless of the alternative selected, for-hire vessels must have a federal permit to harvest red snapper from federal waters. For-hire vessels that are state-licensed only cannot harvest red snapper from federal waters, even if an approved state management program is in place.

2.2 Action 1.2 – Mechanism to implement optional state management of federal for-hire vessels

Note: This action is only applicable if Alternative 4 is selected in Action 1.1.

Alternative 1: No Action. State management areas are defined by boundaries that extend outward from each state into federal waters of the Gulf (Figure 1.1.1). If a state is managing the federal for-hire component, the owners or operators of federally permitted vessels fishing for or possessing red snapper within that state's management area must follow the regulations specific to that state's management program. If a state is not managing the federal for-hire component, the owners or operators of federally permitted vessels fishing for or possessing red snapper within that state's management area must follow the federal default regulations.

Alternative 2: Establish a state-specific red snapper endorsement to the Gulf reef fish charter/headboat permit to fish for or possess red snapper in federal waters of the Gulf. A vessel with an endorsement for a state with an approved state management plan that includes the federal for-hire component must follow the regulations specific to the state program for which the endorsement is issued. A vessel with an endorsement for a state without an approved state management plan that includes the federal for-hire component, must follow federal default regulations.

> **Option a**: A charter/headboat permit for Gulf reef fish with a red snapper endorsement may be used to land red snapper in one state per fishing year. If an endorsement is associated with a permit that is transferred, an endorsement for a different state will not be issued to the transferred permit until the following fishing year.
>
> **Option b**: A charter/headboat permit for Gulf reef fish with a red snapper endorsement may be used to land red snapper in one state per fishing year, unless the permit is transferred. If a charter/headboat permit for Gulf reef fish with an associated endorsement is transferred during the fishing year, a new endorsement may be issued upon request for a different state.

Discussion:

If every state has an approved state management plan for the private angling component only (Action 1.1, Preferred Alternative 2), or both the private angling and federal for-hire component (Action 1.1, Alternative 3), and no area closures are in effect in federal waters off a state (see discussion in Section 2.4), then those components managed by the states would be able to fish for and possess red snapper throughout Gulf federal waters, subject to the rules and regulations of the state in which they land. However, there may be circumstances under these alternatives that result in one or more states not having an approved state management plan. As explained in the discussion of Action 1, if this occurred, defined state management areas extending from each state into federal waters would be used and private anglers, or both private anglers and federal for-hire vessels, would be subject to state regulations if the state has an approved state

management plan, or the default federal regulations if the state does not have an approved state management plan.

Action 1.2 is only applicable if Action 1.1, Alternative 4 is selected as the preferred. Because the alternative would allow states to choose whether to manage the federal for-hire component, if not all states choose to manage the federal for-hire component, boundaries that extend outward from each state into adjacent federal waters would define state management areas (Figure 1.1.1). This is similar to the process discussed for Alternatives 2-4 in Action 1.1, in the event not all states have an approved state management plan.

Alternative 1 (No Action) is the same as Alternative 4 in Action 1.1. **Alternative 2** is an optional mechanism for implementing state management for the federal for-hire component, and would establish a state-specific red snapper endorsement to the federal charter/headboat permit for Gulf reef fish. This endorsement would indicate the state in which the vessel could land red snapper. The endorsement would allow fishing for and possession of red snapper continuously throughout Gulf federal waters, subject to the appropriate regulations. Thus, if a vessel has an endorsement from a state that is managing the federal for-hire component, persons on that vessel would be subject to the applicable red snapper regulations established by that state. If a vessel has an endorsement from a state that is not managing the federal for-hire component, persons on that vessel would be subject to the federal default regulations. Persons on board for-hire vessels without a red snapper endorsement would be prohibited from possessing or landing red snapper. Each vessel would only be allowed one state endorsement. **Option 2a** would not allow an endorsement to be issued to a different state within the same fishing year. **Option 2b** would allow an endorsement to change states within the same fishing year, if the permit it is associated with is transferred.

Only one endorsement can be associated with each charter/headboat permit for Gulf reef fish in order to prevent a vessel from fishing multiple states and fishing towards several quotas. Having endorsements will facilitate each regulatory entity being able to better project the season based on a known number of participating vessels. There would be a $10 cost to federally permitted charter/headboat vessels that have a valid Gulf reef fish permit to obtain the endorsement from NMFS. This is a similar payment structure to other endorsements.

2.3 Action 2 – Apportioning the Recreational ACL (Quota)

Alternative 1: No Action. Do not establish an allocation of the recreational sector component ACLs among the states that may be used for state management programs.

Alternative 2: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on the average of historical landings for the years (excluding 2010):

Option 2a: 1986-2015.
Option 2b: 1996-2015.
Option 2c: 2006-2015.
Option 2d: 50% of average historical landings for the years 1986-2015 and 50% of average historical landings for the years 2006-2015.

Alternative 3: In calculating state apportionments under **Alternative 2**, exclude from the selected time series:

Option 3a: 2006 landings.
Option 3b: 2014 landings.
Option 3c: 2015 landings.

Alternative 4: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on each state's average of the best ten years of historical landings during the years 1986-2015, excluding 2010.

Alternative 5: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on spatial abundance of red snapper biomass and proportion of recreational trips from the time series in **Options 5a-5c**, excluding 2010, and using one of the weightings from **Options 5d-5f**:

	Option	Time Series for Recreational Trips	
Select one from 5a-5c:	5a	1986 – 2015	
	5b	2006 – 2015	
	5c	50% of the average number of recreational trips for the years 1986-2015 (5a) and 50% of the average number of recreational trips for the years 2006-2015 (5b).	
Select one from 5d-5f:	Option	Biomass	Recreational Trips
	5d	25%	75%
	5e	50%	50%
	5f	75%	25%

Alternative 6: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL among the states based on the allocations set in the exempted fishing permits approved for the states to manage the recreational harvest of red snapper in 2018 and 2019.

Alternative 7: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL among the states based on the allocations requested by each state in its exempted fishing permit application, which totaled 96.22%. Apportion the remaining 3.78% among the five states proportionally based on their requested allocation.

Preferred Alternative 8: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL among the states based on the allocations requested by each state in its exempted fishing permit application, which totaled 96.22%. Apportion the remaining 3.78% between Florida and Alabama proportionally based on their requested allocation.

Discussion:

To implement a red snapper state management program, a portion of the recreational sector ACL would need to be allocated to that state. The recreational sector ACL is currently divided into separate private angling and federal for-hire component ACLs. Depending on the alternative selected in Action 1.1, just the private angling component ACL or both component ACLs would be allocated to the states. This action addresses how to apportion the recreational component ACL(s) among the states. A state would establish its state management program through a state-specific plan amendment. For states that do not participate in state management, federal management would continue with the remaining private angling and federal for-hire component ACLs.

Allocation is an inherently controversial issue because a limited resource is divided among competing user groups, each of which benefits from receiving the largest portion possible. In addition, historical landings are subject to high levels of uncertainty, especially for Mississippi, and should be evaluated with that in mind. Regardless of the alternative selected, in some years, each state's landings exceeded its average landings (Appendix A). This means that requiring a state with an active state management program to constrain its catches to a fixed percentage of the recreational sector ACL could restrict the fluctuations in annual landings that occur in some years. Using recreational trips to determine each state's allocation poses additional problems (see the discussion for **Alternative 5**, below).

It is possible that not all states will choose to participate in state management. If only some states participate, the fishing season in federal waters for anglers from the remaining states would be estimated based on the remaining aggregate portion of the ACL, as specified in the selected preferred alternative, and reduced by the established buffer. Should only one state not participate, the participating states would still receive their respective portions of the recreational ACL. The state ACL that would have been distributed to the non-participating state would be used by NMFS to estimate the length of the fishing season for that one state, reduced by the established buffer and any projected landings to occur in state waters. Anglers from a non-participating state would fish under the default federal regulations.
Alternative 1 (No Action) would not apportion the recreational sector ACL among the states, and thus state management of recreational red snapper fishing would not be possible. Management of the private angling and for-hire components' harvest of red snapper would

continue separately throughout federal waters of the Gulf through 2022, and together thereafter unless the sector separation sunset is changed through later Council action. Currently, the proportion of the total recreational landings made up by each state varies from year to year. Recreational landings and trips by state from 1986 – 2015 are provided in Appendix A. Tables are provided for landings and trips by the recreational sector as a whole, the private angling component, and the federal for-hire component.

Landings from 2010 are excluded from all alternatives due to the *Deepwater Horizon* MC252 oil spill, which began in April 2010 prior to the opening of the 2010 recreational red snapper season. Due to the complexity associated with assigning landings between components given the substantial fishery closures and the extended federal season, landings from 2010 should be viewed with caution and are not included for any alternatives. The Southeast Regional Office has excluded 2010 landings in all season projection analyses for similar reasons.

Alternative 2 provides four options to apportion the recreational sector ACL based on the average proportion of historical landings for various time series that end in 2015. Landings from 2010 are excluded from all options. If Preferred Alternative 2 is selected in Action 1.1 (i.e., the states may manage the private angling component only), Table 2.3.1 provides the resulting percentages of the private angling ACL that would become each state's private angling component ACL under an approved state management program under **Alternative 2**. The private angling component ACL is 57.7% of the recreational sector ACL. In the table, the sum of the state private angling ACLs for each alternative totals 100% of the private angling ACL. The federal for-hire component, with 42.3% of the recreational sector ACL, would remain under federal management.

Table 2.3.1. Percent of the *private angling* component ACL (Action 1.1, Alternative 2) allocated to each Gulf state based on the options for historical landings time series under **Alternative 2**. Each row totals 100% of the private angling ACL, which is 57.7% of the total recreational ACL.

Option	Time series	AL	FL	LA	MS	TX	Total
2a	1986-2015	35.96%	28.07%	20.98%	7.93%	7.06%	100%
2b	1996-2015	38.48%	33.67%	16.67%	4.52%	6.66%	100%
2c	2006-2015	33.63%	41.57%	17.22%	2.13%	5.45%	100%
2d	50%(2a)+50%(2c)	34.80%	34.82%	19.10%	5.03%	6.26%	100%

For Alternatives 3 and 4 in Action 1.1, Table 2.3.2 provides the resulting percentages of the total recreational sector ACL that would become the state private angling and federal for-hire component ACLs under an approved state management program for **Alternative 2**. For each of the options for **Alternative 2**, the sum of the private angling component's percentages of the ACL for the five states totals 57.7%, and the sum of the federal for-hire percentages of the ACL for the five states totals 42.3%. Together, these state component ACLs equal 100% of the recreational sector ACL.

Table 2.3.2. Percent of the *total recreational* ACL (*private angling* ACL and *federal for-hire* ACL combined) among the states for **Alternative 2**, by component (Action 1.1, Alternatives 3 and 4). For each option, the sum of the private angling component ACLs totals 57.7% and the sum of the federal for-hire ACLs totals 42.3%; the sum of all cells for each alternative equals 100% of the total recreational ACL.

Option	Component	AL	FL	LA	MS	TX	Totals	
2a: 1986-2015	Private	20.75%	16.20%	12.11%	4.57%	4.07%	57.7%	100%
	For-hire	10.84%	15.67%	5.32%	0.29%	10.18%	42.3%	
2b: 1996-2015	Private	22.20%	19.43%	9.62%	2.61%	3.84%	57.7%	100%
	For-hire	11.39%	18.28%	3.91%	0.25%	8.47%	42.3%	
2c: 2006-2015	Private	19.41%	23.99%	9.93%	1.23%	3.14%	57.7%	100%
	For-hire	10.60%	19.76%	3.94%	0.10%	7.90%	42.3%	
2d: 50%(2a)+50%(2c)	Private	20.08%	20.09%	11.02%	2.90%	3.61%	57.7%	100%
	For-hire	10.72%	17.71%	4.63%	0.19%	9.04%	42.3%	

Alternative 3 provides options for excluding particular years from the historical landings averages provided under **Alternative 2**. Hurricane Katrina struck late in the fishing season of 2005; therefore, landings from 2006 are provided for exclusion (**Option 3a**), as recreational fishing opportunities were impacted. Options to exclude landings from 2014 (**Option 3b**) and 2015 (**Option 3c**) are provided because these years were not included in the allocation formula used to calculate the private angling and federal for-hire components' allocation in Amendment 40, and because the headboat collaborative pilot program operated during those years. The options under **Alternative 3** may be selected individually, or multiple options could be selected alongside any of **Options a-d** under **Alternative 2**, as appropriate. In Amendment 40 (GMFMC 2014a), the Council chose to exclude landings from 2010 from the allocation formula, but did not exclude landings from 2006 (**Option 3a**).

Alternative 4 would apportion the recreational sector ACL by averaging each state's highest 10 years of red snapper landings for each component for the years 1986-2015, and then converting the average landings into percentages. The resulting allocations by state for Action 1.1, Alternatives 2-4 are provided in Table 2.3.3.

Table 2.3.3. Percent of the *private angling* ACL (Action 1.1, Preferred Alternative 2) and the *total recreational* ACL (private angling ACL and federal for-hire ACL combined) (Action 1.1, Alternatives 3 and 4) based on the highest 10 years of historical landings for the years 1986-2015 (**Alternative 4**). For Action 1.1, Preferred Alternative 2, each state allocation is expressed as a percentage of the private angling ACL. For Action 1.1, Alternatives 3 and 4, the states' private angling and for-hire allocations are expressed as percentages of the total recreational ACL.

Action 1.1	Component	AL	FL	LA	MS	TX	Total
Alternative 2	Private only	38.44%	31.68%	16.73%	8.47%	4.68%	100%
Alternative 3 or 4	Private	22.18%	18.28%	9.65%	4.89%	2.70%	42.3%
	For-hire	10.45%	14.60%	6.07%	0.54%	10.65%	57.7%

Alternative 5 incorporates an estimate of red snapper biomass off each state (Table 2.3.4) and the proportion of red snapper recreational trips by state (**Options 5a-5c**), with options to weight each (**Options 5d-5f**). In contrast to fishery-dependent information such as landings and number of recreational trips, there is no estimate of red snapper biomass at the state level. NMFS staff developed an approach for estimating biomass off each Gulf state that was derived from Karnauskas et al. (2017). The biomass estimates are based on a single year of survey data (2011). Following review by the Council's Scientific and Statistical Committee (SSC) at its October 2017 meeting, the approach was considered suitable for management use by the Council.

Table 2.3.4. Percentages of the estimated red snapper biomass off each state, to be combined with recreational trips by state (**Alternative 5**).

	AL	FL	LA	MS	TX
Biomass	6.30%	29.94%	20.28%	1.34%	42.13%

Using the three options for the time series for recreational trips (**Options 5a-5c**) and the three options for weighting the metrics of biomass and recreational trips (**Options 5d-5f**), Table 2.3.5 provides the resulting percentages from apportioning the private angling component ACL only, by state (Action 1.1, Preferred Alternative 2; 57.7% of the recreational sector ACL) for **Alternative 5**. Note that the time series only applies to the proportion of recreational trips and not the estimates of biomass. Table 2.3.6 provides the resulting percentages for apportioning both components of the recreational sector (Action 1.1, Alternatives 3 and 4).

Table 2.3.5. Percent of the *private angling* ACL allocated to each state under **Alternative 5** for the private angling component, only (Action 1.1, Preferred Alternative 2), with various weightings (**Options 5d-5f**) for biomass and angler trips (**Options 5a-5c**).

	Option 5a: 1986-2015	**AL**	**FL**	**LA**	**MS**	**TX**	**Total**
Option 5d	25% biomass; 75% trips	27.76%	29.06%	19.42%	5.52%	18.24%	100%
Option 5e	50% biomass; 50% trips	20.61%	29.36%	19.70%	4.12%	26.20%	100%
Option 5f	75% biomass; 25% trips	13.45%	29.65%	19.99%	2.73%	34.17%	100%
	Option 5b: 2006-2015	**AL**	**FL**	**LA**	**MS**	**TX**	**Total**
Option 5d	25% biomass; 75% trips	23.77%	40.12%	19.24%	3.03%	13.84%	100%
Option 5e	50% biomass; 50% trips	17.95%	36.72%	19.59%	2.47%	23.27%	100%
Option 5f	75% biomass; 25% trips	12.12%	33.33%	19.93%	1.90%	32.70%	100%
	Option 5c: 50% (5a) + 50% (5b)	**AL**	**FL**	**LA**	**MS**	**TX**	**Total**
Option 5d	25% biomass; 75% trips	25.76%	34.59%	19.33%	4.28%	16.04%	100%
Option 5e	50% biomass; 50% trips	19.28%	33.04%	19.65%	3.30%	24.73%	100%
Option 5f	75% biomass; 25% trips	12.79%	31.49%	19.96%	2.32%	33.43%	100%

Note: **Options a-c** only apply to the proportion of trips, not the biomass estimates.

Table 2.3.6. Percent of the *total recreational* ACL (*private angling* ACL and *federal for-hire* ACL combined) allocated to each state under **Alternative 5** (Action 1.1, Alternatives 3 and 4), with various weightings (**Options 5d-5f**) for biomass and angler trips (**Options 5a-5c**).

	Option 5a: 1986-2015		**AL**	**FL**	**LA**	**MS**	**TX**	**Totals**	
Option 5d	25% biomass; 75% trips	Private	16.02%	16.77%	11.20%	3.18%	10.52%	57.7%	100%
		For-hire	6.37%	19.66%	4.23%	0.36%	11.68%	42.3%	
Option 5e	50% biomass; 50% trips	Private	11.89%	16.94%	11.37%	2.38%	15.12%	57.7%	100%
		For-hire	5.14%	17.33%	5.68%	0.43%	13.73%	42.3%	
Option 5f	75% biomass; 25% trips	Private	7.76%	17.11%	11.54%	1.58%	19.71%	57.7%	100%
		For-hire	3.90%	15.00%	7.13%	0.50%	15.77%	42.3%	

	Option 5b: 2006-2015		**AL**	**FL**	**LA**	**MS**	**TX**	**Totals**	
Option 5d	25% biomass; 75% trips	Private	13.71%	23.15%	11.10%	1.75%	7.98%	57.7%	100%
		For-hire	7.11%	21.33%	4.05%	0.20%	9.60%	42.3%	
Option 5e	50% biomass; 50% trips	Private	10.35%	21.19%	11.30%	1.42%	13.43%	57.7%	100%
		For-hire	5.63%	18.44%	5.56%	0.32%	12.34%	42.3%	
Option 5f	75% biomass; 25% trips	Private	6.99%	19.23%	11.50%	1.10%	18.87%	57.7%	100%
		For-hire	4.15%	15.55%	7.07%	0.44%	15.08%	42.3%	

	Option 5c: 50% (5a) + 50% (5b)		**AL**	**FL**	**LA**	**MS**	**TX**	**Totals**	
Option 5d	25% biomass; 75% trips	Private	14.87%	19.96%	11.15%	2.47%	9.25%	57.7%	100%
		For-hire	6.74%	20.49%	4.14%	0.28%	10.64%	42.3%	
Option 5e	50% biomass; 50% trips	Private	11.12%	19.06%	11.34%	1.90%	14.27%	57.7%	100%
		For-hire	5.38%	17.88%	5.62%	0.38%	13.03%	42.3%	
Option 5f	75% biomass; 25% trips	Private	7.38%	18.17%	11.52%	1.34%	19.29%	57.7%	100%
		For-hire	4.02%	15.27%	7.10%	0.47%	15.43%	42.3%	

Note: **Options a-c** only apply to the proportion of trips, not the biomass estimates.

Recreational trip data for Alternative 5

There are several surveys that collect recreational fishing trip data. In 1986, NMFS began the Southeast Region Headboat Survey (SRHS) in the Gulf. The SRHS monitors and samples headboats, defined as those vessels that are licensed to carry 15 or more paying recreational fishing passengers and that charge primarily per angler. In 1979, NMFS began working with state agencies to collect statistics on private and charter vessel (those vessels not in the SRHS) recreational trips from Louisiana through west Florida with the Marine Recreational Fisheries Statistics Survey (MRFSS). In 2008, NMFS implemented the Marine Recreational Information Program (MRIP), which eventually replaced MRFSS. Calibration factors were developed between MRFSS and MRIP to make the survey results comparable, and have been applied to previous landings estimates to convert those estimates from MRFSS to MRIP.[8] Both MRFSS and MRIP estimate recreational trips by two-month waves (i.e., January/February, March/April).

[8] Details of both MRFSS and MRIP and also the calibration factor calculations can be found at https://www.st.nmfs.noaa.gov/recreational-fisheries/index.

In 1974, Texas Parks and Wildlife Department's (TPWD) Marine Sport-Harvest Monitoring Program began collecting statistics on private and charter recreational trips.[9] The TPWD estimates recreational trips by splitting the year into two waves, May 15-Nov 20 and Nov 21-May 14.

In 2013, the Louisiana Department of Wildlife and Fisheries recreational creel survey (LA Creel) began collecting statistics on red snapper private and charter recreational trips. LA Creel provides statistics on recreational trips by week. With respect to red snapper recreational fishing statistics, LA Creel ran concurrently with MRIP in 2013 and 2015, but did not start to collect effort (target trip) information until 2016. MRIP data collection stopped in 2013 and then ran again for one final year in 2015. Therefore, from 2016 and forward LA Creel is the only recreational fishing survey occurring in Louisiana.

Alternative 5 uses red snapper targeted trip data to establish the red snapper allocation amongst the states. Targeted trips are those trips where the fishers defined red snapper as the primary or secondary target species of the trip. The SRHS data cannot be used in this analysis because the SRHS does not collect any target information; therefore, there are no estimates of headboat trips that target red snapper. MRIP, TPWD, and LA Creel estimate target trips for red snapper, however, all three surveys are different in sampling method and time period.

MRIP calculates an effort estimate (number of trips) from phone surveys.[10] MRIP then uses dockside intercepts to determine the proportion of trips that targeted red snapper. Multiplying the effort estimate by the dockside intercept response results generates an estimate for the number of trips targeting red snapper. TPWD calculates an effort estimate (number of trips) using a roving boat-count survey at boat ramps and marinas. TPWD then uses dockside intercepts to determine the proportion of trips that targeted red snapper. Similar to MRIP, TPWD multiplies the effort estimate by the dockside intercept response results to generate an estimate for the number of trips targeting red snapper. LA Creel requires an offshore angler permit to harvest red snapper. Phone surveys of those permit holders are conducted to determine effort. LA Creel then uses dockside intercepts to determine the proportion of trips that targeted red snapper. Similar to MRIP and TPWD, LA Creel multiplies the effort estimate by the dockside intercept response results to generate an estimate of number of trips targeting red snapper. There are no available metrics to calibrate the trip estimates between the surveys, because the surveys have not been adequately compared, or effort comparison results are not available at this time. LA Creel did not start collecting target trip information until May of 2016; therefore, estimates of trips that targeted red snapper in Louisiana are only available from MRIP up to 2013 and then for one final year in 2015. After 2015, target trip data in Louisiana is not available until half of the year in 2016.

Alternatives 6, 7 and **Preferred Alternative 8** are derived from the allocations used for the exempted fishing permits (EFP) issued by NMFS that allow the Gulf states to set the fishing

[9] Details of the survey can be found at http://tpwd.texas.gov.
[10] In 2018 MRIP is changing the effort estimation survey from a phone to a mail survey.

seasons for the private angling component in 2018 and 2019.[11] Because the allocations used for the EFPs apply to the private angling component only, these alternatives are applicable only if Preferred Alternative 2 in Action 1.1 is selected. These allocations are not applicable if Alternative 3 or Alternative 4 is selected in Action 1.1, as these alternatives would also require an allocation of the federal for-hire component ACL.

Alternative 6 would allocate the private angling ACL among the states based on the amount of red snapper each state is authorized to manage under the EFPs in 2018 and 2019. These state allocations were based on criteria provided by each state, which when adjusted for the 2018 red snapper private angling ACL, left a balance of 3.78% of the private angling ACL. The 3.78% of the private angling ACL was then assigned to Florida. **Alternative 7** would allocate the private angling ACL among the states based on the percent of the quota represented by the amount of red snapper each state requested through its EFP application, which totaled 96.22%. The remaining 3.78% would be distributed among all five states proportionally based on each state's original requested amount of quota.[12] **Preferred Alternative 8** is similar to **Alternative 7**, but distributes the 3.78% of the private angling ACL that was assigned to Florida proportionally between Florida and Alabama only, because these two states had the shortest seasons under the EFPs; the allocations for Louisiana, Mississippi, and Texas are the same under **Alternative 6** and **Preferred Alternative 8**. The resulting percentages are provided in Table 2.3.7.

Table 2.3.7. Percent of the private angling component ACL that would be allocated to each state under **Alternatives 6, 7,** and **Preferred Alternative 8**. These alternatives are based on the allocations used for each state under the 2018-2019 State Red Snapper Management EFPs.

	AL	FL	LA	MS	TX	Total
Alternative 6	25.340%	45.780%	19.120%	3.550%	6.210%	100%
Alternative 7	26.298%	43.730%	19.843%	3.684%	6.445%	100%
Pref. Alt. 8	26.298%	44.822%	19.120%	3.550%	6.210%	100%

Table 2.3.8 (private angling, only) and Table 2.3.9 (both private angling and federal for-hire components) provide a comparison of the resulting allocations for **Alternatives 2-8**, excluding **Alternative 3**. The highest and lowest allocations for each state are highlighted to demonstrate the range for each state. None of the numerous possible combinations for selecting the **Alternative 3** options alongside each of the **Alternative 2** options significantly change the resulting allocations. To explore these multiple combinations of historical time series (**Alternative 2**) and options for excluding various years (**Alternative 3**), see the Red Snapper Decision Support Tool on the Council's website.[13]

[11] http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/LOA_and_EFP/2018/RS%20state%20pilot/home.html

[12] To make this allocation total 100%, it was necessary to carry the resulting percentages to three decimal places. All other alternatives would use allocations that extend two decimal places.

[13] https://gulfcouncilportal.shinyapps.io/RedSnapperDecisionSupportTool3/

Table 2.3.8. Summary of the allocations by state for **Alternatives 2-8** for the *private angling* component, only, excluding **Alternative 3**. The highest and lowest allocation for each state are highlighted. Each row sums to 100%.

Alternative	AL	FL	LA	MS	TX	Total
2a	35.96%	**28.07%**	**20.98%**	7.93%	7.06%	100%
2b	**38.48%**	33.67%	**16.67%**	4.52%	6.66%	100%
2c	33.63%	41.57%	17.22%	2.13%	5.45%	100%
2d	34.80%	34.82%	19.10%	5.03%	6.26%	100%
4	38.44%	31.68%	16.73%	**8.47%**	**4.68%**	100%
5a + 5d	27.76%	29.06%	19.42%	5.52%	18.24%	100%
5a + 5e	20.61%	29.36%	19.70%	4.12%	26.20%	100%
5a + 5f	13.45%	29.65%	19.99%	2.73%	**34.17%**	100%
5b + 5d	23.77%	40.12%	19.24%	3.03%	13.84%	100%
5b + 5e	17.95%	36.72%	19.59%	2.47%	23.27%	100%
5b + 5f	**12.12%**	33.33%	19.93%	**1.90%**	32.70%	100%
5c + 5d	25.76%	34.59%	19.33%	4.28%	16.04%	100%
5c + 5e	19.28%	33.04%	19.65%	3.30%	24.73%	100%
5c + 5f	12.79%	31.49%	19.96%	2.32%	33.43%	100%
6	25.34%	**45.78%**	19.12%	3.55%	6.21%	100%
7	26.298%	43.730%	19.843%	3.684%	6.445%	100%
Pref. 8	26.298%	44.822%	19.120%	3.550%	6.210%	100%

Table 2.3.9. Summary of the allocations by state for **Alternatives 2-5** for the *private angling* component (A) and *federal for-hire* component (B), excluding **Alternative 3**. The highest and lowest allocation for each state are highlighted by component. Each row sums to the respective component's allocation (57.7% for the private angling component and 42.3% for the federal for-hire component).

A) Private angling component

Alternative	AL	FL	LA	MS	TX	Total
2a	20.75%	**16.20%**	**12.11%**	4.57%	4.07%	57.7%
2b	**22.20%**	19.43%	**9.62%**	2.61%	3.84%	57.7%
2c	19.41%	**23.99%**	9.93%	1.23%	3.14%	57.7%
2d	20.08%	20.09%	11.02%	2.90%	3.61%	57.7%
4	22.18%	18.28%	9.65%	**4.89%**	**2.70%**	57.7%
5a + 5d	16.02%	16.77%	11.20%	3.18%	10.52%	57.7%
5a + 5e	11.89%	16.94%	11.37%	2.38%	15.12%	57.7%
5a + 5f	7.76%	17.11%	11.54%	1.58%	**19.71%**	57.7%
5b + 5d	13.71%	23.15%	11.10%	1.75%	7.98%	57.7%
5b + 5e	10.35%	21.19%	11.30%	1.42%	13.43%	57.7%
5b + 5f	**6.99%**	19.23%	11.50%	**1.10%**	18.87%	57.7%
5c + 5d	14.87%	19.96%	11.15%	2.47%	9.25%	57.7%
5c + 5e	11.12%	19.06%	11.34%	1.90%	14.27%	57.7%
5c + 5f	7.38%	18.17%	11.52%	1.34%	19.29%	57.7%

B) Federal for-hire component

Alternative	AL	FL	LA	MS	TX	Total
2a	10.84%	15.67%	5.32%	0.29%	10.18%	42.3%
2b	**11.39%**	18.28%	**3.91%**	0.25%	8.47%	42.3%
2c	10.60%	19.76%	3.94%	**0.10%**	**7.90%**	42.3%
2d	10.72%	17.71%	4.63%	0.19%	9.04%	42.3%
4	10.45%	**14.60%**	6.07%	**0.54%**	10.65%	42.3%
5a + 5d	6.37%	19.66%	4.23%	0.36%	11.68%	42.3%
5a + 5e	5.14%	17.33%	5.68%	0.43%	13.73%	42.3%
5a + 5f	**3.90%**	15.00%	**7.13%**	0.50%	**15.77%**	42.3%
5b + 5d	7.11%	**21.33%**	4.05%	0.20%	9.60%	42.3%
5b + 5e	5.63%	18.44%	5.56%	0.32%	12.34%	42.3%
5b + 5f	4.15%	15.55%	7.07%	0.44%	15.08%	42.3%
5c + 5d	6.74%	20.49%	4.14%	0.28%	10.64%	42.3%
5c + 5e	5.38%	17.88%	5.62%	0.38%	13.03%	42.3%
5c + 5f	4.02%	15.27%	7.10%	0.47%	15.43%	42.3%

2.4 Action 3 – Procedure for Allowing a Gulf State to Request the Closure of Areas of Federal Waters Adjacent to State Waters to Red Snapper Recreational Fishing

Alternative 1: No Action. Do not establish a procedure to allow a state to request that NMFS close areas of federal waters adjacent to state waters to red snapper recreational fishing.

Preferred Alternative 2: Establish a procedure to allow a state to request NMFS close areas of federal waters adjacent to state waters to red snapper recreational fishing. The state would request the closure by letter, providing dates and geographic coordinates for the closure. If the request is within the scope of the analysis in this amendment, NMFS would publish a notice in the Federal Register implementing the closure. The closure would apply to the recreational sector component(s) included in that state's approved management program.

Discussion:

Currently, each Gulf state has the authority to open and close its state waters to fishing, while NMFS has the authority to open and close federal waters consistent with the applicable federal regulations. If state management is implemented, the fixed recreational closed season for red snapper in federal waters would be removed (for the private angling component or both components depending on the alternatives selected) and become part of the federal default regulations, applied in the event a state's delegation is inactive or its CEP is not approved. Removal of the fixed closed season would allow each state to establish its fishing season, during which anglers may harvest red snapper from state waters and federal waters. To constrain landings to its portion of the recreational sector ACL, the state would establish the dates for the recreational harvest of red snapper based on its portion of the red snapper ACL, and enforcement would be carried out primarily in state waters and dockside. When a state closes its season, that state would prohibit further possession and landings of red snapper in the state (i.e., close the season), but federal waters adjacent to that state would remain open, allowing anglers from other states to fish for red snapper that they intend to land in another state's open season. Thus under **Alternative 1**, it may be possible for federal waters to remain open year-round to recreational red snapper fishing, and states would control harvest by establishing when red snapper may be possessed and landed in the state. Each state would continue to open and close its state waters, which would allow for red snapper fishing by its anglers when the state's fishing season is open, while not prohibiting anglers from other states from fishing in federal waters off that state, if landing in a border state that has an open fishing season.

A state may want to establish regional fishing seasons for red snapper, such that the season is open in one part of state waters while closed in another, and vice versa. The state would be able to do so under **Alternative 1**, provided the state's delegation or CEP is active. As an example, Florida could propose different fishing seasons for the Panhandle and west Florida region, aiming to optimize fishing opportunities for each region based on different tourist seasons or times of rough weather. Federal waters adjacent to Florida would remain open during the respective closed season of each region. Anglers fishing from a region during the open season could fish in the state waters of the region as well as adjacent federal waters, including federal

waters adjacent to other states. When a region is closed to red snapper fishing, possession and landing of red snapper would be prohibited in that region. Thus, an angler fishing during the proposed open season of the Panhandle region could fish for red snapper anywhere in federal waters, provided that the angler lands the catch in the Panhandle region.

Preferred Alternative 2 would establish a procedure through which a state with active state management (either through delegation or conservation equivalency) could request that NMFS close areas of federal waters adjacent to its state waters (Figure 1.1.1) to all red snapper recreational fishing. The NMFS Southeast Regional Administrator (RA) would have the authority to close federal waters off a state through a closed framework procedure. The state would send a letter to the RA requesting the closure *each year*, including the specific time period and location of the closure for that year. The closure would only apply to a component included in the state management program. Under Preferred Alternative 2 in Action 1.1, the closure would apply only to the private angling component. If the preferred alternative for Action 1.1 were to change and the state program also included the for-hire component, separate closures could be requested for each component.

The proposed procedure for closures of federal waters adjacent to a Gulf state is outlined below. The procedure addresses a specific factual circumstance and identifies a specific action to be taken in the event of specific events occurring. This alternative would not allow states to establish marine protected areas within federal waters nor restrict commercial vessels from harvesting red snapper from these areas. This alternative would also not restrict recreational anglers (for-hire and private) from harvesting species other than red snapper from these areas.

Closed Framework Procedure to Request Closure of Federal Waters off a State to Red Snapper Recreation Fishing:

Consistent with existing requirements in the FMP and implementing regulations, the Regional Administrator is authorized to close federal waters adjacent to a specific Gulf state through appropriate notification in the Federal Register:

1. The state must request the closure by letter, providing dates and geographic coordinates for the closure.
2. The RA will determine if the request is within the scope of the analysis in Amendment 50A.
3. NMFS will implement the closure through appropriate notification in the Federal Register.
4. The closure applies to the recreational sector component(s) included in the state's approved management program.

This procedure would provide states with the flexibility to close all or part of federal waters adjacent to the state. A state may wish to close all or part of the federal waters adjacent to its waters to restrict the amount of red snapper harvested from federal waters where red snapper are generally larger and more abundant, to provide a longer fishing season. However, an area

closure in federal waters adjacent to one state could affect anglers from other states. For instance, anglers from states with open seasons may be negatively affected as they would not be able to fish for or possess red snapper in the closed areas of federal waters, because any closure would apply to all recreational vessels (private angling vessels only under Preferred Alternative 2 in Action 1.1). Closing all or part of federal waters adjacent to a state would also create inconsistent regulations between state and federal waters, which may raise enforcement concerns. For example, under state management, enforcement would be expected to be carried out primarily in state waters and dockside, and would not require law enforcement to determine whether fish were caught in state or federal waters. Allowing states to request closures of federal waters would require the use of defined state management areas extending from each state into federal waters (Figure 1.1.1), thereby incorporating the use of boundary lines in state management, as discussed in Actions 1.1 and 1.2. This would create the same enforcement issues that currently exist when federal and state water seasons differ.

These issues could be most problematic near state boundaries. For example, if federal waters adjacent to Alabama were closed and Alabama state waters remained open while both Florida and Mississippi have their state waters and adjacent federal waters open, then vessels from Alabama could harvest red snapper from federal waters off Florida and Mississippi, and land in Alabama, provided they do not transit through the closed federal waters adjacent to Alabama's state waters. Although Alabama intended to extend its fishing season by constraining where harvest may occur (only in its state waters), the additional harvest from federal waters adjacent to neighboring Mississippi or Florida could result in Alabama's portion of the ACL being caught faster. Conversely, vessels from Mississippi and Florida, where the red snapper season is open in both state and adjacent federal waters, would be prohibited from possessing red snapper from federal waters adjacent to Alabama, even though those fish would only count against the ACL of the state where landed, i.e., Mississippi or Florida. Thus, this hypothetical closed area would restrict fishing opportunities for anglers fishing from Mississippi and Florida.

During 2018 and 2019, the states are managing the private angling component's recreational harvest of red snapper through EFPs. These EFPs serve as pilot programs for state management, and the fishing seasons that states established under the EFPs can be used as the basis for examining potential federal closures. However, EFPs work differently than delegation or CEPs, in that EFPs can only exempt regulated entities from existing federal regulations, not create new ones. Therefore, in 2018 and 2019 federal waters remained closed to private anglers year-round, but private anglers fishing under a states' EFP (meaning they have the required state licenses) are exempt from that closure when the state season is open. However, with delegation or CEPs the opposite situation would exist in that federal waters would remain open to private anglers year-round, unless a state requested a closure through this closed framework procedure. Thus, boundary lines between states were not needed under EFPs because the closure was consistent in all federal waters, but boundary lines would be needed under this action because federal closures would be restricted to distinct areas off each state.

At the October 2018 Council meeting, each state representative provided information about the type of closure they wanted analyzed as a potential request through this new procedure. The information about the closure type provided by each state defines the scope of the analysis within this amendment. Below are discussions specific to each state.

Texas
Texas requested this amendment include analysis of a closure of all federal waters off Texas when a portion of the Texas quota has been landed. In 2018, Texas opened state waters on January 1 and allowed fishing from federal waters on June 1. Texas calculated the pounds of its 241,245-lb quota that would be needed to maintain a year-round state waters season, and the remaining pounds were assigned for fishing in federal waters. Based on estimates of landings through the Texas Marine Sport Harvesting Program, Texas closed the federal fishing season on August 21. Thus, Texas had an 82-day federal season and a 283-day closure of federal waters.

Because the red snapper quotas are expected to increase for 2019 and beyond, a closure in federal waters off Texas under the procedure proposed in this action (**Preferred Alternative 2**) could be somewhat shorter. Texas would provide the season start and end dates in its letter. The closure area identified in Figure 2.4.1 would apply to all private recreational vessels, reflecting the Council's current preferred alternative. The intent would be to maintain a year-round fishing season in state waters during which the remaining part of Texas' quota could be caught. This would be consistent with how Texas has historically managed its state season. However, the use of this provision could affect anglers from Louisiana or other Gulf states, because they would not be allowed to fish for or possess red snapper in the closed area off Texas. Enforcement would essentially be the same as current enforcement, with federal waters closed to red snapper private anglers while state waters are open.

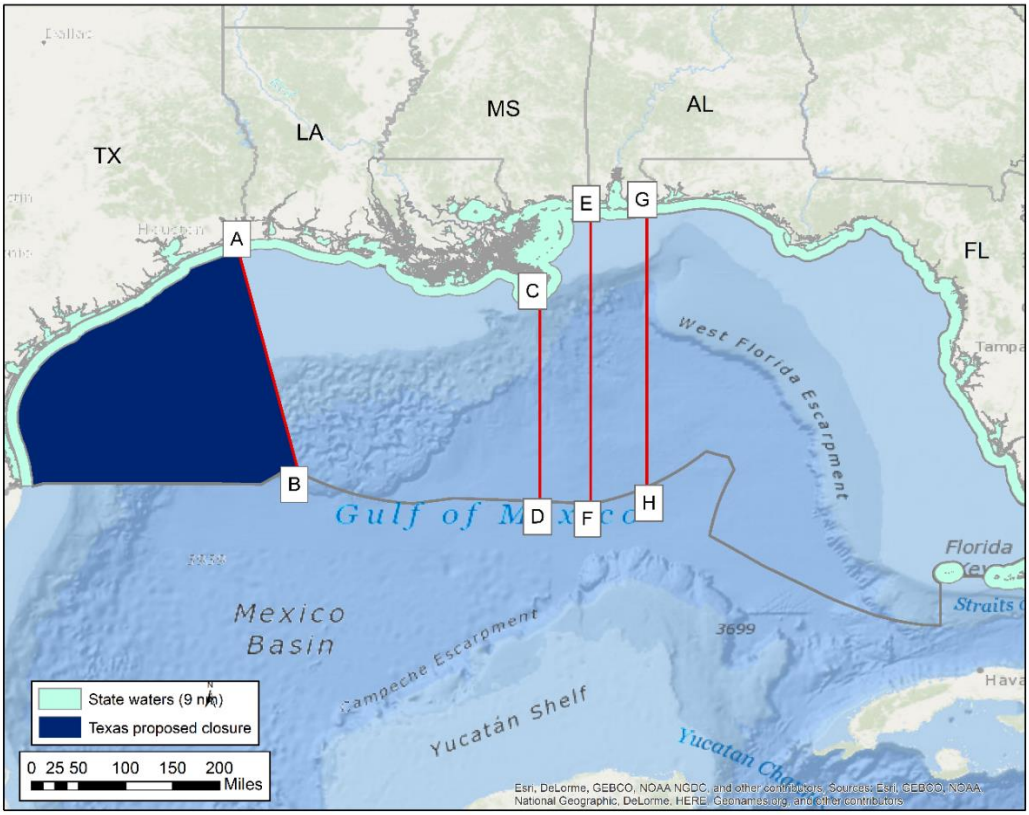

Figure 2.4.1. Map of the Gulf with green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The bright blue shading represents the area proposed for closure by Texas when a portion of the Texas quota has been landed.

Florida

Florida requested this amendment include analysis of a closure of federal waters adjacent to Florida past the 20-fathom depth curve, or past the 35-fathom depth curve, for the duration of Florida's open season. The 20-fathom depth curve is defined in federal regulations at 50 CFR 622.34(d) for the seasonal shallow-water grouper closure, and the 35-fathom depth curve is partially defined in federal regulations at 50 CFR 622.35(b) for the seasonal eastern Gulf longline closure.

In 2018, the Florida private angling recreational season for red snapper began in state and federal waters on June 11, and closed in all waters on July 20, resulting in a 40-day fishing season. Preliminary landings show that Florida exceeded its quota by 13%, or approximately 230,000 lbs. Under the EFP, the overage will be deducted from the 2019 quota; therefore, the 2019 season is expected to be shorter than 40 days if all other state regulations, such as bag limit, remain the same. However, because the red snapper quotas are expected to increase for 2019 and beyond (GMFMC 2018a), the 2019 Florida season would not be reduced as much as if the quota remained at the 2018 level.

Under state management, if Florida adopts a similar season structure as during the EFPs, the season length would be expected to be similar. If Florida adopts a depth-related closure in federal waters off Florida under the procedure proposed in this action (**Preferred Alternative 2**), it may be possible to extend the length of the season. In turn, this would mean a closure in federal waters that would be somewhat longer than the length of the open season during the EFPs. Thus, Florida anglers would be provided with additional fishing opportunities through a potentially longer season in shallower waters, and anglers from other states intending to fish in deeper waters offshore Florida would be prohibited from doing so during the duration of Florida's open season. That is, the longer the season is open in state waters, the longer the corresponding closure would be in federal waters, which could restrict anglers from other states.

Florida would provide the season start and end dates in its letter when requesting the depth-based closure, as well as which fathom line would be used for the closure. The closure area of 20 fathoms (Figure 2.4.2) and 35 fathoms (Figure 2.4.3) would apply to all private recreational vessels, based on the Council's current preferred alternative. The use of this provision could affect anglers from Alabama (however, see below) or other Gulf states because they would not be allowed to possess red snapper in the closed area off Florida. Enforcement would be similar to current enforcement, with federal waters closed to red snapper private anglers while state waters are open, although the area of that closure would be different.

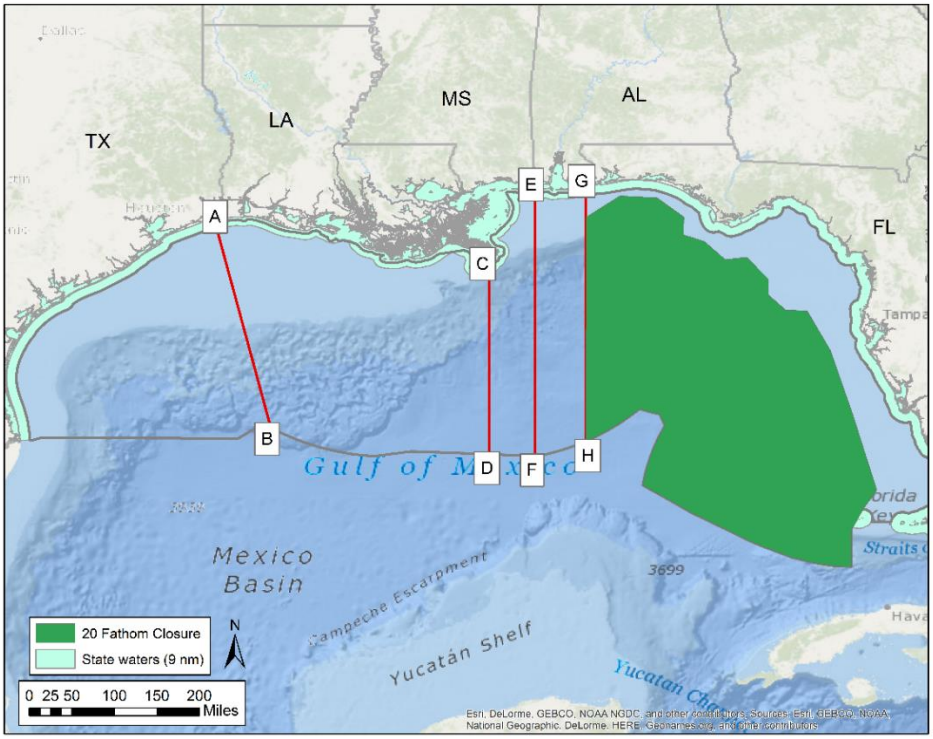

Figure 2.4.2. Map of the Gulf with light green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The bright green shading represents the area proposed for closure past 20 fathoms off Florida.

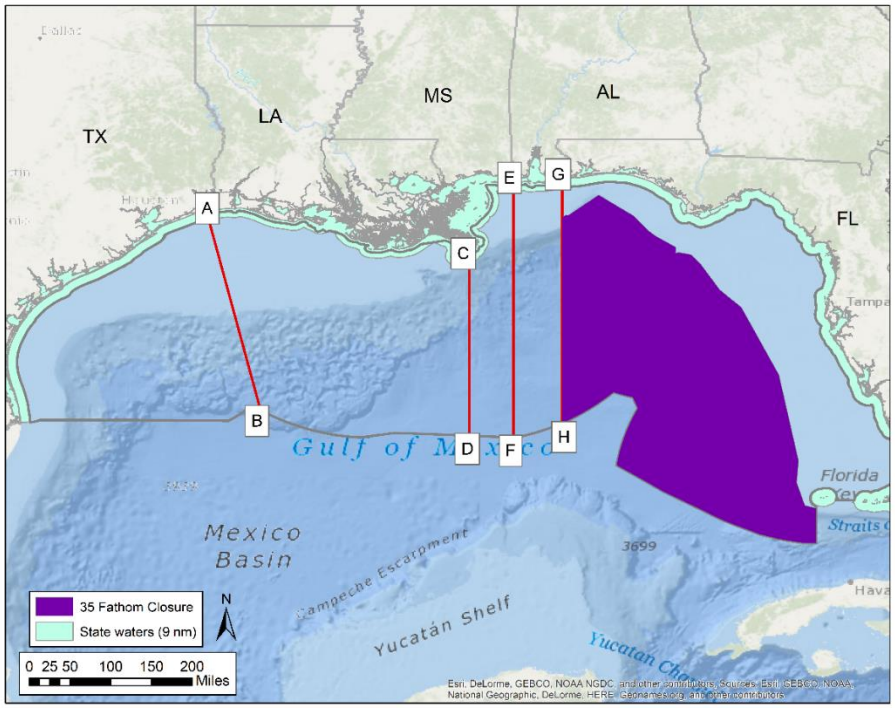

Figure 2.4.3. Map of the Gulf with green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The bright purple shading represents the area proposed for closure past 35 fathoms off Florida.

Alabama

Alabama requested this amendment include analysis of a closure of federal waters adjacent to Alabama past the 20-fathom depth curve, or past the 35-fathom depth curve, for the duration of Alabama's open season. This request was the same as the request from Florida, and is intended to attempt some consistent regulations in adjacent waters. The 2018 private angling fishing season for red snapper under the EFP in Alabama was June 1 through July 22, similar to the timing of Florida's season. However, Alabama's season was open weekends only (plus July 2-5), resulting in 28 days. Preliminary landings show that Alabama exceeded its quota by 0.2%, or approximately 2,000 lbs. Under the EFP, the overage will be deducted from the 2019 quota, although the expected quota increase in 2019 (GMFMC 2018a) is expected to be greater than the overage adjustment.

Under state management, if Alabama adopts a similar season structure as during the EFPs, the season length would be expected to be similar. If Alabama adopts a depth-related closure in federal waters off Alabama under the procedure proposed in this action (**Preferred Alternative 2**), it may be possible to extend the length of the season that would be held in shallower waters. However, the timing of the proposed closed areas would not be consistent with Florida's season.

Regardless of consistency with Florida, the proposed closures with a weekends-only season in Alabama could create additional enforcement issues because the depth-based closures would only be effective when the state season is open. Thus, waters outside the 20- or 35-fathom depth

contour would be closed on weekends but open on weekdays to fishers from other states. The use of this provision could also affect anglers from Mississippi or other Gulf states, because they would not be allowed to possess red snapper in the closed area off Alabama on the weekends during Alabama's open season, even if they intend to land the fish in another state.

A depth-related closure in federal waters off Alabama under the procedure proposed in this action (**Preferred Alternative 2**) would be expected to be approximately the same as the 2019 fishing season, which has not yet been determined. However, the intent of the closure would be to increase the length of the season in shallower waters, which would also increase the length of the deeper waters closure. Alabama would provide the season start and end dates, and whether the season is restricted to weekends, in its letter when requesting the depth-based closure, as well as which fathom line the closure would be beyond. The closure area of 20 fathoms (Figure 2.4.4) and 35 fathoms (Figure 2.4.5) would apply to all private recreational vessels, reflecting the Council's current preferred alternative.

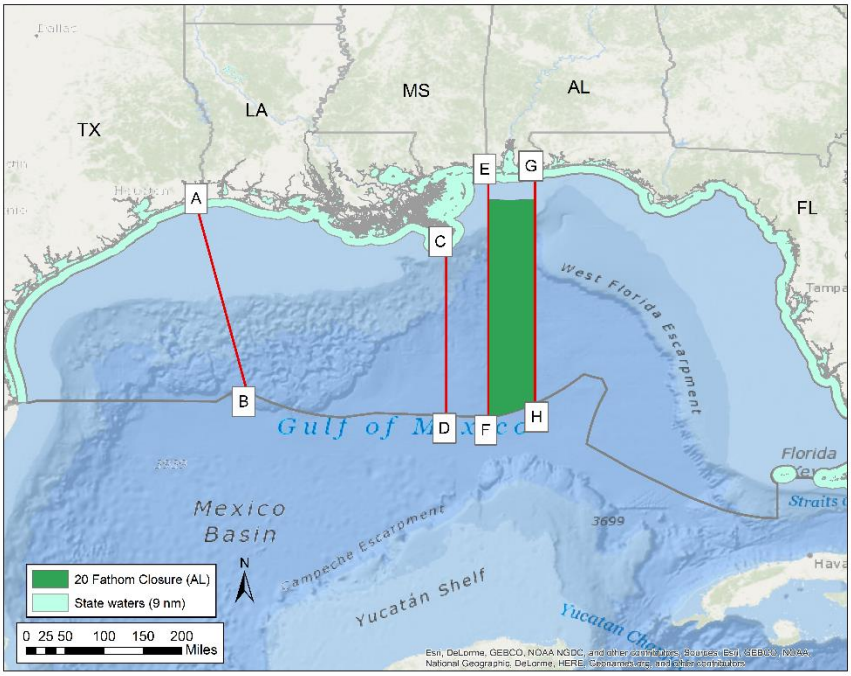

Figure 2.4.4. Map of the Gulf with light green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The bright green shading represents the area proposed for closure past 20 fathoms off Alabama.

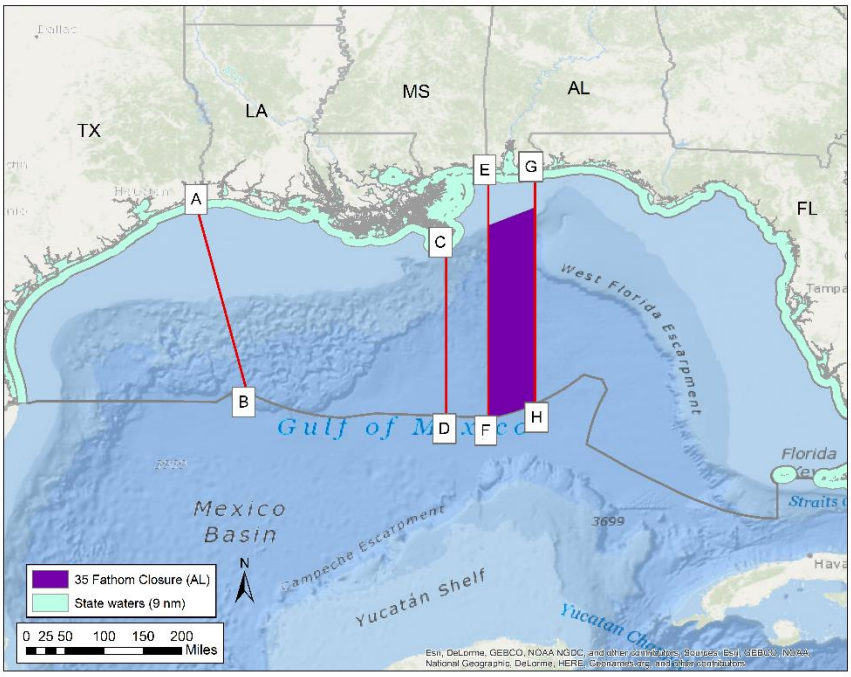

Figure 2.4.5. Map of the Gulf with green shading to identify state waters from federal waters and established and proposed boundaries between states extending into federal waters. The bright purple shading represents the area proposed for closure past 35 fathoms off Alabama.

Louisiana and Mississippi

Neither Louisiana nor Mississippi provided any potential closure to analyze under **Preferred Alternative 2**. Access to federal waters in this area is especially complicated, because Louisiana state waters restrict Mississippi's access to federal waters (Figure 1.1.1). Thus, any closure of waters off Louisiana would directly impact fishermen from Mississippi. Because no closures off Louisiana and Mississippi are analyzed in this amendment, federal waters off these two states would remain open year-round (except under the conditions described in Actions 1.1 and 1.2).

2.5 Individual State Amendments Action 1 – Authority Structure for State Management

This section describes and compares the alternatives under consideration in the first action of the Individual State Amendments. The Council will select a preferred alternative for each state in its respective amendment. This discussion provides the context for the analysis presented in the environmental consequences chapter, including the potential cumulative effects that may result from this Program Amendment and the Individual State Amendments, by selecting an authority structure for state management.

Currently, each Gulf state decides when to open and close its state waters to fishing while NMFS closes fishing in federal waters consistent with the regulations implementing the Reef Fish Fishery Management Plan (FMP). The states also decide on any other management measures, such as bag limit and size limit, which are applicable in state waters while the Council decides the management measures applicable in federal waters. Many, but not all, of these management measures are consistent between the states as well as with the federal requirements. This action considers two primary approaches to provide the authority for state management: **delegation** and **conservation equivalency**. Delegation refers to the use of a provision in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) that allows for some management authority to be turned over to a state(s) to regulate fishing vessels beyond state waters. Conservation equivalency refers to the sharing of federal management authority with the states, such that specific state regulations are determined to be the conservation equivalent to federal regulations.

Whether delegation or conservation equivalency is selected, a state's management measures must be consistent with the Magnuson-Stevens Act and the Reef Fish FMP, including the red snapper rebuilding plan. Consistency with the Magnuson-Stevens Act and Reef Fish FMP requires, among other things, preventing overfishing, rebuilding declining reef fish stocks, monitoring the reef fish fishery, conserving and increasing reef fish habitats, and minimizing conflicts between user groups. Under all alternatives, red snapper would remain subject to Gulf-wide closure when the recreational sector ACL is met. For this reason, states would report landings to NMFS during the fishing season, at intervals specified by NMFS based on the state's quota monitoring method. In addition, each state would provide an update to the Council, as requested, on the status of its state management program, including but not limited to its most recent landings, red snapper fishing season and any other regulations, and its plan to address any quota overruns.

If a state's red snapper management plan is determined to be inconsistent with the requirements of delegation, or if the conservation equivalency plan (CEP) is determined by NMFS to not satisfy the conservation equivalency requirements, then the recreational harvest of red snapper in the federal waters adjacent to that state would be subject to the ***default federal regulations*** for red snapper. Federal waters adjacent to a state refer to the portion of federal waters bounded by the state's waters and the boundary line(s) shown in Figure 1.1.1 that separate federal waters off each state.

Default federal regulations are the Gulf-wide federal regulations governing the recreational harvest of red snapper in the Code of Federal Regulations (50 CFR Part 622). To implement state management by delegation or conservation equivalency, the current regulations would be waived for those anglers and vessels fishing under a state's active delegation or approved CEP. Default federal regulations for the recreational harvest of red snapper would be applied to the federal waters adjacent to a state's waters in the event that state's delegation is determined to be inconsistent, its CEP is not approved, or the state chooses not to have a state management plan. A different process would be followed for delegation than for CEPs, in that delegation would remain in effect unless NMFS determines the delegation is inconsistent with the Reef Fish FMP (Appendix B), while CEPs would require a periodic determination that the plan is the conservation equivalent of the default federal regulations (Appendix C).

Among other regulations that apply to reef fish fishing in general, the current federal regulations for the harvest of red snapper include a 2-fish bag limit, minimum size limit of 16 inches total length (TL), and a fishing season that begins on June 1 and closes when the ACT of each recreational component (i.e., private angling and federal for-hire) is projected to be caught. These regulations have been established and revised over time through past Council actions, which considered a variety of alternatives that were analyzed as part of the decision-making process.

The alternatives under consideration for this action in the Individual State Amendments follow:

- **Alternative 1:** No Action. Retain current federal regulations for management of recreational red snapper in federal waters of the Gulf.

If a state chooses not to participate in state management of recreational red snapper fishing (**Alternative 1**), the default federal regulations would apply. NMFS would open and close federal waters to fishing consistent with the regulations implementing the Reef Fish FMP. In the event only some of the states have approved state management programs, the sum of all participating states' ACLs (as selected in Action 2 of the Program Amendment) would be subtracted from the component ACL (or recreational sector ACL). NMFS would reduce the remaining component ACLs by the established buffer and establish federal recreational season lengths for each component in federal waters adjacent to all states without an active state management program.

- **Alternative 2:** Establish a management program that **delegates** management authority for recreational red snapper fishing in federal waters to [a state]. If [the state's] red snapper harvest plan is determined to be inconsistent with the requirements of delegation, the recreational harvest of red snapper in the federal waters adjacent to [the state] would be subject to the default federal regulations for red snapper. [The state] must establish the red snapper season structure for the harvest of its assigned portion of the recreational sector annual catch limit (ACL), monitor landings, and prohibit further landings of red snapper when the ACL is reached or projected to be reached. In addition, delegated authority for managing the recreational harvest of red snapper may include establishing or modifying the:
  Option 2a: bag limit
  Option 2b: prohibition on for-hire vessel captains and crew from retaining a bag limit.

Option 2c: minimum size limit within the range of 14 to 18 inches TL
Option 2d: maximum size limit.

The Magnuson-Stevens Act allows for the delegation of management to a state to regulate fishing vessels beyond its state waters, provided its regulations are consistent with the FMP. The delegation of management authority requires a three-quarters majority vote of the voting members of the Council. See Appendix B for additional information on the requirements of delegation including the Secretary of Commerce's procedure for addressing a state's regulations that are deemed inconsistent with the Reef Fish FMP.

Under **Alternative 2**, state management is defined as the delegation of limited management authority to a state, which would then establish appropriate management measures to constrain recreational harvest to the state's assigned portion of the recreational sector ACL. A state would have management authority to establish the recreational red snapper fishing season, plus recreational management measures selected among the options under **Alternative 2**. In setting the fishing season, the state would have the flexibility to select the season start date and could establish a fixed closed season, split seasons (e.g., spring and fall season), and alternate season structures (e.g., weekends, only). A state could also establish regional seasons, such as separate fishing seasons for the Florida Panhandle and west Florida. Provided the state constrains its landings of each component to that component's portion of the ACL, a state could establish different seasons for each component if the state is managing both the private angling and federal for-hire components. In addition, the state could reopen its fishing season if quota remains after the initial season closes.

Options 2a-2d provide recreational management measures that may be delegated in addition to the fishing season. **Option 2a** would delegate authority to establish the recreational bag limit and **Option 2b** would allow the state to modify the prohibition on the captain and crew of a for-hire vessel retaining a bag limit. As with setting the fishing season, these options would allow bag limits to be set regionally or by component, if applicable. Because the Council's preferred alternative in the Program Amendment is to include the private angling component only, **Option 2b** is not applicable in any individual state amendment, as it applies to bag limits on for-hire vessels.

Options 2c and **2d** would delegate setting the red snapper recreational size limit. Establishing both a minimum (**Option 2c**) and maximum size limit (**Option 2d**) would create a slot limit for the recreational harvest of red snapper. The current minimum size limit for red snapper is 16 inches TL in federal waters for recreational anglers and for all state waters except Texas. In state waters off Texas the recreational red snapper minimum size limit is 15 inches TL. This option constrains the minimum size limits that may be adopted by the states due to biological concerns associated with high-grading and discard mortality. Modifying the minimum size limit among states may pose issues for conducting stock assessments. The red snapper stock is still under a rebuilding plan and stock assessments must take into account minimum size limits for each sector and gear type. Thus, the minimum size limit that may be delegated to the states is restricted to the range of 14 inches TL to 18 inches TL. All red snapper (100%) are estimated to be reproductively mature at age-2 (SEDAR 31 2013) at approximately 358 mm or 14 inches TL (Szedlmayer and Shipp 1994); therefore, all of the minimum size limits within the range are

estimated to be greater than the size of reproductively mature fish. For this reason, minimum size limits smaller than 14 inches TL are not considered. The largest minimum size limit within the range that could be delegated is 18 inches TL, which has the largest spawning potential for the stock.

For **Options 2a-2c**, specific regulations in the Code of Federal Regulations (Appendix D) would need to be waived or suspended for anglers landing in the participating state. Therefore, if the delegation includes the bag limit (**Option 2a**) or minimum size limit (**Option 2c**), the state would be required to establish the season as well as those management measures to remain consistent with the delegation. For **Option 2b** and **Option 2d**, establishing state regulations would be optional. However, as noted above, **Option 2b** would not be applicable if the Council does not include the federal for-hire component in state management.

- **Alternative 3:** Establish a management program in which [a state] submits a plan describing the **<u>conservation equivalency</u>** measures **[**the state] will adopt for the management of its portion of the recreational sector ACL in federal waters. The plan, <u>which may be submitted annually or biannually</u>, must specify the red snapper season structure <u>and bag limit</u> for [the state's] harvest of its assigned portion of the recreational sector ACL. To be a CEP, the plan must be reasonably expected to limit the red snapper harvest to [the state's] assigned portion of the recreational sector ACL. If [the state's] plan is determined by NMFS to not satisfy the conservation equivalency requirements, then the recreational harvest of red snapper in the federal waters adjacent to [the state] would be subject to the default federal regulations for red snapper.
  Option 3a: The plan will be submitted directly to NMFS for review.
  Option 3b: The plan will first be submitted to a technical review committee. The technical review committee reviews and may make recommendations on the plan, which is either returned to [the state] for revision or forwarded to NMFS for final review.

Alternative 3 would adopt a process by which a state submits a CEP describing its intended management measures for the recreational harvest of red snapper. Conservation equivalency would grant less management authority directly to a state than delegation because NMFS would need to approve any changes in the state management plan. However, the conservation equivalency alternatives provide flexibility to a state to modify the season structure and bag limit for the harvest of its designated portion of the red snapper recreational ACL. The procedure and requirements for conservation equivalency are provided in Appendix C.

Alternative 3 provides two options for the review process for the CEPs. Under **Option 3a**, a state would submit its plan directly to NMFS for review, while under **Option 3b**, the state would first submit its CEP to a technical review committee, which would include one member from each state designated by the state fisheries director. The technical review committee would provide the initial review of the CEPs and may make recommendations on the plan, which would either be returned to the state for revision or forwarded to NMFS for final review and approval. Because of the additional time needed for the technical review committee to meet and review the CEPs, **Option 3b** would potentially entail a longer process for consistency determination than under **Option 3a**. On the other hand, the process under **Option 3b** provides for greater participation and input by state-level managers and stakeholders, increasing the involvement of

local-level entities in the state management process. The proposed process under **Option 3b** is more similar to the Mid-Atlantic Fishery Management Council's management of summer flounder than is **Option 3a**.

Additional Considerations

Unless it is necessary to establish state management areas in federal waters, enforcement would primarily be conducted in state waters and dockside, because of the variety of regulations under which any one vessel could be fishing while in federal waters. In federal waters, enforcement agents would use the least restrictive state management measures in place at the time, to determine regulatory compliance. For example, if no open state has a bag limit greater than four red snapper per person per day, then possession of red snapper in excess of this bag limit, regardless of where in federal waters it is fishing, would be a violation.

Under all alternatives, red snapper would remain under federal management jurisdiction, subject to Gulf-wide closure of federal waters if NMFS determines that the total recreational sector ACL is met. Essentially, while a state would be given management authority to determine some of the regulations that apply to the harvest of red snapper, none of the alternatives provide the complete authority to manage red snapper advocated for by some supporters of state management. The management measures implemented by the state must adhere to the goals of the rebuilding plan and be consistent with federal and other applicable laws.

The preferred alternatives selected in each Individual State Amendment are as follows:

- Louisiana (Amendment 50B): **Preferred Alternative 2, Options 2a-2d**
- Mississippi (Amendment 50C): **Preferred Alternative 2, Options 2a-2d**
- Alabama (Amendment 50D): **Preferred Alternative 2, Options 2a-2d**
- Florida (Amendment 50E): **Preferred Alternative 2, Options 2a, 2c, and 2d**
- Texas (Amendment 50F): **Preferred Alternative 2, Options 2a-2d**

2.6 Individual State Amendments Action 2 – Post-Season Quota Adjustment

This section describes and compares the alternatives under consideration in the second action of the Individual State Amendments. The Council will select a preferred alternative for each state in its respective amendment. This discussion provides context for the environmental consequences analysis of the potential cumulative effects that may result from this Program Amendment and the Individual State Amendments, of adding state-specific overage and underage adjustments for states with approved state management programs. An overage adjustment, or *payback provision*, is a type of AM; in the event that the quota is exceeded, the following year's quota would be reduced. An underage adjustment, or *carryover provision*, is the opposite. In the event that landings remain below the quota, the following year's quota would be increased. This action would be in addition to the existing post-season accountability measure (AM) for an overage of the recreational sector's ACL.

Section 407(d) of the Magnuson-Stevens Act requires that the Council ensure the Reef Fish FMP (and its implementing regulations) have conservation and management measures that establish a separate sector quota for recreational fishing (private and for-hire vessels) and prohibit the possession of red snapper caught for the remainder of the fishing year once the sector quota is reached. Section 303(a)(15) of the Magnuson-Stevens Act requires ACLs and associated measures to ensure accountability. The National Standard 1 guidelines identify two types of AMs: in-season and post-season. These AMs are not mutually exclusive and should be used together where appropriate.

In 2014, the Council adopted an in-season AM that required NMFS to determine the recreational season length based on an ACT that is set 20% below the ACL. To correct or mitigate any overages during a specific fishing year (50 CFR 600.310(g)), the Council also adopted a payback provision. This post-season AM applies when red snapper is classified as overfished and requires NMFS to reduce the recreational sector ACL in the year following an overage of the total recreational ACL by the full amount of the overage, unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary. Red snapper is not currently classified as overfished; therefore, overage adjustments are not currently implemented. Nevertheless, this AM would remain in place whether or not state-specific quota adjustments are implemented.

The Individual State Amendments include both in-season and post-season AMs. Each alternative in Action 1 requires the state to "establish the red snapper season structure for the harvest of its assigned portion of the recreational sector ACL, monitor landings, and prohibit further landings of red snapper when the ACL is reached or projected to be reached." This is the same as the current in-season AM, except that closures would occur separately for each state. Action 2 addresses the post-season AM, requiring a payback of any ACL overage. This differs from the current post-season AM in that it is not dependent on stock status; the overage must be repaid even if the stock is not considered overfished. In addition, the payback would occur separately for each state.

The alternatives under consideration for this action in the Individual State Amendments follow:

- **Alternative 1:** Retain the current post-season AM for managing overages of the recreational sector ACL in federal waters of the Gulf and do not add a state-specific overage adjustment. If red snapper is overfished (based on the most recent Status of U.S. Fisheries Report to Congress) and the combined recreational landings exceed the recreational sector ACL, reduce the **recreational sector ACL**, and applicable recreational component ACL in the following year by the full amount of the overage, unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary. The applicable component ACT will be adjusted to reflect the previously established percent buffer. There is currently no quota adjustment in the following year when recreational landings remain below the red snapper quota (carryover).

Alternative 1 (No Action) would continue to apply the existing post-season AM Gulf-wide, but only while red snapper is classified as overfished. In the event red snapper landings exceed the Gulf-wide recreational ACL while red snapper is classified as overfished, the amount of the

overage would be deducted from the recreational sector ACL. This would occur even if a particular state was successful in constraining landings to below its ACL, and would result in a decrease to that state's ACL, because the state's ACL would be based on a percentage of the Gulf-wide ACL. Although the possibility of triggering a payback would encourage a state to constrain harvest to its ACL, the Gulf-wide approach may be perceived as inequitable. For example, if the recreational ACL is greatly exceeded, then the necessary payback (applied to the recreational ACL before a state's ACL is deducted) may reduce fishing opportunities under the state's ACL the following year, even if that state had not exceeded its portion of the recreational ACL. If this occurs, it may reduce the flexibility provided under state management. Alternately, if a state's landings cause the entire recreational sector ACL to be exceeded, while landings by other states remain within their respective portions of the ACL, anglers in the other states would lose fishing opportunities despite remaining within their respective portions of the ACL. Because red snapper is not currently classified as overfished, there would be no payback at this time; however, if the status of the stock changes to overfished, the payback would be implemented as needed. **Alternative 1** does not include an underage adjustment, although the Council is developing an amendment to establish such a carryover provision.

- **Alternative 2:** Add a **state-specific** overage and underage adjustment to the existing post-season AM for the recreational sector red snapper ACL. If the combined recreational landings of [the state] exceed or are less than [the state's] combined recreational ACLs (if applicable), then in the following year reduce or increase the total recreational quota and [the state's] component ACL(s) in accordance with Council procedures, by the amount of the respective component ACL overage or underage in the prior fishing year (as applicable), unless the best scientific information available determines that a greater, lesser, or no adjustment is necessary. If appropriate, [the state's] component ACTs will be adjusted to reflect the established percent buffer.

Alternative 2 would apply a state-specific payback and carryover to a state's ACL(s), in the event that the state's ACL is exceeded or not reached. **Alternative 2** would prevent an overage by another state, or of the Gulf-wide ACL if red snapper is classified as overfished, from affecting a state in the event its state ACL is not exceeded. However, if the state ACL is exceeded, the portion of the overage for which that state was responsible would be deducted from that state's ACL for the next year. The payback would need to be taken into account when the state develops its management plan (delegation or CEP), including the length of the fishing season for the following year. **Alternative 2** would encourage a state to constrain landings to its ACL to ensure that the payback provision is not applied to the recreational season for the following year. Selecting **Alternative 2** would not remove the existing post-season AM that applies if the total recreational sector ACL is exceeded when red snapper is classified as overfished (**Alternative 1**). Rather, **Alternative 2** would add a state-specific AM to a state management program.

In the event a state's landings do not meet its state ACL, **Alternative 2** would increase a state's ACL the following year. The use of an underage adjustment for state management programs would require that a carryover provision be in place, which the Council is currently developing

in a draft amendment.[14] The carryover proposed under **Alternative 2** would be limited to the parameters approved through that amendment, including any conditions on the status of the stock during which a carryover may be applied. The National Standard 1 guidelines, revised in October 2016, expressly address carrying over unused quota to the following fishing year. By creating a carryover provision, the foregone yield resulting from a state's early closing for its red snapper harvest could be applied to the following year's state ACL, thereby providing additional social and economic opportunities without negatively affecting the stock.

If the Council decides to include the federally permitted for-hire vessels in state management through the State Management Amendment, **Alternative 2** would apply the payback or carryover only to the component that exceeds or remains under its portion of the ACL. This would prevent the payback from affecting the state's other component that does not exceed its ACL. In the event of a quota underage, the quota increase the following year would likewise be applied to the component that remained under its quota, by the amount of the underage.

For the 2018 and 2019 red snapper fishing seasons, the private angling component season is being set by each of the five Gulf states through exempted fishing permits (EFP), while the federal for-hire component season continues to be set by the National Marine Fisheries Service (NMFS).[15] The purpose of the EFPs is to allow states to demonstrate the effectiveness of state management of recreationally caught red snapper and data collection methods through these 2-year pilot programs. Because the EFPs end in 2019 and state management is expected to be implemented for the 2020 fishing year, this Action 2, as adopted through each individual state amendment, would apply an overage or underage adjustment (as appropriate) for 2019 to that state's portion of the 2020 private angling ACL. Thus, following implementation of a state's individual state amendment, each state's initial ACL would be increased or reduced based on the difference between that state's landings and its quota during the 2019 fishing year under the EFPs.

The preferred alternatives selected in each Individual State Amendment are as follows:

- Louisiana (Amendment 50B): **Preferred Alternative 2**
- Mississippi (Amendment 50C): **Preferred Alternative 2**
- Alabama (Amendment 50D): **Preferred Alternative 2**
- Florida (Amendment 50E): **Preferred Alternative 2**
- Texas (Amendment 50F): **Preferred Alternative 2**

[14] Carryover Provisions and Framework Modifications Draft Generic Amendment: http://gulfcouncil.org/wp-content/uploads/E-8-Draft-Public-Hearing-Generic-Amendment-for-Quota-Carryover-and-Framework-Modification-011619_508.pdf

[15] For more information, see: http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/LOA_and_EFP/2018/RS%20state%20pilot/home.html

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Red Snapper Component of the Reef Fish Fishery

Commercial harvest of red snapper from the Gulf of Mexico (Gulf) began in the mid-1800s (Camber 1954). In the 1930s, party boats built exclusively for recreational fishing began to appear (Chester 2001). Further history on the management of red snapper is provided in Section 1.3. The red snapper stock annual catch limit (ACL) is divided into commercial (51%) and recreational (49%) allocations determined by the Gulf of Mexico Fishery Management Council (Council) based on historical landings. Further, the red snapper recreational ACL is allocated 57.7% to the private angling component and 42.3% to the federal for-hire component through 2022 (GMFMC 2016). The federal for-hire component operates in two modes, charter vessels and headboats. Quotas for the commercial and recreational sectors, and for each of the recreational components, are set equal to the respective ACLs. However, for the recreational sector, annual catch targets (ACT) for the sector as a whole and for each component are set 20% below the respective ACLs to account for management uncertainty. The season for each recreational component is closed when the respective ACT is projected to be reached.

The commercial and recreational sectors have had quota overages. Before sector separation was implemented in 2015 (GMFMC 2014a), the recreational sector had quota overages in 21 out of 23 years in which a quota was specified, while the commercial sector had overages in 10 of 23 years. In 2007, the individual fishing quota (IFQ) program for the commercial sector began. Commercial fishermen received red snapper shares based on their catch history. They are then able to fish that allocation throughout the year until they run out of allocation. Since the IFQ program was implemented, the commercial sector has not had overages. Since sector separation began in 2015, the private angling component has had overages in both 2015 and 2016, while the federal for-hire component has not had any overages.

Stock Status

The red snapper stock was found to be in decline or overfished in every stock assessment conducted, beginning with the first assessment in 1986 (Parrack and McClellan 1986). However, following the Southeast Data Assessment and Review (SEDAR) 31 benchmark assessment (2013), the Scientific and Statistical Committee (SSC) concluded that, as of 2009, overfishing was no longer occurring (GMFMC 2013c). Based on an update assessment presented to the SSC in January 2015 (GMFMC 2015c), and landings data through 2014, the determination that overfishing was not occurring was continued through 2014. For years when there is no stock assessment, overfishing is defined as exceeding the overfishing limit (OFL). Based on this definition, overfishing has not been occurring through 2016. Amendment 44 changed the minimum stock size threshold (MSST), which defines when a stock is overfished, for seven reef fish species including red snapper (GMFMC 2017a). With the approval of Amendment 44 in 2018, the Gulf red snapper stock was reclassified as not overfished but rebuilding. See Section 3.3 for more detailed information on the status of the stock.

Stock Quota History

In 1990, Amendment 1 (GMFMC 1989) established the first red snapper rebuilding plan. From 1990 through 2009, red snapper harvest was managed through the setting of an annual total allowable catch (TAC), which was divided into allocations of 51% commercial, and 49% recreational based on historical landings during 1979 through 1987. Amendment 1 also established a commercial red snapper quota of 3.1 million pounds (mp) whole weight (ww). There was no explicit recreational allocation specified, only a bag limit of 7 fish and a minimum size limit of 13 inches total length (TL). Based on the 51:49 commercial to recreational sector allocation, the commercial quota implied a TAC of about 6.1 mp ww in 1990, followed by explicit TACs of 4.0 mp ww in 1991 and 1992, 6.0 mp ww in 1993 through 1995, and 9.12 mp ww from 1996 through 2006. The TAC was reduced to 6.5 mp ww in 2007 and 5.0 mp ww in 2008 and 2009.

Beginning in 2010, new biological reference points were introduced under revised National Standard 1 guidelines. An OFL, set by the SSC, was the catch level above which overfishing occurs. An acceptable biological catch (ABC), also recommended by the SSC, was a catch level set at or below the OFL to account for scientific uncertainty. From 2010 until the development of an ABC control rule (GMFMC 2011b), the SSC set the red snapper ABC at 75% of the OFL. An ACL was set by the Council at or below the ABC. An optional ACT could also be set at or below the ACL. However, the Council did not set an ACT for red snapper until 2014 (GMFMC 2014b), when an ACT was established for the recreational sector TAC was considered functionally equivalent to the ACL, and usage of the term TAC was phased out in favor of ACL. The Council would set an ACL at or below the ABC, which would then be allocated between the commercial and recreational sectors. These sector ACLs are referred to in the regulations as quotas.

In 2010, the ACL was increased to 6.945 mp ww. In 2011, it was initially raised to 7.185 mp ww, and then increased in August by another 345,000 lbs (7.530 mp ww total) which was allocated to the recreational sector. In 2012 the ACL was raised to 8.080 mp ww.

A scheduled quota increase in 2013 to 8.690 mp ww was cancelled due to an overharvest in 2012 by the recreational sector. After an analysis of the impacts of the overharvest on the red snapper rebuilding plan, the 2013 ACL was increased to 8.460 mp ww. In July 2013, the Council reviewed a new benchmark assessment (SEDAR 31 2013) which showed that the red snapper stock was rebuilding faster than projected, partly due to strong recruitment in some recent years. Combined with a new method for calculating the ABC, the SSC increased the ABC for 2013 to 13.5 mp ww, but warned that the catch levels would have to be reduced in future years if recruitment returned to average levels. After incorporating a buffer to reduce the possibility of having to later reduce the quota, the Council set the 2013 ACL to 11.0 mp ww (GMFMC 2013b).

Beginning in 2014, the Council set a recreational ACT at 20% below the recreational allocation of ACL, and added an accountability measure (AM) that required an overage adjustment if the recreational ACL was exceeded while the stock was overfished (GMFMC 2014b). Season length is calculated by the National Marine Fisheries Service (NMFS) based on when the ACT is projected to be reached. The ACL was set at 10.4 mp ww in 2014, 14.3 mp ww in 2015, 13.9

mp ww in 2016, and 13.74 mp ww for 2017 and 2018. For 2019, the ACL is set at 13.74 mp ww; however, the Council has submitted a framework action to the Secretary of Commerce that would increase the ACL to 15.1 mp ww for 2019 and subsequent years.

3.1.1 Commercial Sector

Prior to 2007, the red snapper commercial sector was managed through quotas, size limits, trip limits, seasonal closures, fishing days per month, time and area/gear restrictions, and gear requirements. Since 2007, the commercial sector's harvest of red snapper has operated under an individual fishing quota program. Commercial operators harvesting red snapper from federal waters, 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. Vessels that use bottom longline gear in federal waters east of 85º30'W longitude must also have a valid Eastern Gulf longline endorsement. As of November 13, 2017, 62 of the Gulf reef fish permit holders also have the longline endorsement, and all but one of the endorsement holders have a mailing address in Florida.

This amendment only affects the recreational sector. Because the commercial sector is managed separately from the recreational sector (with separate ACL, ACT, and AMs that are implemented by sector), no additional description of the commercial sector is included.

3.1.2 Recreational Sector

Red snapper is an important component of the recreational sector's harvest of reef fish in the Gulf. Recreational red snapper fishing includes charter vessels, headboats, and private anglers fishing primarily from private or rental boats.

The recreational sector is currently managed through ACLs, ACTs, AMs, a minimum size limit of 16 inches TL, a 2-fish per person bag limit, seasonal closures (the fishing season opens June 1 and closes when the ACT is projected to be met), area/gear restrictions, and gear requirements. In addition, charter vessels and headboats are required to have a charter vessel/headboat permit for reef fish to fish for red snapper in federal waters. State regulations are different than federal regulations in some cases. In those circumstances (e.g., red snapper seasons), private angling fishermen in state waters must obey the regulations for the waters they are fishing. Anglers fishing from federally permitted charter vessels and headboats must abide by the more restrictive of state or federal regulations when fishing in state waters.

For federal waters, if landings are projected to meet the for-hire or private angling component ACT, then the season for that component will be closed. If the total recreational ACL is reached, then the federal season is closed for both components. The primary gear type in the harvest of red snapper is vertical line (rod-and-reel).

Recreational Sector Management Measures History

Recreational red snapper harvest allocations since 1991 have been set at 49% of the TAC, or 1.96 mp ww in 1991 and 1992, 2.94 mp ww for 1993 through 1995, and 4.47 mp ww from 1996 through 2006. In 1997, the recreational red snapper allocation was converted into a quota with

accompanying quota closure should the sector reach its quota (GMFMC 1997). Recreational quota closures occurred in 1997, 1998, and 1999, and the fishing season became progressively shorter each year even though the quota remained a constant 4.47 mp ww. In 2007, the recreational quota was reduced to 3.185 mp ww. It was reduced again to 2.45 mp ww in 2008 and 2009. The recreational quota was increased to 3.403 mp ww in 2010, 3.866 mp ww in 2011, 3.959 mp ww in 2012, and 5.390 mp ww in 2013 and 2014. In 2015, the recreational sector was separated into a federal for-hire and private angling component, each with its own allocation, and is discussed in more detail below.

Before 1984, there were no restrictions on the recreational harvest of red snapper. In November 1984, a 12-inch fork length minimum size limit was implemented, but with an allowance for five undersized fish per person. In 1990, the undersized allowance was eliminated, the minimum size limit changed to 13 inches TL (approximately equal to 12 inches fork length), and the recreational sector was managed through bag and size limits with a year-round open season.

A fixed recreational season of April 21 through October 31 (194 days) was established for 2000 through 2007. However, NMFS returned to variable length seasons beginning in 2008. Under this management approach, due to a lag in the reporting of recreational catches, catch rates over the course of the season were projected in advance based on past trends and changes in the average size of a recreationally harvested red snapper. The recreational season opened each year on June 1 and closed on the date when the quota was projected to be reached. In 2008, the season length was reduced from 194 days to 65 days in conjunction with a reduction in quota to 2.45 mp ww. The season length then increased to 75 days in 2009. In 2010, the recreational red snapper season was originally projected to be 53 days. However, due to reduced effort and large emergency area closures resulting from the *Deepwater Horizon* MC252 oil spill, catches were below projections, and a one-time supplemental season of weekend only openings (Friday, Saturday, and Sunday) was established from October 1 through November 22. This added 24 fishing days to the 2010 season for a total of 77 days. In 2011, the season was reduced to 48 days despite an increase in the quota, due to an increase in the average size of a recreationally harvested fish. In 2012 the season was initially scheduled to be 40 days, but was extended to 46 days to compensate for the loss of fishing days due to storms (Table 1.1.1).

At the request of the Council at its February 2013 meeting, NMFS developed an emergency rule to adjust seasons off each Gulf state based on the extent to which their state-water seasons and bag limits were consistent with federal regulations. This was done to compensate for the additional harvest that would occur in state waters as a result of inconsistent regulations. A legal challenge was made to the emergency rule and it was subsequently set aside by the U.S. District Court. As a result, the federal recreational red snapper season continued to be the same in federal waters off all five Gulf states. Initially, NMFS set a 28-day season beginning on June 1 for the recreational sector. However, in September 2013, NMFS announced an increase in the ACL which added 1.245 mp ww to the recreational quota, and a supplemental 14-day season beginning October 1. This resulted in a total of 42 recreational fishing days.

In 2014, NMFS initially announced a 40-day recreational season. However, in March 2014, as a result of a legal challenge, the U.S. District Court found that there was not an adequate system of AMs in place to prevent the recreational red snapper sector from exceeding its quota. To comply

with the court decision, the Council approved the setting of a 20% buffer for the recreational sector catch. Also in 2014, a 2-year project by the headboat collaborative was initiated under an exempted fishing permit (EFP) to evaluate the use of an allocation-based management program. A portion of the red snapper recreational quota (256,487 lbs) was allocated to the headboat collaborative. At the same time, several states extended their season for recreational red snapper harvest in state waters. The projected increase in state water caught red snapper reduced the amount of quota available to be caught in federal waters. As a result, the 2014 red snapper season in federal waters was shortened to 9 days (Table 1.1.1). The headboat collaborative was allowed to continue fishing under the EFP, and headboat collaborative trips continued throughout the year, although the number of trips dropped off markedly after August.[16]

In 2015, Amendment 40 (GMFMC 2014a) separated the recreational sector into a federal for-hire component and a private angling component, with the recreational sector ACL split between the two components. Some states further increased their state water recreational seasons, which further reduced the amount of quota available to be caught in federal waters by the private angling component. Federally permitted for-hire vessels were unaffected by the expanded state seasons since they are prohibited from fishing in state waters when the federal season is closed (50 CFR §622.20(b)) and they were fishing under a separate quota. This resulted in a federal season of 44 days for the federal for-hire component, and 10 days for the private angling component.

In 2016, Amendment 28 (GMFMC 2015b) reallocated the red snapper stock ACL between the commercial and recreational sectors from 51%:49% to 48.5%:51.5%, respectively. The resulting ACTs were 2.434 mp ww for the for-hire component, and 3.320 mp ww for the private angling component. Based on the ACTs and accounting for the red snapper harvest in state waters outside the federal season, the federal season for the private angling component was set at 9 days. Due to the impacts from tropical storm Colin, the private angling fishing season was extended 2 days, for an 11-day federal season.

In 2017, the allocation reverted back to 51% for the commercial sector and 49% for the recreational sector because of a court order vacating Amendment 28. Also, the overage from the private angling component exceeding its quota by 129,906 lbs in 2016 needed to be paid back. The 2017 ACT for the private angling component was reduced to 3,004,075 lbs ww and the federal season for the private angling component was set at 3 days. Shortly after the private angling season ended, the Department of Commerce reopened the private angling season for an additional 39 days. During this time, the fishing season was open Fridays through Sundays, plus July 3-4 and September 4.

In 2018, all five Gulf states were issued EFPs for a pilot study to test limited state management of the private angling component. The EFPs allocated a portion of the red snapper private angling quota to each state, to be harvested during the 2018 and 2019 fishing years. The EFPs allowed the states to establish the private angling fishing season in state and federal waters by exempting persons from the annual closed federal fishing seasons if they are landing red snapper

[16] Presentation from NMFS at the March 2015 Council meeting on a review of year 1 of the headboat collaborative EFP. Available on the Council website's briefing book archives for the March 2015 meeting under Reef Fish Committee.

in the participating states during the states' open season. The EFPs apply only to private anglers who hold a valid recreational fishing permit issued by the state in which they are landing red snapper, and who are in in compliance with all other state requirements for landing red snapper. For Alabama, the EFP was for private anglers and state licensed charter vessels who participate in the red snapper mandatory reporting program (Snapper Check). For Florida, the EFP was for private anglers who signed up for the Florida Fish and Wildlife Commission's Gulf Reef Fish Survey and state-licensed charter operators who signed up for the Gulf Reef Fish State For-Hire Pilot Program and land red snapper in Florida. For Louisiana, the EFP was for private anglers and state-licensed charter vessels who hold both a valid Louisiana Saltwater Fishing License and a Recreational Offshore Landing Permit, as well as land red snapper in Louisiana. For Mississippi, the EFP was for private anglers and state-licensed charter vessels who participated in the red snapper mandatory reporting program (Tails n' Scales) and land red snapper in Mississippi. For Texas, the EFP was for private anglers and state-licensed charter vessels included in Texas' angler registry and land red snapper in Texas.

Federal For-hire Component Effort

Any for-hire fishing vessel that takes paying anglers into Gulf federal waters where they harvest red snapper or any other species in the reef fish fishery must have a valid limited-access Gulf charter/headboat permit for reef fish that is specifically assigned to that vessel. 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. The numbers of federal permitted charter and headboat vessels from 2012-2016 are provided in Table 3.1.2.1.

Table 3.1.2.1. Numbers of federally permitted headboats and charter vessels, 2012 - 2016.

Year	Headboats	Charter	Total	Percent Headboats
2012	68	1,310	1,378	4.9%
2013	68	1,295	1,363	5.0%
2014	68	1,277	1,345	5.1%
2015	68	1,260	1,328	5.1%
2016	69	1,245	1,314	5.3%
Average	**68**	**1,277**	**1,346**	**5.1%**

Source: Southeast Region Headboat Survey (SRHS), Southeast Regional Office (SERO) Limited Access Privilege Programs (LAPP)/Data Management database.

The number of for-hire permits by hailing port is provided in Table 3.1.2.2, as well as the percentage that the number of for-hire permits for a given state change from 2012 to 2016. Over the years, approximately 59% of the for-hire reef fish permits have mailing recipients in Florida, followed by Texas with 17%, Alabama with 11%, Louisiana with 9%, and Mississippi with 3%.

Table 3.1.2.2. Annual number and average percentage of for-hire permits for reef fish by state of hailing port of vessel, 2012-2016, and percent change in number of permits within each state between 2012 and 2016.

Year	2012	2013	2014	2015	2016	*Average*	*% Average*	Change within state 2012-2016
AL	157	159	153	143	134	*149*	*11.1%*	-14.7%
FL	812	803	787	778	776	*791*	*58.8%*	-4.4%
LA	123	120	117	121	119	*120*	*8.9%*	-3.3%
MS	48	47	42	38	35	*42*	*3.1%*	-27.1%
TX	221	219	230	232	232	*227*	*16.9%*	5.0%
Gulf States	*1,361*	*1,348*	*1,329*	*1,312*	*1,296*	*1,329*	*98.8%*	*-4.8%*
Other	17	15	16	16	18	*16*	*1.2%*	5.9%
Total	**1,378**	**1,363**	**1,345**	**1,328**	**1,314**	***1,346***	**100%**	**-4.6%**

Source: NMFS SERO.

Individuals who hold a charter/headboat permit can either transfer the permit or not renew it. After a permit expires, it is no longer valid, but the permit holder has up to one year to renew or transfer the expired permit before it is terminated. There are multiple brokers online that offer Gulf charter/headboat permits.

From 2012 through 2016, there was an average of 269 charter/headboat reef fish permits (approximately 20%) transferred each year (Table 3.1.2.3). A permit transfer occurs anytime there is a change in the relationship between a vessel and its permit holder, such as when there is a new owner of the vessel, change in the permit holder(s), or the permit holder obtains a new vessel.

Table 3.1.2.3. Number and percentage of transferred for-hire reef fish permits, 2012 - 2016.

Year	Total	Transferred	Percent Transferred
2012	1,378	221	16.0%
2013	1,363	267	19.6%
2014	1,345	291	21.6%
2015	1,328	295	22.2%
2016	1,314	272	20.7%
Average	**1,346**	**269**	**20.0%**

The distribution of charter/headboat reef fish permits by hailing port state changed little from 2012 through 2016 (Table 3.1.2.3). The largest relative change was an increase in Texas's share, which rose from 16.0% to 17.7%.

As of October 25, 2017, there were 1,308 for-hire fishing vessels with a valid or renewable charter/headboat reef fish permit: 1,276 vessels with a charter/headboat permit and another 32

with a historical captain charter/headboat permit. The current distribution of permits is consistent with past years; however, there has been a consistent decline in the relative share of permitted vessels that hail out of Mississippi (Tables 3.1.2.3 and 3.1.2.4).

Table 3.1.2.4. Number and percentage of permitted for-hire fishing vessels by state of hailing port, as of October 25, 2017.

Permitted For-Hire Fishing Vessels Hailing Port State	Number	Percentage
AL	140	10.7%
FL	792	60.6%
LA	117	8.9%
MS	33	2.5%
TX	211	16.1%
Gulf States	*1,293*	*98.9%*
Other	15	1.1%
Total	**1,308**	**100.0%**

Source: NMFS SERO.

From 2012 through 2016, charter vessels took an average of 201,348 directed angler trips annually. These are trips when red snapper was the primary or secondary target or was caught by anglers. Approximately 60% of the annual directed angler trips by charter vessels are out of west Florida (Table 3.1.2.5).

Table 3.1.2.5. Estimates of the annual percent of directed angler trips by charter mode by state, as well as overall average from 2012-2016.

Year	AL	West FL	LA	MS	TX	Total
2012	18.0%	60.5%	5.9%	0.3%	15.3%	191,715
2013	22.5%	58.8%	4.8%	0.3%	13.6%	188,501
2014	20.4%	63.3%	2.2%	0.2%	14.0%	143,726
2015	22.2%	59.7%	3.8%	0.4%	13.9%	235,940
2016	23.1%	59.5%	4.2%	0.8%	12.4%	246,858
Average	**21.4%**	**60.1%**	**4.2%**	**0.4%**	**13.8%**	**201,348**

Source: NMFS SERO LAPPS, August 28, 2017.

Estimates of effort by the headboat mode are provided in terms of angler days, or the number of standardized 12-hour fishing days that account for the different half, three-quarter, and full-day fishing trips by headboats. The stationary "fishing for demersal (bottom-dwelling) species" nature of headboat fishing, as opposed to trolling, suggests that most, if not all, headboat trips and, hence, angler days, are demersal or reef fish trips by intent.

Savolainen et al. (2012) surveyed the charter vessel and headboat fleets in the Gulf. For charter vessels, they found that most trips occurred in Gulf federal waters (68%), and targeted rig-reef

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 vessel operators were king mackerel (approximately 41%), grouper (approximately 37%), snapper (approximately 34%), cobia (approximately 25%), and Spanish mackerel (approximately 20%). For the rest of the Gulf and using the same survey, Sutton et al. (1999) reported that the majority of charter vessels targeted snapper (91%), king mackerel (89%), cobia (76%), and tuna (55%).

For headboats, Savolainen et al. (2012) found most headboats target offshore species and fish in federal waters (81% of trips), largely due to vessel size and consumer demand. On average, 84% of trips targeted rig-reef species, while only 10% targeted inshore species and 6% pelagic species. Holland et al. (1999) reported approximately 40% of headboats did not target any particular species. The species targeted by the largest proportion of Gulf coast Florida headboats were snapper (60%), grouper (60%) and sharks (20%), with species receiving the largest percentage of effort being red grouper (46%), gag 33%), black grouper (20%), and red snapper (7%). For the other Gulf states, Sutton et al. (1999) reported that the majority of headboats targeted snapper (100%), king mackerel (85%), shark (65%), tuna (55%), and amberjack (50%). The species receiving the largest percentage of total effort by headboats in the four-state area were snapper (70%), king mackerel (12%), amberjack (5%), and shark (5%).

Private Angling Component

Private recreational fishing vessels are not required to have a federal permit to catch red snapper or any other reef fish species in federal waters. Anglers aboard these vessels, however, 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.

Angler fishing effort refers to the estimated number of angler fishing trips taken, and an angler trip is an individual fishing trip taken by a single angler for any amount of time, whether it is half an hour or an entire day. Currently, angler fishing effort is estimated by conducting telephone surveys of coastal households (Coastal Household Telephone Survey) and charter vessel captains (For-Hire Survey), as well as on-site survey methods (Marine Recreational Information Program [MRIP] Access Point Angler Intercept Survey [APAIS]). From these surveys, NMFS estimates how many people are fishing, where people are fishing, and how often people go fishing. Moreover, with the MRIP APAIS (survey of anglers by the private boat, charter vessel and shore modes as they complete a trip), NMFS estimates how many trips target red snapper, how many trips catch red snapper and how many are being caught, how many red snapper are kept, how many are discarded, the condition of discarded fish, and the size and weight of red snapper caught.

Target effort refers to the number of individual angler trips, regardless of duration, where the intercepted angler indicated that red snapper was targeted as either the first or second primary target for the trip. Red snapper did not have to be caught. Catch effort refers to the number of individual angler trips, regardless of duration and target intent, where red snapper was caught and those caught did not have to be kept. Those trips can result in double counting of trips, such

as when red snapper was both targeted and caught during a specific angler trip. Data from MRIP and LA Creel are used to estimate effort of the private angling component for each Gulf state, except Texas. Table 3.1.2.6 provides the estimate number of directed angler trips by state for 2012 through 2017.

Table 3.1.2.6. Estimates of the annual percentage of directed angler trips by the private angling component from each state, as well as overall average for the years 2012-1016.

Year	AL	FLW	LA	MS	TX	Total
2012	28.6%	42.8%	21.2%	7.5%	0.0%	181,179
2013	44.9%	42.2%	7.9%	5.0%	0.0%	393,485
2014	29.2%	31.3%	37.4%	2.1%	0.0%	160,903
2015	59.7%	6.7%	31.9%	1.6%	0.0%	166,446
2016	52.0%	21.6%	18.3%	8.2%	0.0%	238,596
Average	43.7%	31.3%	19.8%	5.1%	0.0%	**228,122**

Source: NMFS SERO LAPPS, August 28, 2017.

Recreational Landings

Long-term recreational landings for red snapper are provided in Table A-1 in Appendix A. Table 3.1.2.7 provides recent federal for-hire and private angling landings by state for red snapper. In general, recent trends indicate that Florida and Alabama consistently land the most red snapper with each state reporting 30% of the total recreational harvest, or higher, except in 2015 when Florida reported 27%.

Table 3.1.2.7. Recent for-hire and private angling landings for red snapper by component and state from 2012-2016, in pounds whole weight.

a. 2012

State	For-Hire Charter/Headboat	Private Angling	All Components	% by State
FL (west)	1,025,320	1,420,620	2,445,940	32.5%
AL	503,927	2,197,377	2,701,304	35.9%
MS	7,300	306,854	314,154	4.2%
LA	257,344	1,188,763	1,446,106	19.2%
TX	445,429	171,308	616,737	8.2%
Total	**2,239,320**	**5,284,921**	**7,524,241**	
% by Mode	**30%**	**70%**		

b. 2013

State	For-Hire Charter/Headboat	Private Angling	All Components	% by State
FL (west)	671,642	3,105,730	3,777,372	38.9%
AL	546,564	3,877,683	4,424,247	45.6%
MS	3,792	418,737	422,529	4.4%
LA	100,438	489,204	589,642	6.1%
TX	234,549	254,563	489,112	5.0%
Total	**1,556,985**	**8,145,917**	**9,702,902**	
% by Mode	**16%**	**84%**		

c. 2014

State	For-Hire Charter/Headboat	Private Angling	All Components	% by State
FL (west)	184,957	1,459,885	1,644,841	42.9%
AL	152,614	1,006,166	1,158,780	30.2%
MS	1,693	43,425	45,118	1.2%
LA	33,909	557,189	591,098	15.4%
TX	193,705	201,894	395,599	10.3%
Total	**566,878**	**3,268,558**	**3,835,436**	
% by Mode	**15%**	**85%**		

d. 2015

State	For-Hire Charter/Headboat	Private Angling	All Components	% by State
FL (west)	865,058	766,237	1,631,295	27.4%
AL	757,388	1,711,421	2,468,809	41.4%
MS	10,485	34,209	44,694	0.7%
LA	155,669	1,059,302	1,214,971	20.4%
TX	365,077	235,305	600,382	10.1%
Total	**2,153,677**	**3,806,474**	**5,960,151**	
% by Mode	**36%**	**64%**		

e. 2016

State	For-Hire Charter/Headboat	Private Angling	All Components	% by State
FL (west)	822,599	1,713,799	2,536,397	34.1%
AL	763,511	2,047,404	2,810,915	37.8%
MS	18,721	354,645	373,366	5.0%
LA	179,586	1,042,389	1,221,975	16.4%
TX	358,399	135,398	493,797	6.6%
Total	**2,142,815**	**5,293,635**	**7,436,450**	
% by Mode	**29%**	**71%**		

Source: Southeast Fisheries Science Center (SEFSC) MRIP-Based Recreational ACL Data (July 2017); SEFSC SEDAR-31 Update (2014) APAIS-adjusted red snapper data.

3.2 Physical Environment

The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.2.1). 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 Fechhelm 2005). Gulf water temperatures range from 54º F to 84º F (12º C to 29º C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73º F through 83º F (23-28º C) including bays and bayous (Figure 3.2.1) between 1982 and 2009, according to satellite-derived measurements.[17] In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

[17] NODC 2012: http://accession.nodc.noaa.gov/0072888

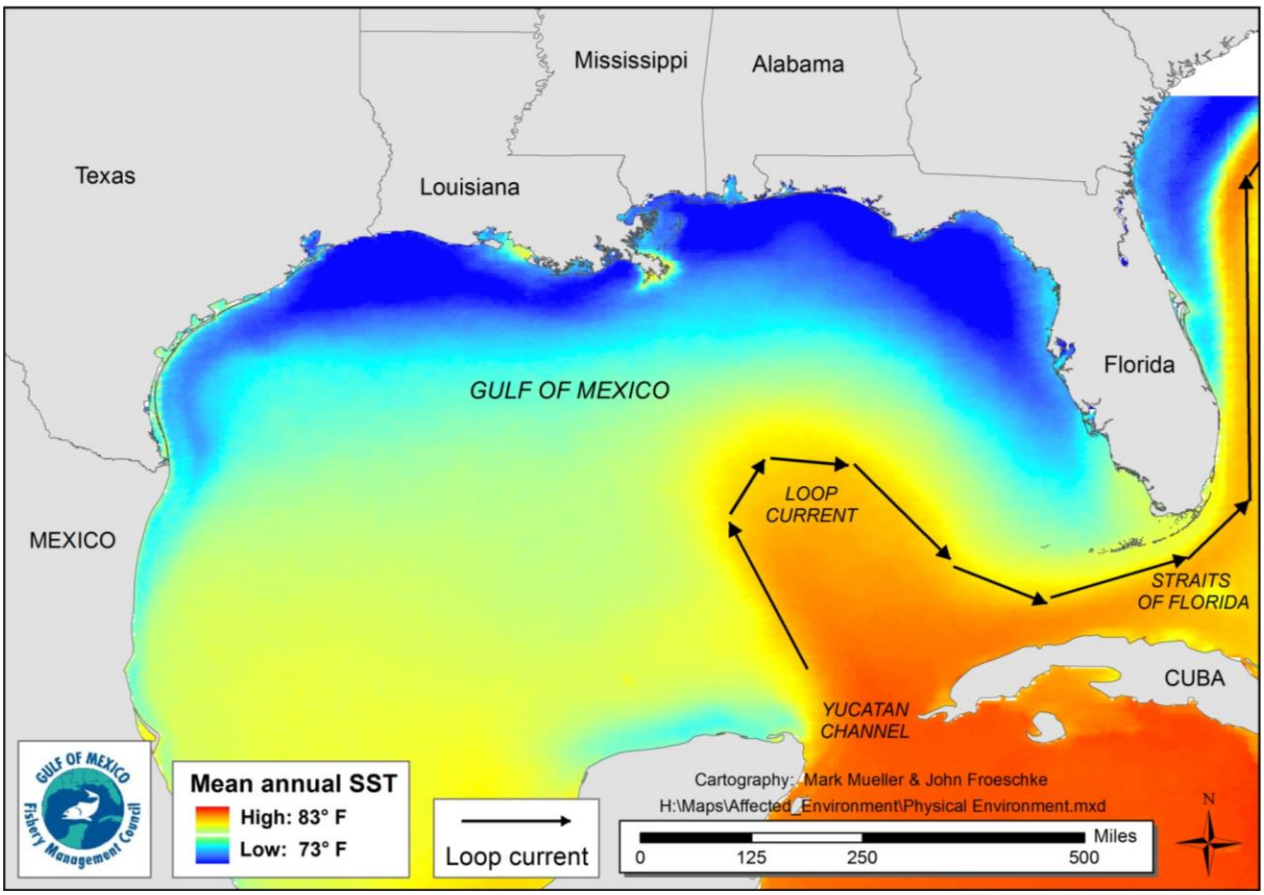

Figure 3.2.1. Physical environment of the Gulf including major feature names and mean annual sea surface temperature as derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (http://accession.nodc.noaa.gov/0072888).

The physical environment for Gulf reef fish, including red snapper, is also detailed in the Generic Essential Fish Habitat (EFH) Amendment, the Generic ACL/AM Amendment, and Reef Fish Amendment 40 (GMFMC 2004a; GMFMC 2011b; GMFMC 2014a, respectively) 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 2004a). 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 juvenile snapper (e.g., mutton, gray, red, dog, lane, and yellowtail snappers) and grouper (e.g., goliath grouper, red, gag, and yellowfin groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems.

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions, coral reefs, rock outcroppings, gravel bottoms, oilrigs, and other artificial structures (GMFMC 2004a); eggs and larvae are pelagic; and juveniles are found associated with bottom inter-shelf habitat (Szedlmayer and Conti 1998) and prefer shell habitat over sand (Szedlmayer and Howe 1997). Adult red snapper are closely associated with artificial structures in the northern Gulf (Szedlmayer and Shipp 1994; Shipp and Bortone 2009) and larger individuals have been found to use artificial habitats, but move further from the structure as they increase in size and based on the time of day (Topping and Szedlmayer 2011). Detailed information pertaining to the closures and preserves is provided in the February 2010 Regulatory Amendment (GMFMC 2010) and is incorporated here by reference.

There are environmental sites of special interest that are discussed in the Generic EFH Amendment (GMFMC 2004a) that are relevant to red snapper management. These include the longline/buoy area closure, the Edges Marine Reserve, Tortugas North and South Marine Reserves, individual reef areas and bank habitat areas of particular concern (HAPC) of the northwestern Gulf, the Florida Middle Grounds HAPC, the Pulley Ridge HAPC, and Alabama Special Management Zone. These areas are managed with gear restrictions to protect habitat and specific reef fish species. These restrictions are detailed in the Generic EFH Amendment (GMFMC 2004a).

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 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.[18]

3.3 Biological Environment

The biological environment of the Gulf, including that of red snapper, is described in detail in the final environmental impact statement for the Generic EFH Amendment (GMFMC 2004a) and is incorporated here by reference.

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 mud bottom and oyster shell reef. Spawning occurs over firm sand bottom with little relief away from reefs during the summer and fall. Adult 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 (Wilson and Nieland 2001), but the SEDAR 31 benchmark stock assessment suggested that the age and size of red snapper in the

[18] Further information can be found at: http://www.boem.gov/Environmental-Stewardship/Archaeology/Shipwrecks.aspx.

directed fishery has increased (SEDAR 31 2013). A more complete description of red snapper life history can be found in the Generic EFH Amendment (GMFMC 2004a).

Status of the Red Snapper Stock

SEDAR 52 Assessment

Biomass estimates show the western Gulf population continues to rebuild, while the eastern Gulf population has leveled off over the last few years. The number of older fish present has increased Gulf-wide, indicating rebuilding age structure. The Gulf red snapper stock is not considered to be overfished (spawning stock biomass [SSB]/minimum stock size threshold [MSST] = 1.41) or undergoing overfishing (current fishing mortality rate [F]/maximum fishing mortality threshold [MFMT] = 0.823), but will not be rebuilt until 2032.

Definition of Overfishing

In January 2012, NMFS implemented the Generic ACL/AM Amendment (GMFMC 2011b). One of the provisions in this amendment was to redefine overfishing. In years when there is a stock assessment, overfishing is defined as the fishing mortality rate exceeding the maximum fishing mortality threshold. In years when there is no stock assessment, overfishing is defined as the catch exceeding the OFL. The SEDAR 52 update assessment indicates that, as of the terminal year of the assessment data, overfishing was not occurring. Note that, because the overfishing threshold is now re-evaluated each year instead of only in years when there is a stock assessment, this status could change on a year-to-year basis.

Definition of Overfished

The Minimum Stock Size Threshold *(*MSST) is the SSB level at which a stock is declared overfished and a rebuilding plan must be implemented. MSST for red snapper was previously estimated using the formula (1-M)*B_{MSY}, where M is the natural mortality rate and B_{MSY} is the stock biomass level at which the MSY can be harvested on a continuing basis. Using this formula, red snapper was considered overfished through 2017. Amendment 44 changed the calculation for the red snapper MSST to be 50% of $B_{MSY,}$. The resulting estimate of MSST reclassified red snapper to not overfished but rebuilding. Therefore, despite the reclassification, the rebuilding plan for the stock remains in place until the stock has recovered to its B_{MSY} (GMFMC 2017).

General Information on Reef Fish Species

The National Ocean Service collaborated with NMFS and the Council to develop distributions of reef fish (and other species) in the Gulf (SEA 1998). Reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. In general, both eggs and larval stages are planktonic. Larval fish feed on zooplankton and phytoplankton. Gray triggerfish are exceptions to this generalization as they lay their eggs in nests on the sandy bottom (Simmons and Szedlmayer 2012), and gray snapper whose larvae are found around submerged aquatic vegetation.

Status of Reef Fish Stocks

The Reef Fish Fishery Management Plan (FMP) currently encompasses 31 species (Table 3.3.1).

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

Common Name	Scientific Name	Stock Status		Most recent assessment or SSC workshop
		Overfishing	Overfished	
Family Balistidae – Triggerfishes				
gray triggerfish	*Balistes capriscus*	Y	N	SEDAR 43 2015
Family Carangidae – Jacks				
greater amberjack	*Seriola dumerili*	Y	Y	SEDAR 33 Update 2016a
lesser amberjack	*Seriola fasciata*	N	Unknown	SEDAR 49 2016
almaco jack	*Seriola rivoliana*	N	Unknown	SEDAR 49 2016
banded rudderfish	*Seriola zonata*	Unknown	Unknown	
Family Labridae – Wrasses				
hogfish	*Lachnolaimus maximus*	N	N	SEDAR 37 2013
Family Malacanthidae – Tilefishes				
tilefish (golden)	*Lopholatilus chamaeleonticeps*	N	N	SEDAR 22 2011a
blueline tilefish	*Caulolatilus microps*	Unknown	Unknown	
goldface tilefish	*Caulolatilus chrysops*	Unknown	Unknown	
Family Serranidae – Groupers				
gag	*Mycteroperca microlepis*	N	N	SEDAR 33 Update 2016b
red grouper	*Epinephelus morio*	N	N	SEDAR 42 2015
scamp	*Mycteroperca phenax*	Unknown	Unknown	
black grouper	*Mycteroperca bonaci*	N	N	SEDAR 19 2010
yellowedge grouper	*Hyporthodus flavolimbatus*	N	N	SEDAR 22 2011b
snowy grouper	*Hyporthodus niveatus*	N	Unknown	SEDAR 49 2016
speckled hind	*Epinephelus drummondhayi*	N	Unknown	SEDAR 49 2016
yellowmouth grouper	*Mycteroperca interstitialis*	N	Unknown	SEDAR 49 2016
yellowfin grouper	*Mycteroperca venenosa*	Unknown	Unknown	
warsaw grouper	*Hyporthodus nigritus*	N	Unknown	
*Atlantic goliath grouper	*Epinephelus itajara*	N	Unknown	SEDAR 47 2016
Family Lutjanidae – Snappers				
queen snapper	*Etelis oculatus*	N	Unknown	
mutton snapper	*Lutjanus analis*	N	N	SEDAR 15A Update 2015
blackfin snapper	*Lutjanus buccanella*	N	Unknown	
red snapper	*Lutjanus campechanus*	N	N	SEDAR 31 Update 2015
cubera snapper	*Lutjanus cyanopterus*	N	Unknown	
gray snapper	*Lutjanus griseus*	N	Unknown	
lane snapper	*Lutjanus synagris*	N	Unknown	SEDAR 49 2016
silk snapper	*Lutjanus vivanus*	Unknown	Unknown	
yellowtail snapper	*Ocyurus chrysurus*	N	N	SEDAR 27A 2012
vermilion snapper	*Rhomboplites aurorubens*	N	N	SEDAR 45 2016
wenchman	*Pristipomoides aquilonaris*	N	N	SEDAR 49 2016

Note: *Atlantic goliath grouper is a protected grouper (i.e., ACL is set at zero) and benchmarks do not reflect appropriate stock dynamics.

The NMFS Office of Sustainable Fisheries updates its Status of U.S. Fisheries Report to Congress[19] on a quarterly basis using 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 Council[20] and SEDAR[21] websites. Of the 12 stocks for which stock assessments have been conducted, the fourth quarter report of the 2018 Status of U.S. Fisheries classifies only one as overfished (greater amberjack), and two stocks as undergoing overfishing (greater amberjack and gray triggerfish).

The status of both assessed and unassessed stocks, as of the most recent version of the Status of U.S. Fisheries Report, is provided in Table 3.3.1. Reef Fish Amendment 44 (GMFMC 2017), implemented December 2017, modified the MSST for seven species in the Reef Fish FMP. Red snapper and gray triggerfish are now listed as 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 remains classified as overfished.

A stock assessment has been conducted for Atlantic goliath grouper (SEDAR 47 2016). The SSC accepted the assessment's general findings that the stock was not overfished nor experiencing overfishing. Although the SSC determined Atlantic goliath grouper to not be experiencing overfishing based on annual harvest remaining below the OFL, the SSC deemed the assessment not suitable for stock status determination and management advice.

Stock assessments were conducted for seven reef fish stocks using the Data Limited Methods Toolkit (DLMToolkit; SEDAR 49 2016). 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. Several stocks did not have enough information 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 3.3.1). 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.

The remaining species within the Reef Fish FMP have not been assessed at this time. Therefore, their stock status is unknown (Table 3.3.1). For those species that are listed as not undergoing overfishing, that determination has been made based on the annual harvest remaining below the OFL. The gray snapper stock assessment is final (SEDAR 51 2018) and is currently awaiting SSC review in May 2018. No other unassessed species are scheduled for a stock assessment at this time.

Bycatch

Bycatch is defined as fish harvested in a fishery, but not sold or retained for personal use. This definition includes both economic and regulatory discards, and excludes fish released alive under a recreational catch-and-release fishery management program. Economic discards are generally

[19] http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/status_updates.html
[20] www.gulfcouncil.org
[21] www.sedarweb.org

undesirable from a market perspective because of their species, size, sex, and/or other characteristics. Regulatory discards are fish required by regulation to be discarded, but also include fish that may be retained but not sold. Bycatch practicability analyses of the reef fish fishery, and specifically red snapper, have been provided in several reef fish amendments. Bycatch practicability analyses have been completed for red snapper (GMFMC 2004b, GMFMC 2007, GMFMC 2014a, GMFMC 2015b). The bycatch related to this action would not be expected to change from status quo.

Protected Species

The Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) provide special protections to some species that occur in the Gulf, and more information is available on the NMFS Office of Protected Resources website.[22] All 22 marine mammals in the Gulf are protected under the MMPA (Waring et al. 2016). Two marine mammals (sperm whales and manatees) are also protected under the ESA. Other species protected under the ESA include sea turtle species (Kemp's ridley, loggerhead (the Northwest Atlantic Ocean distinct population segment (DPS), green (North Atlantic and South Atlantic DPSs), leatherback, and hawksbill), fish species (Gulf sturgeon, smalltooth sawfish, Nassau Grouper, oceanic whitetip shark, giant manta ray), and coral species (elkhorn, staghorn, pillar, lobed star, mountainous star, and boulder star). Critical habitat designated under the ESA for smalltooth sawfish, Gulf sturgeon, and the Northwest Atlantic Ocean distinct population segment (DPS) of loggerhead sea turtles also occur in the Gulf, though only loggerhead critical habitat occurs in federal waters.

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. None of the listed corals or designated critical habitats in the Gulf are likely to be adversely affected by the Gulf reef fish fishery, and Gulf sturgeon are not expected to be found in the areas where fishing under the Reef Fish FMP occurs. Therefore, these species and critical habitat are not discussed further.

Marine Mammals

Although most of the cetacean species reside in the oceanic habitat (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. **Bottlenose dolphins** in the Gulf are separated into and managed as demographically independent populations called stocks. Bottlenose dolphins are currently managed by NMFS as 36 distinct stocks within the Gulf. These include 31 bay, sound, and estuary stocks; 3 coastal stocks; 1 continental shelf stock; and 1 oceanic stock (Waring et al. 2016). It is assumed that the dolphins occupying habitats with dissimilar climatic, coastal, and oceanographic characteristics might be restricted in their movements, and thus constitute separate stocks (Waring et al. 2016). The Eastern Coastal Stock ranges from 84ºW to Key West, Florida, the Northern Coastal Stock ranges from 84ºW to the Mississippi River Delta, and the

[22] http://www.nmfs.noaa.gov/pr/laws/

Western Coastal stock ranges from the Mississippi River Delta to the Texas/Mexico border (Waring et al. 2016). The Continental Shelf stock inhabits waters from 20 to 200 m deep in the northern Gulf from the U.S. - Mexican border to the Florida Keys (Waring et al. 2016). Marine Mammal Stock Assessment Reports and additional information on these stocks in the Gulf are available on the NMFS Office of Protected Species website.[23]

Bottlenose dolphin adults range from 6 to 9 feet (1.8 to 2.8 m) long and weigh typically between 300 to 600 lbs (136 to 272 kg). Females and males reach sexual maturity between ages 5 to 13 and 9 to 14, respectively. Once mature, females give birth once every 3 to 6 years. Maximum known lifespan is estimated to be 40-45 years for males and greater than 60 years for females (Reynolds 2000).

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. 2016). 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).

Bryde's whales are the only resident baleen whales in the Gulf and on December 8, 2016, NMFS published a proposed rule to list the Bryde's whale as endangered under the ESA (81 FR 88639. Sightings of Bryde's whales in the Gulf have been consistently located in the DeSoto Canyon area in all seasons, along the continental shelf break between 100 m and 400 m depth (Mullin and Hoggard 2000; Maze-Foley and Mullin 2006; Mullin 2007; DWH MMIQT 2015). Consequently, LaBrecque et al. (2015) designated this area, home to the small resident population of Bryde's whales in the northeastern Gulf, as a Biologically Important Area.

The MMPA requires that each commercial fishery be classified into one of three categories based on the level of incidental mortality or serious injury of marine mammals. NMFS's List of Fisheries classifies U.S. commercial fisheries categories based on the rate, in numbers of animals per year, of incidental mortalities and serious injuries of marine mammals relative to a stock's Potential Biological Removal level (i.e., sustainable levels of human-caused mortality). More information about the List of Fisheries and the classification process can be found online.[24]

NMFS classifies reef fish bottom longline/hook-and-line gear in the MMPA 2016 List of Fisheries as a Category III fishery (81 FR 20550). This classification indicates the fishery has a remote likelihood of or no known incidental mortality or serious injury of marine mammals. There have been three observed takes of bottlenose dolphins from this fishery, all belonging to the continental shelf stock.

[23] http://www.nmfs.noaa.gov/pr/sars/species.htm
[24] http://www.nmfs.noaa.gov/pr/interactions/fisheries/lof.html

Sea turtles

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

Green On April 6, 2016 (81 FR 20057), the original ESA listing for the species was replaced with the listings of 11 DPSs. The DPS in the North and South Atlantic, which include the green sea turtles in the Gulf, were listed as threatened. Turtle 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, juvenile green sea turtles migrate from pelagic habitats to benthic foraging areas (Bjorndal 1997) and a diet shift towards herbivory occurs. They consume primarily seagrasses and algae, but are also known to consume jellyfish, salps, 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).

The **hawksbill sea turtle** pelagic stage lasts from the time they leave the nesting beach as hatchlings 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. Little is known about the diet of pelagic-stage hawksbill. Adult foraging typically occurs over coral reefs, although other hard-bottom communities and mangrove-fringed areas are occupied occasionally. Hawksbill show fidelity to their foraging areas over several years (van Dam and Diéz 1998). Their 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 hatchlings are also 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, 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 predilection 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 turtle 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 most pelagic of all ESA-listed sea turtles and spend most of their time in the open ocean. However, they will enter coastal waters and are seen over the continental shelf on a seasonal basis to feed in areas where jellyfish are concentrated. Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Unlike other sea turtles, their diet does not shift ontogenetically. Because of their 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 this species can dive in excess of 1,000 m (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 routines 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 In 2011, NMFS and USFWS published a Final Rule which designated 9 DPSs for loggerhead sea turtles (76 FR 58868, September 22, 2011, and effective October 24, 2011). This rule listed the Northwest Atlantic Ocean DPS, the only DPS within the action area, as threatened.

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 loggerhead 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-line carapace length, 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 (Carr 1986). Benthic foraging loggerheads eat a variety of invertebrates with crabs and mollusks being an important prey source (Burke et al. 1993). 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 gears 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 and for-hire reef fish fisheries to minimize post-release mortality.

Fish

Smalltooth sawfish historically ranged in the U.S. 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 (Simpfendorfer and Wiley 2005). 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).

The smalltooth sawfish were listed as an endangered species by NMFS in 2003 (68 FR 15674). Two DPSs were identified: the U.S. DPS that occurs throughout the Gulf from Texas to Florida and along the east coast from Florida to North Carolina, and a foreign DPS that occupies waters outside the U.S. Critical habitat for the U.S. DPS of smalltooth sawfish was designated in September 2009 (74 FR 45353).

The toothed rostrum of the smalltooth sawfish causes this species to be particularly vulnerable to entanglement in fishing gear. However, incidental captures in the commercial and recreational hook-and-line components of the reef fish fishery are rare events.

Nassau grouper is a shallow-water grouper species that has supported fisheries throughout the wider Caribbean, South Florida, Bermuda, and the Bahamas (Carter et al. 1994). Like other groupers, they are slow-growing and long-lived (at least to age 29 years; Bush et al. 1996). Eggs and larvae are pelagic, but transition as juveniles to macroalgal and seagrass habitats. Adults are primarily found on high relief coral reefs and rocky substrates (Sadovy and Eklund 1999). Adults undergo annual migrations to discrete locations where they aggregate in large numbers to spawn (Smith 1972; Olsen and LaPlace 1979; Colin et al. 1987; Fine 1990; Fine 1992; Colin 1992).

Nassau grouper are caught with spear, traps, and hook-and-line (NMFS 2016). They are targeted at their site-specific spawning aggregations. Although spawning aggregations have not been documented in the U.S., the Caribbean, South Atlantic, and Gulf Councils, as well as Florida have prohibited the take and possession of Nassau grouper since 1997 (GMFMC 1997). On June 29, 2016, NMFS published a final rule (81 FR 42268) listing Nassau grouper as threatened under the ESA.

The **Oceanic whitetip shark** is a large open ocean apex predatory shark found in subtropical waters around the globe. In the Western Atlantic, oceanic whitetips occur from Maine to Argentina, including the Caribbean and Gulf. It is a tropical, epipelagic species usually found offshore in the open ocean, on the outer continental shelf, or around oceanic islands in deep water, occurring from the surface to at least 152 m depth.

This species has a clear preference for open ocean waters between 10˚N and 10˚S, but can be found in decreasing numbers out to latitudes of 30˚N and 35˚S, with abundance decreasing with greater proximity to continental shelves (Backus et al. 1956; Strasburg 1958; Compagno 1984; Bonfil et al. 2008). Oceanic whitetip sharks are top level predators in open ocean ecosystems feeding mainly on teleosts and cephalopods (Bonfil et al. 2008), but studies have also reported that they consume sea birds, marine mammals, other sharks and rays, molluscs, crustaceans, and even garbage (Compagno 1984; Cortés 1999). Backus et al. (1956) recorded various fish species in the stomachs of oceanic whitetip sharks, including blackfin tuna, barracuda, and white marlin. The available evidence suggests that oceanic whitetip sharks are opportunistic feeders. Oceanic whitetip sharks are one of the more common tropical pelagic species taken as bycatch primarily in tuna and swordfish fisheries using pelagic longlines, purse seines, and probably also with pelagic gillnets, handlines, and occasionally pelagic and even bottom trawls. This species was proposed for ESA listing as threatened on December 29, 2016 (81 FR 96304). The final ESA listing as threatened was published on January 30, 2018 (83 FR 4153).

The **giant manta ray** is the world's largest ray with a wingspan of up to 29 ft. These planktivorous diamond-shaped rays have spots on the abdomen, and use their terminal mouth to filter large amounts of zooplankton; they may also ingest fish. They are most recognized by their celphalic lobes, which are extensions of the pectoral fins that funnel water into the mouth. Giant manta rays have very low fecundity typically giving birth to only one pup every two to three years.

These slow-growing, migratory animals are circumglobal with fragmented populations. They are found across a broad range of depths and temperature; along the U.S. East Coast they are commonly found in waters from 19 to 22ºC. They have been observed in estuarine waters near oceanic inlets, using these waters as potential nursery grounds. Within the Gulf, the giant manta ray is reported in the Flower Garden Banks National Marine Sanctuary. NMFS proposed the giant manta ray as a threatened species under the ESA in 2017 (82 FR 3694) and finalized the listing in 2018 (83 FR 2916).

NMFS has conducted a formal consultation pursuant to section 7 of the ESA, evaluating potential effects from the Gulf reef fish fishery on sea turtles and smalltooth sawfish. The most recent Biological Opinion (Bi Op) was finalized on September 30, 2011, and concluded that the continued authorization of the Gulf reef fish fishery is not likely to jeopardize the continued existence of any sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback) or smalltooth sawfish (NMFS 2011). An incidental take statement was issued specifying the amount and extent of anticipated take, along with reasonable and prudent measures and associated terms and conditions deemed necessary and appropriate to minimize the impact of these takes. NMFS reinitiated formal consultation on the continued authorization of the Gulf reef fish fishery because new species (Nassau grouper, North Atlantic and South Atlantic green sea turtle DPSs, giant manta ray, and oceanic whitetip shark) were listed under the ESA that may be affected by the fishery. NMFS determined that allowing the continued authorization of the reef fish fishery during the reinitiation period will not violate Section 7(a)(2) or 7(d) of the ESA.

Northern Gulf 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.[25] 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. The "dead zone" refers to Gulf waters where 2 parts per million or less of oxygen are measured. For 2015, the extent of the hypoxic area was estimated to be 6,474 square miles and is similar to the running average for the past 5 years of 5,543 square miles (Figure 3.3.1).[26]

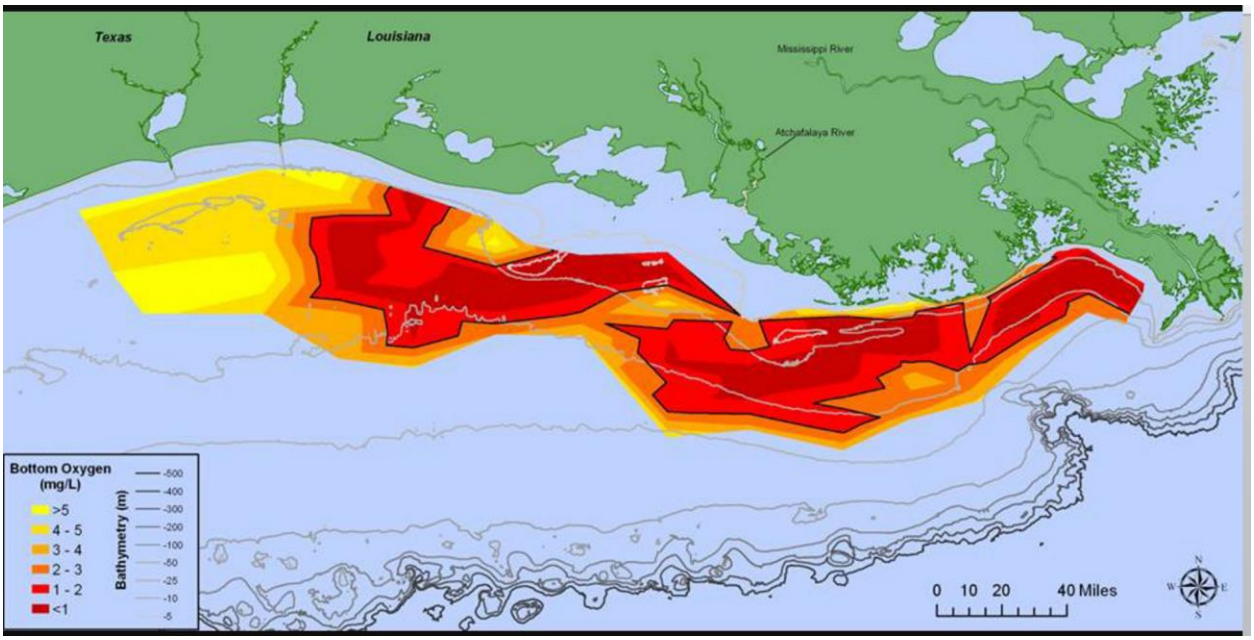

Figure 3.3.1. Map showing distribution of bottom-water dissolved oxygen from July 28 to August 3, west of the Mississippi River delta. Black lined areas – areas in red to deep red – have less than 2 milligrams per liter of dissolved oxygen.
Source: Nancy Rabalais, LUMCON; R. Eugene Turner, LSU. Credit: NOAA.[27]

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 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 (Craig 2012).

[25] http://www.gulfhypoxia.net/
[26] Ibid.
[27] http://www.noaanews.noaa.gov/stories2015/080415-gulf-of-mexico-dead-zone-above-average.html

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[28]). 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 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 Portal[29] indicates that the average sea surface temperature in the Gulf will increase by 1.2-1.4ºC 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 model[30] shows distributional trends both in latitude and depth over the time period 1985-1913. 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 Intergovernmental Panel on Climate Change[31] has indicated that greenhouse gas emissions are one of the most important drivers of recent changes in climate. Wilson et al. (2014) 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 3.3.5 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 (1.43% and 0.59%, respectively).

[28] http://www.ipcc.ch/
[29] http://www.esrl.noaa.gov/psd/ipcc/ocn/
[30] http://oceanadapt.rutgers.edu/regional_data/
[31] http://www.ipcc.ch/

Table 3.3.5. Total Gulf greenhouse gas emissions estimates (tons per year) from oil platform and non-oil platform sources, commercial fishing and recreational vessels, and percent greenhouse gas emissions from commercial fishing and recreational vessels of the total emissions.

Emission source	CO_2	Greenhouse CH_4	Gas N_2O	Total CO_{2e}*
Oil platform	11,882,029	271,355	167	17,632,106
Non-platform	22,703,695	2,029	2,698	23,582,684
Total	**34,585,724**	**273,384**	**2,865**	**41,214,790**
Commercial fishing	585,204	2	17	590,516
Recreational vessels	244,483	N/A	N/A	244,483
Percent commercial fishing	1.69	>0.01	0.59	1.43
Percent recreational vessels	0.71	NA	NA	0.59

Source: Compiled from Tables 7.9 and 7.10 in Wilson et al. (2014).
*The CO_2 equivalent (CO_2e) emission estimates represent the number of tons of CO_2 emissions with the same global warming potential as one ton of another greenhouse gas (e.g., CH_4 and N_2O). Conversion factors to CO_{2e} are 21 for CH_4 and 310 for N_2O.

Deepwater Horizon MC252 Oil Spill Incident

On April 20, 2010, an explosion occurred on the *Deepwater Horizon* semi-submersible oil rig approximately 36 nautical miles (41 statute miles) off the Louisiana coast. Two days later the rig sank. An uncontrolled oil leak from the damaged well continued for 87 days until the well was successfully capped by British Petroleum on July 15, 2010. The *Deepwater Horizon* MC252 oil spill affected at least one-third of the Gulf area from western Louisiana east to the Florida Panhandle and south to the Campeche Bank in Mexico. In response to the spill, NMFS closed waters in the Gulf to fishing, and at its height, closed over 88,000 square miles (Figure 3.3.2).

A final Programmatic Damage Assessment and Restoration Plan (PDARP) and Final Programmatic Environmental Impact Statement, incorporated by reference, were conducted by NOAA and many cooperating agencies to assess the damage caused by the spill (DWH Trustees 2016). Key findings by NOAA with regards to the injury assessment were:

- Oil came into contact with a variety of northern Gulf habitats ranging from the deep-sea floor to coastal and nearshore areas.
- Species affected included deep-sea corals, fish and shellfish, birds, among others.
- The oil was toxic to a wide variety of organisms including fish, invertebrates, plankton, birds, deep-sea corals, sea turtles, and marine mammals.
- Toxic effects included death, disease, reduced growth, impaired reproduction, and physiological impairments that made it more difficult for organisms to survive and reproduce.
- The extent and degree of toxic levels of oil has declined substantially from 2010 to the present.

The PDARP outlines ways fish, including reef fish, were likely adversely affected. Effects include reduced recruitment, changes in trophic structure, changes in community structure, reduced growth, impaired reproduction, and adverse health effects. A more detailed description of these effects can be found in Chapter 4 of the PDARP.[32]

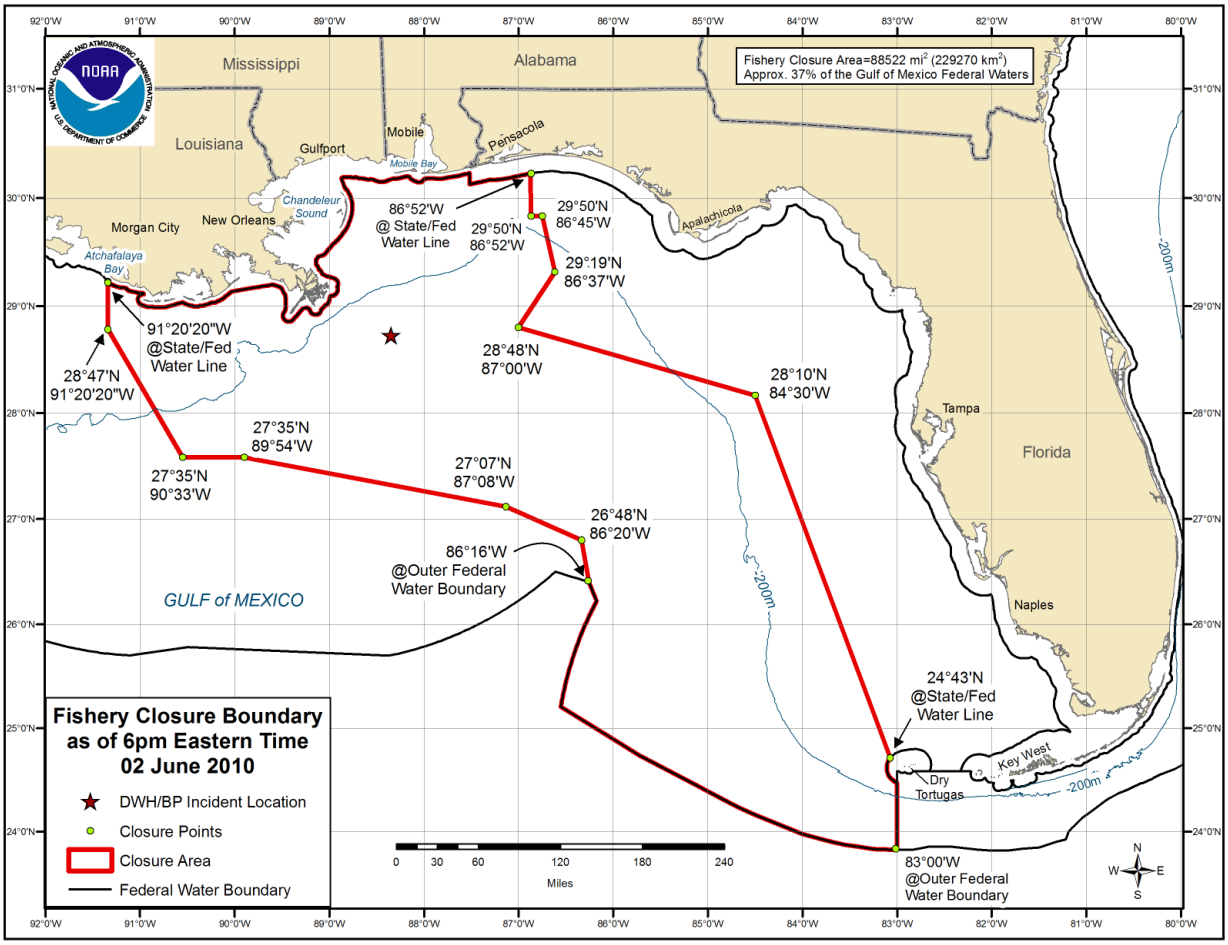

Figure 3.3.2. Fishery closure at the height of the Deepwater Horizon MC252 oil spill.

[32] http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan

3.4 Economic Environment

3.4.1 Commercial Sector

A description of the red snapper individual fishing quota program can be found on NMFS' Limited Access Privilege Programs (LAPP) webpage.[33] That description is incorporated herein by reference. Additional economic information on the commercial harvest of red snapper in the Gulf is contained in Amendment 28 (GMFMC 2015b). This proposed amendment does not concern the commercial harvest of red snapper or any other reef fish. Therefore, no additional information on the commercial sector is provided.

3.4.2 Recreational Sector

The following section focuses on the economic contribution of the recreational effort and harvest of red snapper. Recreational fishing for red snapper or any Gulf reef fish means fishing or fishing activities which result in the harvest of fish, none of which (or parts thereof) is sold, traded, or bartered (50 CFR 622.2).

In 2014, Amendment 40 divided the recreational sector of harvesting red snapper from federal waters into two parts based on the mode of transportation that anglers use to fish for red snapper in those waters: federal for-hire (vessel) and private (vessel) angling components (GMFMC 2014a). The for-hire component applies to businesses that operate vessels that have been issued a federal Gulf reef fish for-hire permit during any time of the fishing year. These permits may be valid or renewable/transferable; however, the vessel must have a valid permit for any person onboard to fish for or possess Gulf red snapper in federal waters (50 CFR 622.20(b)).

The private angling component applies to vessel operators that have not been issued a federal charter/headboat permit for Gulf reef fish any time during the year. Amendment 40 defined the private angling component as including operators of private vessels and state-permitted for-hire vessels. Although vessels used by these operators may have multiple purposes (commercial, for-hire, and personal), trips involving and landings of red snapper by this component of the recreational sector occur only when the vessels are not operating as a business in federal waters. Additional information about the recreational sector of the reef fish fishery can be found in the description of the fishery (Section 3.1.2) and Amendment 45 (GMFMC 2016).

Federal For-Hire Component

An annual average of 1,346 vessels had a valid or renewable federal charter/headboat permit from 2012 through 2016 (Tables 3.1.2.1 and 3.1.2.2). The distribution of vessels with the permit by hailing port state changed little from 2012 through 2016 (Table 3.1.2.2). The current distribution of permitted vessels is consistent with past years; however there has been a consistent decline in the relative share of permitted vessels that hail out of Mississippi (Table 3.1.2.2).

[33] See: http://sero.nmfs.noaa.gov/sustainable_fisheries/lapp_dm/index.html.

As of October 24, 2017, there were 1,313 for-hire fishing vessels with the permit, and approximately 84% of those vessels have a passenger capacity of six (Table 3.4.2.1). Among the vessels with a homeport in one of the Gulf states, Alabama has the largest average federally permitted for-hire vessel by passenger capacity, while Louisiana has the smallest (Table 3.4.2.2). Although the average Florida vessel is not the largest, Florida's combined permitted vessels represent approximately 61% of the total passenger capacity (Table 3.4.2.2). Approximately 98% of Louisiana's permitted vessels carry up to six passengers (Table 3.4.2.3).

Table 3.4.2.1. Number and percentage of permitted for-hire fishing vessels by passenger capacity as of October 24, 2017.

Passenger Capacity	Number of Vessels	Percentage of Vessels
6	1,107	84.38%
7 to 10	6	0.46%
11 - 14	14	1.07%
15 - 20	53	4.04%
21 - 25	25	1.91%
26 - 30	11	0.84%
31 - 40	16	1.22%
41 - 50	34	2.59%
51 - 80	22	1.68%
› 80	24	1.83%
Total	**1,312**	**100.00%**

Source: NMFS SERO LAPPS.

Table 3.4.2.2. Range, average, median, total and percent of total passenger capacity by homeport state of vessels as of October 24, 2017.

Passenger Capacity by Homeport State					
Homeport State	**Range**	**Average**	**Median**	**Total**	**Percentage of Total**
AL	6 - 75	13	6	1,736	11.6%
FL	6 - 150	12	6	9,052	60.6%
LA	6 - 41	6	6	768	5.1%
MS	6 - 44	10	6	354	2.4%
TX	6 - 132	11	6	2,659	17.8%
Other	6 - 149	22	6	376	2.5%
All	**6 - 150**	**11**	**6**	**14,945**	**100.0%**

Source: NMFS SERO LAPPS.

Table 3.4.2.3. Number of permitted vessels by passenger capacity and homeport state as of October 24, 2017.

Vessels by Homeport State						
	Number by Passenger Capacity				Percentage by Passenger Capacity	
Homeport State	**6**	**7 - 14**	**15 and greater**	**Total**	**6**	**15 and greater**
AL	100	0	36	136	73.5%	26.5%
FL	642	20	112	774	82.9%	14.5%
LA	117	0	2	119	98.3%	1.7%
MS	26	0	8	34	76.5%	23.5%
TX	209	0	23	232	90.1%	9.9%
Other	13	0	4	17	76.5%	23.5%
All	**1,107**	**20**	**185**	**1,312**	**84.4%**	**14.1%**

Source: NMFS SERO LAPPS.

Permit data as of October 25, 2017, were used to estimate both the number of businesses with a charter/headboat permit and the sizes of their individual fleets of permitted for-hire vessels. As of that date, there were 1,308 permitted for-hire fishing vessels[34], and an estimated 1,099 businesses own these 1,308 vessels. Approximately 88% (972) of the businesses have only one permitted for-hire vessel (Table 3.4.2.4). Collectively, the other 12% of businesses own 26% (336) of the permitted for-hire vessels. Seven businesses collectively own approximately 4.2% of the permitted vessels.

Table 3.4.2.4. Numbers and percentages of businesses and total permitted for-hire vessels by number of permitted for-hire fishing vessels per business, October 25, 2017.

Permitted Vessels per Business	Number of Business	Total Number of Permitted Vessels	Percentage of Businesses	Percentage of Total Permitted Vessels
1	972	972	88.1%	74.3%
2	87	174	7.9%	13.3%
3	25	75	2.3%	5.7%
4	8	32	0.7%	2.5%
5	4	20	0.4%	1.5%
6 or more	3	35	0.3%	2.7%
All	**1,099**	**1,308**	**100.0%**	**100.0%**

Source: NMFS SERO, October 26, 2017.

[34] The decline from 1,312 to 1,308 federally permitted for-hire vessels in one day is expected to be due to permits being terminated and/or having status as pending and, as pending, permits are not valid or renewable/transferrable. When an application for renewal of an expired permit is submitted but does not include all required documentation, the status of the permit is pending.

When operating under the for-hire permit, these businesses participate in the charter fishing and party fishing boats industry (North American Industry Classification System [NAICS] code 4872102). The U.S. Census Bureau conducts the Economic Census of the United States every 5 years, which surveys businesses with employees. Over the past four economic censuses, there was an average of 323 employee establishments in the charter fishing and party fishing boats industry in the Gulf states (Table 3.4.2.5).

Table 3.4.2.5. Number of employer establishments in NAICS code 4872012 (charter fishing and party fishing boats industry).

Number of Establishments					
State	**1997**	**2002**	**2007**	**2012**	**Average**
Alabama	21	18	22	22	21
Florida	249	237	259	259	251
Louisiana	13	11	12	9	11
Mississippi	9	12	7	11	10
Texas	36	32	27	24	30
Total	**328**	**310**	**327**	**325**	**323**

Source: 1997, 2002, 2007, 2012 Economic Census of the United States.

The Economic Census can be used to estimate the average annual receipts for employer establishments in an industry, and the average establishment in the charter fishing and party fishing boats industry in any of the Gulf states had annual receipts less than $600,000 in 2012 (Table 3.4.2.6). Each establishment does not necessarily represent a unique business; a business may have multiple establishments.

Table 3.4.2.6. Number of establishments, total receipts and average receipts establishments in NAICS code 4872012 in 2012.

State	Number Establishments	Total 2012 Receipts	Average 2012 Receipts
Alabama	22	$5,163,000	$234,682
Florida	259	$74,785,000	$288,745
Louisiana	9	$4,819,000	$535,444
Mississippi	11	Undisclosed	$192,143*
Texas	24	$13,293,000	$553,875

*Estimate from total receipts for all establishments in NAICS code 487210.
Source: 2012 Economic Census of the United States.

The employee establishments in the charter fishing and party fishing boats industry represent part of the broader scenic and sightseeing water transportation industry (NAICS code 487210), and tend to represent the majority of employer establishments in the broader industry, except in Louisiana where there are more establishments in the excursion and sightseeing boats industry (NAICS code 4872011) (Table 3.4.2.7). Average receipts for establishments in the excursion and sightseeing boats industry tend to be higher than those for establishments in the charter fishing and party fishing boats industry. In Texas, for example, the average receipts for an establishment in the excursion and sightseeing boats industry in 2012 was approximately 59%

larger than for an establishment in the charter fishing and party fishing boats industry. It is expected that there are vessels in the for-hire component that are also used for excursions and sightseeing.

Table 3.4.2.7. Percentage of employer establishments in NAICS code 487210 that are in the charter fishing and party fishing boats industry.

Percentage of Establishments in Charter and Party Fishing Boat Industry					
State	**1997**	**2002**	**2007**	**2012**	**Average**
Alabama	77.8%	72.0%	75.9%	73.3%	74.7%
Florida	69.2%	66.0%	64.1%	58.6%	64.5%
Louisiana	33.3%	36.7%	48.0%	32.1%	37.5%
Mississippi	100.0%	80.0%	87.5%	84.6%	88.0%
Texas	70.6%	58.2%	47.4%	48.0%	56.0%
Total	**67.5%**	**64.0%**	**62.5%**	**57.7%**	**62.9%**

Source: 1997, 2002, 2007, 2012 Economic Census of the United States.

The U.S. Census surveys non-employer businesses as well; however, non-employer statistics are not publically available at the relevant 6 or 7-digit NAICS code level. In 2015, there were 1,528 non-employer establishments in the scenic and sightseeing (water and land) transportation industry (NAICS code 487) in the Gulf states, and most (approximately 81%) were individual (or sole) proprietorships (Table 3.4.2.8). Self-employed individuals are included in the individual proprietorship category.

Table 3.4.2.8. Number of establishments by legal form in the scenic and sightseeing transportation industry (NAICS code 487), 2015.

State	C-corporations	S-corporations	Individual proprietorships	Partnerships	Total
Alabama	0	7	62	0	71
Florida	20	130	728	69	947
Louisiana	0	10	151	8	169
Mississippi	0	5	44	5	54
Texas	6	17	248	16	287
Total	**26**	**169**	**1,233**	**98**	**1,528**

Source: Census, 2015 Nonemployer Statistics by Legal Form.

For the purpose of this and related documents, charter vessels and headboats are differentiated by passenger capacity and the method passengers pay. Specifically, a headboat is defined as a federally permitted for-hire vessel that participates in the SRHS, and a vessel in the SRHS meets all or a combination of the following criteria: 1) is licensed to carry 15 or more passengers, 2) fishes in federal waters or state and adjoining waters for federally managed species, and 3) charges primarily per angler (by the head). A charter vessel is defined as a federally permitted for-hire fishing vessel that does not participate in the SRHS.

There were annual averages of 68 headboats and 1,277 charter vessels from 2012 through 2016 (Table 3.1.2.1). Headboats tend to represent approximately 5% of those federally permitted vessels. See Section 3.5.1 and Figures 3.5.1.2 and 3.5.1.3 for the distribution of charter vessels and headboats by state.

Data from MRIP and the Louisiana and Texas creel surveys are used to generate estimates of effort of the charter vessel component. From 2012 through 2016, charter vessels took an average of 201,348 directed angler trips annually (Table 3.4.2.9). These are trips when red snapper was the primary or secondary target or was caught by anglers. Approximately 60% of the annual directed angler trips by charter vessels are out of west Florida.

Table 3.4.2.9. Estimates of numbers of directed angler trips by charter vessels by state and percentage of total by Alabama and west Florida, 2012 - 2016.

Estimates of Number of Directed Angler Trips						
Year	**AL**	**FLW**	**LA**	**MS**	**TX**	**Total**
2012	34,459	115,928	11,353	652	29,323	191,715
2013	42,438	110,782	9,077	552	25,652	188,501
2014	29,277	90,991	3,111	292	20,055	143,726
2015	52,417	140,881	8,849	908	32,885	235,940
2016	57,108	146,847	10,317	2,001	30,585	246,858
Average	**43,140**	**121,086**	**8,541**	**881**	**27,700**	**201,348**

Source: NMFS SERO LAPPS, August 28, 2017.

Directed angler trips by charter vessels generate jobs and other economic impacts. For example, the average annual 121,086 directed trips by west Florida charter vessels generate 631 jobs, approximately $28 million in income, $77.9 million in sales, and $43 million in value-added impacts in Florida (Table 3.4.2.10).

Table 3.4.2.10. Estimates of economic impacts of directed angler trips by charter vessels and their economic impacts to the state, by state.

State	Directed Trips	Jobs	Thousands of Dollars (2015 $)		
			Income	**Sales**	**Value-added**
AL	43,140	221	$9,208	$25,828	$13,486
FLW	121,086	631	$28,043	$77,865	$42,960
LA	8,541	31	$1,764	$4,543	$2,621
MS	881	3	$136	$394	$196

Source: Estimates of economic impacts calculated by NMFS SERO using model developed for NMFS, see http://sero.nmfs.noaa.gov/sustainable_fisheries/lapp_dm/index.html.

There is insufficient information to estimate the economic impacts of the directed trips made by Texas charter vessels to the state of Texas. However, the impacts of the trips by Texas charter vessels are evaluated at the Gulf region level (Table 3.4.2.11).

Table 3.4.2.11. Estimates of economic impacts of directed angler trips by Texas charter vessels to the Gulf region.

State	Directed Trips	Jobs	Thousands of Dollars (2015 $)		
			Income	Sales	Value-added
Texas	27,700	172	$8,585	$24,838	$13,308

Source: Estimates of economic impacts calculated by NMFS SERO using model developed for NMFS.

Similar analysis of recreational effort is not possible for headboats because headboat trip data are not collected at the individual angler level, but instead at the vessel level, and target intent is not included, only species caught and landed. The length of a headboat trip varies considerably, from 3 to 5.5 hours (half a day) to 10 hours or more; however, the majority of trips are no more than 6 hours and no more than approximately 3% are 10 hours or more (Tables 3.4.2.12 and 3.4.2.13). The U.S. Coast Guard requires a vessel that makes a trip over 12 hours long to have two captains and two deckhands, which increases the cost of a trip. Also, if overnight, a headboat will have fewer paying passengers on board because passengers need a place to sleep or rest.

Table 3.4.2.12. Number of annual headboat trips by length (hours) of trip, 2012 – 2016.

Year	Number of Vessels	3 – 5.5 Hours	6 Hours	8 to 9.5 Hours	10 or more Hours	Total
2012	68	3,200	4,032	1,219	234	8,685
2013	68	2,902	2,363	3,316	243	8,824
2014	68	3,281	2,260	3,343	275	9,159
2015	68	3,649	2,265	3,499	313	9,726
2016	69	3,757	2,483	3,544	298	10,082
Average	**68**	**3,358**	**2,681**	**2,984**	**273**	**9,295**

Source: NMFS SEFSC.

Table 3.4.2.13. Percentage of annual headboat trips by length of trip, 2012 – 2016.

Percentage of Headboat Trips					
Year	Half Day	Three-quarter Day	Full Day	More than Full Day	Total
2012	36.8%	46.4%	14.0%	2.7%	100.0%
2013	32.9%	26.8%	37.6%	2.8%	100.0%
2014	35.8%	24.7%	36.5%	3.0%	100.0%
2015	37.5%	23.3%	36.0%	3.2%	100.0%
2016	37.3%	24.6%	35.2%	3.0%	100.0%
Average	**36.1%**	**29.2%**	**31.8%**	**2.9%**	**100.0%**

Source: NMFS SEFSC.

Estimates of effort by headboats are provided in terms of angler days, or the number of standardized 12-hour fishing days that account for the different half, three-quarter, full-day and longer fishing trips by these vessels. For purposes of estimating angler days and landings, the SRHS divides the Gulf into several geographic areas.

The distribution of angler days by geographic area is presented in Table 3.4.2.14. On average, from 2012 through 2016, the area from the Dry Tortugas through the Florida Middle Grounds (FLW) accounted for the largest number of angler days, followed in turn by northwest Florida through Alabama, Texas and Mississippi through Louisiana (Tables 3.4.2.14 and 3.4.2.15).

Table 3.4.2.14. Number of angler days on headboats by area, 2012 – 2016.

Number of Angler Days					
Year	**FLW**	**NWFL-AL[1]**	**MS-LA[2]**	**TX**	**Total**
2012	84,205	77,770	3,680	51,776	217,431
2013	94,752	80,048	3,406	55,749	233,955
2014	102,841	88,524	3,257	51,231	245,853
2015	107,910	86,473	3,587	55,135	253,105
2016	109,101	90,877	2,955	54,083	257,016
Average	**99,762**	**84,738**	**3,377**	**53,595**	**241,472**

Source: SERO SRHS.
1. Beginning in 2013, SRHS data was reported separately for NW Florida and Alabama, but has been combined here for consistency with previous years.
2. Combined for confidentiality purposes.

Table 3.4.2.15. Percentages of total angler days on headboats by area, 2012 – 2016.

Percentage of Total Angler Days					
Year	**FLW**	**NWFL-AL[1]**	**MS-LA[2]**	**TX**	**Total**
2012	38.7%	35.8%	1.7%	23.8%	100.0%
2013	40.5%	34.2%	1.5%	23.8%	100.0%
2014	41.8%	36.0%	1.3%	20.8%	100.0%
2015	42.6%	34.2%	1.4%	21.8%	100.0%
2016	42.4%	35.4%	1.1%	21.0%	100.0%
Average	**41.2%**	**35.1%**	**1.4%**	**22.3%**	**100.0%**

Source: SERO SRHS.
1. Beginning in 2013, SRHS data was reported separately for NW Florida and Alabama, but has been combined here for consistency with previous years.
2. Combined for confidentiality purposes.

Fifty-eight of the 69 headboats in 2016 had red snapper landings (SEFSC SRHS). The majority of these headboats with red snapper landings are registered in Florida, with smaller numbers of vessels registered in the other Gulf states (Table 3.4.2.16).

Table 3.4.2.16. Number and percentage of headboats with red snapper landings in 2016 by state.

Headboats with Red Snapper Landings					
	AL	**FL**	**MS& LA[1]**	**TX**	**Total**
Number	8	30	5	15	58
Percentage	13.79%	51.72%	8.62%	25.86%	100.00%

Source: SERO SRHS 2016.
1. Combined for confidentiality purposes.

Because SRHS data do not identify species that are targeted during a trip, the economic impacts of headboat trips that may target red snapper cannot be estimated. For estimates of the average fee per angler charged by headboats, see Carter (2015, 2016). Economic value for for-hire vessels 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. For charter vessels in the Gulf, the estimated NOR value is $158 (2017 dollars) per charter angler trip (Liese and Carter 2011, updated to 2017 dollars). The estimated NOR value per headboat angler trip is $52 (C. Liese, NMFS SEFSC, pers. comm.).

Private Angling Component

Angler fishing effort refers to the estimated number of angler fishing trips taken, and an angler trip is an individual fishing trip taken by a single angler for any amount of time, whether it is half an hour or an entire day. Currently, angler fishing effort is estimated by conducting telephone surveys of coastal households (Coastal Household Telephone Survey) and for-hire (charter) vessel captains (For-Hire Survey), as well as on-site survey methods (MRIP APAIS). From these survey interviews, NMFS can estimate how many people are fishing, where people are fishing, and how often people go fishing. Moreover, with the MRIP APAIS (survey of anglers by the private boat, charter vessel and shore modes as they complete a trip), NMFS can estimate how many trips target red snapper, how many trips catch red snapper and how many are being caught, how many red snapper are kept, how many are discarded, the condition of discarded fish, and the size and weight of red snapper caught.

Data from MRIP and LA Creel are used to estimate effort of the private angling component for each Gulf state, except Texas. From 2012 through 2016, the private angling component of the recreational sector took an average of at least 228,122 directed angler trips annually (Table 3.4.2.17). Those were trips where red snapper was the primary or secondary target or was caught or harvested by anglers. Alabama has the largest number of average annual trips, with west Florida second during the 5-year period.

Table 3.4.2.17. Estimates of numbers of directed angler trips by private angling component in Gulf states, except Texas 2012 – 2016.

Estimates of Number of Directed Angler Trips					
Year	**AL**	**FLW**	**LA**	**MS**	**Total**
2012	51,794	77,457	38,413	13,515	181,179
2013	176,719	166,239	31,049	19,478	393,485
2014	46,909	50,415	60,146	3,433	160,903
2015	99,446	11,194	53,165	2,641	166,446
2016	124,091	51,488	43,571	19,446	238,596
Average	**99,792**	**71,359**	**45,269**	**11,703**	**228,122**

Source: NMFS SERO LAPPS, August 28, 2017.

Directed angler trips generate economic impacts and the average annual directed angler trips by the private angling component generated income impacts annually (Table 3.4.2.18). Annual landings of red snapper by the private angling component for 2012 – 2016 are stated in Section 3.1.2 (Table 3.1.2.7) and are incorporated here by reference.

Table 3.4.2.18. Economic impacts of average number of annual directed angler trips by private angling component in Gulf states, except Texas (2015 dollars).

State	Directed Trips	Jobs	Thousands of Dollars (2015 $)		
			Income	Sales	Value-added
AL	99,792	53	$1,588	$5,281	$2,734
FLW	71,359	24	$901	$2,621	$1,553
LA	45,269	23	$852	$3,249	$1,577
MS	11,703	3	$97	$375	$163

Source: Estimates of economic impacts calculated by NMFS SERO using model developed for NMFS.

For anglers, economic value can be measured by consumer surplus (CS). CS per additional fish kept during a trip is defined as the amount of money an angler would be willing to pay for a fish in excess of the cost to harvest the fish. The CS value per fish for a second red snapper kept is estimated at $82.34 (Carter and Liese 2012, updated to 2017 dollars). Additional information about the private angling component can be found in Amendments 40 (GMFMC 2014a), 28 (GMFMC 2015b), and 45 (GMFMC 2016), and are incorporated by reference.

3.5 Social Environment

This amendment affects recreational management of red snapper in the Gulf. Recreational landings by state, federally permitted for-hire vessels by state, and federal for-hire vessels included in the SRHS with landings of red snapper by state, are included to provide information on the geographic distribution of fishing involvement. Descriptions of the top recreational fishing communities based on recreational engagement are included, along with the top ranking communities by the number of federal for-hire permits, number of charter vessels by homeport, number of headboats by homeport, and communities with SRHS landings of red snapper. Community level data are presented in order to meet the requirements of National Standard 8 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), which requires the consideration of the importance of fishery resources to human communities when changes to fishing regulations are considered. Lastly, social vulnerability data are presented to assess the potential for environmental justice concerns.

3.5.1 Fishing Communities

Red snapper is harvested recreationally in all five Gulf states. Total recreational landings by state for the years 1986 through 2015 are provided in Appendix A, Table A-1. Landings by state are not constant; the proportion of the quota represented by each state varies from year to year. Across time, the proportion of landings made up by the eastern Gulf states (Alabama and western Florida) has increased compared to the western Gulf states (Texas and Louisiana), as the red snapper rebuilding plan has proceeded.

Recreational Fishing Communities

Red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper. Because limited data are available concerning how recreational fishing communities are engaged and reliant on specific species, 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; Jacob et al. 2013). Recreational fishing engagement is represented by the number of recreational permits and vessels designated as “recreational” by homeport and owners address. Fishing reliance includes the same variables as fishing engagement, divided by population. Factor scores of both engagement and reliance were plotted.

Figure 3.5.1.1 identifies the top Gulf communities that are engaged and reliant upon recreational fishing in general. Two thresholds of one and one-half standard deviation above the mean were plotted 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 red snapper. 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.

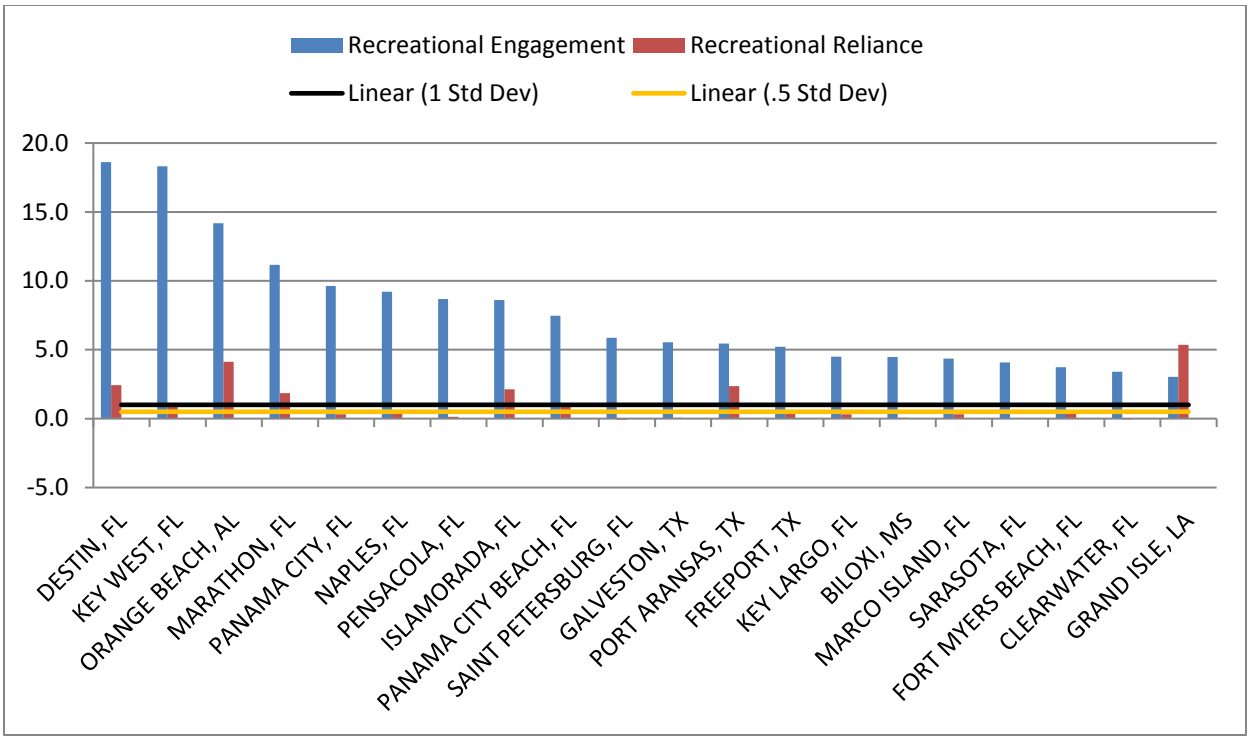

Figure 3.5.1.1. Top 20 recreational fishing communities' engagement and reliance.
Source: SERO, Community Social Vulnerability Indicators Database 2014 (American Community Survey 2010-2014).

Charter Vessels and Headboats by Community

In order to present information about the charter vessels and headboats that are engaged in the recreational red snapper fishery, all vessels with a federal for-hire permit for reef fish, including historical captain permits, are included in the following analysis as a proxy. However, it cannot be assumed that every included permitted vessel is engaged in the red snapper fishery.

The majority of federal for-hire permits for reef fish are held by operators in Florida (59% in 2016), followed by Texas (17.7%), Alabama (10.2%), Louisiana (9%), Mississippi (2.7%), and other states (1.4%; Table 3.1.2.1). The distribution of permits by state has followed a similar pattern throughout the last five years.

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). The communities with the most for-hire permits for reef fish are provided in Table 3.5.1.1.

Table 3.5.1.1. 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	67
AL	Orange Beach	51
FL	Panama City	51
FL	Naples	49
FL	Key West	42
FL	Pensacola	27
FL	St. Petersburg	24
TX	Galveston	24
FL	Sarasota	19
TX	Corpus Christi	19
FL	Panama City Beach	18
LA	Metairie	18
FL	Clearwater	17
FL	Ft. Meyers	16
FL	Marco Island	15
MS	Biloxi	15
TX	Freeport	15
TX	Houston	15
TX	Port Aransas	15

Source: NMFS SERO permit office, October 25, 2017.

When Gulf reef fish for-hire vessels are separated into charter vessels or headboats, the majority are charter vessels (95% of for-hire vessels as of September 20, 2016) and a smaller proportion are headboats (approximately 5%, NMFS SERO permit office). Figure 3.5.1.2 shows the spatial distribution of charter vessels with federal for-hire permits around the Gulf. Figure 3.5.1.3 shows the spatial distribution of headboats with federal for-hire permits around the Gulf.

A pattern of abundance for charter vessels is evident with large clusters of charter vessels 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, Figure 3.5.1.2).

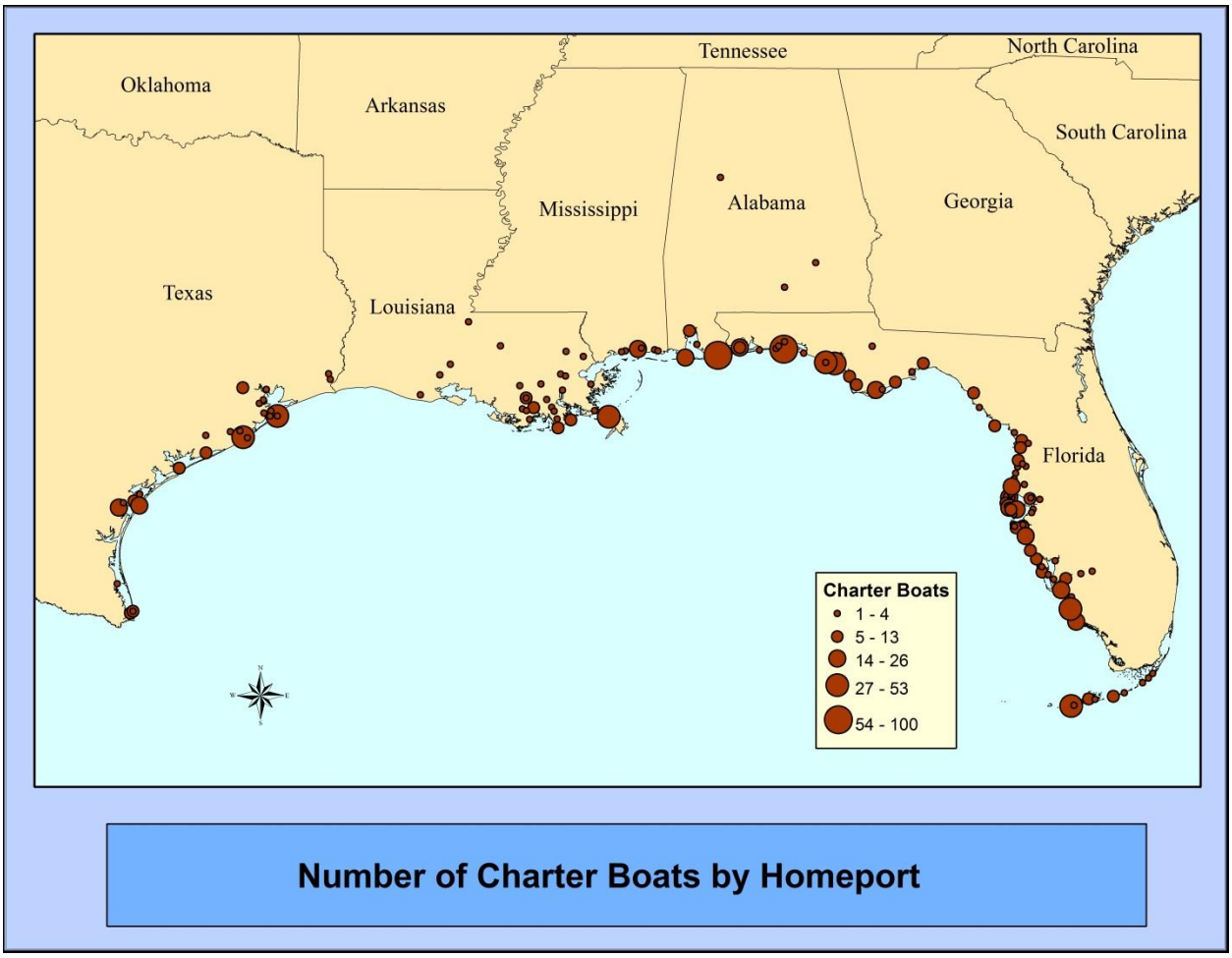

Figure 3.5.1.2. Distribution of charter vessels with federal for-hire permits for Gulf reef fish in Gulf states, by community.
Source: NMFS SERO permit office, September 20, 2016.

The pattern of abundance for headboats is evident with large clusters of headboats in Florida communities in Bay, Okaloosa, and Pinellas Counties; in Alabama in Baldwin County; and in Texas in Nueces County (Figure 3.5.1.3).

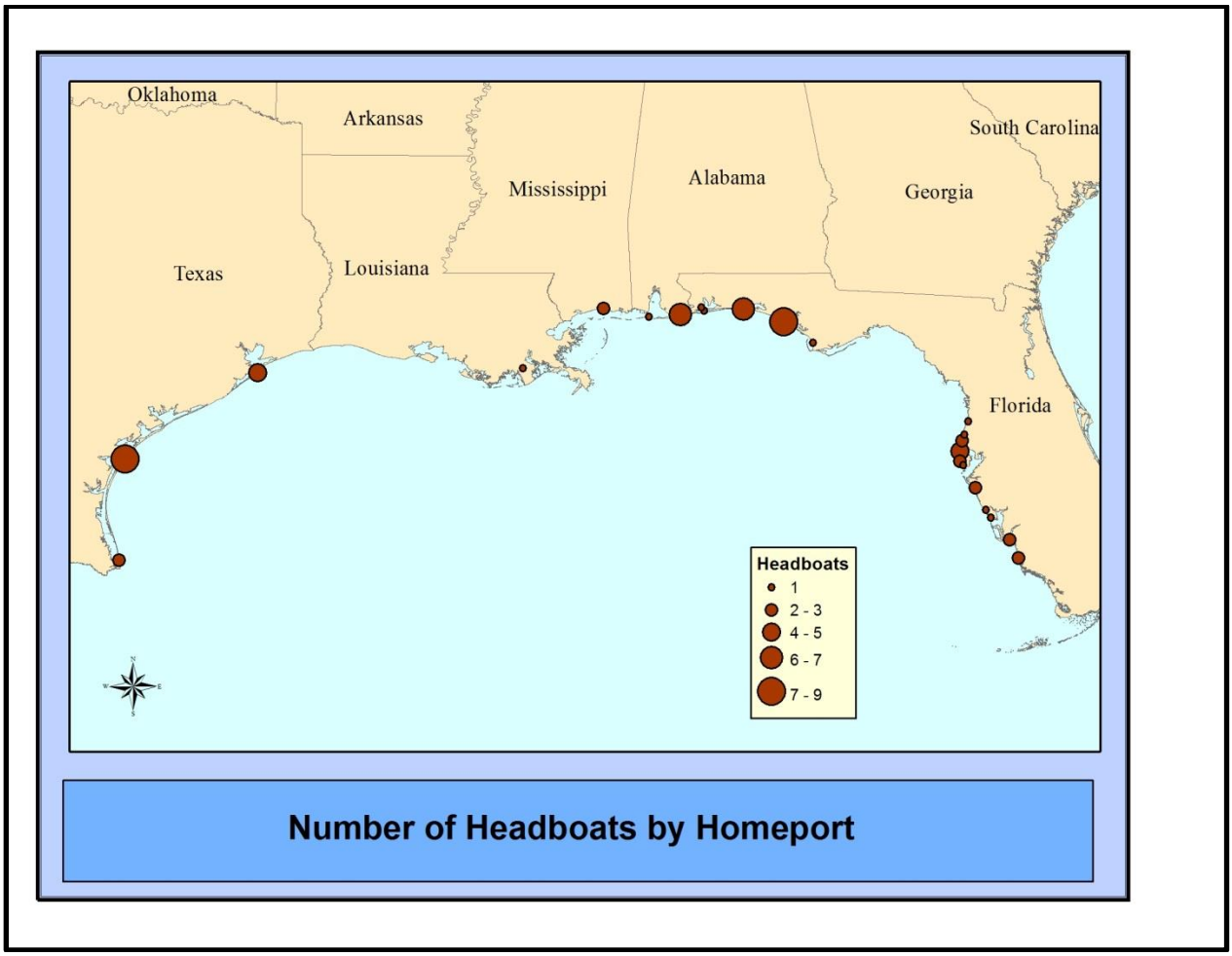

Figure 3.5.1.3. Distribution of headboats with federal for-hire permits for Gulf reef fish in Gulf states, by community.
Source: NMFS SERO permit office, September 20, 2016.

Charter vessels and headboats target red snapper throughout the Gulf. At this time it is not possible to determine which species are targeted by specific charter vessels and associate those vessels with their homeport communities. However, harvest data are available for headboats by species and can be linked to specific communities through the homeport identified for each vessel. These data are available for headboats registered in the SRHS.

In 2016, 69 federal for-hire vessels in the Gulf were registered in the SRHS (SRHS, SERO LAPPs/Data Management database). Of these, 57 vessels landed red snapper in 2016 (Table 3.5.1.2). The majority of these headboats with red snapper landings are registered in Florida, with smaller numbers of vessels registered in the other Gulf states (Table 3.5.1.2).

Table 3.5.1.2. Number of federal for-hire vessels in the Gulf registered in the SRHS with landings of red snapper in 2016, by state.

State	Number of Vessels
AL	9
FL	28
LA/MS	5
TX	15

Source: SEFSC SRHS (2016).

Figure 3.5.1.4 includes all Gulf communities based on a 'regional quotient' (RQ) of recreational headboat landings for red snapper. The RQ is the proportion of landings out of the total SRHS landings for that region, and is a relative measure. Headboats with red snapper landings are based in 21 homeports (13 homeports were located in Florida, 3 in Texas, 2 in Louisiana, 2 in Alabama, and 1 in Mississippi, Figure 3.5.1.4). The top four homeports represent about 73% of the red snapper landings by vessels participating in the SRHS. Homeports with the greatest landings of red snapper include Galveston, Texas (27.2% of red snapper landed by SRHS vessels in 2016); Port Aransas, Texas (23.5%); Panama City Beach, Florida (11.4%); and Orange Beach, Alabama (10.5%; SEFSC SRHS 2016). Other homeports represent a smaller portion of landings.

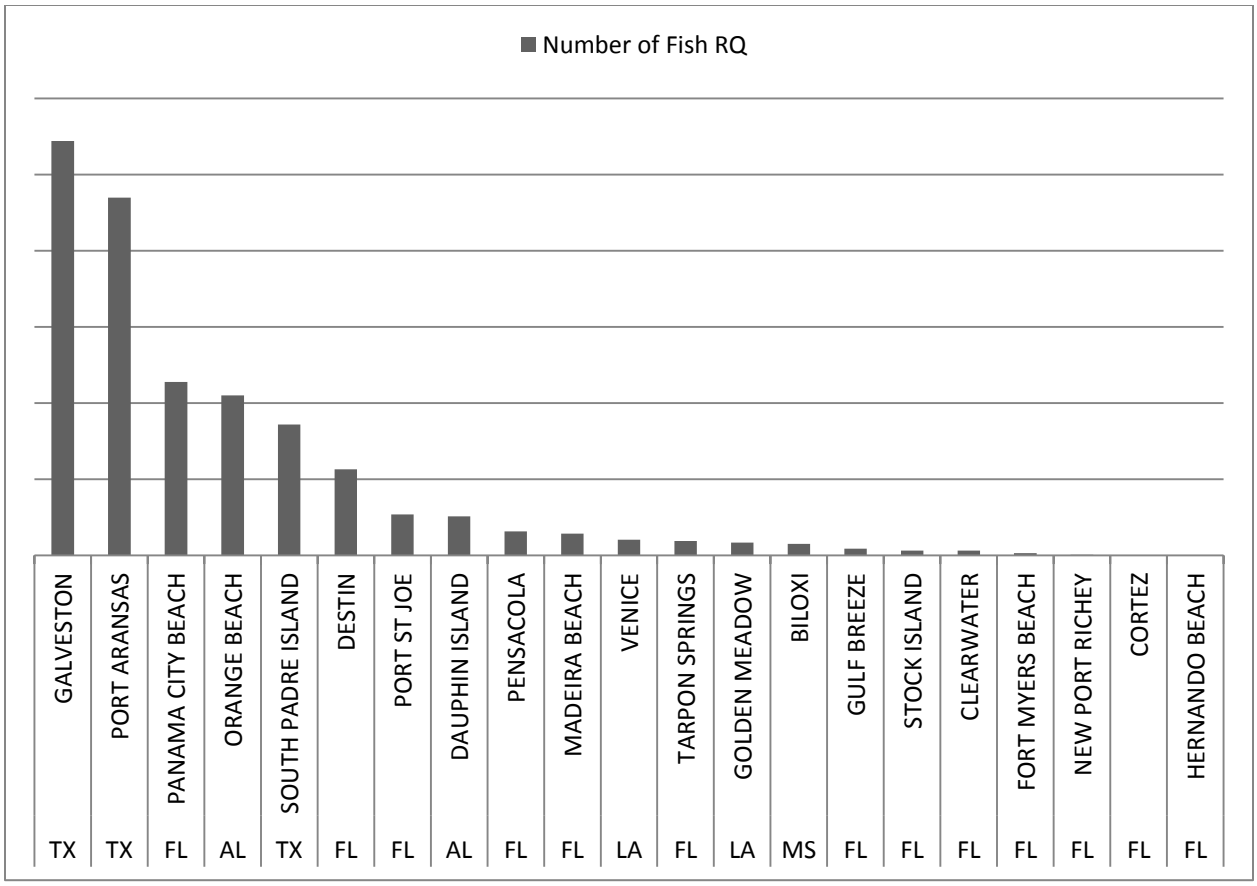

Figure 3.5.1.4. All Gulf communities ranked by number of fish landed by headboats included in the SRHS RQ for red snapper. The actual RQ values (y-axis) are omitted from the figure to maintain confidentiality.
Source: SEFSC SRHS (2016).

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 recreational communities (Figure 3.5.1.1), top ranking communities based on the number of federal for-hire permits (Table 3.5.1.2), and all Gulf communities with headboats included in the SRHS and with landings of red snapper (Figure 3.5.1.4). 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 (Fort Myers Beach, Florida; New Port Richey, Florida; Panama City, Florida; Sarasota, Florida; Stock Island, Florida; Freeport, Texas; Galveston, Texas; and Houston, Texas). These communities would be the most likely to exhibit vulnerabilities to social or economic disruption due to regulatory change.

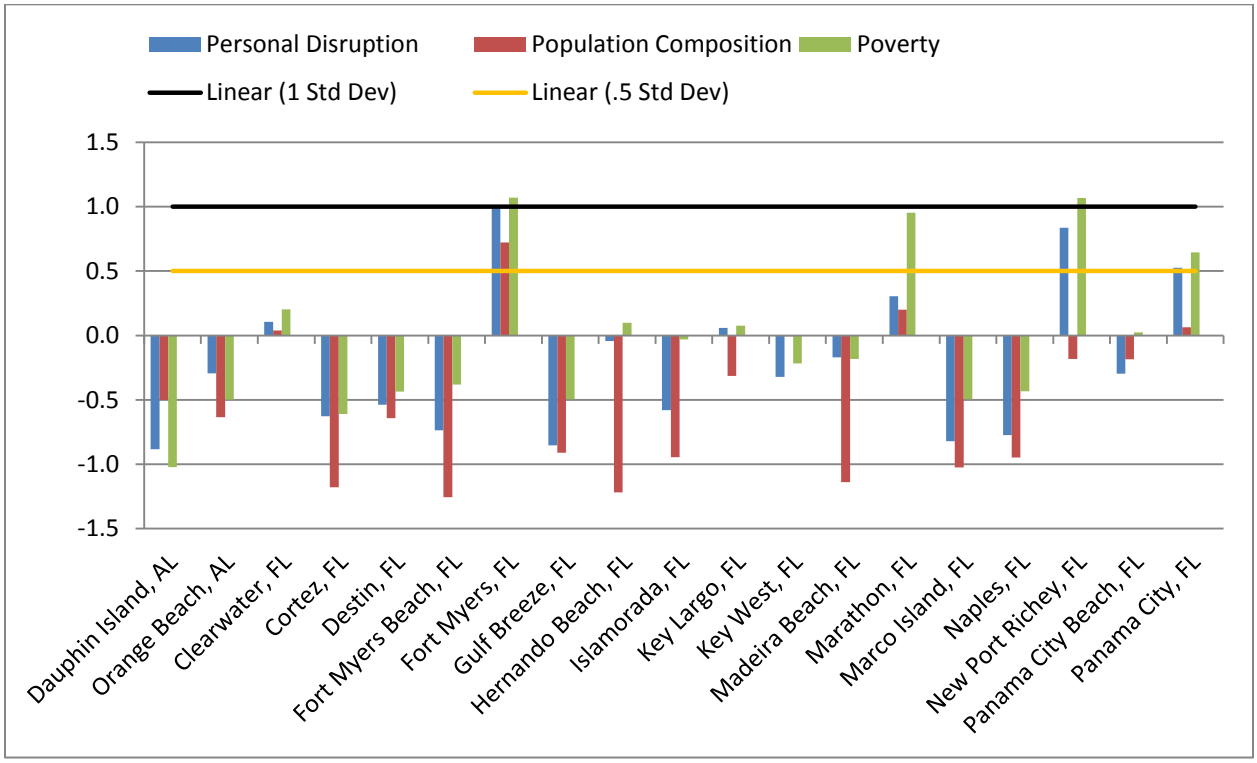

Figure 3.5.2.1. Social vulnerability indices for recreational fishing communities.
Source: SERO, Community Social Vulnerability Indicators Database 2014 (American Community Survey 2010-2014).

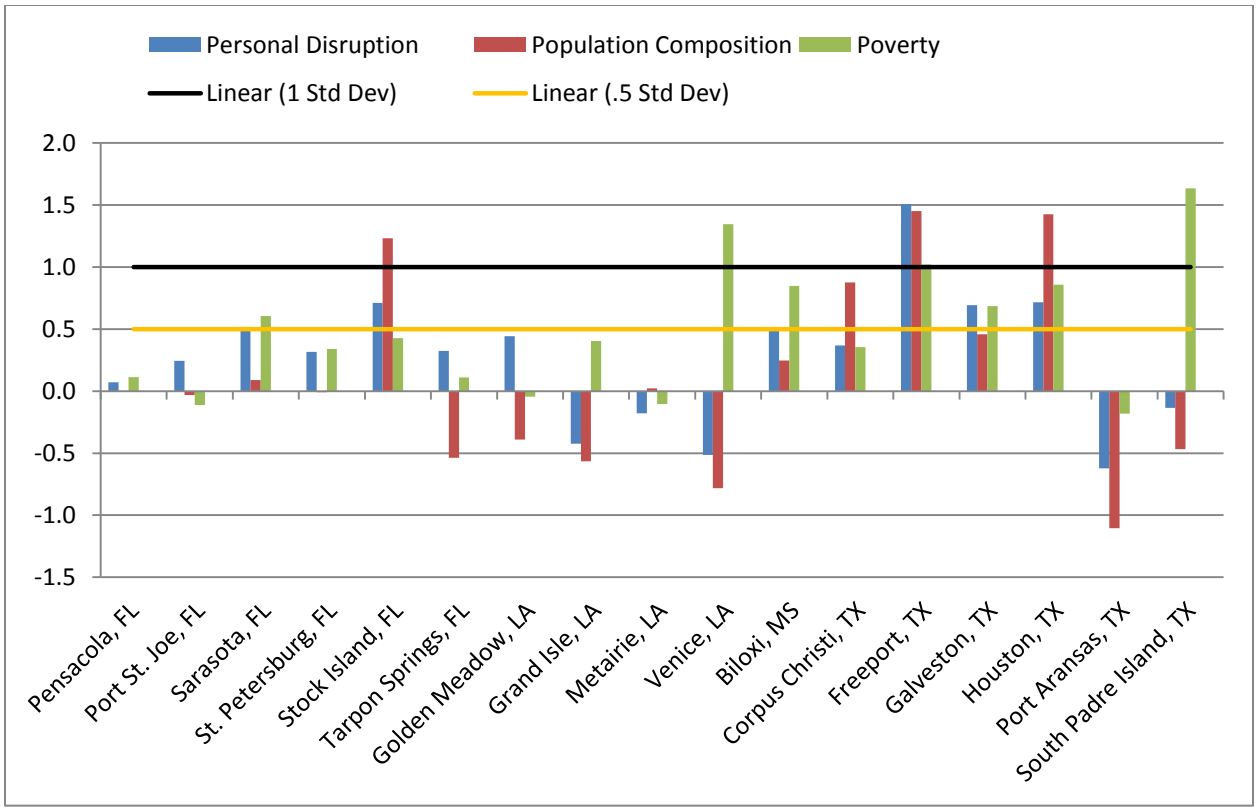

Figure 3.5.2.2. Social vulnerability indices for recreational fishing communities continued.
Source: SERO, Community Social Vulnerability Indicators Database 2014 (American Community Survey 2010-2014).

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 red snapper 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 red snapper. 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 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 E. 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 NOAA's Office of Law Enforcement, the U.S. 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.[35]

[35] www.gsmfc.org

Reef fish stocks including red snapper are assessed through the SEDAR process. As species are assessed, stock condition and ABC levels 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 amendments or framework actions.

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 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 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. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1.1 – Components of the Recreational Sector to include in State Management Programs

Alternative 1: No Action. Retain current federal management of recreational red snapper in federal waters of the Gulf of Mexico (Gulf). Until separate private angling and federal for-hire annual catch limits (ACL) expire in 2022, continue separate red snapper fishing seasons for the federal for-hire and private angling components based on the components' annual catch targets (ACT), reduced from the components' ACLs by the established buffer.

Preferred Alternative 2: For a state with an approved state management program, the state will manage its private angling component only, and must constrain landings to the state's private angling component ACL as determined in Action 2. The federal for-hire component will continue to be managed Gulf-wide. For states without an approved state management program, a private angling fishing season will be estimated using the remainder of the private angling component ACL, reduced by the established buffer. The sunset provision ending the separate management of the private angling and federal for-hire ACLs (currently 2022) is removed.

Alternative 3: For a state with an approved state management program, the state will manage both its private angling and federal for-hire components and must constrain landings to each of the state's component ACLs, as determined in Action 2. For states without an approved state management program, separate fishing seasons based on the component ACTs for the federal for-hire and private angling components will be estimated using the remainder of the recreational sector ACL. The state management plan will end when the separate private angling and federal for-hire ACLs expire (currently 2022).

Alternative 4: For a state with an approved state management program, the state will choose whether to manage its private angling component only, or to manage both its private angling and federal for-hire components. The state must constrain landings to the state's private angling component ACL and federal for-hire component ACL as determined in Action 2. For states without an approved state management program, separate fishing seasons based on the component ACTs for the federal for-hire and private angling components will be estimated using the remainder of the recreational sector ACL. The sunset provision ending the separate management of the private angling and federal for-hire ACLs (currently 2022) is removed.
<u>A state will indicate its intent to manage its federal for-hire component through a letter to the National Marine Fisheries Service (NMFS) that must be received within one month following the Council's vote to approve this amendment.</u>

4.1.1 Direct and Indirect Effects on the Physical Environment

Direct and indirect effects on the physical environment from red snapper fishing have been discussed in detail in Reef Fish Amendment 40 (GMFMC 2014a). Recreational red snapper fishing almost exclusively uses vertical line gear, most frequently rod-and-reel. Handline gear (rod-and-reel) used in recreational fishing for reef fish is generally suspended over hard bottom

because many managed reef fish species occur more often over this type of substrate than over sand or mud bottoms (GMFMC 2004a). Sometimes the fishing line can become entangled on coral and hard bottom outcroppings. The subsequent algal growth can foul and eventually kill the underlying coral (Barnette 2001). The line and weights used by this gear type also can cause abrasions. Anchor damage is also associated with handline fishing vessels, particularly by the recreational sector where fishermen may repeatedly visit well-marked fishing locations. Preferred fishing sites, such as reefs, are targeted and revisited multiple times (Bohnsack 2000). The cumulative effects of repeated anchoring could damage the hard-bottom areas where fishing for red snapper occurs. The magnitude of effects from fishing on the physical environment are generally tied to fishing effort. The greater the fishing effort, the more gear interacts with the bottom. However, changes in fishing effort as a result of this action are expected to be minimal.

Alternative 1 would retain current NMFS management of recreational red snapper in federal waters of the Gulf. Before sector separation was implemented in 2015 (GMFMC 2014a), total recreational landings exceeded the quota in 21 out of 23 years in which a quota was specified. Since sector separation, the private angling component landings exceeded the ACL in 2016 and 2017, while the federal for-hire component has not had any overages. This is in part due to inconsistent state and federal seasons impacting the ability to accurately project the private angling fishing season.

Alternatives 2-4 could indirectly affect the physical environment if the individual state allocations do not reflect current levels of fishing by state (GMFMC2014a), resulting in an increase or decrease in the amount of fishing gear used to harvest red snapper by state. As stated in Amendment 40 (GMFMC 2014a), the private angling component seems to be less efficient in harvesting red snapper than the for-hire component based on bag limit analysis reported in SERO (2012). The analysis indicated that charter vessels tend to catch slightly more red snapper per angler on average than private vessels or headboats. Therefore, an increase in the allocation for the private angling component in a given state would be expected to increase the effort to catch fish. This would increase the amount of interaction between fishing gear and the physical environment regionally, but the effects from an increase in the allocation for a component in one state would be offset by a decrease for that component in another state. If sector separation expires and the component sub-quotas are removed, it is possible that the proportion of red snapper harvested by the private angling component could increase similar to the harvest trend prior to Amendment 40 (GMFMC 2014a), which would result in negative effects for the physical environment.

For **Preferred Alternative 2**, a state with an approved state management program would manage its private angling component and must constrain landings to the state's portion of the ACL, as determined in Action 2. If the state can better constrain the private angling component landings to the ACL than under federal management, and NMFS continues to constrain the for-hire component landings to the ACL, this alternative could reduce negative impacts to the physical environment if less fishing effort occurs.

For **Alternative 3**, a state with an approved state management program would manage both its private angling and federal for-hire components and must constrain landings to each of the state's component ACLs, as determined in Action 2 until the end of sector separation. If a state

is better able to constrain for-hire and private landings to the ACLs, this alternative could also reduce negative impacts to the physical environment, but these effects would end in 2022. [This alternative sees both sector separation and state management going away in 2022.]

For **Alternative 4**, the impacts to the physical environment would be those already captured in **Preferred Alternative 2** or **Alternative 3** dependent on which components the state chose to manage. Both **Preferred Alternative 2** and **Alternative 4** remove the sunset on sector separation. Therefore as stated above, if the proportion of red snapper harvested by the private angling component is maintained, the effects on the physical environment would be similar to what they are now, and potentially less than if sector separation were to end.

Assuming the states could constrain both components to the ACL, retaining the current management under **Alternative 1** would continue any negative impacts to the physical environment that result from ACL overages, while state management under **Preferred Alternative 2**, **Alternative 3**, or **Alternative 4** would be expected to reduce those impacts. Those states with more timely reporting than the Marine Recreational Information Program (MRIP) may be able to better constrain landings, and therefore reduce negative impacts. However, regardless of the alternative selected, impacts to the physical environment, including essential fish habitat, would likely be minimal because effort is not expected to change significantly.

4.1.2 Direct and Indirect Effects on the Biological Environment

Direct and indirect effects from fishery management actions have been discussed in detail in several red snapper framework actions (GMFMC 2010, 2012, 2013b) and are incorporated here by reference. Management actions that affect the biological environment mostly relate to impacts of fishing on a species' population size, life history, and the role of the species within its habitat. Removal of fish from the population through fishing reduces the overall population size. Fishing gears have different selectivity patterns which refer to a fishing method's ability to target and capture organisms by size and species. This would include the number of discards, mostly sublegal fish or fish caught during seasonal closures, and the mortality associated with releasing these fish. Fishing can affect life history characteristics of reef fish such as growth and maturation rates. For example, Fischer et al. (2004) and Nieland et al. (2007) found that the average size-at-age of red snapper had declined and associated this trend with fishing pressure. Saari et al. (2014) sampled six areas in the Gulf and partially attributed overfishing to the truncated age structure observed, with less than 1% of the fish sampled being older than 10 years. Additionally, it was found that small (less than or equal to 55 cm), fast-growing fish dominated the recreational catches of south Texas and the eastern Gulf, while larger (greater than 60 cm), slower-growing fish comprised the majority of the catches in the northcentral and northwestern regions of the Gulf. Woods (2003) found that the size at maturity for Gulf red snapper had also declined and speculated this change may also have been due to increases in fishing effort.

The reef fish fishery can also affect species outside the reef fish complex. However, for species listed under the Endangered Species Act, consultations ensure that the continued authorization of the Gulf reef fish fishery will not jeopardize the continued existence of these species. With

respect to marine mammals, the primary gear used by the recreational sector (hook-and-line) is classified in the 2018 List of Fisheries (83 FR 5349, February 7, 2018) as a Category III fishery with regard to interactions with marine mammals. Category III is defined as annual mortality and serious injury of a stock in a given fishery being less than or equal to 1% of the potential biological removal level (i.e., a remote likelihood of or no known incidental mortality and serious injury of marine mammals).

For red snapper, the most likely indirect effect on the stock from this action would be on discard mortality. Regulatory discards are fish that are caught, but not kept because they are too small, would put a fisherman over the bag limit, or are caught out of season. A certain percentage of these fish die and are called dead discards. The most recent red snapper stock assessment (SEDAR 52 2018) estimated dead discard rates for the recreational sector at 11.8%. The relative number of landed fish between the private angling and for-hire components over the time period 1981-2016 was 53% to 47%, respectively. If fishing effort shifts spatially the discard mortality rate could change. Red snapper landed from greater depths have a greater potential of experiencing barotrauma and mortality, even if properly vented or returned with a descending device. In recent years, private angling fishing effort in deeper federal waters has been limited by the shorter season. If private angling fishing effort shifted offshore because there are no longer inconsistencies between state and federal water seasons, landing more fish from deeper waters, there is the potential that discard mortality could increase.

Alternative 1 would retain current federal management of the recreational harvest of red snapper in federal waters of the Gulf. As stated in Section 4.1.1, since the implementation of sector separation, private angling landings have exceeded the ACL in 2016 and 2017, while for-hire landings have not. Assuming a state could constrain landings of both components to the ACL, this alternative could result in greater negative impacts to the biological environment.

For **Preferred Alternative 2**, a state with an approved state management program would manage its private angling component and must constrain landings to the state's component ACL, as determined in Action 2. If a state can constrain the private angling component to the ACL, and NMFS continues to constrain the for-hire component to the ACL, this alternative may result in less negative impacts to the biological environment because less fishing effort would occur.

For **Alternative 3**, a state with an approved state management program would manage both its private angling component and federal for-hire component and must constrain landings to the state's component ACLs, as determined in Action 2. If a state is able to monitor and manage for-hire landings, as well as landings for the private angling component, this alternative may also result in less negative impacts to the biological/ecological environment.

For **Alternative 4**, the impacts to the biological environment would be those already captured in **Preferred Alternative 2** or **Alternative 3** dependent on which components the state chose to manage and the state's ability to constrain harvest. **Preferred Alternative 2** and **Alternative 4**, which both specify managing the private angling component, would result in the continuation of sector separation. If sector separation were to end, the proportion of red snapper harvested by the private angling component could increase similar to what it was before sector separation. If

the private angling component harvests and increased proportion of the recreational ACL, along with a spatial shift of the private angling component to deeper waters, discard mortality could increase.

If the states could better constrain both components' landings to the ACL than under federal management, retaining management with NMFS **Alternative 1** could continue any negative biological impacts that result from ACL overages while **Preferred Alternative 2**, **Alternative 3,** or **Alternative 4** would reduce those impacts.

4.1.3 Direct and Indirect Effects on the Economic Environment

This action defines the components of the recreational sector that would be managed by states with approved red snapper state management programs. **Alternative 1** would not determine the components of the recreational sector to be managed by states with approved red snapper management plans. Consequently, **Alternative 1** would retain current federal management of recreational red snapper in federal waters of the Gulf and would not be expected to affect recreational red snapper fishing in federal waters. Therefore, **Alternative 1** would not be expected to result in direct economic effects. Because of the flexibility state management affords, anglers in participating states would be expected to realize economic benefits; **Alternative 1**, which precludes the materialization of these assumed benefits, would be expected to result in negative indirect economic effects.

Preferred Alternative 2 would permit all participating states to manage red snapper for their respective private angling components, keeping the federal for-hire red snapper component under federal management. With **Preferred Alternative 2**, all states with an approved recreational red snapper management plan would have the latitude to set specified recreational red snapper management measures most suited to the needs of their private angling components, e.g., fishing season and bag limit. Therefore, **Preferred Alternative 2** would be expected to result in economic benefits to the private angling component due to the additional management flexibility it grants participating states. The magnitude of the expected economic benefits, which would depend on the measures implemented by each state and the manner in which they affect anglers, cannot be quantified at this time.

Alternative 3 would allow all participating states to manage recreational red snapper for their respective recreational components, i.e., their private angling and federal for-hire components. The management flexibility **Alternative 3** would grant participating states would be expected to result in management measures tailored to each state's recreational sector, thereby better addressing the needs of a state's recreational angling population. Therefore, **Alternative 3** would be expected to result in positive economic effects. As indicated above in the discussion relative to **Preferred Alternative 2**, these expected economic effects cannot be quantified at this time.

Alternative 4 would allow each participating state to determine whether to manage its private angling component only, or to manage both its private angling and federal for-hire components. If all participating states elect to manage their respective private angling components only, then **Alternative 4** would be equivalent to **Preferred Alternative 2**. **Alternative 4** would be

analogous to **Alternative 3** if all participating states decide to manage red snapper for the entirety of their respective recreational sector. If states make different decisions, then federal waters in the Gulf would need to be partitioned to delineate the federal waters corresponding to different states or an endorsement to the federal permit would be required to fish for and possess red snapper (Action 1.2). This endorsement would identify the state in which the vessel lands. Furthermore, up to 10 ACLs would potentially be required (distinct private angling and federal for-hire ACLs for each of the five Gulf states). **Alternative 4** would be expected to result in economic benefits due to the increased management flexibility participating states would enjoy. However, if states elect to make different management decisions and include different components, i.e., some with and others without their federal for-hire components, the expected economic benefits due to flexibility would be lessened by potential adverse effects that may stem from the increased management complexity of the recreational red snapper sector.

4.1.4 Direct and Indirect Effects on the Social Environment

Enacting state management requires that parts of the recreational sector ACL be assigned to the states (Action 2). Currently, the recreational sector ACL is divided among the private angling and federal for-hire components and each component fishes under separate season closure provisions. Although additional effects would not be expected from **Alternative 1**, this alternative would not allow the development of state management plans.

Because this action establishes a structural element for state management, any resulting social effects would be indirect and relate to whether flexibility for managing toward local preferences is increased or decreased from current management (**Alternative 1**). A central assumption underlying this proposed amendment is that social benefits would increase by allowing greater regional flexibility in the recreational harvest of red snapper, because management measures could be established that better match the preferences of local constituents. On the other hand, there may be a trade-off in terms of maximizing flexibility at the expense of an overly complex regulatory system. Constraining landings to a greater number of smaller ACLs could be more complex and increase the likelihood of triggering a post-season overage adjustment, an alternative that may be selected through a state's individual amendment.

Under **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4**, the private angling component would be managed under approved state management programs. For this component then, the effects would be expected to be similar among the alternatives compared with **Alternative 1**. The indirect effects that may result among these alternatives would relate to the amount of regulatory complexity or flexibility from having the states manage the federal for-hire component (**Alternative 3**), or allowing the state to decide whether to manage the federal for-hire component or leave the component's management under federal jurisdiction, which may vary by state (**Alternative 4**).

Preferred Alternative 2 would specify that state management applies to the private angling component only, and each state would be able to establish harvest restrictions deemed to be more appropriate for its private anglers. The magnitude of the expected social benefits for **Preferred Alternative 2** would depend on the management measures implemented by each state and the degree to which those management measures line up with the fishing activity and behavior of

anglers. This alternative would be expected to balance regional flexibility with regulatory complexity, by allowing each state to establish preferred management measures for its private anglers, while management approaches most appropriate to federal for-hire vessels would be established through independent management plans. If this alternative is selected, the federal for-hire component would remain under federal management and the Gulf of Mexico Fishery Management Council (Council) could develop management plans for the federal for-hire component.

Alternative 3 would result in greater flexibility and regulatory complexity than **Alternative 1** and **Preferred Alternative 2**, as 10 ACLs would be established, one for each component in each state. Although the landings for each component would need to be constrained to that state's component ACLs, it is unknown whether the states would assign different management measures to each component. The greater the differences among how the 10 ACLs would be managed, the greater the regulatory complexity, which could result in negative effects for anglers and for-hire operators. The effects for the private angling component would be the same for **Alternative 3** as under **Preferred Alternative 2**. But, some additional negative effects may result for the federal for-hire component. These effects are difficult to predict and may manifest as unintended consequences as federal permit holders would retain their federal permit but may be managed differently by each state.

Alternative 4 would allow each state to decide whether to manage its private angling component only, or to manage both the private angling and federal for-hire components and would entail the greatest amount of both flexibility and regulatory complexity among the alternatives. This would require either boundary lines in federal waters to define individual state management areas, or the use of an endorsement for federal for-hire vessels (See Section 4.2.4); both of these alternatives would entail a more complex regulatory environment, and thus some related negative effects. Due to the potential unintended consequences and regulatory complexity from having some federal for-hire vessels managed by the states while others are under federal management, **Alternative 4** has the greatest potential for negative effects among the alternatives. If all states decided to manage the private angling component only, the effects would be similar to **Preferred Alternative 2**. The negative effects of regulatory complexity under **Alternative 4** would be similar to **Alternative 3** if all states adopted different regulations for each component, as 10 different sets of management measures would result. For example, if each state establishes different seasons and bag limits for each component, flexibility would be maximized, but it may be difficult to enforce such a diverse regulatory landscape and to constrain landings to within each regional and component ACL.

4.1.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would continue federal recreational management of red snapper in federal waters. NMFS would continue to set seasons, track landings, and apply accountability measures (AM) and the Council would continue to determine bag limits, size limits, gear requirements, AMs, and other regulations. States would be responsible for management in state areas of jurisdiction for reef fish management, out to nine miles.

The red snapper federal for-hire and private angling recreational fishing seasons open each year on June 1 and close when their respective ACTs are projected to be reached.[36] Prior to June 1 each year, NMFS projects the federal for-hire and private angling season closing dates and notifies the public. If subsequent data indicate that the ACTs were not reached, NMFS may re-open the seasons.

Recreational red snapper landings in the Gulf are obtained through multiple sources. The Southeast Region Headboat Survey covers headboats in the Gulf and South Atlantic. The Marine Recreational Information Program (MRIP) currently provides private angling and charter vessel landings and effort data for Gulf states other than Texas and Louisiana. Texas began its own sampling program (Marine Sport-Harvest Monitoring Program) and provides recreational landings, except for headboat landings, from Texas. Data from Louisiana's sampling program (LA Creel) has been used since 2013. The other Gulf states have sampling programs that have recently been certified by MRIP including Mississippi (Tails n' Scales), Alabama (Snapper Check), and Florida (Gulf Reef Fish Survey). All sampling programs track red snapper landings.

The AMs in federal regulations for the harvest of red snapper by the recreational sector require closure of a component when its quota is projected to be met, and also a payback of an ACL overage if the stock is overfished. This payback was implemented for the 2017 season due to an overage in 2016. However, the red snapper stock status was changed from overfished to not overfished but rebuilding in late 2017; therefore, no payback was required at that time under the federal regulations.

Allowing management of the recreational harvest of red snapper by the Gulf states (**Alternatives 2-4**) would shift some of the administrative impacts from the federal government to the state governments. At a minimum, each state would set the season(s) for recreational fishing of red snapper, track landings, and prohibit landings when the quota is met or projected to be met. The states could also choose to assume other regulatory responsibilities, as proposed in Action 1 of the Individual State Amendments (Section 2.5). Even with state management of both components of the recreational sector, NMFS would still be obligated through the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to prohibit further recreational harvest of red snapper if the recreational ACL is reached.

The quota(s) for each state would be set in Action 2 of this amendment, and the responsible state agency would need to track and prohibit landings when that quota is estimated to be met, or is met. An increase in the complexity of the management, i.e., managing one component or two, would result an increase in the burden to the state. Some sampling programs developed by the states are more comprehensive and timely than MRIP, while others are not. For those states that collate landings data on a daily or weekly basis, in-season monitoring would be possible to determine closure dates. This would improve the ability to constrain landings to the quota, but require a higher administrative burden on those states. For those states that collate landings data over a longer time period, the administrative burden would be less, but the potential for imposing post-season AMs or more stringent regulations in the following year would increase.

[36] For 2018 and 2019, the private angling component seasons will be set by each state under exempted fishing permits issued by NMFS. Each state will set the season during which red snapper can be landed in that state, and the season structure may differ from the federal structure described here.

Preferred Alternative 2 would shift the least amount of burden to a state because it would only allow state management of the private angling component. Therefore, management of the for-hire component would be the same as **Alternative 1**. **Alternative 3** would shift the most burden to a state because it would give the state management of both components. The shift in burden under **Alternative 4** would be somewhere between **Preferred Alternative 2** and **Alternative 3**, depending on how many states choose to include the for-hire component.

Separate management of the two recreational components is currently set to end December 31, 2022. **Preferred Alternative 2** and **Alternative 4**, which both allow a state to separately manage of the recreational components, would consequently result in the continuation of sector separation. **Alternative 3** would end state management as established in this amendment and the individual state amendments when sector separation sunsets in 2022.

Different state regulations and sampling programs for red snapper would complicate the stock assessment process. Stock assessments would continue to be conducted under the Southeast Data Assessment and Review process. Landings and indices would need to be calibrated, management history would vary by state, and populations could be differentially affected. In addition, each state would be using a different system for monitoring landings. **Alternative 3** and **Alternative 4** have the potential to create the most sets of management regulations, and therefore are most likely to increase the administrative burden relative to assessments.

Finally, enforcement would also be affected depending on the number of different sets of management regulations that are developed; if each state has varying seasons and regulations, enforcement would be more complicated. **Alternative 1** would keep the same regulations throughout Gulf federal waters for red snapper, although the states could continue to set different regulations in state waters. **Preferred Alternative 2** would allow each state to set a separate season and other regulations for the private angling component, but the for-hire season and regulations would be the same throughout Gulf federal waters. Because in recent years the states have set different seasons for state waters, the impacts on enforcement would be about the same for **Preferred Alternative 2** as **Alternative 1**. **Alternative 3** could result in 10 different sets of management regulations if all states adopt state management programs; five states with two programs each (one for each component), and would have greater negative impacts than **Alternative 1** or **Preferred Alternative 2**, but less negative impacts than **Alternative 4**. **Alternative 4** could also have up to 10 different management regulations, if all states choose to include both components. However, if some states choose not to manage the for-hire component, the federal season and regulations would apply for their for-hire vessels. **Alternative 4** has the potential to be the most difficult for enforcement as some for-hire vessels could be managed under state regulations and some could be managed under federal regulations. If **Alternative 4** is selected as preferred, Action 1.2 would provide an approach to address enforcement issues under such a management scenario for the federal for-hire component.

4.2 Action 1.2 – Mechanism to implement optional state management of federal for-hire vessels

Note: This action is only applicable if Alternative 4 is selected in Action 1.1.

Alternative 1: No Action. State management areas are defined by boundaries that extend outward from each state into federal waters of the Gulf. If a state is managing the federal for-hire component, the owners or operators of federally permitted vessels fishing for or possessing red snapper within that state's management area must follow the regulations specific to that state's management program. If a state is not managing the federal for-hire component, the owners or operators of federally permitted vessels fishing for or possessing red snapper within that state's management area must follow the federal default regulations.

Alternative 2: Establish a state-specific red snapper endorsement to the Gulf reef fish charter/headboat permit to fish for or possess red snapper in federal waters of the Gulf. A vessel with an endorsement for a state with an approved state management plan that includes the federal for-hire component must follow the regulations specific to the state program for which the endorsement is issued. A vessel with an endorsement for a state without an approved state management plan that includes the federal for-hire component, must follow federal default regulations.

> **Option a**: A charter/headboat permit for Gulf reef fish with a red snapper endorsement may be used to land red snapper in one state per fishing year. If an endorsement is associated with a permit that is transferred, an endorsement for a different state will not be issued to the transferred permit until the following fishing year.
>
> **Option b**: A charter/headboat permit for Gulf reef fish with a red snapper endorsement may be used to land red snapper in one state per fishing year, unless the permit is transferred. If a charter/headboat permit for Gulf reef fish with an associated endorsement is transferred during the fishing year, a new endorsement may be issued upon request for a different state.

4.2.1 Direct and Indirect Effects on the Physical Environment

Direct and indirect effects on the physical environment by the red snapper fishery are discussed in Section 4.1.1. This action would have no direct effect on the physical environment. This action is administrative because it determines if a state endorsement will be required for charter/headboats fishing for reef fish in addition to a federal for-hire permit. This would determine which regulations a federal for-hire vessel would be subject to, but would not change how the fishery is prosecuted. Fishing and possession of red snapper would still be allowed in open federal waters throughout the Gulf for vessels with a federal for-hire permit. The greater the fishing effort, the more gear interacts with the bottom. Whether a state-specific endorsement program (**Alternative 2**) is created or the state boundaries are extended outward from each state into federal waters (**Alternative 1**), the recreational quota would not change and any future changes in fishing effort would be due to other factors. If an endorsement is transferred to a

different state, and not eligible to fish until the following fishing year (**Alternative 2, Option a**), there could be positive indirect effects on the physical environment in that it would prevent that vessel from fishing for the remainder of the fishing year. However, this is unlikely, as the fishing season would still be open until the ACL was projected to be met.

4.2.2 Direct and Indirect Effects on the Biological Environment

This action establishes the mechanism to implement state management of federally permitted for-hire vessels. As such the impacts to the biological environment are more directly associated with the action that allows for state managing the federal for-hire component (see Action 1.1, Section 4.1.2). **Alternatives 1** and **2** are not likely to impact the biological environment because the mechanism for implementation is administrative in nature. Any effects on the biological environment from this action regardless of the alternative selected would likely be minimal because no significant increase in effort is expected. There is the possibility that effort could shift; however as mentioned in previous actions, a shift in effort away from one area would result in an increase in effort elsewhere. For instance, a vessel that traditionally fished off Florida, may find the rules or season more reasonable off Alabama, and chose to select an Alabama endorsement and fish off Alabama. The impacts to the biological environment due to this shift would be similar to those in Action 1. **Option 2b** could result in a vessel fishing multiple state seasons in a single fishing year. However, while that vessel may fish proportionally more than vessels that don't switch their state of endorsement, the ACL would still constrain landings Gulf wide to the same amount and overall impact.

4.2.3 Direct and Indirect Effects on the Economic Environment

This action would only be applicable if Alternative 4 is selected as the preferred in Action 1.1 and if the decision to include or exclude the federal for-hire component in state management is not consistent across the states. Under **Alternative 1** (No Action), if states make different decisions on the inclusion of for-hire vessels in their state's management plans, boundaries that extend outward from each state into adjacent federal waters would delimit state management areas. **Alternative 1** would be expected to result in adverse economic effects due to enforcement difficulties that would result from lines drawn in federal waters. The boundaries that would be used under **Alternative 1** may impede some fishermen's ability to transit through parts of the EEZ and limit their flexibility in selecting preferred fishing locations if a state close its federal waters while an adjacent state keeps its portion of the EEZ open; thereby potentially resulting in additional adverse economic effects.

Alternative 2 would establish a state-specific red snapper endorsement to the reef fish for-hire permit. State-specific endorsements would be expected to restore fishermen's flexibility in selecting preferred fishing grounds, including those located in portions of the EEZ adjacent to other states. **Option 2a** would preclude a permit from receiving more than one endorsement in a given calendar year. **Option 2b** would allow a given permit to be used to harvest red snapper in different states during the calendar year if the permit is transferred to another state during the year. In contrast to **Alternative 1**, which relies on the geographical position of vessels (within or without a particular line) to determine which regulations to enforce, **Alternative 2** would allow the easy identification of the applicable state regulations; thereby facilitating their enforcement.

Therefore, because of the ease of enforcement it would provide relative to **Alternative 1**, **Alternative 2** would be expected to result in economic benefits that would be derived from a more effective enforcement of applicable regulations, which would then be expected to benefit red snapper resources. Because of expected processing delays in finalizing endorsement transfers from a state to another, similar economic effects would be expected to result from **Options 2a** and **2b**.

4.2.4 Direct and Indirect Effects on the Social Environment

This action would only apply if Alternative 4 is selected in Action 1.1, and would only affect federally permitted for-hire vessels and their paying passengers. Alternative 4 of Action 1.1 would allow each state to decide whether to include the for-hire component in its state management program. This would allow a situation in which one state is managing its private angling component only, while a bordering state is managing both its private angling and federal for-hire component. Because the federal for-hire permit is not specific to a state, it would be necessary to use boundaries that extend outward from each state into adjacent federal waters that demarcate state management areas (Figure 1.1.1; **Alternative 1**). Relying on boundary lines demarcating federal water areas adjacent to state waters would be undesirable and result in negative effects, because when an area is closed, it would be closed to all for-hire vessels. Thus, for-hire vessels may be prohibited from fishing in federal waters adjacent to a bordering or other state, when the vessel is fishing from its own state with an open season.

Alternative 2 would establish a state-specific red snapper endorsement to the Gulf charter/headboat permit for reef fish. In contrast to **Alternative 1**, which relies on the geographical position of vessels (within or without a particular line) to determine which regulations to enforce, **Alternative 2** would allow vessels to fish for red snapper in federal waters adjacent to bordering or other states, in addition to federal waters adjacent to their own state. The use of the endorsement essentially avoids the use of management areas that are open or closed based on when state waters are open or closed, and allows vessels to fish anywhere in federal waters, provided that the state in which they will land red snapper is open. Thus, positive effects would be expected from **Alternative 2**, compared to **Alternative 1**.

In the past, the Council has expressed concern with whether federal for-hire vessel operators are using their permits to participate in the federal red snapper fishing season, then transferring their permits to another vessel in order to participate in an extended state water season. Some for-hire operators have complained that such a practice would be unfair, as vessels with a federal permit are unable to fish in the extended state water seasons. If the endorsement approach is selected for federal for-hire vessels to participate in state management and a for-hire permit holder transfers a permit to another vessel, **Option 2a** would not allow the permit to be used to participate in more than one state's season in a single fishing year. In contrast, by allowing a transferred permit to be used in more than one state during a year, the permit holder could be able to fish in seasons that occur at different times, increasing the opportunities to harvest red snapper under that permit. This may be seen as unfair by other operators, resulting in some negative effects. On the other hand, **Option 2b** would allow a new permit holder to begin using a transferred permit in the same year it was used by the previous permit holder, resulting in some positive effects for the new permit holder.

4.2.5 Direct and Indirect Effects on the Administrative Environment

If not all states choose to manage the for-hire component in state management, **Alternative 1** would use boundaries that extend outward from each state into adjacent federal waters that demarcate state management areas. These boundaries would already be established to facilitate implementation of the State Management Program if not all states are participating. Therefore, **Alternative 1** will not result in any additional administrative effects in terms of establishing the boundaries. However, because **Alternative 1** would rely on boundaries, it may increase enforcement burdens, as compared to **Alternative 2**.

Alternative 2 would have a significant effect on the administrative environment. The NMFS Permits Office would need to create an endorsement to the Gulf reef fish charter/headboat permit and the ability to assign that endorsement to a specific state. Two options relative to transferability of endorsements are provided. Under **Option 2a**, if an endorsement is transferred, the state to which the endorsement is assigned could not change until the following fishing year. This would prevent an operator or vessel from fishing off more than one quota in a year, but could restrict the new endorsement holder's ability to fish for red snapper, if they have a homeport in a different state. The NMFS Permits Office would need to determine a process by which those new endorsement holders could change the state associated with the endorsement in the following fishing year. Under **Option 2b**, the state associated with the endorsement could be changed if the endorsement is transferred. This would be less burdensome for NMFS, but could allow an operator or vessel to subvert the system and fish off more than one quota in a year.

Despite the administrative burden of **Alternative 2**, an endorsement would be important for enforcement if some states manage the for-hire component and some do not. An endorsement would allow enforcement officers to know which vessels could fish during which season. **Alternative 2** would reduce the burden on law enforcement, as compared to **Alternative 1** because no additional areas of jurisdiction would need to be monitored and enforced.

4.3 Action 2 – Apportioning the Recreational ACL (Quota)

Alternative 1: No Action. Do not establish an allocation of the recreational sector component ACLs among the states that may be used for state management programs.

Alternative 2: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on the average of historical landings for the years (excluding 2010):

Option 2a: 1986-2015.
Option 2b: 1996-2015.
Option 2c: 2006-2015.
Option 2d: 50% of average historical landings for the years 1986-2015 and 50% of average historical landings for the years 2006-2015.

Alternative 3: In calculating state apportionments under **Alternative 2**, exclude from the selected time series, as appropriate:

Option 3a: 2006 landings.

Option 3b: 2014 landings.
Option 3c: 2015 landings.

Alternative 4: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on each state's average of the best ten years of historical landings for the years 1986-2015, excluding 2010.

Alternative 5: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on spatial abundance of red snapper biomass and recreational trips (**Options 5a-5f**), excluding 2010, and using one of the weightings from **Options 5g-5i**:

	Option	Time Series for Recreational Trips	
Select one from 5a-5c:	**5a**	1986 – 2015	
	5b	2006 – 2015	
	5c	50% of the average number of recreational trips for the years 1986-2015 (5a) and 50% of the average number of recreational trips for the years 2006-2015 (5b).	
Select one from 5d-5f:	**Option**	**Biomass**	**Recreational Trips**
	5d	25%	75%
	5e	50%	50%
	5f	75%	25%

Alternative 6: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL among the states based on the allocations set in the exempted fishing permits (EFP) approved for the states to manage the recreational harvest of red snapper in 2018 and 2019.

Alternative 7: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL among the states based on the allocations requested by each state in its exempted fishing permit application, which totaled 96.22%. Apportion the remaining 3.78% among the five states proportionally based on their requested allocation.

Preferred Alternative 8: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL among the states based on the allocations requested by each state in its exempted fishing permit application, which totaled 96.22%. Apportion the remaining 3.78% between Florida and Alabama proportionally based on their requested allocation.

4.3.1 Direct and Indirect Effects on the Physical Environment

Establishing the method to apportion the recreational sector component ACL(s) among states would have no direct effects on the physical environment because the total quota remains the same, and therefore recreational fishing effort for red snapper remains the same. The indirect effects would be similar to those outlined in Section 4.1.1, which describes additional impacts that could occur if landings are not constrained to the ACL.

Dependent upon the final apportionment, there could be a spatial shift in fishing pressure. For instance if an apportionment calculation is chosen that is more consistent with average historical catches, it could be assumed that a similar amount of fishing pressure will be present in areas it has historically been. If an apportionment calculation is not as consistent with historical spatial fishing pressure, then new areas could be impacted more than they were in the past, while historically fished areas may be impacted less. Tables 2.2.8 and 2.2.9 provide a comparison of the resulting allocation apportionments from the alternatives and options.

Alternative 1 would continue NMFS management of the private angling and federal for-hire component ACLs for the recreational harvest of red snapper in federal waters of the Gulf. As stated in Section 4.1.1, since sector separation, landings for the for-hire component have been constrained to the ACL, while landings for the private angling component have not exceeded the ACL in 2016 and 2017. Therefore, under **Alternative 1** increased negative impacts to the physical environment could continue if the private-angling component landings are not successfully constrained. **Alternatives 2-7** and **Preferred Alternative 8** provide methods to apportion the private angling and/or for-hire component ACLs to states with an approved management plan. As stated in Section 4.1.5, state data collection programs that are more comprehensive and timely could improve the ability to constrain landings to the quota, thereby reducing potential negative impacts to the physical environment compared to **Alternative 1**; the magnitude of these effects would be dependent on the precision of the state data collection programs. Thus, **Alternative 1** could have more impacts to the physical environment than **Alternatives 2-7** or **Preferred Alternative 8**.

4.3.2 Direct and Indirect Effects on the Biological Environment

Establishing the method to apportion the recreational sector component ACLs among states would have no direct effects on the biological environment, because the total quota remains the same. The harvest of red snapper is constrained by a total ACL that is set to prevent overfishing or the stock becoming overfished. Indirect effects would be similar to those outlined in Section 4.1.2, which describes additional impacts that could occur if landings shift spatially or are not constrained to the ACL. These alternatives only establish how the ACL is divided among the states.

Alternative 1 would continue NMFS management of the private angling and federal for-hire component ACLs for the recreational harvest of red snapper in federal waters of the Gulf. As stated in Section 4.2.1, since sector separation, landings for the for-hire component have been constrained to the ACL, while landings for the private angling component have not in 2016 and 2017. Therefore under **Alternative 1** negative impacts to the biological environment, including

the red snapper stock and non-target species, could continue if NMFS cannot successfully constrain private angler landings.

Alternatives 2-7 and **Preferred Alternative 8** provide methods to apportion the private angling and/or for-hire allocation to a state with an approved management plan. As stated in Section 4.1.5, state programs that are more comprehensive and timely in monitoring landings, could improve the ability to constrain landings to the quota, thereby reducing negative impacts to the biological environment; the magnitude of these effects would be dependent on the precision of the state programs. If the states are unable to successfully constrain private angling or for-hire landings to the component ACLs, there could be increased negative impacts to the biological environment if the ACLs are exceeded. However, states participating in the state management program would be required to have an approved state management plan, which would include AMs as selected in the individual state amendment (see Section 2.6). These measures would help to ensure that in the event the catch is not constrained to the ACL, the state responsible for the overage is held accountable the following fishing year by having its apportionment of the ACL reduced; thereby reducing the biological impact in subsequent years.

Alternative 1 would continue NMFS management of the recreational harvest of red snapper in federal waters of the Gulf. Assuming the states could constrain private angling and for-hire landings better than NMFS, **Alternative 1** could have more negative impacts to the biological/ecological environment than **Alternatives 2-7** or **Preferred Alternative 8**.

4.3.3 Direct and Indirect Effects on the Economic Environment

This action would allocate the private angling component ACL and the federal for-hire ACL among the Gulf states. The federal for-hire ACL would only be allocated among states if all or some states could manage their respective federal for-hire components, i.e., if Alternative 3 or Alternative 4 are selected in Action 1.1. **Alternative 1** would not allocate recreational red snapper between the states making state management unfeasible to establish. Consequently, **Alternative 1** would retain current federal management of recreational red snapper in federal waters of the Gulf and would not be expected to affect recreational red snapper fishing in federal waters. Therefore, **Alternative 1** would not be expected to result in additional economic effects. Because the flexibility state management grants to states would be expected to result in added economic benefits, **Alternative 1**, which precludes the realization of these potential benefits, would not be expected to result in added economic benefits.

To allocate the recreational red snapper quota between the Gulf states, **Alternatives 2-7** and **Preferred Alternative 8** consider various criteria including historical landings, red snapper biomass, recreational trips, and state allocations being used for EFPs. For example, **Alternatives 2** and **4** would establish allocations between the states based on historical landings during a range of years. **Alternative 3** considers the years to be excluded from time series used in **Alternative 2**. **Alternative 5** would base state allocations on red snapper biomass and recreational trips attributed to each state. **Alternative 6** would, for the private angling component only, base state allocations on allocations established in the EFPs approved for the states to set the private-angler season for the harvest of red snapper in 2018 and 2019. **Alternative 7** would, for the private angling component only, determine each state's allocation by apportioning the private angling

ACL among the states based on the allocations requested in each state's EFP application (which totaled 96.22%) and allocating the remaining 3.78% among the five states proportionally based on their requested allocation. **Preferred Alternative 8** would, for the private angling component only, determine each state's allocation by apportioning the private angling ACL among the states based on the allocations requested in each state's EFP application (which totaled 96.22%) and allocating the remaining 3.78% between Alabama and Florida proportionally based on their requested allocation. None of the allocation alternatives (**Alternatives 2-7** and **Preferred Alternative 8**) would result in a change in the total recreational red snapper ACL. Furthermore, these alternatives would not shift the existing allocation between the private angling and federal for-hire components of the recreational red snapper sector.

Current estimates of economic value, based on consumer and producer surplus, do not make a distinction based on the state in which a fish was harvested, i.e., value estimates per fish are uniform across the Gulf. Depending on the allocation method selected, portions of the red snapper private angling and for-hire ACL may be shifted away from or towards a particular state. If state-specific surplus estimates were available, the equimarginal principle could be used to allocate the private angling portion of the red snapper recreational ACL such that the value of the last fish harvested was the same in each state. Although shifting resources from one state to another would result in distributional effects, with states receiving a larger allocation benefitting at the expense of states receiving less, these distributional effects would not be expected to create additional value. It follows that as long as the private angling and federal for-hire component ACLs remain unchanged, their aggregate economic value will remain constant, regardless of the percentages of the ACL harvested by individual states. Therefore, **Alternatives 2-7** and **Preferred Alternative 8** would not be expected to result in additional economic effects. However, because **Alternatives 2-7** and **Preferred Alternative 8** would contribute to making state management possible, they would be expected to result in additional positive economic effects due to the potential benefits to be derived by the additional management flexibility afforded to the Gulf states.

4.3.4 Direct and Indirect Effects on the Social Environment

The decision to allocate a scarce resource among user groups is controversial as participants from each state contend for the greatest amount of allocation. Negative social effects would be minimized by establishing an allocation that most closely reflects actual participation and fishing effort by each state. Assuming that the allocation reflects participation and fishing effort, and that participation and fishing effort remain constant, no discernible effects would be expected to result from establishing state ACLs, as the proportion of landings represented by each state should remain the same. However, this assumption is not plausible, as many factors affect change in effort and participation. The portion of total recreational landings by each state varies from year to year, and varies depending on the method selected for allocating the quota (i.e., landings, trips, and biomass). This means that the selection of any state apportionment (**Alternatives 2-8**) could result in indirect effects by removing the flexibility of variable annual landings, compared to **Alternative 1**. Such indirect impacts may also be expected relative to whether each state's apportioned quota adequately satisfies existing fishing behavior and effort. Another factor with using landings to apportion the quota is the additional fishing opportunities provided by states in state waters when federal waters are closed. In recent years, the proportion

of landings by some states has increased due to inclusion of fish caught under these additional fishing opportunities. Recreational anglers Gulf-wide did not have equal access to these opportunities.

While an underlying assumption of state management holds that increased social benefits will result from providing greater flexibility in developing locally preferred harvest constraints, apportioning the recreational sector ACL into multiple state ACLs will require increased monitoring of landings and, if the states cannot adequately constrain harvest, an increased likelihood of exceeding a state ACL. Thus, there is a trade off in the flexibility afforded by state management to assign locally appropriate management measures, and an increased need for monitoring and enforcement to accompany the requirement to constrain landings to a fixed portion of the recreational sector ACL.

Additional effects would not be expected from **Alternative 1** as the landings among states are not required to remain within a specified proportion of the recreational sector ACL. However, retaining **Alternative 1** would not allow state management programs to be enacted. The effects of assigning portions of the recreational sector ACL to the states would relate to how closely each state's ACL reflects fishing participation and effort, because each state would need to constrain landings to its fixed portion of the recreational sector ACL.

The allocations proposed in **Alternatives 2-4** would use historical landings of different time series. The magnitude of any social effects would relate to the extent by which each state's average landings for an alternative's time series is greater or less than its current landings. The average landings by state correspond inversely with each other, such that the larger the proportion allocated to one state, the smaller the proportion that is, in turn, allocated to another state. This means that positive and negative effects will result relative to, and in terms of how each apportioned quota is sufficient to satisfy fishing opportunities relative to existing fishing effort and behavior. The magnitude of the effects would in part reflect changes in effort subsequent to the implementation of an allocation. Changes in effort are not likely attributable to this action.

Alternative 5 would apportion the recreational sector ACL (or component ACLs) using various weightings of the number of recreational trips and estimates of red snapper biomass for each state. Selecting a greater weighting for biomass (**Option 5f**) would provide greater benefits to anglers of western Gulf states and would negatively affect the fishing opportunities of anglers in the eastern Gulf states, compared with selecting a lower weighting for biomass (**Option 5d**; Tables 2.3.5 and 2.3.6).

Alternatives 6, **7**, and **Preferred Alternative 8** are derived from the EFPs being used by the states to manage red snapper for the private angling component in 2018 and 2019. As pilot programs for state management, the EFPs enable each Gulf state to manage a portion of the private angling ACL by establishing a fishing season for private anglers from their state. These alternatives would apply to the private angling component only and would have no effect for the federal for-hire component. **Alternative 6** represents the allocation being used in the EFPs, meaning that the effects under **Alternative 6** would be most similar to red snapper management in 2018 and 2019. The 2018 season length and dates for each state is provided in Table 4.3.4.1.

All states except Texas established a season consistent in state and federal waters and a two-fish bag limit; Texas maintained a year-round season and four-fish bag limit in state waters.

Table 4.3.4.1. Season lengths and dates (2018) for the private angling component under the state-managed EFPs.

State	Season length (days)	Season dates and structure
Alabama	28	Season open Friday-Sunday, plus July 2-5, from June 1 through July 22.
Florida	40	Season open continuously from June 11 through July 20.
Louisiana	60	Season open continuously from May 25 through July 8 (45 days), then Friday-Sunday from July 13 through August 12 (15 days).
Mississippi	76	Season open May 25 through July 8, July 23 through August 17, September 1 and 2, and Sept 14 through 16.
Texas	82	Season open continuously from June 1 through August 21 in federal waters; state waters open year-round.

Alternative 7 and **Preferred Alternative 8** are similar to **Alternative 6**, but differ in the distribution of 3.78% of the private angling ACL. For **Alternative 7**, 3.78% of the private angling ACL that was assigned to Florida under **Alternative 6** is deducted from Florida's quota and redistributed to all five Gulf states proportionally based on the amount of quota originally requested through the EFP applications, which totaled 96.22%. Thus, under **Alternative 7**, Florida's quota is slightly lower compared to **Alternative 6** (resulting in fewer benefits), while the remaining four Gulf states' have slightly higher quotas (resulting in greater benefits). For **Preferred Alternative 8**, 3.78% of the private angling ACL that was assigned to Florida under **Alternative 6** is deducted from Florida's quota and redistributed to Florida and Alabama based on the amount of quota originally requested through the EFP applications. Thus, under **Preferred Alternative 8**, Florida's quota is slightly lower than under **Alternative 6** (resulting in fewer benefits), but greater than under **Alternative 7** (resulting in greater benefits), while Alabama's allocation is the same under **Alternative 7** and **Preferred Alternative 8**. The allocations for Louisiana, Mississippi, and Texas are the same under **Alternative 6** and **Preferred Alternative 8**, resulting in similar effects for each state under either alternative.

As shown in Table 2.3.7, the differences between the quotas under **Alternatives 6**, **7**, and **Preferred Alternative 8** are relatively small, suggesting that the differences in effects would be small. For example, given the catch rates in 2018 for Alabama, which caught 100.2% of its quota during its 28-weekend day season, the additional quota that would result under **Alternative 7** would be expected to allow Alabama to extend its season by one weekend day in 2019, based on the 2018 ACL. Given the catch rates in 2018 for Louisiana, which caught 99.2% of its quota during its 60-day season, the additional quota that would result under **Alternative 7** would be expected to allow Louisiana to extend its season by two days in 2019, based on the 2018 ACL. A framework action to increase the red snapper ACLs is currently under review by the Secretary of Commerce and if implemented, would increase the 2019 red snapper ACLs, providing some benefits in addition to those analyzed here.

Ultimately, the greatest positive effects would result from each state receiving the greatest amount of allocation, while the greatest negative effects would result from each state receiving the least amount of allocation. This varies for each state (and component, if appropriate) depending on the alternative selected, meaning that a given alternative may be advantageous for one state and detrimental to another (Tables 2.3.8 and 2.3.9). Thus, for the private angling component only (Action 1.1, Preferred Alternative 2), the greatest positive effects would be expected for each state as follows: landings from 1996-2015 for Alabama (12.12%, **Alternative 2b**), the allocation used for the EFPs for Florida (45.78%, **Alternative 6**), landings from 1986-2015 for Louisiana (20.98%, **Alternative 2a**), the average of the best 10 years for Mississippi (8.47%, **Alternative 4**), and using 25% of recreational trips from 1986-2015 plus 75% of the biomass estimate for Texas (34.17%, **Options 5a** and **5f**). For the private angling component, only, the greatest negative effects would be expected for each state as follows: using 75% of the biomass estimates plus 25% of recreational trips from 2006-2015 for Alabama (12.12%, **Alternatives 5b** and **5f**), landings from 1986-2015 for Florida (28.07%, **Alternative 2a**), landings from 1996-2015 for Louisiana (16.67%, **Alternative 2b**), using 75% of the biomass estimate and 25% of the recreational trips from 2006-2015 for Mississippi (1.90%, **Options 5b** and **5f**), and the average of the best 10 years for Texas (4.68%, **Alternative 4**).

Table 2.3.9 identifies the alternative that would be expected to provide the greatest benefits or result in the most negative effects for each state and component (Action 1.1, Alternative 3 or Alternative 4). When dividing both component ACLs among the states, a single alternative may not result in the greatest positive or negative effects for both components. For example, the greatest positive effects for both components would be expected for Alabama (average landings from 1996-2015; **Alternative 2b**), Mississippi (average of the best 10 years; **Alternative 4**), and Texas (75% of the biomass estimate and 25% of the recreational trips from 1986-2015; **Options 5a** and **5f**). But, different alternatives would provide the greatest benefits for each component in Florida (landings from 2006-2015, **Alternative 2c**, for the private angling component and 25% biomass estimate plus 75% recreational trips from 2006-2015, **Options 5b** and **5d**, for the for-hire component), and Louisiana (landings from 1986-2015, **Alternative 2a**, for the private angling component and 75% biomass estimate plus 25% recreational trips from 1986-2015, **Options 5a** and **5f**, for the for-hire component). The greatest negative effects for each state by component are as follows: 6.99% for the private angling component (75% of the biomass estimates plus 25% of recreational trips from 2006-2015; **Options 5b and 5f**) and 3.90% for the for-hire component (75% biomass estimate plus 25% recreational trips from 1986-2015; **Options 5a** and **5f**) in Alabama; 16.20% for the private angling component (landings from 1986-2015; **Alternative 2a**) and 14.60% for the for-hire component (average of the best 10 years; **Alternative 4**) in Florida; 9.62% for the private angling and 3.91% for the for-hire component (landings from 1996-2015; **Alternative 2b** for both components) in Louisiana; 1.10% for the private angling component (75% of the biomass estimates plus 25% of recreational trips from 2006-2015; **Options 5b** and **5f**) and 0.10% for the for-hire component (landings from 2006-2015; **Alternative 2c**) in Mississippi; and 2.70% for the private angling component (average of the best 10 years; **Alternative 4**) and 7.90% for the for-hire component (landings from 2006-2015; **Alternative 2c**) in Texas.

4.3.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would continue NMFS management of the private angling and federal for-hire component ACLs for the recreational harvest of red snapper in federal waters of the Gulf.

Apportionment of the recreational ACL is necessary to allow state management, and the impacts of different alternatives for implementing state management are discussed in Section 4.1.5. The amount of the private-angling ACL, and if appropriate the for-hire ACL, allocated to each state, or the method used to calculate those amounts (**Alternatives 2-7** and **Preferred Alternative 8**), is not expected to affect the administrative environment.

4.4 Action 3 – Procedure for Allowing a State to Request the Closure of Areas of Federal Waters Adjacent to its State Waters to Red Snapper Recreational Fishing

Alternative 1: No Action. Do not establish a procedure to allow a state to request that NMFS close areas of federal waters adjacent to its state waters to red snapper recreational fishing.

Preferred Alternative 2: Establish a procedure to allow a state to request NMFS close areas of federal waters adjacent to its state waters to red snapper recreational fishing. The state would request the closure by letter, providing dates and geographic coordinates for the closure. If the request is within the scope of the analysis in this amendment, NMFS would publish a notice in the Federal Register implementing the closure. The closure would apply to the recreational sector component(s) included in the state's approved management program.

4.4.1 Direct and Indirect Effects on the Physical Environment

Direct and indirect effects on the physical environment resulting from the harvest of red snapper by the reef fish fishery have been discussed in Sections 4.1.1 and 4.2.1 and are not repeated here. This action could indirectly affect the physical environment in different areas or times of the Gulf by redirecting how and when fishing is conducted between different Gulf states or regions. **Alternative 1** (No Action) would not allow states to request that NMFS close areas of federal waters adjacent to state waters. **Preferred Alternative 2** would provide a procedure which would allow states to close portions of federal waters adjacent to that state's waters to the recreational component for the harvest of red snapper. A state's regulations could indirectly affect the physical environment by affecting when and where fishing is conducted. For example, a closure in one area could shift effort to another area. Under this scenario, an increase in fishing in a particular area or over a particular time period would likely add to any adverse effects on the physical environment from fishing. Adverse effects to the physical environment would be lessened if resultant area closures for red snapper (**Preferred Alternative 2**) resulted in a reduction in fishing effort for red snapper or reef fish. Although the net effects from **Preferred Alternative 2**, are not expected to be different from **Alternative 1**, there could be differences in effects within particular areas, and these effects may change in time. For example, if state management results in management measures that allow fishing effort within an area to increase

compared to **Alternative 1**, then there would likely be an increase in adverse effects to the physical environment if **Preferred Alternate 2** was selected. Effects from fishing on the physical environment are generally tied to fishing effort.

4.4.2 Direct and Indirect Effects on the Biological Environment

Action 3 establishes a procedure for states to request a recreational red snapper closure of federal waters adjacent to state waters, and the procedure itself would not have direct effects on the biological environment. However, indirect effects could occur from the resulting state closed areas. **Alternative 1** would not establish a procedure for states to request a closure. Therefore, no additional closures in federal waters could be established beyond the circumstances described above and there would be no impacts to the biological environment beyond those described in the other sections of this document.

Preferred Alternative 2 would require boundary lines to establish the area within which a state could implement these management measures. Therefore, the following discussion on effects to the biological environment would only be within those areas that had these measures. The biological environment of areas closed to fishing that were traditionally open could benefit due to less impacts from recreational red snapper fishing pressure and fishing gear. This includes a reduction in bycatch in those areas and a reduction in dead discards. However, if fishing is constrained or shifts to specific smaller areas, those areas would experience increased negative effects on the biological environment due to increased fishing pressure on a smaller area. The impacts on the biological environment would include those described in 4.1.2 such as an increase in dead discards, barotrauma, or increased fishing pressure on younger fish. If deeper areas are closed to fishing, this would be biologically beneficial. Closing deeper areas would decrease fishing pressure on older larger red snapper that live in deeper waters. However, discards of red snapper in the closed area could increase because fishing for other species could continue; mortality of those discards would be higher than discards in shallower water due to barotrauma.

Texas requested this amendment include analysis of a closure of all federal waters off Texas when a portion of the Texas quota has been landed. The intent would be to maintain a year-round fishing season in state waters during which the remaining part of Texas' quota could be caught. This would be similar to how Texas has historically managed its state season; however, the federal season would be different. In 2018, Texas had an 82-day federal season. Impacts to the biological environment off Texas should be similar to status quo, depending on if the quota Texas allocates for state waters increases or decreases. However, since it would limit anglers from other Gulf states fishing those waters, it could reduce impacts to the biological environment that had historically occurred in the area. However this reduced impact is expected to be insignificant.

Florida requested this amendment include analysis of a closure of federal waters adjacent to Florida past the 20-fathom depth curve, or past the 35-fathom depth curve, for the duration of Florida's open season. As stated in the discussion in Section 2.4, in 2018, Florida exceeded its quota with a 40-day fishing season under the EFP. However, the intent of the closure would be to increase the length of the season in shallower waters, which would also increase the length of the deeper waters closure. If Florida is better able to constrain its landings due to the flexibility

of area closures, negative biological impacts would be reduced. Regardless, the biological environment landward of the 20 or 35-fathom depth contour could experience an increase in negative impacts proportional to the decrease of impacts experienced by areas seaward of those depths. However, closing deeper areas could be beneficial overall. The western Gulf tends to have larger slower growing fish that live in deeper waters and mature later than those in the eastern Gulf. Reducing fishing pressure on these fish in deeper areas of the eastern Gulf could be beneficial to the stock and increase reproduction. Closing deeper waters could increase discard mortality from target and non-target species due to barotrauma, as fishing for other species would be expected to continue.

Alabama requested this amendment include analysis of a closure of federal waters adjacent to Alabama past the 20-fathom depth curve, or past the 35-fathom depth curve, for the duration of Alabama's open season. The intent of the closure would be to increase the length of the season in shallower waters, which would also increase the length of the deeper waters closure. Therefore, the effects to the biological environment would be expected to be the same as to those described for Florida, with areas landward of the 20 or 35-fathom depth contour experiencing increased biological impacts proportional to the decrease of impacts experienced by areas seaward of those depths.

Neither **Louisiana** nor **Mississippi** provided any potential closure to analyze under **Preferred Alternative 2**, and indicated they do not anticipate making such a request.

4.4.3 Direct and Indirect Effects on the Economic Environment

Alternative 1 (No Action) would not establish a framework procedure to allow states participating in state management to request NMFS close some or all federal waters adjacent to their state waters to red snapper recreational fishing. Under **Alternative 1**, no additional closures in federal waters could be established beyond the routine closures. Therefore, Alternative 1 would not be expected to result in impacts to the economic environment.

Preferred Alternative 2 would establish a framework procedure allowing states participating in state management to request that NMFS close some or all federal waters adjacent to their respective state waters to red snapper recreational fishing. Closures that could be requested by each participating state must be within the scope of potential closures delineated by each state. Because Louisiana and Mississippi explicitly stated that they were not considering the use of the framework procedure, requests for closures of federal waters off these states would not be expected. Texas has indicated that it could request closures of all federal waters off its state waters. Alabama and Florida expressed interest in closing federal waters off their state waters beyond a certain depth. Both states may consider closing federal waters beyond the 20-fathom or the 35-fathom depth curve. In the aggregate, the partial or total closure of federal waters off some states would not be expected to affect total recreational red snapper harvests. Therefore, keeping all other relevant regulations constant, closures in federal waters off participating states would not be expected to result in net economic benefits. However, closures in federal waters in some states would be expected to result in distributional effects because the relative magnitude of recreational harvests in participating states may change. Although these distributional effects cannot be quantified, it is noted that they would be determined by the extent to which a given

state's federal waters closure would preclude anglers from neighboring states from enjoying fishing opportunities because of the closures.

4.4.4 Direct and Indirect Effects on the Social Environment

Currently, NMFS has the authority to open and close federal waters to fishing, and the states have the authority to open and close their respective state waters to fishing. The underlying idea for state management is that there would no longer be a closure in federal waters to the recreational harvest of red snapper; rather, each state would open and close its state waters and anglers would be able to harvest red snapper from anywhere in federal waters, provided their state's season is open. Enforcement would primarily occur dockside and in state waters. Under state management, areas of federal waters adjacent to each state (Figure 1.1.1) would only be closed in the event the default regulations are applied to a particular state because 1) the state is not participating in state management, or 2) the states are not all managing the same components (see Actions 1.1 and 1.2). In these cases, the portion of federal waters adjacent to the state would be closed to the recreational possession of red snapper (for one or both components, as selected in Action 1.1), except during the default federal season. That portion of federal waters would be closed not just to anglers fishing from the adjacent state, but to all recreational vessels from any state; a closure may not apply to vessels from a particular state only. Thus, the decision to not participate in state management or to allow states to manage different components under state management would result in negative effects for anglers of other states who would be prohibited from catching red snapper in some areas of federal waters. In other words, under state management, the closure of federal waters adjacent to a region results in negative effects for anglers of other states who would otherwise choose to fish in those federal waters. Anglers fishing near the border of a closed area would be most affected.

Under both **Alternative 1** and **Preferred Alternative 2**, the preceding discussion regarding the potential negative effects for the conditions when default regulations would be applied to areas of federal waters adjacent to states would continue. Under **Alternative 1**, a state would not be able to request additional closures in federal waters. Given the current preferred alternatives, if all states participate in state management with approved delegation and managing the private angling component only, there would be no closures in federal waters and the harvest of red snapper by private anglers would be managed by states establishing the fishing season for state waters.

Preferred Alternative 2 would allow for additional closures in federal waters to be established, beyond the circumstances just described. If a state establishes closed areas within federal waters adjacent to the state, negative effects would be expected to result for anglers fishing from neighboring states. These negative effects would be greater for anglers who fish near the state that is establishing the closed areas. However, a state intending to close federal waters would do so to extend fishing opportunities for its anglers in shallower waters, as fewer and smaller fish are generally caught closer to shore. Thus, there is a trade-off in the use of closures in federal waters, which may provide some benefits to a state's anglers if the length of the season were to be longer, and negatively affect anglers, both of the state adopting the closure and of other states who prefer to catch larger fish further offshore.

The closures that may be requested under **Preferred Alternative 2** include closing all federal waters off Texas, or closing federal waters beyond the 20-fathom or 35-fathom depth curve off Florida and Alabama. To accomplish the closure described for Texas, federal waters would be closed for all but the dates of the open season. In contrast, the closures proposed by Florida and Alabama would entail much shorter closures, as the areas of federal waters would only be closed while the respective state's season is open.

Prior to 2018, Texas maintained a year-round open season in state waters while federal waters were open during a federal season that got progressively shorter in recent years (Table 1.1.1). In state waters, Texas also maintained a 4-fish bag limit and 15-inch total length (TL) minimum size limit, while there was a 2-fish bag limit and 16-inch TL minimum size limit in federal waters. In 2018 under the EFP, Texas maintained its year-round season, 4-fish bag limit and 15-inch minimum size limit in state waters, and anglers could fish in federal waters during an 82-day season. By requesting the closure for all federal waters (Figure 2.4.1) to maintain a year-round state water season, management for Texas anglers under **Preferred Alternative 2** would be similar to management under the EFPs and during recent years, in terms of the effects on fishermen, including the continuation of the practice of having inconsistent state and federal water seasons. Some additional negative effects would be expected for anglers fishing from other states who would be prohibited from harvesting red snapper in federal waters adjacent to Texas when their state's season is open.

As discussed in Section 2.4, Florida's 2018 season under the EFPs was continuous for 40 days, beginning June 11. Florida exceeded its quota by approximately 13%, requiring an overage adjustment. The overage adjustment could be partially offset by an expected quota increase (GMFMC 2018a), but Florida has reduced the length of its 2019 season. If Florida adopts a season under state management that is similar to its season under the EFPs, it may be possible to extend the season by enacting a closure in federal waters beyond the 20-fathom or 35-fathom depth curve. Without knowing how much red snapper is caught by anglers past either of these depths, it is not possible to predict the duration of a fishing season restricted to shallower waters. Closing federal waters past 20 fathoms (Figure 2.4.2) would be expected to result in a longer fishing season for Florida anglers than a closure past 35 fathoms (Figure 2.4.3), as the closure past 20 fathoms would be larger in size and include waters closer to shore. In turn, anglers fishing from other states would be more likely to be affected negatively from a closure past 20 fathoms, compared with a closure past 35 fathoms, both because a larger area would be closed and the closure would be longer. Because both the 20 and 35-fathom depth curves occur much further from shore off the west coast of Florida than off the Florida Panhandle (Figures 2.4.2 and 2.4.3), anglers fishing in waters off the Panhandle, where effort is also greater, would have a smaller area to fish, potentially concentrating vessels. It is also more likely that anglers fishing from the Panhandle fish in deeper waters because deeper waters are closer to shore and thus more accessible, suggesting that the proposal to close deeper waters could result in a longer season. As with the proposed Texas closure, the use of federal water closures would embed inconsistent state and federal water seasons in state management.

As discussed in Section 2.4, Alabama's 2018 season under the EFPs was weekends only (Fridays through Sundays), plus the weekdays of July 2-5, for a total of 28 days. During this season length, Alabama's landings slightly exceeded its portion of the quota (100.2%). With the

expected quota increase (GMFMC 2018a) and use of closures in federal waters beyond the 20-fathom (Figure 2.4.4) or 35-fathom depth curve (Figure 2.4.5), it may be possible for Alabama to establish a longer season under state management. The length of this season remains unknown, as does the season structure (continuous days or weekends only) and amount of red snapper landed in Alabama that is harvested from waters deeper than 20 fathoms or 35 fathoms. Because of the narrow width of Alabama's coastline and respective boundary with federal waters, it is more likely that a higher proportion of recreational vessels from Alabama fish in federal waters adjacent to other states, than vessels from Florida or Texas.

Ultimately, for some states, the proximity to other states could render greater negative effects under **Preferred Alternative 2**. However, the ability to extend the season length for harvest by closing the selected areas of federal waters could be expected to result in greater benefits than **Alternative 1** for that state. Nevertheless, negative social effects for anglers from other states, frequent openings and closings of federal waters to match a potential weekend-only season, and enforcement difficulties when state and federal water regulations differ would be expected to be greater under **Preferred Alternative 2** than **Alternative 1**.

4.4.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would not establish a procedure for states to request a recreational red snapper closure of federal waters adjacent to state waters. Therefore, no additional closures in federal waters could be established beyond the circumstances described in Action 1.1. and there would be no impacts to the administrative environment beyond those described in the other sections of this document. Anyone fishing in federal waters would need to have the appropriate license to land red snapper in a state with an open season. Enforcement would be primarily in state waters and at the dock. Law enforcement in federal waters would check licenses and enforce the most generous state or federal size limit and bag limit since they would be unable to determine where the fish was actually harvested. The administrative burden under **Alternative 1** would also be reduced relative to the current management because NMFS would not need to publish a notice in the Federal Register to open and close waters to red snapper fishing each year.

If a state were allowed to request NMFS close an area of federal waters adjacent to that state (**Preferred Alternative 2**), enforcement would be easier in federal waters during the closure because no private recreational anglers be allowed to possess red snapper in that area, as opposed to fisherman from multiple states with potentially different seasons fishing in the area. However, if each state had closed areas at different times, enforcement would become more complicated. If Alabama sets a red snapper season that is open only on weekends and requests a depth-based closure of federal waters, federal waters would constantly be opening and closing. Enforcement in Texas could be particularly difficult, but no more so than now, as state waters would remain open when federal waters are closed, as happens now. Thus, there would be no additional effects. In that case, enforcement officers at the dock would not be able to determine if red snapper were caught in state or federal waters, which would continue the current situation

Under **Preferred Alternative 2**, the administrative burden would be increased relative to current management. Florida has expressed the authority to potentially close federal waters beyond a certain depth contour during its entire state waters season. Based on management under the EFP,

Florida would be expected to project the length of the state waters season near the beginning of the year, set opening and closing dates, and then request a closure of federal waters during that time. NMFS would publish one notice in the *Federal Register* announcing the closing and re-opening of federal waters off Florida. Alabama also would request to close federal waters beyond a certain depth contour during its entire state waters season; however, based on management under the EFP, Alabama would be expected to only set the opening date for their state waters season and then monitor landings to determine a closure date. Thus, NMFS would need to publish two notices in the *Federal Register*: one to close federal waters when the Alabama season begins, and one to re-open federal waters when the Alabama season ends. The situation with Texas would be similar to that in Alabama. Therefore, **Preferred Alternative 2** would require up to five notices be drafted and published in the Federal Register.

Preferred Alternative 2 would also require establishment of coordinates for enforcement of the 20- and 35-fathom contours. Coordinates for the 20-fathom contour are already defined for the seasonal shallow-water grouper closure, which would be used here. Coordinates for the 35-fathom contour have been defined for the seasonal longline closure which would be used, but those coordinates only extend west to waters off Cape San Blas in the Florida Panhandle. Additional coordinates would need to be established from waters off Cape San Blas to the Alabama/Mississippi border.

4.5 Individual State Amendments Action 1 – Authority Structure for State Management

Alternative 1: No Action – Retain current federal regulations for management of recreational red snapper in federal waters of the Gulf.

Alternative 2: Establish a management program that **delegates** management authority for recreational red snapper fishing in federal waters to a state. If a state's red snapper harvest plan is determined to be inconsistent with the requirements of delegation, the recreational harvest of red snapper in the federal waters adjacent to a state would be subject to the default federal regulations for red snapper. A state must establish the red snapper season structure for the harvest of its assigned portion of the recreational sector annual catch limit (ACL), monitor landings, and prohibit further landings of red snapper when the ACL is reached or projected to be reached. In addition, delegated authority for managing the recreational harvest of red snapper may include establishing or modifying the:

Option 2a: bag limit
Option 2b: prohibition on for-hire vessel captains and crew from retaining a bag limit.
Option 2c: minimum size limit within the range of 14 to 18 inches total length (TL)
Option 2d: maximum size limit.

Alternative 3: Establish a management program in which a state submits a plan describing the **conservation equivalency** measures the state will adopt for the management of its portion of the recreational sector ACL in federal waters. The plan, which may be submitted annually or biannually, must specify the red snapper season structure and bag limit for the state's harvest of

its assigned portion of the recreational sector ACL. To be a conservation equivalency plan (CEP), the plan must be reasonably expected to limit the red snapper harvest to the state's assigned portion of the recreational sector ACL. If a state's plan is determined by NMFS to not satisfy the conservation equivalency requirements, then the recreational harvest of red snapper in the federal waters adjacent to that state would be subject to the default federal regulations for red snapper.

Option 3a: The plan will be submitted directly to NMFS for review.

Option 3b: The plan will first be submitted to a technical review committee. The technical review committee reviews and may make recommendations on the plan, which is either returned to the state for revision or forwarded to NMFS for final review.

The preferred alternatives selected in each Individual State Amendment are as follows:

- Louisiana (Amendment 50B): **Preferred Alternative 2, Options 2a-2d**
- Mississippi (Amendment 50C): **Preferred Alternative 2, Options 2a-2d**
- Alabama (Amendment 50D): **Preferred Alternative 2, Options 2a-2d**
- Florida (Amendment 50E): **Preferred Alternative 2, Options 2a, 2c, and 2d**
- Texas (Amendment 50F): **Preferred Alternative 2, Options 2a-2d**

4.5.1 Direct and Indirect Effects on the Physical Environment

Establishing the authority structure for state management of recreational red snapper in the Gulf would have no direct effects on the physical environment, because the authority structure alone does not affect fishing effort or how fishing affects the physical environment. Potential effects would be specific to the options within the authority structure and are discussed below. Any indirect effects would be similar to those outlined in Section 4.1.1, which describes additional impacts that could occur if landings are not constrained to the ACL. Regardless of the alternative selected the states will provide regular updates to the Council on the status of their programs, and how they plan to address any issues such as quota overruns. Effects on the physical environment from this action, regardless of the alternative selected, would likely be minimal because no significant change in effort is expected.

Alternative 1 (No Action) would continue NMFS management of the recreational harvest of red snapper in federal waters of the Gulf, and there would be no change in the effects to the physical environment. **Alternative 2** would delegate to the state the authority to set specified management measures related to the recreational harvest of red snapper. If the Council selects **Alternative 2** as the preferred in a State Amendment, that state must establish the red snapper season structure for the harvest of its assigned portion of the recreational sector ACL, monitor landings, and prohibit further landings of red snapper when the ACL is reached or projected to be reached. If the state can more successfully constrain landings to the ACL, the negative effects on the physical environment would be less than **Alternative 1**.

Options 2a and **2b** would not result in any additional positive or negative impacts to the physical environment from status quo because allowing the state to modify the bag limit would not affect fishing effort or total number of fish landed to meet the ACL. For **Options 2c**, if a state chose to increase the minimum size, this could result in an increase in fishing effort to catch a legal size fish. An increase is effort could increase negative impacts on the physical environment.

However, the harvest of larger fish could result in more quickly meeting the ACL and reduce the season length, decreasing impacts to the physical environment. For **Option 2d**, a maximum size limit would likely increase the number of discards and slow the harvest meeting the ACL, therefore increase the season length and potentially negative impacts to the physical environment.

If the Council selects **Alternative 3** as the preferred in a State Amendment, that state would submit a plan describing the conservation equivalency measures the state will adopt for the management of its portion of the recreational sector ACL in federal waters. The plan would specify the red snapper season structure and bag limit for the state's harvest of its assigned portion of the recreational sector ACL. The CEP must be reasonably expected to limit the red snapper harvest to the state's assigned portion of the applicable component ACL. Therefore, there would be no change in the effects to the physical environment, unless the state can more successfully constrain landings to the ACL, which would result in positive effects on the physical environment compared to **Alternative 1.** If a state's plan is determined to not satisfy the requirements, then the recreational harvest of red snapper in the federal waters adjacent to that state would be subject to the default federal regulations for red snapper. **Options 3a** and **3b** address how the CEP is submitted and reviewed would not have direct or indirect effects on the physical environment.

4.5.2 Direct and Indirect Effects on the Biological Environment

Establishing the authority structure for state management of recreational red snapper in the Gulf would have no direct effects on the biological environment, because the authority structure alone does not affect fishing effort or how fishing affects the physical environment. Potential effects would be specific to the options within the authority structure and are discussed below. Any indirect effects would be similar to those outlined in Section 4.1.2, which describes additional impacts that could occur if landings are not constrained to the ACL. Regardless of the alternative selected the states will provide regular updates to the Council on the status of their programs, and how they plan to address any issues such as quota overruns. Effects on the biological environment from this action, regardless of the alternative selected, would likely be minimal because no significant change in effort is expected.

Alternative 1 (No Action) would continue NMFS management of the recreational harvest of red snapper in federal waters of the Gulf, and there would be no change in the effects to the biological environment. **Alternative 2** would delegate to the state the authority to set specified management measures related to the recreational harvest of red snapper. If the Council selects **Alternative 2** as the preferred in a State Amendment, that state must establish the red snapper season structure for the harvest of its assigned portion of the recreational sector ACL, monitor landings, and prohibit further landings of red snapper when the ACL is reached or projected to be reached. If the state can more successfully constrain landing to the ACL, there would be less negative effects on the biological environment compared to **Alternative 1**.

Options 2a and **2b** could change impacts to the biological environment from status quo. While a change in bag limits would not change the total number of fish landed to meet the ACL, a lower bag limit could increase the number of discards, resulting in negative impacts to the biological

environment. However, a higher bag limit could result in reaching the ACL more quickly, which would reduce the number of fishing days and potentially more discards during the closed season.

For **Option 2c** the greater the minimum size, the more likely fishermen will need to discard undersized fish, and therefore fishing effort and negative effects on the biological environment would increase; however, at the same time larger fish would contribute to meeting the ACL quicker and reduce the amount of effort, decreasing negative impacts to the biological environment. More importantly, a larger minimum size limit allows more red snapper to survive longer and contribute reproductively to the stock, which would be beneficial to the biological community. Red snapper historically began reproducing around 2 years of age (approximate 11 to 14 inches in the eastern Gulf and 9.5 to 12.5 inches in the western Gulf) (SEDAR 52 2018). However, evidence shows a recent shift toward a slower progression to sexual maturity as well as reduced egg production, especially among young, small female red snapper. Slower maturation rates among young fish ages 2 to 6, and decreased spawning frequency have been observed, and were especially pronounced in the northwestern Gulf. Young fish have been contributing far less to the spawning stock in recent years (Kulaw et al. 2017).

For **Option 2d**, a maximum size limit would overall be a beneficial impact to the biological community because it would reduce fishing mortality of larger, older fish, which contribute to the reproductive potential of the stock more than smaller younger fish. However, larger fish are generally found in deeper water; therefore, fish discarded because they are larger than the maximum size limit would likely have a higher mortality rate due to barotrauma.

If a state selects **Alternative 3** as the preferred, the CEP must be reasonably expected to limit the red snapper harvest to the state's assigned portion of the recreational sector ACL. A state would have to specify the season and bag limit. Therefore, any impacts to the biological environment would be similar to those described for **Alternative 2** and **Option 2a**.

Alternative 2 and **3** allow flexibility in the management of recreational red snapper. If a state can constrain landings to the ACL, this would reduce negative impacts to red snapper comparted to **Alternative 1**. If state surveys estimate a slower rate of removals than the MRIP survey, then the ACL's (based on MRIP numbers) could be exceeded even though the state survey reports that the ACL was not exceeded. While there are two means of estimating landings for each state (state based data collection programs and MRIP), there is currently no way to determine which one is more accurate. Recent landings from the 2018 state EFP reports fall within confidence intervals for MRIP landings, indicating that the difference is not significantly different. The exception is for the Mississippi landings, which are below the lower confidence level for MRIP. However, MRIP has been weak in estimating Mississippi landings due to the low level of effort and few angler intercepts. For example, in 2010 MRIP estimated zero landings of red snapper by private anglers from Mississippi, which was clearly not true. On the other hand, Mississippi Tails and Scales has a near-census program that NMFS believes is more capable of sampling Mississippi anglers on the appropriate scale.

State data collection programs have advantages over MRIP for red snapper. First, red snapper is a pulse fishery meaning it is executed in a short period of time. MRIP was not designed to accommodate short seasons and only reports in 2 month waves that are generally available 2

months after the end of the wave. State data collections programs are more timely, some able to report on a weekly basis. NMFS relies on projected landings to determine the length of the fishing season, whereas the states receive data in a more timely manner allowing them to close the red snapper season early, if catch rates are higher than anticipated. This occurred in 2018 when Alabama had projected a 47-day season but, based on timely landings information that showed higher catch rates than anticipated, closed the season after only 28 days. Because the states have more timely data collection programs, they are better suited to prevent the private angling component from exceeding its quota and entire recreational sector from exceeding the ACL.

Regardless, calibration of state landings with MRIP landings would need to occur. The Southeast Fishery Science Center (SEFSC) is currently working to calibrate landings across the data collection programs. In addition, a new stock assessment is scheduled for 2020 that will incorporate all data collection programs.

As stated in Section 4.3.1, **Alternative 3**, **Options 3a** and **3b** are administrative in nature and how the CEP is submitted and reviewed would not have direct or indirect effects on the biological environment.

4.5.3 Direct and Indirect Effects on the Economic Environment

Alternative 1 (No Action) would retain current federal regulations for the management of recreational red snapper in federal waters of the Gulf. **Alternative 1** would not allow individual Gulf states to manage red snapper in federal waters and would not be expected to affect recreational red snapper fishing practices or harvests. Therefore, **Alternative 1** would not be expected to result in direct economic effects.

Alternatives 2 and **3** consider various mechanisms to transfer some of the management responsibilities for recreational red snapper to Gulf states willing to take them over. **Alternative 2** would delegate to a state the authority to set specific management measures related to the recreational harvest of red snapper. Participating states must establish recreational red snapper fishing seasons based on their allotted portions of the applicable recreational component red snapper ACL. Under **Alternative 2**, the Council could delegate the authority over the following management measures: bag limit (**Option 2a**), the prohibition on for-hire vessel captains and crew from retaining a bag limit (**Option 2b**), the minimum size limit between 14 to 18 inches TL (**Option 2c**), and the maximum size limit (**Option 2d**). **Alternative 3** would allow the state to submit for approval a conservation equivalency plan that would specify the fishing season and bag limit and must be reasonably expected to constrain landings within the state's allotted portion of the applicable recreational component red snapper ACL. Conservation equivalency plans developed by participating states could either be submitted directly to NMFS for review (**Option 3a**) or first be submitted to a technical review committee for approval before submission to NMFS for final review (**Option 3b**).

Alternatives 2 and **3** establish only the authority structure for implementing state management and would therefore not be expected to result in direct economic effects. However, because the devolution of some management responsibilities to participating states could result in

management measures better suited to anglers in these states, **Alternatives 2** and **3** would be expected to result in indirect economic benefits that would stem from the management measures implemented following delegation or the approval of CEPs.

For recreational anglers, economic benefits would be measured by changes in consumer surplus (CS) expected to result from the management alternatives considered in this action. The CS value per fish for a second red snapper kept is estimated at $82.34 (2017 dollars) Carter and Liese (2012). However, the positive economic effects expected to result from **Alternatives 2** and **3** cannot be quantified at this time because they would be determined by the respective portions of the recreational ACL allocated to participating states and by management measures implemented by participating states under delegation or by the contours of the approved conservation equivalency plans. It is noted that, for a given set of management measures by state, a greater number of Gulf states electing to accept a transfer of management authority would be expected to result in greater aggregate economic benefits. It follows that expected economic benefits would decrease if some of the Gulf states do not participate in state management. Furthermore, the lack of participation by some of the states, requiring the partitioning of federal waters into state portions, may increase enforcement challenges and possibly costs.

4.5.4 Direct and Indirect Effects on the Social Environment

A central assumption underlying this proposed amendment is that social benefits would increase by allowing greater flexibility in the recreational harvest of red snapper, because management measures could be established that better match the preferences of local anglers. Further, as the fishing season continued to shorten despite increasing quotas and progress in rebuilding the stock, recreational fishermen have grown frustrated with current red snapper management. Although additional effects are not usually expected from maintaining red snapper management (**Alternative 1**), the dissatisfaction with current management would continue. Positive social effects would be expected under either **Alternative 2** (delegation) or **Alternative 3** (conservation equivalency), each of which would enable some control for decision-making and management to be turned over to individual states and by addressing the dissatisfaction with current management.

The primary differences between **Alternatives 2** and **3** concern where management authority is held and the process for states to establish their recreational management measures for red snapper. Delegation (**Alternative 2**) would involve a devolution of some management control from NMFS to the states, although any state regulation under the delegation would need to be consistent with the FMP and NMFS could take action to suspend the delegation if warranted. Under conservation equivalency (**Alternative 3)**, the states would be allowed to set the season and bag limit upon submission and approval of a CEP. A state would either provide their proposed management measures first to a review body, then to NMFS for final approval (**Option 3b**), or directly to NMFS for review and approval (**Option 3a**). Cooperation between state and federal level agencies would still be a critical component for successful state management. Under both alternatives, indirect effects would be expected to result from, and be in proportion to, the success or failure of the cooperation among managing institutions and the states. Differential indirect effects may result should a state be deemed inconsistent with the

requirements of delegation or have its CEP not approved. The process for addressing an issue with delegated authority or a CEP is different, and as a result, the effects may differ. It is difficult to anticipate what these effects would be, and in both cases, default regulations would remain in place and be applied to a state in the event its delegation is inactive or its CEP is not approved. For delegation, the state would retain delegated authority throughout the process of addressing the inconsistency, while under a CEP, NMFS' disapproval of a plan and application of the default federal regulations would occur more quickly. In the event that there is disruption due to the suspension of a delegation or disapproval of a CEP, it is possible for some additional, unknown effects to occur.

Because this action would provide the management authority to establish state-specific management measures, but does not establish those measures themselves, it is not possible to predict the specific management measures that would result for each state and the effects thereof. Thus, any resulting social effects would be indirect and relate to whether flexibility for managing toward local preferences is increased or decreased from current management (**Alternative 1**).

Although positive effects are expected in general, these effects could be undermined, and potentially eliminated, if the adopted suite of management measures results in the quota being caught faster. There is a trade-off between providing greater flexibility to establish locally preferred management measures and a resulting increase in effort as the management measures provide anglers access under preferred conditions. For example, a longer season is generally preferred by fishermen, but a fishing season that coincides with times of greatest fishing effort would likely result in a state's quota being caught faster, thereby resulting in a shorter season than it may have otherwise been.

Under either delegation (**Alternative 2**) or conservation equivalency (**Alternative 3**), it is possible that the same suite of management measures could be adopted for each state. A state would be able to modify the season, bag limits, and size limits under **Alternative 2**, **Options 2a-2d**, or **Alternative 3**. Thus, the effects from either approach would be similar to the social environment compared to **Alternative 1**. Because the Council's preferred alternative in the Program Amendment is to include the private angling component only, selecting **Option 2b** would have no effect, as it applies to bag limits on for-hire vessels only.

4.5.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would continue NMFS management of the recreational harvest of red snapper in federal waters of the Gulf. There would be no additional impacts to the administrative environment of the states or of NMFS and therefore **Alternative 1** would have less negative effects on the administrative environment than **Alternative 2** and **Alternative 3**.

For **Alternative 2** and **Alternative 3**, establishing management of the recreational harvest of red snapper by the Gulf states would increase administrative impacts to states selecting to participate in state management, compared to **Alternative 1**. The impacts would include the additional cost and time to analyze fishery data to set management measures such as bag limits and seasons, as well as impacts regarding implementing those management measures. Each state would need to maintain their monitoring programs. It would also include the impact of preparing regular

updates for the Council on the status of the state management programs, including but not limited to most recent landings, red snapper season and other regulations, and how they intend to address any quota overruns.

Even with state management of both components of the recreational sector, NMFS is still obligated through the Magnuson-Stevens Act to prohibit recreational harvest of red snapper if the recreational ACL is reached. NMFS is also obligated to maintain the default regulations that would be in place for a state not participating in state management. Additional administrative impact to NMFS would be specific to the SEFSC. Standardized, peer-reviewed methods must be developed to calibrate the various state estimates in order to produce historic estimates of recreational removals (e.g. landings and dead discards). The potential impact on other fishery dependent inputs may also require further evaluation. Alternative 3 and Alternative 4 have the potential to create the most management programs, and therefore are most likely to increase the administrative burden relative to assessments.

Under either **Preferred Alternative 2** or **Alternative 3**, it is possible that the same suite of management measures could be adopted by each state. Therefore the administrative impacts of establishing management measures would be similar. However each state could adopt different regulations. In that case, enforcement would be more difficult.

Under **Alternative 3**, the states and NMFS would have the additional burden of regularly reviewing CEPs. States would need to submit their CEPs every one or two years for review. **Option 3a** would only involve review by NMFS, whereas **Option 3b** would also require the creational of a technical review committee. The review burden for NMFS would be the same for both options, but the burden on the Council to establish, maintain, and convene the technical review committee would be greater with **Option 3b**.

4.6 Individual State Amendment Action 2 – Post-season Quota Adjustment

Alternative 1: No Action. Retain the current post-season AM for managing overages of the recreational sector ACL in federal waters of the Gulf and do not add a state-specific overage adjustment. If red snapper is overfished (based on the most recent Status of U.S. Fisheries Report to Congress) and the combined recreational landings exceed the recreational sector ACL, reduce the **recreational sector** ACL, and applicable recreational component ACL in the following year by the full amount of the overage, unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary. The applicable component ACT will be adjusted to reflect the previously established percent buffer. There is currently no quota adjustment in the following year when recreational landings remain below the red snapper quota.

Alternative 2: Add a **state-specific** overage and underage adjustment to the existing post-season AM for the recreational sector red snapper ACL. If the combined recreational landings of a state exceed or are less than that state's combined recreational ACLs (if applicable), then in the

following year reduce or increase the total recreational quota and that state's component ACL(s), in accordance with Council procedures, by the amount of the respective component ACL overage or underage in the prior fishing year (as applicable), unless the best scientific information available determines that a greater, lesser, or no adjustment is necessary. If appropriate, the state's component ACTs will be adjusted to reflect the established percent buffer.

The preferred alternatives selected in each Individual State Amendment are as follows:

- Louisiana (Amendment 50B): **Preferred Alternative 2**
- Mississippi (Amendment 50C): **Preferred Alternative 2**
- Alabama (Amendment 50D): **Preferred Alternative 2**
- Florida (Amendment 50E): **Preferred Alternative 2**
- Texas (Amendment 50F): **Preferred Alternative 2**

4.6.1 Direct and Indirect Effects on the Physical Environment

A Gulf-wide post-season AM is currently in place to mitigate for an overage of the total recreational ACL if red snapper is classified as overfished. Establishing state-specific post-season AMs and methods to adjust the quota (**Alternative 2**), allows for additional flexibility. This action would establish a payback and a carryover provision. In the event of an overage, a payback provision would reduce the catch in the following year, reducing effort and impacts on the physical environment. In the event of an underage, implementing a carryover provision would increase negative impacts to the physical environment through increasing effort. Both **Alternatives 1** and **Alternative 2** would ensure that impacts to the physical environment are constrained, at a maximum, to those attributed to the effort to harvest the ACL. Since **Alternative 1** does not have a carryover for an underage, an underage in a given year would result in fewer physical impacts that year and that would not occur the following year due to an increase in the ACL. Whereas **Preferred Alternative 2** would establish a payback and therefore any unrealized physical impacts from an underage could occur the following year.

4.6.2 Direct and Indirect Effects on the Biological Environment

A Gulf-wide post-season AM is currently in place to mitigate for an overage of the total recreational ACL if red snapper is classified as overfished. Establishing state-specific post-season AMs and methods to adjust the quota allows for additional flexibility. This action would establish a payback provision that applies regardless of whether the stock is overfished and whether the total recreational ACL is exceeded, and a carryover provision if carryover is permitted under established Council procedures. In the event of an overage, a payback provision would reduce the catch in the following year, mitigating the impacts on the biological environment. The mechanism by which a carryover would be allowed is being developed in another amendment; this action would be dependent on implementation of that amendment.

In the event of an underage, implementing a carryover provision would increase impacts to the biological community through ensuring the maximum amount of fish are landed, but should not significantly affect the stock because the allowable catch is based on assuming landings will

meet the ACL. During its January 2018 meeting, the Council's SSC reviewed simulations developed by the Southeast Fisheries Science Center (SEFSC) that demonstrated the effects of a carryover provision on red snapper. The simulations showed that fish not caught in the previous fishing year could be harvested, pound for pound, without causing harm to the subject fish stock or jeopardizing the rebuilding plan. Because the ABC cannot exceed the OFL, and so long as the OFL is not exceeded, overfishing will not occur in a carryover year. The Council is developing a Carryover Provisions and Framework Modifications Amendment for all finfish stocks, which would create the mechanism by which a carryover could occur. The new amendment has options to exclude stocks from the carryover provision if they meet certain criteria, such as overfished stocks and stocks with high scientific uncertainty; these exceptions are intended to reduce the risk of impacts to the stock. If the red snapper stock met any of the criteria chosen, carryover would not be allowed.

Alternative 1 would maintain the current post-season AM which requires a payback of any overage if the total recreational ACL is exceeded and the red snapper stock is classified as overfished. No additional impacts would occur to the biological environment from the status quo. Currently, there is no quota adjustment in the following year when recreational landings remain below the red snapper quota. In the event of an overage or underage of a given year's ACL, **Preferred Alternative 2** would implement a post-season increase or decrease in the total recreational quota and a state's ACL equal to that overage or underage, respectively. The unused portion of the ACL considered for carryover would apply to the smallest divisible managed portion (individual state) from which the remaining ACL or quota went unharvested. Applying the carryover only to the smallest divisible managed portion of the private angling component would ensure that any fish that are allowed to be caught in a successive fishing year are caught under the same assumptions about size and age selectivity by gear and component, thereby reducing negative biological impacts. For instance, 100 lbs of fish carried over to the next fishing year from the western Gulf may be equivalent to ten fish but from the eastern gulf may be equivalent to five fish. The effect on the stock of removing larger and, typically, more reproductively influential fish from the population may disproportionately affect the overall health of the stock if the carryover is disproportionately applied. Because the carryover provision would not be applied in the event the total stock ACL was exceeded in a given fishing year, fishing mortality beyond what had been prescribed in the approved catch limits would not occur. This would be beneficial to the biological environment due to constraining the harvest and continuing to rebuild the stock. It is possible that forage species and competitor species could increase or decrease in abundance in response to a decrease or increase in the abundance of red snapper. However, changes in the prosecution of the red snapper fishery is not expected from this action, so no additional effects to non-target species or protected resources are anticipated. Therefore, **Preferred Alternative 2** would result in more negative biological impacts than **Alternative 1** because **Preferred Alternative 2** would ensure the ACL was met or accounted for the following year, whereas in **Alternative 1,** there is the possibility the ACL would not be met.

4.6.3 Direct and Indirect Effects on the Economic Environment

Alternative 1 (No Action) would maintain the existing post-season AM Gulf-wide while red snapper is classified as an overfished stock. If Gulf-wide recreational landings exceed the

aggregate recreational ACL and red snapper is overfished, then the overage would be deducted from the following year's ACL. Although **Alternative 1** would not be expected to result in Gulf-wide economic effects, it could be perceived as unfair and could potentially be detrimental to some participating states. Gulf states that manage to maintain their red snapper harvests within their allotted portion of the recreational ACL could be penalized the same as the states who went over their allocation, thereby unduly suffering economic losses. However, these potential state-level economic losses would not occur as long as red snapper is not classified as an overfished stock.

Alternative 2 would implement state-specific AMs limited to the recreational component responsible for the underage or overage. Under **Alternative 2**, if a state's total recreational landings exceed (or are less than) its allotted share of the recreational red snapper ACL, then in the following year the state's ACL will be reduced (or increased) by the amount of the ACL overage (or underage) (and consequently reduce/increase the Gulf-wide ACL), unless the best scientific information available determines otherwise. **Alternative 2**, which requires a payback or carryover only from the state and component responsible for the overage, would promote fairness and provide more incentives to the federal for-hire and private angling components to stay within their allotted portions of the quota.

Alternative 2, would not be expected to result in direct economic effects. In a given state, the federal for-hire and private angling components of the recreational sector are more likely to be subject to quota adjustments (payback or carryover) under **Alternative 2**. Therefore, relative to **Alternative 1, Alternative 2** would be expected to result in indirect economic effects due to the increased likelihood of overage paybacks and underage carryovers for participating states. For paybacks and carryovers, **Alternative 2** would be expected to result in indirect economic losses and benefits to participating states, respectively. Although the expected economic effects cannot be quantified, they would be determined by the expected value of the paybacks (carryover), i.e., the likelihood of overage paybacks (underage carryover) times the value of excess harvest (under harvest) to be paid back (carried over).

4.6.4 Direct and Indirect Effects on the Social Environment

The overage adjustment that would reduce the recreational sector ACL in the year following an overage by the amount it is exceeded applies when red snapper is classified as overfished (**Alternative 1**). Red snapper is not currently classified as overfished and there would be no overage adjustment under **Alternative 1** if a state with an approved state management plan exceeds its portion of the quota, as this provision is applicable Gulf-wide and would not apply to an individual state. This would allow an individual state to avoid the negative effects of having to payback a quota overage, but may be perceived as unfair by other states. On the other hand, if a state constrained its landings to below its portion of the quota, under **Alternative 1**, the uncaught quota would continue to not be available for harvest and the state would not be able to realize an increased portion of the ACL in the following year, by the amount of uncaught quota, in the event the Generic Carryover Amendment.

For a state with an approved state management plan, **Alternative 2** would apply an overage or underage adjustment to a state's ACL(s) based on its landings in the previous year, beginning

with its landings under the EFP in 2019: if the state constrained its landings to below its portion of the recreational sector ACL, the amount of quota remaining would be added to its ACL(s) in the following year, and if the state's landings exceeded its portion of the ACL, the amount of the overage would be deducted from that state's ACL in the following year. It is important to note that the underage adjustment would be applied as implemented through the Generic Carryover Amendment and would not be in effect until such time. Because the overage adjustment would only apply to an individual state that exceeded its portion of the ACL, other states (with or without approved state management plans) would not be affected by having their ACLs reduced. In the event an overage adjustment is triggered for a state under **Alternative 2**, some positive effects would be expected for anglers in other states that do not exceed their respective portions of the ACL, as anglers in other states are not affected by the overage, either in the short-term setting of the following year's ACL (would only occur if red snapper is classified as overfished), or the long-term health of the stock. In the event a quota carryover is triggered for a state under **Alternative 2**, positive effects would be expected for anglers in the state, as the amount of uncaught quota would be added to the state's portion of the ACL (or the state's component ACLs, as applicable) in the following year. However, these effects are contingent upon implementation of the Generic Carryover Amendment.

Because the current preferred alternative is to include only the private angling component in state management, the quota adjustment would apply only to that component. If the preferred alternative changes and a state manages both its private angling and federal for-hire components, any overage or underage adjustments would be based on the landings of each component and reflect the amount that each component's landings were over or under its portion of the ACL. Some benefits would be expected for a component that does not exceed its portion of the ACL, as an underage adjustment would be applied that increases that component's ACL in the following year by the amount that component's ACL remained unharvested. At the same time, each component would be protected from the potential overharvest of the other component's ACL, by being responsible for paying back only its own ACL overage.

4.6.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 (No Action) would result in no additional impacts or effects on the administrative environment. A gulf-wide post-season AMs is currently in place to mitigate for an overage of the total recreational ACL if red snapper is classified as overfished. Landings are currently monitored and any impacts to the administrative environment would be minor.

Alternative 2 would require NMFS to adjust the ACL in the following year for any state that has landings less than or greater than the ACL. It is unlikely that landings would be exactly at the ACL in any year, so some adjustment would be expected each year, although a minimal underage for carryover may be established in the Carryover Provisions and Framework Modifications Amendment. Because 5-10 state ACLs (depending on the alternative selected in Action 1.1 of the Program Amendment) could be established in addition to the recreational and component ACLs, NMFS could potentially need to adjust up to 13 values each year; therefore, **Alternative 2** would have a greater administrative burden than **Alternative 1**.

4.7 Cumulative Effects Analysis

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but cumulative impacts of actions as well. NEPA defines a cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 C.F.R. 1508.7). Cumulative effects can be either additive or synergistic. A synergistic effect occurs when the combined effects are greater than the sum of the individual effects.

This section uses an approach for assessing cumulative effects that was initially used in Amendment 26 to the Reef Fish Fishery Management Plan (FMP) and is based upon guidance offered in the Council on Environmental Quality's (CEQ) Considering Cumulative Effects handbook (1997). The report outlines 11 items for consideration in drafting a CEA for a proposed action.

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.
2. Establish the geographic scope of the analysis.
3. Establish the timeframe for the analysis.
4. Identify the other actions affecting the resources, ecosystems, and human communities of concern.
5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.
6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.
7. Define a baseline condition for the resources, ecosystems, and human communities.
8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.
9. Determine the magnitude and significance of cumulative effects.
10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.
11. Monitor the cumulative effects of the selected alternative and adapt management.

Cumulative effects on the biophysical environment, socio-economic environment, and administrative environments are analyzed below.

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

The CEQ cumulative effects guidance states this step is accomplished through three activities as follows:

I. The direct and indirect effects of the proposed actions (Section 4.1 – 4.6);
II. Which resources, ecosystems, and human communities are affected (Chapter 3); and
III. Which effects are important from a cumulative effects perspective (information revealed in

this CEA).

2. Establish the geographic scope of the analysis.

The primary effects of the actions in this amendment would be to the social, economic, and administrative environments of the Gulf. The physical and biological/ecological environments would be less affected as described in Sections 4.1-4.6, Subsections 1 and 2.

The geographic scope affected by these actions, including red snapper, is detailed in the Generic Essential Fish Habitat (EFH) Amendment, the Generic ACL/AM Amendment, and Reef Fish Amendment 40 (GMFMC 2004a; GMFMC 2011b; GMFMC 2014a, respectively) which are incorporated by reference and further summarized in Section 3.2. The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), including state waters (Gore 1992). In general reef fish, including red snapper, 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 2004a). 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. However, juvenile red snapper are common on mud bottoms in the northern Gulf, particularly off Texas through Alabama. Some juvenile red snapper have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems.

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions, coral reefs, rock outcroppings, gravel bottoms, oilrigs, and other artificial structures (GMFMC 2004a); eggs and larvae are pelagic; and juveniles are found associated with bottom inter-shelf habitat (Szedlmayer and Conti 1998) and prefer shell habitat over sand (Szedlmayer and Howe 1997). Adult red snapper are closely associated with artificial structures in the northern Gulf (Szedlmayer and Shipp 1994; Shipp and Bortone 2009) and larger individuals have been found to use artificial habitats, but move further from the structure as they increase in size and based on the time of day (Topping and Szedlmayer 2011). There are environmental sites of special interest that are relevant to red snapper management. These include the longline/buoy area closure, the Edges Marine Reserve, Tortugas North and South Marine Reserves, individual reef areas and bank habitat areas of particular concern (HAPC) of the northwestern Gulf, the Florida Middle Grounds HAPC, the Pulley Ridge HAPC, and Alabama Special Management Zone. These areas are managed with gear restrictions to protect habitat and specific reef fish species.

Recreational fishing for reef fish and red snapper, both private angling and federally permitted for-hire components, occurs throughout the Gulf. Approximately 59% of the for-hire reef fish permits have mailing recipients in Florida, followed by Texas with 17%, Alabama with 11%, Louisiana with 9%, and Mississippi with 3%. As of October 25, 2017, there were 1,308 for-hire fishing vessels with a valid or renewable charter/headboat reef fish permit: 1,276 vessels with a charter/headboat permit and another 32 with a historical captain charter/headboat permit.

3. Establish the timeframe for the analysis.

The timeframe for this analysis is 1984 to 2022. Red snapper have been managed in the Gulf since the implementation of the Reef Fish FMP in 1984, which put in place a 13-inch total length (TL) minimum size limit. The red snapper stock has been assessed periodically since 1988. The most recent stock assessment, the 2017 Southeast Data Assessment Report (SEDAR) 52 used data through 2016. Sector separation established the private angling and for-hire components of the recreational sector for the harvest of red snapper in the Gulf in 2015, and is currently set to end in 2022 (Amendment 40).

The following is a list of reasonably foreseeable future management actions. These are described in more detail in Step 4. Should new regulations be needed for the management of this stock, they would likely not be implemented until 2022 at the earliest, the end of the timeframe discussed in this analysis.

The next assessment for red snapper through SEDAR is scheduled to begin in 2020 and end in 2021.

In 2018, the effort survey for MRIP changed from a phone-based survey to a mail-based survey. Those calibrations will be incorporated into the 2020 SEDAR red snapper assessment and other reef fish assessments as they are scheduled.

The Council is currently developing several actions that could affect the reef fish fishery. Actions affecting red snapper include:

- An abbreviated framework to optionally replace historical captain permits with standard federal charter/headboat permits.
- A generic amendment to carryover unharvested quota to subsequent fishing years
- Amendment 36B to modify commercial individual fishing quota programs
- Amendment 48 to establish or revise status determination criteria and optimum yield for reef fish
- An amendment to revise red snapper allocation
- Shrimp Amendment 18 to evaluate the shrimp effort threshold reduction in the area monitored for juvenile red snapper bycatch

4. Identify other actions affecting the resources, ecosystems, and human communities of concern.

Past actions affecting reef fish and red snapper are summarized in Section 1.3. (Note actions taken prior to Amendment 32 are described in detail in that amendment (GMFMC 2011a) and are incorporated here by reference).

a. The following are red snapper specific related actions and activities.

i. The following list identifies past actions affecting red snapper:

From 2011 to 2015, the Council took actions to increase the red snapper ACL from 7.5 mp to 14.3 mp. Details on changes to the recreational ACL and fishing seasons are provided in Section 3.1.2.

On August 12, 2011, NMFS published an emergency rule that, in part, increased the recreational red snapper quota 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 NMFS estimated that 4.4 to 4.8 mp of red snapper were landed, well above the 3.865 mp quota. Thus, no unused quota was available to reopen the recreational fishing season.

NMFS issued an exempted fishing permit to the Gulf of Mexico Headboat Collaborative Pilot program effective January 1, 2014. This permit authorized a 2-year pilot program to assess the viability of an allocation-based management strategy for achieving conservation and economic goals more effectively than current management. The Headboat Collaborative was allocated a portion of the red snapper and gag recreational quotas based on historical landings data, and participating headboats were able to use the allotted quota to harvest red snapper and gag outside the normal recreational fishing seasons.

In May 2015, in response to a decision by the U.S. District Court for the District of Columbia, NMFS took emergency action to address recent recreational red snapper quota overages. At the request of the Council, NMFS implemented an in-season accountability measure for the recreational harvest of red snapper in the Gulf that applied to the 2014 season. The action set an ACT equal to 80% of the 5.390 mp quota (ACT = 4.312 mp). This ACT was used to project a 9-day federal season.

A framework action was implemented in March 2015 to establish a recreational red snapper ACT equal to 80% of the ACL and an overage adjustment that applies when red snapper is classified as overfished.

In April 2015, Amendment 40 separated the red snapper recreational sector into a private angling component and a federal for-hire component (GMFMC 2014a). Amendment 40 included a provision that would end management of the separate components at the end of the 2017 fishing year. Amendment 45 (GMFMC 2016) extended the separate management of the federal for-hire and private angling components for an additional 5 years. Thus, the management of the separate components extends through December 31, 2022.

In May 2016, Amendment 28 (GMFMC 2015b) revised the commercial and recreational sector allocations of the red snapper ACLs by shifting 2.5% of the commercial sector's allocation to the recreational sector. The resulting sector allocations for red snapper were 48.5% commercial and 51.5% recreational and were applied to the 2016 stock ACL. 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.

On June 12, 2018, NMFS published a final rule to implement Amendment 36A that requires owners or operators of federally permitted commercial Gulf reef fish vessels landing any commercially harvested, federally managed reef fish from the Gulf to provide notification prior to landing and to land at approved locations. It also requires shares from the red snapper individual fishing quota (IFQ) program and the groupers and tilefishes (IFQ) program that are in non-activated IFQ accounts to be returned to NMFS for redistribution; and allows NMFS to withhold a portion of IFQ allocation at the start of a fishing year equal to an anticipated commercial quota reduction.

In December 2017, NMFS approved Amendment 44, which revised the minimum stock size thresholds for seven stocks, including red snapper. The Gulf red snapper stock was reclassified as not overfished but rebuilding, because the biomass for the stock is currently estimated to be greater than the minimum stock size threshold but still below the rebuilding target.

ii. **The following list identifies more recent and present actions affecting red snapper:**

For the 2018 and 2019 red snapper fishing seasons, each of the five Gulf states establishes a private angling season through exempted fishing permits (EFP), while NMFS continues to set the federal for-hire component season continues.[37] The purpose of the EFPs is to allow states to demonstrate the effectiveness of state management of recreationally caught red snapper and data collection methods through 2-year pilot programs.

Following its August 2018 meeting, the Council submitted framework actions to the Secretary of Commerce that would modify red snapper catch limits as well as modify the recreational red snapper for-hire component ACL/ACT buffer from 20% to 9% for 2019 only. The framework action would modify the ACLs for Gulf red snapper based on the most recent stock assessment. The action set red snapper ACLs for 2019-2021+ consistent with the Council's Scientific and Statistical Committee's recommended acceptable biological catch.

iii. **The following list identifies reasonably foreseeable future actions (RFFA) and activities affecting red snapper.**

The purpose of Reef Fish Amendment 36B is to review and consider updates to the IFQ programs' goals and objectives as evaluated in the 5-year reviews and to address changes in the fishery since implementation of the programs, which would support the revised goals. One new goal is to identify quota set-asides to address and assist small participants and new entrants, and to reduce discards.

In January 2018, the Council requested an amendment to evaluate the allocations of red snapper, taking into account previous deliberations in Amendment 28 and any new information and considering a broad range of social, economic, data correction, and management factors. Amendment 52 would revise red snapper allocation if necessary between the sectors or components.

Shrimp Amendment 18 evaluates decreasing the target bycatch reduction threshold goal, which could allow shrimp fishing effort to increase in statistical zones 10-21 in 10-30 fathoms, the area monitored for juvenile red snapper bycatch. Bycatch of red snapper by the Gulf shrimp fishery was identified as a primary factor affecting the recovery of Gulf red snapper (SEDAR 2005). However, analysis shows that shrimp effort can increase without substantially reducing red snapper yields and without affecting the red snapper rebuilding plan (Goethel and Smith, 2018). To date, the Gulf shrimp fishery has not exceeded the allowable threshold effort level in the area monitored for juvenile red snapper since the implementation of the threshold.

b. The following are reef fish and ecosystem related actions and activities that will also affect red snapper.

i. The following list identifies past actions affecting red snapper:

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 closed to fishing for much of the summer months. The direct loss of fishing

[37] For more information, see: http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/LOA_and_EFP/2018/RS%20state%20pilot/home.html

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 68% of the recreational quota remained unharvested (NMFS 2010). Additionally deep-water corals are particularly vulnerable to episodic mortality events such as oil spills, since corals are immobile.

Amendment 34, effective on November 19, 2012, eliminated the earned income qualification requirement for the renewal of Gulf commercial reef fish permits and increased the maximum number of crew members for dual-permitted (commercial and for-hire) vessels. The Council determined the existing earned income requirement in the reef fish fishery was no longer necessary and increasing the number of crew on dual-permitted vessels increased the safety on commercial trips, particularly for commercial spear fishermen.

A framework action effective March 5, 2014, required headboats to report their logbooks electronically in the Gulf reef fish and coastal migratory pelagic fisheries.

On April 9, 2014, NMFS published a final rule to modify the permitting and reporting requirements for seafood dealers who first receive species managed by the Council. These revisions created a single dealer permit for dealers who first receive fish managed by the Council, required both purchase and non-purchase reports to be submitted online on a weekly basis, prohibited dealers from first receiving fish from federally permitted vessels if they are delinquent in submitting reports, and changed the sale and purchase provisions based on the new dealer permitting requirements

ii. **The following list identifies more recent and present actions affecting reef fish and related ecosystems:**

In February 2015, the National Oceanic and Atmospheric Administration (NOAA) published a Notice of Intent to consider possible expansion of the Flower Garden Banks National Marine Sanctuary (FGBNMS). The preferred alternative establishes nine new areas and two areas that are expansions of existing sanctuary boundaries. The potential impacts of the FGBNMS expansion are detailed in Chapter 5 of the FGBNMS Expansion Draft Environmental Impact Statement (FGBNMS Expansion DEIS) and incorporated here by reference (2016). Long-term beneficial impacts are anticipated if the proposed action is implemented. The proposed alternatives limit some types of commercial fishing, but would not establish regional closures of fishing grounds or impact other fishery management activities arising from the review process by the Council. The impacts on commercial fishing from the regulations were identified as minor.

In 2018, Florida began to experience what would become one of the widest spread and most persistent red tide events on record. The dinoflagellate that causes red tide produces a neurotoxin; however, it is unknown whether mortality occurs via absorption of toxins across gill membranes (Abbott et al. 1975, Baden 1988), ingestion of toxic biota (Landsberg 2002), or from some indirect effect of red tide such as hypoxia (Walter et al. 2013). As of November 2018, the red tide had spread to the western panhandle as well as the southeast coast of Florida. It was reported as having dissipated in March 2019. Its impacts on reef fish stocks are unknown, but may be taken into account in future stock assessments.

In 2018, NMFS certified data collection programs for Alabama, Florida, and Mississippi. Texas has its own sampling program and Louisiana's has been used since 2013. All programs collect data on red snapper, in addition to other species\

In November 2018, NMFS published a proposed rule to modify charter vessel and headboat reporting requirements. The modifications require the owner or operator of a vessel with a federal for-hire permit to electronically declare (hail-out) a fishing trip before leaving port; submit an electronic fishing report for each trip prior to the vessel offloading the fish; and install NMFS-approved hardware and software with GPS capabilities that at a minimum archive the vessels position data and transmit data to NMFS. NMFS expects to implement the reporting program in 2019.

In 2019, NMFS expects to publish a proposed rule to implement the actions in Amendment 9 to the Fishery Management Plan for Coral and Coral Reefs of the Gulf of Mexico, U.S. Waters (Coral Amendment 9). The rule would establish 13 new HAPCs with prohibitions on bottom tending fishing gear, 8 new HAPCs without fishing regulations, and prohibit dredge fishing in all HAPCs in the Gulf. While data showed little fishing occurs in a majority of these areas, any reduction would help prevent impacts to reef fish habitat.

iii. **The following list identifies reasonably foreseeable future actions (RFFA) and activities affecting reef fish and related ecosystems:**

In 2018, the effort survey for MRIP changed from a phone-based survey to a mail-based survey. On average, fishing effort estimates are expected to be higher with the new survey; however, calibrations between data from the old and new surveys are not expected to be complete until the end of 2019. Those calibrations will be incorporated into the 2020 SEDAR red snapper assessment and other reef fish assessments as they are scheduled.

Recreational red snapper will be monitored not only by NMFS, but by each State under their chosen data collection program. Currently, MRIP already uses the data from Texas and Louisiana's state data collecting programs. Florida uses MRIP catch estimates paired with their own effort estimates. The programs used by Louisiana, Alabama, Florida, and Mississippi to estimate landings have been certified by MRIP as statistically and scientifically valid. Under the recreational red snapper State Management Program, some state landings estimates have advantages over MRIP for red snapper. First, red snapper is a pulse fishery meaning it is executed in a short period of time. MRIP was not designed to accommodate short seasons and only reports in 2 month waves that are generally available 2 months after the end of the wave. State data collections programs are more timely, some able to report on a weekly basis. NMFS relies on projected landings to determine the length of the fishing season; whereas the states receive data in a more timely manner allowing them to close the red snapper season early, if catch rates are higher than anticipated. This occurred in 2018 when Alabama had projected a 47- day season, but, based on timely landings information that showed higher catch rates than anticipated, closed the season after only 28 days. Because many of the states have more timely data collection programs, NMFS believes they are better suited to prevent the recreational private angling component of the fishery from exceeding its quota and entire fishery recreational sector from exceeding the ACL. The SEFSC is currently working to calibrate landings across the data collection programs. The 2020 stock assessment will incorporate all data collection programs.

An abbreviated framework action has been developed to replace reef fish and coastal migratory pelagic Historical Captain endorsements held by approximately 32 for-hire operators in the Gulf with standard Gulf charter/headboat (for-hire) permits. This would reduce the regulatory and potential economic burden on Historical Captain permit holders.

A generic amendment to carryover unharvested quota to subsequent fishing years is being developed. This would implement provisions to allow carryover of portions of ACLs that were uncaught due to landings uncertainty and management limitations, and to modify the framework procedure to allow carryover and other changes to operate in a timely manner. Since Amendment 50 has an action to address carryover specifically for red snapper, the effects of this action have been analyzed in this document.

In April 2017, the Council passed a motion to begin working on an amendment, subsequent to Coral Amendment 9, that would address the 24 areas proposed by the Coral Working Group that were not included in Coral Amendment 9. The 24 areas encompass existing HAPCs that do not currently have fishing regulations, and include some areas under consideration for the FGBNMS. Additional recognition of sensitive coral and coral reef habitat or actions to reduce impacts to those areas could be beneficial for reef fish.

The Florida Keys National Marine Sanctuary is in the process of finalizing the draft environmental impact statement for the sanctuary management plan. At this time, NMFS does not anticipate that actions and activities outlined in that plan would directly affect the Gulf reef fish fishery. If the sanctuary area is expanded, reef fish fishermen could be affected; on the other hand, additional recognition of sensitive coral and coral reef habitat or actions to reduce impacts to those areas could be beneficial for reef fish.

In 2022, sector separation is currently slated to sunset. At that time, the recreational sector would no longer be divided into a private and a for-hire component. However, actions in this amendment (Program Amendment) could remove that sunset.

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[38]). These changes are likely to affect plankton biomass and fish larvae abundance that could adversely impact fish, marine mammals, seabirds, and ocean biodiversity. NOAA's Climate Change Web Portal[39] indicates that the average sea surface temperature in the Gulf will increase by 1.2-1.4ºC 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. For species such as red snapper, there has been a distributional trend towards deeper waters.

5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.

Important valued environmental components (VECs) were identified for the overall actions to be taken with this amendment. VECs are "any part of the environment that is considered important by the proponent, public, scientists and government involved in the assessment process. Importance may be determined on the basis of cultural values or scientific concern" (Environmental Information Partnership 1998). For purposes of this analysis, an initial 22 VECs were identified, and the consequences of each alternative proposed in this amendment on each VEC were evaluated. Some of these VECs were combined into a revised VEC because many of the past, current, and reasonably foreseeable future actions (RFFA) were similar. Based on this

[38] http://www.ipcc.ch/
[39] http://www.esrl.noaa.gov/psd/ipcc/ocn/

analysis, four VECs were determined to be the most important for further consideration. The four VECs are shown in Table 4.7.1.

VECs not included for further analysis were sharks, protected resources, and wholesale/retail. Many longline vessels that target reef fish also target sharks. However, sharks were not considered as an important VEC because, as shark stocks have declined, the shark fishery has become more and more regulated, limiting the effects of this fishery and the stock on reef fish stocks. Protected resources were also eliminated from further analyses in this section. As described in Section 3.3, biological opinions have concluded the primary reef fish gear (longline and hook-and-line) were not likely to jeopardize listed species or their critical habitat. Because actions considered in this amendment are not expected to change how reef fish fishing gear is used in the prosecution of the reef fish fishery, any take associated with reef fish fishing should not exceed that considered in biological opinions. All other Endangered Species Act (ESA)-listed species heave been found not likely to be adversely affected or not affected by the reef fish fishery. For marine mammals, gear used in the reef fish fishery were classified in the as Category III fisheries (see Section 3.3). This means this fishery has minimal impacts on marine mammals. Dealers and consumers (wholesale/retail) were eliminated because this action affects the recreational sector of the reef fish fishery. The actions in this amendment would not change the IFQ programs and commercial quotas the wholesale/retail business relies on. Thus, pounds needed to support dealers and the consumers who rely on obtaining their seafood from dealers should not be affected, nor would the commercial sector.

Table 4.7.1. Valued environmental components (VEC) identified.

VECs considered for further evaluation	VECs consolidated for further evaluation	VECs not included for further evaluation
Ecosystem	Hard bottom EFH Prey species Competitors Predators	Sharks Protected species
Reef Fish/Red Snapper Stock	Red snapper Other reef fish	
Reef Fish Fishery	Vessel owner Captain Crew Anglers Fishing Communities Fishing support businesses (ice and gear suppliers, marinas, fuel docks)	Wholesale/retail Dealers and consumers
Administration	Federal Rulemaking Federal Permitting Federal Education Federal Enforcement Federal Monitoring State Rulemaking State Education State Enforcement State Monitoring	

This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components. According to the CEQ guidance describing stress factors, there are two types of information needed.

a. Socioeconomic driving variables identifying the types, distribution, and intensity of key social and economic activities within the region

The socioeconomic driving variables identifying the types, distribution, and intensity of key economic and social activities within the region are described in detail in Sections 3.4-3.5. An annual average of 1,346 vessels had a valid or renewable federal charter/headboat permit from 2012 through 2016. The majority of federal for-hire permits for reef fish are held by operators in Florida, followed by Texas, Alabama, Louisiana, Mississippi, and other states. The distribution of permits by state has followed a similar pattern throughout the last five years. Among the vessels with a homeport in one of the Gulf states, Alabama has the largest average passenger capacity for federally permitted for-hire vessels, while Louisiana has the smallest. Although Florida does not have the largest average vessel size, Florida's combined permitted vessels represent approximately 61% of the total passenger capacity. From 2012 through 2016, charter vessels took an average of 201,348 directed angler trips annually; similar analysis of recreational effort is not possible for headboats because headboat trip data are not collected at the individual angler level. From 2012 through 2016, the private angling component of the recreational sector took an average of at least 228,122 directed angler trips annually. Alabama has the largest number of average annual trips, with west Florida second during the 5-year period. Of the top 10 communities engaged and reliant upon recreational fishing in general, nine are in Florida and the other is in Alabama.

b. Indicators or stress specific resources, ecosystems, and communities

i. Ecosystem

With respect to stresses to the ecosystem from actions in this amendment, establishing state management, apportioning the ACL, establishing the mechanism to allow states to request seasonal closures of federal waters adjacent to their states, and establishing the mechanism to allow states to manage the for-hire component, are not likely to create additional stress. Handline gear, the primary gear used by the fishery, and longlines can damage habitat through snagging or entanglement; however, these impacts are minimal. Changes in the population size structure as a result of shifting red snapper fishing selectivities and increases in stock abundance could lead to changes in the abundance of other reef fish species that compete with red snapper for shelter and food. Predators of red snapper could increase if red snapper abundance is increased, while species competing for similar resources as red snapper could potentially decrease in abundance if food and/or shelter are less available. As described in Part 4 of this cumulative effects analysis, the *Deepwater Horizon* MC252 and climate change have affected the Gulf overall.

ii. Reef Fish/Red Snapper Stock

Major stresses to the red snapper stock have primarily come from the stock being overfished and experiencing overfishing, which began with the first stock assessment in 1998 and has continued until relatively recently. The Gulf red snapper stock was no longer experiencing overfishing as of 2009, and was reclassified as not overfished but rebuilding in 2017. Trends in landings and the status of the red snapper stock are based on NMFS and SEDAR stock assessments (summarized in Sections 3.1 and 3.3) and are incorporated here by reference. It is likely the red snapper stock has been adversely affected by the *Deepwater Horizon* MC252 oil spill in 2010; the red tide events in 2005 and 2018, and climate change; however, these effects are uncertain and presently the stock is rebuilding. The population has been steadily increasing since the mid-2000s coinciding with increasingly stringent management measures and declines in shrimp effort. Region-specific trends are fairly consistent across both areas, but the western area has shown more rapid increases in biomass in recent years, likely aided by much larger recruitment events. The SEDAR 52 (2017) results suggest that the western area has continued to experience these increases while biomass in the eastern area continues to level off. Red snapper has historically begun reproducing around 2 years of age (approximate 11 to 14 inches in the eastern Gulf and 9.5 to 12.5 inches in the western Gulf). However, evidence shows a recent shift toward a slower progression to sexual maturity as well as reduced egg production, especially among young, small female red snapper. Slower maturation rates among young fish ages 2 to 6, and decreased spawning frequency have been observed, and were especially pronounced in the northwestern Gulf.

As mentioned previously, natural events such as red tide could be a source of stress on reef fish, including red snapper. However, the extent and magnitude of that impact is unknown, and may not be apparent for several years, until subsequent recruitment data is available. Additionally, climate change is already influencing red snapper. 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. For species such as red snapper, there has been a distributional trend towards deeper waters.

iii. Reef Fish Fishing Communities

This proposed amendment does not concern the commercial harvest of red snapper or any other reef fish because the commercial sector has separate ACLs and accountability measures. Therefore, no additional information on the commercial sector is provided.

Fisheries are subject to stress as a result of increases in fishing costs, increases in harvesting efficiency, more restrictive regulations (particularly for red snapper), and changes in the stock status of certain species (effort shifting). Reductions in dollars generated would likely be felt in the fishery infrastructure (e.g., marinas, bait and tackle shops). For the reef fish fishery, an indicator of stress would be a decline in the number of permitted vessels or a decrease in landings.

Red snapper is harvested recreationally in all five Gulf states. Total recreational landings by state for the years 1986 through 2015 is provided in Appendix A, Table A-1. Recreational landings by state, federally permitted for-hire vessels by state, and federal

for-hire vessels included in the SRHS with landings of red snapper by state, are included to provide information on the geographic distribution of fishing involvement. Red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper specifically.

Declines in effort may be a signal of stress within the fishery, with that stress stemming from multiple sources such as increased fishing pressure, climate change, or natural events. An annual average of 1,346 vessels had a valid or renewable federal charter/headboat permit from 2012 through 2016. As of October 25, 2017, there were 1,308 for-hire fishing vessels with the permit, and approximately 84% of those vessels have a passenger capacity of six. The current distribution of permitted vessels is consistent with past years; however there has been a consistent decline in the relative share of permitted vessels that hail out of Mississippi. Alabama has the largest average federally permitted for-hire vessel by passenger capacity, while Louisiana has the smallest. Although the average Florida vessel is not the largest, Florida's combined permitted vessels represent approximately 61% of the total passenger capacity.

Permit data as of October 25, 2017, were used to estimate both the number of businesses with a charter/headboat permit and the sizes of their individual fleets of permitted for-hire vessels. As of that date, there were an estimated 1,099 businesses that owned these 1,308 vessels with for-hire permits. When operating under the for-hire permit, these businesses participate in the charter fishing and party fishing boats industry (North American Industry Classification System [NAICS] code 4872102). Over the past four economic censuses, there was an average of 323 employee establishments in the charter fishing and party fishing boats industry in the Gulf states. There were annual averages of 68 headboats and 1,277 charter vessels from 2012 through 2016.

Figure 3.5.1.1 identifies the top Gulf communities that are engaged and reliant upon recreational fishing in general. 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). The communities with the most for-hire permits for reef fish are provided in Table 3.5.1.1. Large clusters of charter vessels occur 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, Figure 3.5.1.2). Large clusters of headboats occur in Florida communities in Bay, Okaloosa, and Pinellas Counties; in Alabama in Baldwin County; and in Texas in Nueces County (Figure 3.5.1.3).

Several major hurricanes have hit coastal communities in the Gulf in recent years. The effects of these events on fishing communities may take several years to understand and become fully apparent. The Department of Commerce determined commercial fishery disasters for Hurricane Harvey (2017) in Texas and Hurricanes Irma (2017) and Michael (2018) in Florida. These determinations provide the basis for Congress to appropriate fishery disaster assistance for the new fiscal year in which it is declared.

iv. Administrative Environment

The stresses to the administrative environment from these actions would include calculating of annual ACLs and ACTs for each state, establishing boundaries that extend into federal waters of the Gulf delineating state management areas, establishing a reef fish permit endorsement for federally permitted for-hire vessels, and monitoring landings to determine if AMs have been triggered. Some of these stresses may be significant. However, some administrative burden may be relieved. For many years some states had inconsistent state seasons. This caused additional stress on the administrative environment requiring additional regulations, analysis, presence of law enforcement, and increased confusion among the fishing public. If all states have an approved state management plan and are managing the same recreational components, the actions in this amendment would allow states to adjust regulations to meet their regional needs while maintaining consistency with the FMP and likely reduce stress in this environment. It is unknown whether the regions would be able to constrain harvest to the quota more effectively than NMFS. However, with the current federal management, the private angling component has consistently exceeded the allocation. The stock could likely withstand some overages without jeopardizing the rebuilding plan; however, continuous overages could result in a change of the stock status. However, the states have established new monitoring procedures, which could improve the estimations for landings.

6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.

This section examines whether resources, ecosystems, and human communities are approaching conditions where additional stresses could have an important cumulative effect beyond any current plan, regulatory, or sustainability threshold (CEQ 1997). Sustainability thresholds can be identified for some resources, which are levels of impact beyond which the resources cannot be sustained in a stable state. Other thresholds are established through numerical standards, qualitative standards, or management goals. The CEA should address whether thresholds could be exceeded because of the contribution of the proposed actions to other cumulative activities affecting resources.

Overall the purpose of this amendment is to provide flexibility in the management of recreational red snapper which should result in overall positive cumulative effects to the ecosystem, reef fish, red snapper stock, and human communities. These actions are not being implemented because a resource, ecosystem, or human community is approaching conditions where additional stresses could have an important cumulative effect beyond any current plan, regulatory, or sustainability threshold.

i. Ecosystem

Thresholds would not be exceeded because the stresses associated with the proposed actions in relation to regulatory thresholds are not likely to cause beneficial or adverse effects on the ecosystem. The actions would not change the way the reef fish fishery as a whole is prosecuted. Actions in the amendment would affect red snapper recreational

fishing and not fishing for the other reef fish species. Thus, significant effects on the ecosystem are not expected. The overall Gulf-wide fishing effort would remain constrained by the recreational quotas and annual catch limits. If states are better able to constrain private angling, a slight positive effect could be realized.

ii. Reef Fish/Red Snapper Stock

Thresholds would not be exceeded because of the combined effects of implementing state management and other activities affecting the reef fish and red snapper stock. Reef fish, and red snapper, have been federally managed since 1989. Management has continually adjusted and changed to meet legal requirements, fishery needs, and social and economic needs. The history of regulatory management of red snapper is provided in Section 1.3. The red snapper stock ACL is divided into commercial (51%) and recreational (49%) allocations based on historical landings. Further, the red snapper recreational ACL is allocated 57.7% to the private angling component and 42.3% to the federal for-hire component, through 2022 (GMFMC 2016). Quotas for the commercial and recreational sectors, and for each of the recreational components, are set equal to the respective ACLs. However, for the recreational sector, annual catch targets (ACT) for the sector as a whole and for each component are set 20% below the respective ACLs to account for management uncertainty. There is an action currently under review that would reduce the buffer for the recreational red snapper for-hire component only, to 9%, for 2019 only. The season for each recreational component is closed when the respective ACT is projected to be reached. The commercial and recreational sectors have had quota overages. Before sector separation was implemented in 2015 (GMFMC 2014a), the recreational sector had quota overages in 21 out of 23 years in which a quota was specified, while the commercial sector had overages in 10 of 23 years. Since sector separation began in 2015, the private angling component has had overages in both 2015 and 2016, while the federal for-hire component has not had any overages. The commercial sector has not had any overages since the implementation of the IFQ program in 2007.

The red snapper stock was found to be in decline or overfished in every stock assessment conducted, beginning with the first assessment in 1986 (Parrack and McClellan 1986). However, the SEDAR 31 benchmark assessment (2013) determined that, as of 2009, overfishing was no longer occurring (GMFMC 2013c). The SEDAR 52 update assessment confirmed that, as of 2016 (the terminal year of the assessment data), overfishing was not occurring. Amendment 44 changed the minimum stock size threshold in 2018, and the Gulf red snapper stock was reclassified as not overfished but rebuilding (GMFMC 2018). See Section 3.3 for more detailed information on the status of the stock.

The actions in this amendment to establish state management of recreational red snapper would provide management flexibility, thereby resulting in a benefit due to regulatory action. The actions in this amendment would continue to require that a state's management measures be consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Reef Fish FMP, including the red snapper rebuilding plan. Consistency with the Magnuson-Stevens Act and Reef Fish

FMP requires, among other things, preventing overfishing, rebuilding declining reef fish stocks, monitoring the reef fish fishery, conserving and increasing reef fish habitats, and minimizing conflicts between user groups. Under all alternatives, red snapper recreational fishing would remain subject to Gulf-wide closure if the recreational sector total ACL is projected to be met.

iii. Reef Fish Fishing Communities

Regulatory thresholds for reef fish fishing communities would not be exceeded because of the combined effects of implementing state management and other activities affecting the fishery and fishing communities. For specific information regarding the effects of actions in this amendment on the economic and social environment of fishing communities see Sections 4.1-4.6, subsections 3 and 4, respectively. Fishing communities are subject to stress as a result of increases in fishing costs, increases in harvesting efficiency, more restrictive regulations (particularly for red snapper), and changes in the stock status of certain species (effort shifting). Reductions in dollars generated would likely be felt in the fishery infrastructure. The purpose of the actions in this amendment is to provide increased flexibility at the state level to manage recreational red snapper fishing to best suit each states fishing communities. Therefore, overall this increased flexibility should have a positive effect.

iv. Administrative Environment

Thresholds would not be exceeded because of the combined effects of implementing state management and other activities affecting the administrative environment. For specific information regarding the effects of actions in this amendment on the administrative environment see Section 4.1-4.6, subsection 5. Depending on the preferred alternatives, the effects on the administrative environment for the federal government and state governments may be negative or positive. However, both federal and state entities already have mechanisms in place to help address any increase in administrative impacts, such as monitoring and enforcement programs. In addition, federal and state entities monitor the harvest of many species of fish and adding new catch levels would not significantly increase that existing burden. An additional stress for the federal administrative environment could include establishing an endorsement to the reef fish permit.

Ultimately, if the actions in this amendment result in being able to provide stakeholder specific flexibility and constrain private angling landing to the ACL, this should reduce stresses on the administrative environment because it would increase stakeholder satisfaction.

7. Define a baseline condition for the resources, ecosystems, and human communities.

The purpose of defining a baseline condition for the resource and ecosystems in the area of the proposed actions is to establish a point of reference for evaluating the extent and significance of expected cumulative effects.

i. Ecosystem

A baseline for analysis of the physical environment, as discussed in Section 3.2, was conducted in the EIS for the Generic EFH Amendment. The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel. Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Gulf water temperatures range from 54º F to 84º F (12º C to 29º C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73º F through 83º F (23-28º C) including bays and bayous between 1982 and 2009, according to satellite-derived measurements.[40] In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters. In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions, coral reefs, rock outcroppings, gravel bottoms, oilrigs, and other artificial structures (GMFMC 2004a); eggs and larvae are pelagic; and juveniles are found associated with bottom inter-shelf habitat (Szedlmayer and Conti 1998) and prefer shell habitat over sand (Szedlmayer and Howe 1997). Adult red snapper are closely associated with artificial structures in the northern Gulf (Szedlmayer and Shipp 1994; Shipp and Bortone 2009) and larger individuals have been found to use artificial habitats, but move further from the structure as they increase in size and based on the time of day (Topping and Szedlmayer 2011).

ii. Reef Fish/Red Snapper Stock

The biological environment of the Gulf, including that of red snapper, is described in Section 3.3 of this amendment. 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 mud bottom and oyster shell reef. Spawning occurs over firm sand bottom with little relief away from reefs during the summer and fall. Red snapper have been aged up to 57 years. The most recent SEDAR 52 (2018) stock assessment found that the red snapper resource continues to rebuild from the severely overfished and depleted conditions during of the 1980s and 1990s. Under current conditions, it is expected that the resource will continue to rebuild.

Regionally, recruitment has typically been higher in the western Gulf. The SEDAR 52 assessment noted that recent recruitment estimates should be treated with care; historically some of the largest recruitment events have resulted from relatively small spawning biomass, but recent spikes in recruitment in the western area appear to be associated with a strongly spawning stock biomass. The population has been steadily increasing since the mid-2000s coinciding with increasingly stringent management measures and declines in shrimp effort. Region-specific trends are fairly consistent across both areas, but the western area has shown more rapid increases in recent years likely aided by much larger recruitment events. The SEDAR 52 results suggest that the western area has continued increases in biomass with biomass in the eastern area continuing to level off. However, red snapper in the eastern Gulf have been found to be

[40] NODC 2012: http://accession.nodc.noaa.gov/0072888

larger in age-length analysis compared to the western Gulf. Red snapper have historically begun reproducing around 2 years of age (approximate 11 to 14 inches in the eastern Gulf and 9.5 to 12.5 inches in the western Gulf). However, evidence shows a recent shift toward a slower progression to sexual maturity as well as reduced egg production, especially among young, small female red snapper. Slower maturation rates among young fish ages 2 to 6, and decreased spawning frequency have been observed, and were especially pronounced in the northwestern Gulf.

iii. Reef Fish Fishing Communities

See Section 3.4 and 3.5 for more information relative to the fishing communities. As previously mentioned, red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper. Information is lacking on the social environment of the reef fish fishery, although some economic data are available, primarily for the commercial sector. Also, see section 5.b.iii in this CEA for more information about the baseline condition of the reef fish fishing communities.

iv. Administrative Environment

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. State waters refer to the area from shore out to the seaward boundary of each state. The seaward boundary of Florida on the Gulf coast and Texas is 9 nm from shore. The seaward boundary of Alabama, Mississippi, and Louisiana is generally 3 nm from shore. However, the 2016 Department of Commerce Appropriations Act extended the seaward boundary of Alabama, Mississippi, and Louisiana to 9 nm from shore for purposes of management activities under the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP), which includes the management of red snapper. Responsibility for federal fishery management is shared by the Secretary of Commerce (Secretary) and the Council for the federal waters of the Gulf.

Recreational red snapper landings in the Gulf are obtained through multiple sources (see Section 2.2). The Southeast Region Headboat Survey covers headboats in the Gulf and South Atlantic. The Marine Recreational Fisheries Statistics Survey and the Marine Recreational Information Program (MRIP) provides private angling and charter vessel landings and effort data for Gulf states other than Texas and Louisiana. Texas began its own sampling program (Marine Sport-Harvest Monitoring Program) and provides recreational landings, except for headboat landings, from Texas. Data from Louisiana's sampling program (LA Creel) has been used since 2013. The other Gulf states have developed sampling programs that have recently been certified by MRIP including Mississippi (Tails n' Scales), Alabama (Snapper Check), and Florida (Gulf Reef Fish Survey). All sampling programs track red snapper landings.

More details on the administrative environment can be found in Section 3.6.

8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.

Cause and effect relationships are presented in Table 4.7.2.

Table 4.7.2. The cause and effect relationship of fishing and regulatory actions for red snapper within the time period of the CEA.

Time Period	Cause	Observed and/or expected effects
1800-2022	Climate Change	Changes in ocean acidity and temperature modifies fish and prey distributions and productivity; threaten fishing communities through sea level rise and changing weather patterns.
1962-2009	Growth and recruitment overfishing	Declines in mean size and weight
1984	13-inch minimum size limit for the recreational and commercial fisheries	Slowed rate of overfishing
1990	3.1 mp quota for commercial fishery and 7 fish bag limit	Further slowed rate of overfishing
1991-1992	2.04 mp commercial quota	Continue to slow rate of overfishing
1992	Establish red snapper Class 1 and 2 endorsements and respective trip limits	Begin derby fishery
1994	Increase minimum size to 14 inches in the commercial and recreational fisheries	Increase yield per recruit, increase the chance for spawning, and slow rate of overfishing
1995-1997	Increase minimum size to 15 inches in the commercial and recreational fisheries and reduce the bag limit to 5 fish	Increase yield per recruit, increase the chance for spawning, and slow rate of overfishing
1997-2005	Reduce recreational season length	Constrain harvest in recreational fishery
1998	Shrimp trawls in the EEZ required to use NMFS-certified BRDs west of Cape San Blas	Reduce fishing mortality rate on age 0 and age 1 red snapper
1998-2005	Reduce bag limit to 4 fish	Reduce fishing mortality rate in recreational fishery
1999-2005	Raise total quota to 9.12 mp	Reduce rebuilding rate for fishery
2000-2014	Raise recreational minimum size limit to 16 inches	Increase yield per recruit, increase the chance for spawning, slow rate of overfishing

Time Period	Cause	Observed and/or expected effects
2004	Shrimp trawls in the EEZ required to use NMFS-certified BRDs east of Cape San Blas	Further reduce fishing mortality rate on age 0 and age 1 red snapper
2004	Implement red snapper rebuilding plan	Provide mechanism to monitor harvest for rebuilding
2007-present	Commercial- Established Individual Fishing Quota Program (IFQ)	Constrain commercial harvests within the limits set by the rebuilding plan; IFQ to further control commercial sector to prevent overages; increase in administrative work to manage the IFQ.
2007-present	Recreational - Reduction of bag limit to 2 fish and adjustment of season length	Constrain recreational harvest to the quota. Progressively shorter seasons as average size of landed fish increases.
2013-2016	Overfishing has ended, but the stock remained overfished.	Continue stock rebuilding
2014-present	Established an ACT that is 20% lower than the ACL, established an overage adjustment to be applied while the red snapper stock is overfished	Constrain recreational harvest to the quota. Progressively shorter seasons.
2014-2022	Designate separate ACLs for private and federal for-hire components	Address recreational harvest quota being exceeded by one component with out penalizing the other. Better constrain recreational harvest to the quota
2015-?	Evaluate allocation-based management for charter vessels and headboats	Improve optimizing yield for the for-hire component
2017-present	Stock is no longer overfished or experiencing overfishing	Continue stock rebuilding
2018	Modify red snapper ACL based on recent stock assessment and reduce federally permitted for-hire buffer between ACT and ACL for 2019	Allow fishery to realize optimum yield by increasing the ACL, and allow for-hire component to better realize optimum yield by increasing ACT relative to ACL
2018-2019	Approve EFPs to test state management of private angling component fishing for recreational red snapper	Better constrain landings to the ACL and test state management which provides information to this current amendment
2018-2019	Evaluate decreasing the target bycatch reduction threshold goal regarding shrimping	Red snapper bycatch may increase
2018-2020	Change in MRIP effort survey, calibration of data	Change in effort could change landings estimates for the private angler component
2018-?	Evaluate allocation of red snapper	Better apportion red snapper across sectors and components to improve access and/or optimize optimum yield

Time Period	Cause	Observed and/or expected effects
2019-2022	Review and update IFQ program	Assist commercial sector small participants and new entrants, and reduce discards
2019-2022	Require electronic reporting by federally permitted charter vessels and modify electronic reporting by headboats	Better monitor and constrain landings by federally permitted vessels
2022	Sector separation sunsets (unless modified through this amendment)	The recreational sector would be a single sector and recreational overages may increase to levels similar to those before sector separation

9. Determine the magnitude and significance of cumulative effects.

The primary objectives of this amendment and associated EIS is to provide flexibility in the management of the recreational harvest of red snapper by restructuring the federal fishery management strategy to allow for state management and develop accountability measures to address overages and underages. The short- and long-term direct and indirect effects of each these actions are provided in Sections 4.1-4.6. The following discussion refers to the effects of past, present, and RFFAs on the various VECs.

i. Ecosystem

Essential fish habitat, as defined in the GMFMC (2004a), for the Reef Fish FMP consists of all Gulf estuaries; Gulf waters and substrates extending from the US/Mexico border to the boundary between the areas covered by the Gulf of Mexico and the South Atlantic Fishery Management Councils from estuarine waters out to depths of 100 fathoms. Section 3.2 and GMFMC (2004a) describe the physical environment inhabited by red snapper as well as reef fish in general. Red snapper is a carnivorous bottom dweller, generally associated (as adults) with hard-bottom substrates, submarine gullies and depressions, and oilrigs and other artificial structures (GMFMC 2004a). Eggs and larvae are pelagic while juveniles are found associated with bottom features or over barren bottom.

From fishing, the most sensitive gear/habitat combinations include EFH for reef fish species. These include fish otter trawls, shrimp otter trawls, roller frame trawls, and pair trawls over coral reefs; crab scrapes over coral reefs; oyster dredges over submerged aquatic vegetation, oyster reefs, or coral reefs; rakes over coral reefs; and patent tongs over submerged aquatic vegetation, oyster reefs, or coral reefs (GMFMC 2004a). Some of these gear/habitat interactions are unlikely to occur in actual practice (e.g., shrimp trawls towed through hard bottom areas can destroy shrimp nets and so are avoided). In general, gears that are actively fished by towing have the highest potential to alter habitats. However, some habitats, such as coral reefs and hard bottoms are sensitive to interactions with passive gears (e.g. traps) as well. Most directed reef fish fishing activities, as described previously in this document and CEA, use longlines and

handlines, although a few fish are taken by spearfishing gear. These have low levels of impacts compared to other gear types.

In the past, some fishing practices have had detrimental effects on the physical environment. Gears such as roller trawls and fish traps damaged habitats while harvesting fish species. As a result of these effects, the Council developed stressed areas to reduce these impacts. Further protections have been developed, primarily by either prohibiting fishing or limiting fishing activities that can occur within certain areas. Detailed information on the closures and preserves is provided in Coral Amendment 9 (GMFMC 2018c). In addition, regulatory changes through Generic EFH Amendment 3 (GMFMC 2005b; implemented in 2006) prohibited bottom anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots to protect coral reefs in several HAPCs, and required a weak link in the tickler chain of bottom trawls on all habitats throughout the Gulf federal waters to minimize damage done to habitats should the chain get hung up on natural bottom structures.

Current allowable gear types can adversely affect hard bottom areas; however, these impacts are not considered significant (See Section 4.1.1). Handline gear and longlines used in the reef fish fishery can damage habitat through snagging or entanglement. Longlines can also damage hard bottom structures during retrieval as the line sweeps across the seafloor. Additionally, anchoring over hard-bottom areas can also affect benthic habitat by breaking or destroying hard bottom structures. However, these gears are not believed to have much negative impact on bottom structures and are considerably less destructive than other commercial gears, such as traps and trawls, which are not allowed for reef fish fishing.

Damage caused from reef fish fishing, although minor, is associated with the level of fishing effort (see Section 4.1.1). Therefore, actions reducing levels of effort would result in greater benefits to the physical environment because fishing related interactions with habitat would be reduced. Thus, actions described in steps 3 and 4 of this CEA which have reduced fishing effort for some species, and possibly the fishery on the whole, have had a positive effect on hard bottom habitats. RFFAs, such as Coral Amendment 9 and the FGBNMS management plan, should also benefit these habitats as they would also reduce or limit fishing effort. As described in Sections 4.1-6, effects on the physical environment from the proposed actions would likely be minimal because prosecution of the fishery should not be changed.

Reef fish EFH, particularly coral reefs and submerged aquatic vegetation, are particularly susceptible to non-fishing activities (GMFMC 2004a). The greatest threat comes from dredge-and-fill activities (ship channels, waterways, canals, and coastal development). Oil and gas activities as well as changes in freshwater inflows can also adversely affect these habitats. As described in Step 4.b.i of this CEA, the potential harm to reef fish habitat was highlighted by the *Deepwater Horizon* MC252 incident. Essential fish habitat and HAPC designations are intended to promote careful review of proposed activities that may affect these important habitats to assure that the minimum practicable adverse impacts occur on EFH. However, NMFS has no direct control over final

decisions on such projects. The cumulative effects of these alternatives depend on decisions made by agencies other than NMFS, as NMFS and the Gulf Council have only a consultative role in non-fishing activities. Decisions made by other agencies that permit destruction of EFH in a manner that does not allow recovery, such as bulkheads on former mangrove or marine vegetated habitats, would constitute irreversible commitments. However, irreversible commitments should occur less frequently as a result of EFH and HAPC designations. Accidental or inadvertent activities such as ship groundings on coral reefs or propeller scars on seagrass could also cause irreversible loss.

At this time, it is unclear what effects climate change will have on red snapper EFH. Factors associated with climate change such as ocean acidification could negatively affect important biotic components of red snapper EFH such as corals (IPCC 2014). Hollowed et al. (2013) has identified important ecosystem paths that deserve future study to determine climate change cause and effects.

ii. Reef Fish/Red Snapper Stock

The Reef Fish FMP currently encompasses 31 species (Table 3.3.2). Eleven other species were removed from the FMP in 2012 through the Generic ACL/AM Amendment (GMFMC 2011a). Of the 12 stocks for which stock assessments have been conducted, the third quarter report of the 2018 Status of U.S. Fisheries classified only one as overfished (greater amberjack), and three as undergoing overfishing (greater amberjack, gray triggerfish, and gray snapper). Recent actions for these stocks have continued and modified rebuilding plans (e.g. Framework Action to Modify Greater Amberjack Allowable harvest and Rebuilding plan and Amendment 46).

In the past, the lack of management of reef fish allowed many stocks to undergo both growth and recruitment overfishing. This allowed some stocks to decline as indicated in numerous stock assessments. Red snapper were considered overfished from the first stock assessment in 1986 until 2017. For red snapper, management measures including a minimum size limit, commercial quota, and aggregate bag limit were put in place as part of the initial Reef Fish FMP or Amendment 1 (Section 3.1). None of these measures halted increases in landings. However, over time, management measures have become more restrictive and held landings more closely to the quotas.

The present red snapper harvest levels are based on a rebuilding plan put in place by Amendment 27. The current plan, after an initial reduction in the total allowable catch from 9.12 mp to 5 mp, has allowed harvests to increase as the stock rebuilds. These measures have also limited the red snapper harvest sufficiently to end overfishing on the stock and remove it from an overfished status. In addition, the red snapper IFQ program has successfully held landings by the commercial sector below its quota since implementation in 2007. However, these measures, along with an IFQ program for grouper and tilefish (Amendment 29) may have, at least for the commercial sector, redirected effort towards other non-IFQ managed reef fish species such as gray triggerfish and greater amberjack by fishermen without IFQ shares or allocation. Landings of these non-IFQ managed species are closely managed to prevent them from exceeding their ACLs and protect them from overharvest. In fact, measures for gray

triggerfish and greater amberjack allow the fishery to be closed if the harvest is projected to meet their respective commercial and recreational quotas. Sector separation (Amendment 40) has successfully held landings by the federally permitted for-hire component to the allocated ACL. However, in part because of inconsistent state seasons, the private angling component has not been successfully constrained to their quota. Recently EFPs were issued to the Gulf states to allow states to manage the private angling component for 2018 and 2019; as of November 15, 2018[41], both Florida and Alabama had overages during the 2018 fishing season.

Fishery management RFFAs are expected to benefit managed species. These actions are expected to manage the stocks at OY per National Standard 1 and are described in steps 3 and 4 of this CEA. This amendment, , and the framework to reduce the for-hire ACT buffer and review the allocation are intended to improve the management of the recreational sector and components in ways that are likely to better keep harvests within the quotas. Other RFFAs described in steps 3 and 4 are intended to improve the management of reef fish stocks either through revising ACLs, improving data reporting, or allowing more flexibility in management.

Non-fishing activities, such as climate change and hurricanes, could have detrimental effects on reef fish species, but these effects are poorly understood.

iii. Reef Fish Fishing Communities

Adverse or beneficial effects of actions on vessel owners, captains, and crew are tied to the ability of a vessel to make money. In commercial fisheries, these benefits are usually derived from shares awarded after fishing expenses are accounted for. The greater the difference between expenses and payment (revenue) for harvested fish, the more profit is generated by the fishing vessel. For-hire businesses generate revenue by selling either at the vessel level (charter businesses) or passenger level (headboats).

Current management measures have had an overall positive, short-term impact on recreational red snapper fishing. Landing restrictions were needed to keep the recreational sector and private and for-hire components of the red snapper harvest within their quotas. For other overfished reef fish stocks other than red snapper, rebuilding measures required to end this condition and rebuild stocks have constrained the harvest for these species over the short-term and likely increased competition within the for-hire component to harvest other stocks. However, by using constant fishing mortality rebuilding plans, harvests have been allowed to increase as the stocks recover.

Federal for-hire Component

Non-FMP factors have adversely affected the reef fish for-hire fleets. Factors that have had an adverse effect on the for-hire fleet include hurricanes, oil spills, red tide events, and increases in fishing costs, such as fuel, which may have pushed marginal fishing operations out of business. Hurricanes are unpredictable and localized in their effects.

[41] https://www.fisheries.noaa.gov/southeast/recreational-fishing/state-recreational-red-snapper-management-exempted-fishing-permits

Increases in fishing costs, unless accompanied by an increase in prices or harvest quantity, decrease the profitability of fishing.

The for-hire component has benefited from past actions in the reef fish fishery relative to this action. This increase has been fueled by increased interest by the public to go fishing (i.e., more trips sold). To constrain harvest in order to prevent overexploitation of reef fish in general and red snapper specifically, NMFS, through the Council, implemented minimum size and bag limits for most species prior to 2000. In addition, a recreational red snapper quota was implemented in 1997 and a permit moratorium to constrain the recreational effort from the for-hire industry in 2003. These measures, along with management measures for the commercial sector, have successfully ended overfishing.

Current management measures may have had a negative, short-term impact on the for-hire component of the reef fish fishery. A decrease in angler trips could be an indicator of stress in the industry. Landing restrictions have been needed to keep the recreational red snapper harvest within its quota. These restrictions include a reduced bag limit and seasonal closures. These measures may have reduced interest by the public to take for-hire fishing trips and possibly resulted in a reduction in the number of trips taken, although events such as hurricanes and the *Deepwater Horizon* MC252 oil spill may also be partly responsible for the decrease in trips. In addition, the restriction requiring a person aboard a federally-permitted Gulf for-hire reef fish vessel to comply with federal regulations for reef fish species regardless of where the fish are harvested (GMFMC 2008b), may have reduced the ability of federally permitted for-hire operators to sell trips because of longer consistent state fishing seasons. However, the creation of the two recreational components may allow for more federal fishing days for the federal for-hire component. Other factors that have had an adverse effect on the for-hire component of the reef fish fishery include increases in fishing costs, such as fuel, and hurricanes which may have pushed marginal fishing operations out of business. However, these factors may be less important than may seem apparent. For the red snapper for-hire component, reductions in charter fishing from more restrictive regulations, increased costs, and effects from hurricanes were claimed by the industry (GMFMC 2007). But red snapper data for 2007 found only lingering effects of the 2005 hurricanes; annual average effort for 2004 through 2005 were only slightly greater than in 2007. Although the available data cannot address claims of severe economic losses by individual entities, this data does not support contentions of widespread industry harm. However, for red snapper, effort may have shifted to other species or other charter businesses.

Savolainen et al. (2012) surveyed the charter vessel and headboat fleets in the Gulf. For charter vessels, they found that most trips occurred in Gulf federal waters (68%), and targeted rig-reef 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 vessel operators were king mackerel (approximately 41%), grouper (approximately 37%), snapper (approximately 34%), cobia (approximately 25%), and Spanish mackerel (approximately 20%). For the rest of

the Gulf and using the same survey, Sutton et al. (1999) reported that the majority of charter vessels targeted snapper (91%), king mackerel (89%), cobia (76%), and tuna (55%).

For headboats, Savolainen et al. (2012) found most headboats target offshore species and fish in federal waters (81% of trips), largely due to vessel size and consumer demand. On average, 84% of trips targeted rig-reef species, while only 10% targeted inshore species and 6% pelagic species. Holland et al. (1999) reported approximately 40% of headboats did not target any particular species. The species targeted by the largest proportion of Gulf coast Florida headboats were snapper (60%), grouper (60%) and sharks (20%), with species receiving the largest percentage of effort being red grouper (46%), gag 33%), black grouper (20%), and red snapper (7%). For the other Gulf states, Sutton et al. (1999) reported that the majority of headboats targeted snapper (100%), king mackerel (85%), shark (65%), tuna (55%), and amberjack (50%). The species receiving the largest percentage of total effort by headboats in the four-state area were snapper (70%), king mackerel (12%), amberjack (5%), and shark (5%).

Ultimately, angler trips have increased in all states except Louisiana since 2012 (Table 3.4.2.9). Additionally the length of headboat trips (in hours) has steadily increased from 2012 to 2016 (Table 3.4.2.12). This would indicate that overall, even with regulatory restrictions and natural impacts, the for-hire component continues to grow.

As mentioned in Chapter 2 and the economic and social effects analyses in Chapter 4, Magnuson-Stevens Act §407(d)(1) requires recreational or commercial red snapper fishing to end when a sector catches its quota. The recreational sector includes both the federal for-hire and private angling components. Thus, if the private angling component exceeds its allocation of the recreational quota to such an extent that the overall recreational quota is projected to be met, the federal for-hire component would also be prohibited from retaining red snapper regardless of whether there is remaining quota available for that component. Reduced season lengths in the following year for the federal for-hire components could be further exacerbated by overage adjustments (if the stock is overfished) from exceeding the quota and non-compatible state fishing seasons. The current framework action to reduce the buffer between the ACL and ACT for the for-hire component should not increase the chances of an overage, but rather assist in achieving OY for the for-hire component.

RFFAs may have short-term negative impact on the for-hire component. Red snapper, gray triggerfish, greater amberjack, and gray snapper have experienced overfishing, are considered overfished, or are being managed under stock rebuilding plans. Measures required to end overfishing and rebuild these stocks have constrained the harvest for these species. If these measures result in less interest by the fishing public to take fishing trips on for-hire vessels, then this would adversely affect this sector. However, as mentioned above, this effect has not been apparent for red snapper because the for-hire component has the ability to shift to other species. The ability to shift to other species would be expected to continue in response to subsequent RFFAs, though the flexibility would be reduced the more species that become subject to increased restrictions. Some

short-term beneficial actions include an increase in the ACL for vermilion snapper and red snapper, as these stocks have recovered from overfishing and harvest restrictions have been relaxed.

Because many management RFFAs are designed to manage stocks at OY, these actions should be beneficial to the for-hire component. Stocks would be harvested at a sustainable level, and at higher levels for those stocks being rebuilt. Specific to red snapper fishing, Amendments 41 and 42 evaluate allocation-based management for charter and headboats. In this amendment, depending on how the recreational quota is allocated among states and the management measures implemented by the states, the effects on the federal for-hire component could be beneficial or adverse depending on where a vessel operator fishes.

Private Angling Component

The effects of various past, present, and RFFAs on private anglers are measured through levels of participation in the fishery. However, it is difficult to assess what affects past and present management measures have had on private anglers because available data indicates the amount of effort by the private anglers has increased. This increase has been from approximately 6.8 million trips in 1981 to over 14 million trips in 2003 to 2009 (Rios 2013). The number of angler trips declined from 14,356,523 angler trips in 2009, to 13,548,899 in 2010, and 13,874,314 in 2011. The decline in 2010 and 2011 is likely due to the *Deepwater Horizon* MC252 oil spill. The effects of various management measures on the participation by anglers is likely similar to the effects on the for-hire industry discussed above with the exception that private anglers are not subject to permit restrictions on where they can fish that federally permitted for-hire vessel operators are (see above section). However, the creation of the two recreational components may further restrict the number of federal fishing days for the private angling component due to non-compatible state season lengths. Factors unrelated to management, such as hurricanes and increasing fuel and other costs, likely affect private anglers similar to for-hire fishermen. It should be noted that a possible effect of the proposed action could be constraining most of the private angling to state waters if state non-compatible seasons continue. If the private angling allocation is too low, then a greater proportion of private angling fish would be caught in state waters, reducing the days available to fish in federal waters.

As mentioned above as well as in Chapter 2 and the economic and social effects analyses in Chapter 4, Magnuson-Stevens Act §407(d)(1) requires recreational or commercial red snapper fishing to end when a sector catches its quota. The recreational sector includes both the federal for-hire and private angling components. Thus, if the federal for-hire component exceeds its allocation of the recreational quota to such an extent that the overall recreational quota is projected to be met, the private angling component would also be prohibited from retaining red snapper regardless of whether there is remaining quota available for that component. However, the for-hire component has not exceeded their ACL since sector separation. Reduced federal season lengths for the private angling component in the following year could be further exacerbated by overage adjustments (if the stock is overfished) if the quota is exceeded and non-compatible State

fishing seasons. However, the likelihood of this occurring is reduced because each component's season would be based on the lower recreational ACT rather than the recreational quota.

Non-management-related RFFAs that could affect anglers include hurricanes, oil and gas extraction, and increases in fishing costs. Hurricanes are unpredictable and localized in their effects. Oil spills, which are also unpredictable, can have extensive adverse impacts over large areas as evidenced by the *Deepwater Horizon* MC252 spill. Increases in fishing costs as well as lost fishing opportunities would likely reduce the amount of angler effort.

Infrastructure refers to fishing-related businesses and includes marinas, rentals, snorkel and dive shops, boat dockage and repair facilities, tackle and bait shops, fish houses, and lodgings related to recreational fisheries industry. This infrastructure is tied to the commercial and recreational fisheries and can be affected by adverse and beneficial economic conditions in those fisheries. Therefore, the effects of past, present, and RFFAs should reflect responses by the fisheries to these actions. Past actions allowing the recreational and commercial fisheries to expand have had a beneficial effect providing business opportunities to service the need of these industries. Present actions which have constrained the recreational fishery likely have had an adverse effect because lower revenues generated from the fishery would be available to support the infrastructure. However, as conditions improve for the fishery as described above through RFFAs, similar benefits should be accrued by the businesses comprising the infrastructure. For the recreational sector, as stated above, it is difficult to assess the impact of present and RFFAs since angler participation has not increased until recently. Actions enhancing this participation should also be beneficial to the infrastructure. It should be noted that non-FMP factors such as the *Deepwater Horizon* MC252 oil spill (IAI 2012) and climate change (http://www.nefsc.noaa.gov/ecosys/climate_change/implications.html) may adversely affect fishing communities, particularly those communities considered more vulnerable.

iv. Administrative Environment

Administration of fisheries is conducted through federal (including the Council) and state agencies which develop and enforce regulations, collect data on various fishing entities, and assess the health of various stocks. As more regulations are required to constrain stock exploitation to sustainable levels, greater administration of the resource is needed. The NMFS Office of Law Enforcement, in cooperation with state agencies, would continue to monitor regulatory compliance with existing regulations and NMFS would continue to monitor both recreational and commercial landings to determine if landings are meeting or exceeding specified quota levels. Further, stock status needs to be periodically assessed to ensure stocks are being maintained at proper levels.

Some present actions have assisted the administration of fisheries in the Gulf. In 2007, an IFQ program was implemented for the commercial red snapper sector, requiring NMFS to monitor the sale of red snapper IFQ shares. Recordkeeping requirements for IFQ shares have improved commercial quota monitoring and prevented overages from

occurring. A vessel monitoring system was also implemented for all commercial reef fish vessels in 2007 and is helping enforcement identify vessels violating various fishing closures. The implementation of ACLs and AMs for most federally managed species has required close monitoring of landings. For some species, harvest is closed if landings are projected to exceed the ACL within the season. For others, quotas or ACLs need to be adjusted during the following season to account for any ACL overages that occur in the preceding year. In 2017, the Council approved new requirements for electronic reporting by for-hire vessels, which should improve quota monitoring and help constrain harvest to the ACL. NMFS expects to implement the reporting system in spring 2019.

Allowing state management would shift some of the administrative burden from NMFS to the states. However, NMFS would still need to monitor landings to ensure overfishing is not occurring. Further, 13 ACLs would be more burdensome to monitor than the current 3 ACLs for the recreational sector, but if the private angling component is successfully constrained and the stock is able to rebuild in a more timely manner, an overall benefit of not having overages and future closures would be realized. Different state regulations and sampling programs for red snapper will result in administrative impacts to the stock assessment process. Stock assessments would continue to be conducted under the SEDAR process; however, standardized methods would need to be developed to calibrate the various state estimates in order to produce historic estimates of recreational removals (e.g., landings and dead discards). The potential impact on other fishery dependent inputs may also require further evaluation.

Implementing, issuing, and enforcing the endorsements would be a significant administrative impact. As of November 28, 2018, 1,307 reef fish for-hire permits were valid or renewable. An equal number of endorsements could potentially need to be issued, based on Council decisions in this document. The NMFS Permits Office would need to create an endorsement and the ability to assign that endorsement to a specific state. However, if in issuing those endorsements seasons are easier to predict, communities have their needs met, or on water enforcement is easier, this could ultimately be a benefit.

10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

The objective of state management is to provide flexibility to the state to establish management measures that account for the differences between each state's stakeholders while maintaining current requirements to monitor and constrain landings to the ACL, as well as implement AMs should the ACL be exceeded. Changing from one to potentially five management regimes through these actions could potentially lead to overfishing the stock if proper controls on fishing are not implemented. While NMFS would still oversee the management strategies of each state to determine consistency, the states would have authority to establish various regulations. In order to avoid, minimize, or mitigate significant cumulative effects; the amendment includes multiple alternatives within each action. The alternatives in Action 1.1 include the states only managing the private angling component, allowing NMFS to maintain management of the for-hire, which has traditionally not exceeded its ACL. Additionally, an in-season accountability

measure is established wherein a state must establish the red snapper season structure for its quota, monitor landings, and prohibit further landings of red snapper when the quota is reached or projected to be reached. Currently NMFS projects the season length for the recreational components based on previous years catch rates, and is unable to implement an earlier closure because landings information from MRIP is not available to NMFS until after the season has ended. Therefore the in-season accountability measure within Amendment 50 would be more reactive than that currently in place. The alternatives in Action 2 of the Individual State Amendments provide post-season accountability measures to mitigate for a region not constraining harvest to the apportioned regional quota. The states have indicated they would implement additional monitoring programs to better estimate the recreational harvest during the open season. Action 2 in the Individual State Amendments minimizes and mitigates for the overharvest of red snapper by accounting for the potential overharvest and constraining harvest.

11. Monitor the cumulative effects of the selected alternatives and adapt management.

NMFS would continue monitoring the harvest of red snapper. Monitoring the harvest is necessary to determine if the ACLs are exceeded and to prohibit further harvest to insure the OFL is not also exceeded. It is uncertain if the states would be able to constrain harvest within their allocation and whether the monitoring data would provide timely data to prevent overages. The timing of the data may be critical for NMFS to determine if the quota has been met. At this time, MRIP data is provided at two month intervals. This is problematic for analysis when the recreational red snapper season is shorter than two months. All five Gulf states have implemented monitoring programs to provide more timely data for landings, and therefore may be better suited to close the season in a more timely manner. This occurred in 2018 when Alabama had projected a 47- day season, but, based on timely landings information that showed higher catch rates than anticipated, closed the season after only 28 days. Because many of the states have more timely data collection programs, NMFS believes they are better suited to prevent the recreational private angling component of the fishery from exceeding its quota and entire fishery recreational sector from exceeding the ACL. In order to integrate new datasets into the stock assessment, the SEFSC will develop conversion factors to be able to compare landings under different reporting programs. The effects of the proposed actions are, and would continue to be, monitored through collection of landings data by NMFS, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations.

4.8 Other Effects

4.8.1 Unavoidable Adverse Effects

Catch quotas, minimum size limits, bag limits, and seasonal closures, are generally effective in limiting total fishing mortality, the type of fish targeted, the number of targeted fishing trips, and/or the time spent pursuing a species. However, these management tools have the unavoidable adverse effect of creating regulatory discards. Discard mortality must be accounted for in a stock assessment as part of the allowable biological catch, and thus restricts total allowable catches. By allowing the states to set specific management measures for the recreational harvest of red snapper, it may be more difficult to estimate these adverse effects.

The bycatch related to this action may impact red snapper, other reef fish species, protected resources, and birds. However, these impacts are not expected to change from status quo. The alternatives considered in this amendment and each Individual State Amendment would allow each state to set the bag limit and season structure (conservation equivalency) or set the season structure, bag limit, and minimum and maximum size limits (delegation). The states may also be permitted to request closures of federal waters adjacent to the state. The management measures set by the states would either directly or indirectly affect the bycatch and discards. In addition, if states establish varying seasons, then fishing effort shift may occur. This would need to be considered for the catch and fishing effort.

Because red snapper is but one of the reef fish species managed in the Reef Fish FMP, short-term losses are not expected to be significant, and other species may be substituted to make up for losses to the fishery. With red snapper recently being reassessed as no longer being overfished, present and future participants in the reef fish fishery will benefit. Overall, short-term impacts of actions would be offset with much higher allowable catch levels as the stock recovers and is rebuilt.

Actions considered in this amendment should not have adverse effects on public health or safety because these measures should not alter actual fishing practices, just how, when, and where activities can occur. This could have indirect effects if a region selected an open season that was more impacted by non-fishing events, such as weather (i.e., winter seasons with strong cold fronts and high seas, or a core fishing season during prime Gulf hurricane season). Unique characteristics of the geographic area are highlighted in Section 3.2. Adverse effects of fishing activities on the physical environment are described in detail in Chapter 4, which concludes little impact on the physical environment should occur from actions proposed in this document as it would not change the way in which the fishery is prosecuted. Uncertainty and risk associated with the measures are described in detail in the same sections as well as assumptions underlying the analyses.

4.8.2 Relationship between Short-Term Uses and Long-Term Productivity

The primary objective of this amendment and associated EIS is to facilitate management of the recreational red snapper component in the reef fish fishery by reorganizing the federal fishery management strategy to better account for biological, social, and economic differences among the states of the Gulf. The relationship between short-term economic uses and long-term economic productivity are discussed in the preceding section. However, because red snapper is but one species in the reef fish complex, any adverse effects may be mitigated through effort shifting to other species and may not be significant.

The alternatives being considered are not likely to have short-term negative effects. If state management is established and the states cannot constrain harvest of red snapper to the apportioned quota, then long-term negative effects on the biological environment could occur from overharvests. However, is a state fails to sufficiently constrain harvest, its conservation equivalency plan may not be approved or it delegation may be suspended. Corrective action to constrain harvest could have negative impacts on the social and economic environments, but the

magnitude of that impact would depend on the severity of the required action. The range of alternatives has varying degrees of economic costs and administrative burdens.

4.8.3 Mitigation, Monitoring, and Enforcement Measures

Mitigation, monitoring and enforcement measures are described in detail in the cumulative effects analysis of Amendment 30B (GMFMC 2008b) and are incorporated here by reference. Developing state management for the harvest of recreational red snapper is expected to be a conservation equivalent to the current management strategy concerning the impacts on the physical and biological environments. The apportionment of the recreational quota to the states would mitigate for overharvest by maintaining the total harvest to the Gulf-wide recreational ACL even though it is divided among the five states. The range of minimum size limit for red snapper would set boundaries on the states' ability to establish minimum sizes and aid enforcement. The impacts of the management strategies established by the states would be further mitigated by limiting management measures that the state can change. The quota adjustments are intended encourage the states to constrain harvest each year to prevent a reduction of their quota for the following year.

To ensure the red snapper stock recovers to a level that supports harvests at the optimum yield, periodic reviews of stock status are needed. These reviews are designed to incorporate new information and to address unanticipated developments in the respective fisheries and would be used to make appropriate adjustments in the reef fish regulations should harvest not achieve optimum yield objectives. The details for how assessments are developed, reviewed, and applied are described in Amendment 30B, as are the rule-making options the Council and NMFS have for taking corrective actions (GMFMC 2007).

Providing states flexibility to establish management measures is expected to benefit the social and economic environments. This action may increase resources needed by the administrative environment through the increased complexity of the enforcement. This complexity develops from each state setting regulations for season, bag limit, size limit, and potential area closures. In contrast, the current management sets a Gulf-wide area, minimum size limit, bag limit, and season for federal waters. Most states have had inconsistent seasons at least once over the years. Thus, the current management system could increase the degree of state inconsistency. Regardless, the effects of the actions are not likely to require mitigation.

Current reef fish regulations are labor intensive for law enforcement officials. NMFS law enforcement officials work cooperatively with other federal and state agencies to keep illegal activity to a minimum. Violators are penalized, and for reef fish commercial and reef fish for-hire operators, permits required to operate in their respective fisheries can be sanctioned.

Reef fish management measures include a number of area-specific regulations where reef fish fishing is restricted or prohibited in order to protect habitat or spawning aggregations of fish, or to reduce fishing pressure in areas that are heavily fished. To improve enforceability of these areas, the Council has established a vessel monitoring system program for the commercial reef fish sector to improve enforcement. Vessel monitoring systems allows NMFS enforcement personnel to monitor compliance with these area-specific regulations, and track and prosecute

violations. Regulations in development by NMFS would require for-hire vessels to have global positioning systems that would allow NMFS to know when vessels have left the dock. These systems may also be used to enforce closed areas.

4.8.4 Irreversible and Irretrievable Commitments of Resources

There are no irreversible or irretrievable commitments of agency resources proposed herein. The actions establishing regional management are changeable by the Council at any time in the future. In addition, there are provisions for regions to opt out of regional management. If at any time NMFS determines a state's delegation is inconsistent with the Reef Fish Fishery Management Plan, the delegation could be revoked after notification and opportunity for correction (see Appendix A). CEPs would require a periodic determination that the plan is the conservation equivalent of the default federal regulations.

4.9 Any Other Disclosures

CEQ guidance on environmental consequences (40 CFR §1502.16) indicates the following elements should be considered for the scientific and analytic basis for comparisons of alternatives. These are:

a) Direct effects and their significance.
b) Indirect effects and their significance.
c) Possible conflicts between the proposed actions and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.
d) The environmental effects of alternatives including the proposed action.
e) Energy requirements and conservation potential of various alternatives and mitigation measures.
f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.
g) Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures.
h) Means to mitigate adverse environmental impacts.

Items a, b, and d are directly discussed in Chapters 2 and 4. Item e is discussed in the economic analyses in Sections 4.1-6. It is unknown if these actions would result in energy conservation (item e) through fewer fishing trips; however, it is more likely to be an energy conservation equivalent. Item f is discussed throughout the document as fish stocks are a natural and depletable resource. A goal of this amendment is to make these stocks sustainable resources for the nation. Mitigation measures (item h) are discussed in Section 4.7.

The other elements are not applicable to the actions taken in this document. Because this amendment concerns the management of a marine fish stock, it is not in conflict with the objectives of federal, regional, state, or local land use plans, policies, and controls (Item c). Urban quality, historic and cultural resources, and the design of the built environment, including

the reuse and conservation potential of various alternatives and mitigation measures (Item g) is not a factor in this amendment. The actions taken in this amendment would affect a marine stock and its fishery, and should not affect land-based, urban environments. The exception would be the *U.S.S. Hatteras*, located in federal waters off Texas, which is listed in the National Register of Historic Places. The proposed actions are not likely to increase fishing activity and so no additional impacts to the *U.S.S. Hatteras* would be expected.

With regards to the Endangered Species Act (ESA), the biological opinion for the Reef Fish FMP, completed September 30, 2011, concluded that the continued operation of the Gulf reef fish fishery would not affect ESA-listed marine mammals or corals, and is not likely to jeopardize the continued existence of green, hawksbill, Kemp's ridley, leatherback, or loggerhead sea turtles, or smalltooth sawfish (NMFS 2011b). Additional species and habitats have been listed since the biological opinion, and consultation on the fishery was re-initiated. NMFS determined that allowing the continued authorization of the reef fish fishery during the re-initiation period will not violate Section 7(a)(2) or 7(d) of the ESA.

With regards to the Marine Mammal Protection Act, fishing activities under the Reef Fish Fishery Management Plan should have no adverse impact on marine mammals (See Section 3.3). The proposed actions are not expected to substantially change the way the fishery is currently prosecuted (e.g., types of methods, gear used, etc.). NMFS classifies reef fish bottom longline/hook-and-line gear in the 2016 List of Fisheries as a Category III fishery (81 FR 20550). This classification indicates the fishery has a remote likelihood of or no known incidental mortality or serious injury of marine mammals.

CHAPTER 5. LIST OF PREPARERS

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

CHAPTER 6. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM A COPY OF THE EIS ARE SENT

AGENCIES and ORGANIZATIONS CONSULTED

National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office
- Office for Law Enforcement
- Endangered Species Division
- Domestic Fisheries Division

NOAA General Counsel

Environmental Protection Agency (Region 4 and 6)
United States Coast Guard
United States Fish and Wildlife Services
Department of Interior. Office of Environmental Policy and Compliance
Department of State, Office of Marine Conservation,
Marine Mammal Commission

Texas Parks and Wildlife Department
Alabama Department of Conservation and Natural Resources/Marine Resources Division
Louisiana Department of Wildlife and Fisheries
Mississippi Department of Marine Resources
Florida Fish and Wildlife Conservation Commission

CHAPTER 7. REFERENCES

Abbott, B, A. Siger, and M. Spiegelstein. 1975. Toxins from the blooms of Gymnodinium breve. In: LoCicero, V.R. (ed). Proceedings of the first international conference on toxic dinoflagellate blooms. Massachusetts Science and Technology Foundation, Wakefield, Massachusetts.

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(4):1-5.

American Fisheries Society. 2013. Common and Scientific Names of Fishes from the United States, Canada, and Mexico. Seventh Edition. Special Publication 34. Bethesda, MD.

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. Ministry of Fishing Industry, Cuba.
American Fisheries Society. 2013. Common and Scientific Names of Fishes from the United States, Canada, and Mexico. Seventh Edition. Special Publication 34. Bethesda, MD.

Backus, R.H., Springer, S. and Arnold Jr., E.L. 1956. A contribution to the natural history of the white-tip shark, *Pterolamiops longimanus* (Poey). Deep-sea Research, 3, 178-188.

Baden, D. 1988. Public health problems of red tides. In: Tu, A.T. (ed) Handbook of natural toxins, book 3. Marcel Dekker, New York, p 259–277.

Barnette, M. C. 2001. A review of the fishing gear utilized within the Southeast Region and their potential impacts on essential fish habitat. NOAA Technical. Memorandum. NMFS-SEFSC-449. National Marine Fisheries Service. St. Petersburg, Florida.

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.C. Schroeder. 1953. Sawfishes, guitarfishes, skates and rays. p. 1-514. In J. Tee-Van et al. (eds.) Fishes of the western North Atlantic. Part two. New Haven, Sears Found. Mar. Res., Yale Univ.

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. 1980. Nutrition and grazing behavior of the green turtle, *Chelonia mydas*. Marine Biology 56:147-154.

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.

Bohnsack, J. 2000. Report on Impacts of Recreational Fishing on Essential Fish Habitat. In: Hamilton, A. N., Jr., ed. Gear impacts on essential fish habitat in the Southeastern Region. National Marine Fisheries Service, Southeast Fisheries Science Center. Pascagoula, Mississippi.

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.

Bonfil, R., Clarke, S. and Nakano, H. 2008. The biology and ecology of the oceanic whitetip shark, *Carcharhinus longimanus*. In: Sharks of the Open Ocean: Biology, Fisheries, and Conservation. M.D. Camhi, E.K. Pikitch and E.A. Babcock (eds): Blackwell Publishing. pp. 128-139.

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

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.

Burton, M. 2008. Southeast U.S. Continental Shelf, Gulf of Mexico, and U.S. Caribbean. *In* Osgood, K. E. (ed). Climate Impacts on U.S. Living Marine Resources: National Marine Fisheries Service Concerns, Activities and Needs. U.S. Dep. Commerce, NOAA Tech. Memo. NMFSF/ SPO-89, pp 31-43.

Bush, P.G., G.C. Ebanks, and E.D Lane. 1996. Validation of the ageing technique for the Nassau grouper (*Epinephelus striatus*) in the Cayman Islands, p. 150-158, *in:* F. Arreguin-Sanchez, J.L. Munro, M.C. Balgos, and D. Pauly (eds.) Biology, fisheries and culture of tropical groupers and snappers. ICLARM Conf. Proc. 48, 449 pp.

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.

Camber, C.I. 1954. A survey of the red snapper fishery in the Gulf of Mexico with special reference to the Campeche Banks. M.S. Thesis, University of Miami.

Carr, A. 1986. Rips, fads and little loggerheads. BioScience 36:92-100.

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

Carter, D.W. 2015. The prices for for-hire marine fishing trips in the southeastern U.S. collected from websites: 2011- 2013. NOAA Technical Memorandum NMFS-SEFSC-682.

Carter, David W. 2016. The prices for for-hire marine fishing trips in the southeastern U.S. collected from websites: 2014 and 2015. NOAA Technical Memorandum NMFS-SEFSC-694. 25 p.

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.

Carter, D.W. and C. Liese. 2012. "The Economic Value of Catching and Keeping or Releasing Saltwater Sportfish in the Southeast USA." *North American Journal of Fishery Management* 23: 613-625. http://dx.doi.org/10.1080/02755947.2012.675943

Chester, W. 2001. Full box! One hundred years of fishing and boat building in Bay County. Fire in the Water Publishing Company, South port, Florida. 314 p. Clapp, R. B., R. C. Banks, D. Morgan-Jacobs, and W. A. Hoffman. 1982. Marine birds of the southeastern United States and Gulf of Mexico. U.S. Dept. of Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C. FWS/OBS-82/01. 3 vols.

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

Colin, P.L., D.Y. Shapiro, and D. Weiler. 1987. Preliminary investigations of reproduction of two species of groupers. *Epinephelus guttatus* and *E. striatus* in the West Indies. Bull.Mar. Sci., 40**:**220-230.

Collins, L.A., G.R. Fitzhugh, L. Mourand, L.A. Lombardi, W.T. Walling Jr., W.A. Fable, M.R. Burnett, R.J. Allman. 2001. Preliminary results from a continuing study of spawning and fecundity in the red snapper (Lutjanidae: *Lutjanus campechanus*) from the Gulf of Mexico, 1998-1999. Proceedings of the 52nd Gulf and Caribbean Fisheries Institute. 52: 34-47.

Compagno, L.J.V. 1984. FAO Species Catalogue. Vol 4. Sharks of the world: an annotated and illustrated catalogue of shark species known to date. Parts 1 and 2. FAO Fisheries Synopsis No. 125. FAO, Rome, Italy. p. 655.

Cortés, E. 1999. Standardized diet compositions and trophic levels of sharks. ICES Journal of Marine Science, 56, 707-717.

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. Mar. Ecol. Prog. Ser., 445: 75–95.

DeLeo, D. M., D. V. Ruiz-Ramos, I. B. Baums, and E. E. Cordes. 2015. Response of deep-water corals to oil and chemical dispersant exposure. Deep-Sea Research Part II: Topical Studies in Oceanography 129:137-147.

DWH MMIQT (*Deepwater Horizon* Marine Mammal Injury Quantification Team). 2015. Models and analyses for the quantification of injury to Gulf of Mexico cetaceans from the *Deepwater Horizon* oil spill. DWH Marine Mammal NRDA Technical Working Group Report. At https://www.doi.gov/deepwaterhorizon/adminrecord.

DWH Trustees. 2016. *Deepwater Horizon* Oil Spill, Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement. http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan

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.

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.

Environmental Information Partnership. 1998. Cumulative effects assessment in the Moose River Basin – Background literature review March 31, 1998. Environmental Information Partnership, Ministry of Natural Resources, Northeast Region, Ontario, Canada. 62 pp.

Fine, J.C. 1990. Groupers in Love: Spawning aggregations of Nassau groupers in Honduras. Sea Frontiers. Jan/Feb 1990:42-45.

Fine J.C. 1992. Greedy for Groupers. Wildl. Cons. May/June 1992:1-5.

Fischer, A. J., M. S. Baker, Jr., and C. A. Wilson. 2004. Red snapper (*Lutjanus campechanus*) demographic structure in the northern Gulf of Mexico based on spatial patterns in growth rates and morphometrics. Fishery Bulletin 102:593–603.

Fisher, C. R., P. Hsing, C. L. Kaiser, D. R. Yoerger, H. H. Roberts, W. W. Shedd, E. E. Cordes, T. M. Shank, S. P. Berlet, M. G. Saunders, E. A. Larcom, and J. M. Brooks. 2014. Footprint of *Deepwater Horizon* blowout impact to deep-water coral communities. Proceedings of the National Academy of Science 111:11744-11749.

Frick, J. 1976. Orientation and behavior of hatchling green turtles *Chelonia mydas* in the sea. Animal Behavior 24(4):849-857.

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. 1989. Amendment 1 to the reef fish fishery management plan includes environmental assessment, regulatory impact review, and regulatory flexibility analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida. 356 pp. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20Amend-01%20Final%201989-08-rescan.pdf

GMFMC. 1997. Amendment 14 to the fishery management plan for the reef fish fishery of the Gulf of Mexico, includes regulatory impact review, initial regulatory flexibility analysis, and environmental assessment. Gulf of Mexico Fishery Management Council. Tampa, Florida. http://gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20Amend-14%20Final%201996-08.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 Reef Fish Fishery Management Plan for the Reef Fish Resources 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. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend%2022%20Final%2070204.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. 490 pp with appendices. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20RF%20Amend%2027-%20Shrimp%20Amend%2014.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. Regulatory amendment to the reef fish fishery management plan to set 2011 total allowable catch for red snapper. Gulf of Mexico Fishery Management Council, Tampa, Florida.

http://www.gulfcouncil.org/docs/amendments/Red%20Snapper%202011%20Regulatory%20Amendment%20-%201-11.pdf

GMFMC. 2011b. Final generic annual catch limits/accountability measures amendment for the Gulf of Mexico fishery management council's red drum, reef fish, shrimp, coral and coral reefs fishery management plans, including environmental impact statement, regulatory impact review, regulatory flexibility analysis, and fishery impact statement. Gulf of Mexico Fishery Management Council. Tampa, Florida. 378 pp. http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf

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

GMFMC. 2013a. Framework action to set the 2013 red snapper commercial and recreational quotas and modify the recreational bag limit, including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida. http://gulfcouncil.org/docs/amendments/Red%20Snapper%20Framework%20Action%20to%20Set%202013%20Quotas.pdf

GMFMC. 2013b. Red snapper 2013 quota increase and supplemental recreational season, 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%20Red%20Snapper%20Framework%20Action%20Set%202013%20Quotas%2008-01-13.pdf

GMFMC. 2013c. Standing and Special Reef Fish SSC meeting summary –May 29-31, 2013. Gulf of Mexico Fishery Management Council, Tampa, Florida. 14 p. Available from the Council's FTP file server via the Council website under archived meetings: http://www.gulfcouncil.org

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 2015a. Framework action to set red snapper quotas for 2015-2017+ including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida. 74 pp. http://www.gulfcouncil.org/docs/amendments/Final%20Red%20Snapper%20Framework%20Action%20Set%202015-2017%20Quotas.pdf

GMFMC. 2015b. 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. 2015c. Standing, Special Reef Fish and Special Mackerel SSC meeting summary – January 6-8, 2015. Gulf of Mexico Fishery Management Council, Tampa, Florida. 19 p. Available from the Council's FTP file server via the Council website under archived meetings: http://www.gulfcouncil.org

GMFMC. 2015d. Draft Amendment 39 to the fishery management plan for the reef fish resources of the Gulf of Mexico: Regional management of recreational red snapper, including draft environmental impact statement. Gulf of Mexico Fishery Management Council, Tampa, Florida. 294 p. http://archive.gulfcouncil.org/council_meetings/BriefingMaterials//BB-01-2016/B%20-209(a)%202016%20Jan%20DEIS%20RF39%20Regional%20Management%2012-8-15.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, including environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida. 161 p. http://gulfcouncil.org/docs/amendments/RF%2045%20Final.pdf

GMFMC. 2017a. Final amendment 44 to the fishery management plan for the reef fish resources of the Gulf of Mexico: Minimum stock size threshold (MSST) revision for reef fish stocks with existing status determination criteria, including environmental assessment and fishery impact statement. Gulf of Mexico Fishery Management Council. Tampa, Florida. 121 pp. http://gulfcouncil.org/wp-content/uploads/B-4a-Public-Hearing-Draft-Amendment-44-MSST-GOM-Reef-Fish.pdf

GMFMC. 2017b. Final Generic Amendment to the Fishery Management Plans for the Reef Fish Resources of the Gulf of Mexico and Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region: Modifications to charter vessel and headboat reporting requirements. Gulf of Mexico Fishery Management Council. 185pp. http://gulfcouncil.org/wp-content/uploads/Electronic-Reporting-for-For-Hire-Vessels-5-23-17.pdf

GMFMC. 2018a. Framework action for the modification of Gulf of Mexico red snapper and west Florida hogfish annual catch limits, including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

GMFMC. 2018b. Framework action for the modification to the recreational red snapper annual catch target buffers, including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

GMFMC. 2018c. Coral habitat areas considered for habitat area of particular concern designation in the Gulf of Mexico. Final Amendment 9 to the Fishery Management Plan for the Coral and Coral Reefs of the Gulf of Mexico, U.S. Waters including environmental impact statement. In development.

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 p. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/spiny%20lobster%20fmp/SPL%20FMP%20Final%201982-03.pdf

Goethel, D. R. and M. W. Smith. 2018. The impact of a reduction in shrimp effort thresholds on SEDAR 52 Gulf of Mexico red snapper catch limit projections. Report to the Gulf of Mexico Fishery Management Council. NMFS Southeast Fisheries Science Center, 10 pp.

Goodyear, C. P. 1988. The Gulf of Mexico fishery for reef fish species, a descriptive profile. Unpublished report. National Marine Fisheries Service, Southeast Fisheries Center, Miami Laboratory, CRD 87/88-19. https://grunt.sefsc.noaa.gov/P_QryLDS/DisplayDocuments.jsp?min_series_code=CR&min_record_id=935&direction=next&total_rows=2955&description=SEFSC%20Technical%20Memorandum#

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

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

Holland, S.M., A.J. Fedler, and J.W. Milon. 1999. The operations and economics of the charter and head boat fleets of the eastern Gulf of Mexico and South Atlantic coasts. Final report for MARFIN program grant number NA77FF0553. University of Florida, Gainesville, FL.

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: 1023–1037.

Hsing, P., B. Fu, E. A. Larcom, S. P. Berlet, T. M. Shank, A. F. Govindarajan, A. J. Lukasiewicz, P. M. Dixon, C. R. Fisher. 2013. Evidence of lasting impact of the Deep-water Horizon oil spill on a deep Gulf of Mexico coral community. Elementa: Science of the Anthropocene 1:1-15.

Hughes, G.R. 1974. The sea turtles of south-east Africa. I. Status, morphology and distribution. Oceanogr. Res. Inst. Invest. Rept. No. 35. Durban, South Africa. 144 pp.

IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

Jacob, S., P. Weeks, B. Blount, and M. Jepson. 2013. Development and evaluation of social indicators of vulnerability and resiliency for fishing communities in the Gulf of Mexico. Marine Policy 37:86-95.

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.

Karnauskas, Mandy, John F. Walter III, Matthew D. Campbell, Adam G. Pollack, J. Marcus Drymon, and Sean Powers. 2017. Red snapper distribution on natural habitats and artificial structures in the northern Gulf of Mexico. Marine and Coastal Fisheries 9(1):50-67.

Kennedy, V., Twilley, R. Klypas, J. Cowan, J. and Hare, S. 2002. Coastal and marine ecosystems & global climate change: Potential effects on U.S. resources. Prepared for the Pew Center on Global Climate Change.

LaBrecque E, C. Curtice, J. Harrison, S.M. Van Parijs, and P.N. Halpin. 2015. Biologically important areas for cetaceans within U.S. waters - Gulf of Mexico region. Aquatic Mammals 4:30-38

Landsberg, J.H. 2002. The effects of harmful algal blooms on aquatic organisms. Reviews in Fisheries Science 10(2):113-390.

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. Elsevier, Amsterdam, 610.

Liese, C. and D.W. Carter. 2011. Collecting economic data from the for-hire fishing sector: Lessons from a cost and earnings survey of the southeast U.S. charter boat industry. Page 14 *in* Beard, T. D., Jr., A. J. Loftus, and R. Arlinghaus (editors). The Angler and the Environment. American Fisheries Society, Bethesda, Maryland.

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.

Limpus, C.J., and N., Nichols. 1994. Progress report on the study of the interaction of El Niño Southern Oscillation on annual *Chelonia mydas* numbers at the southern Great Barrier Reef rookeries. *In:* Proceedings of the Australian Marine Turtle Conservation Workshop, Queensland Australia.

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.

Maze-Foley K. and K.D. Mullin. 2006. Cetaceans of the oceanic northern Gulf of Mexico: Distributions, group sizes and interspecific associations. Journal of Cetacean Research and Management 8:203-213.

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

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 The most recent version of this manual and software is available at

Meylan, A. 1984. Feeding ecology of the hawksbill turtle *Eretmochetys 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.

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.

Mullin, K.D. and W. Hoggard. 2000. Cetaceans, sea turtles and seabirds in the northern Gulf of Mexico: Distribution, abundance and habitat associations. Volume II: Technical report. Visual surveys of cetaceans and sea turtles from aircraft and ships. OCS Study MMS 96-0027. New Orleans, Louisiana.

Mullin, K.D. 2007. Abundance of cetaceans in the oceanic northern Gulf of Mexico from 2003 and 2004 ship surveys. National Marine Fisheries Service, Southeast Fisheries Science Center. Pascagoula, Mississippi.

Nieland, D. L., C. A. Wilson III, and A. J. Fischer. 2007. Declining size-at-age among red snapper in the Northern Gulf of Mexico off Louisiana, USA: recovery or collapse? Pages 329-336 in W. F. Patterson, III, J. H. Cowan, Jr., G. R. Fitzhugh and D. L. Nieland, editors. Red snapper ecology and fisheries in the U

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. Available at: http://sero.nmfs.noaa.gov/sf/pdfs/2010_Recreational_Red_Snapper_Quota_Closure_Analysis_Fall_Reopening.pdf

NMFS. 2011. Biological opinion on the continued authorization of Reef Fish fishing under the Gulf of Mexico Reef Fish Fishery Management Plan. September 30, 2011.

NMFS. 2016. Nassau Grouper, *Epinephelus striatus* (Bloch 1792) Biological Report. Protected Resources Division, Southeast Regional Office, NMFS. 117 p.

Norman, J. R., and F. C. Fraser. 1938. Giant Fishes, Whales and Dolphins. W. W. Norton and Company, Inc., New York, NY. 361 pp

Norman, John Roxbrough and Fraser, F.C. 1938. Giant fishes, whales and dolphins. New York, W.W. Norton & Co., Inc. 361 p.

Office of National Marine Sanctuaries. 2016. Flower Garden Banks National Marine Sanctuary Expansion Draft Environmental Impact Statement. U.S. Department of Commerce, National

Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. https://nmsflowergarden.blob.core.windows.net/flowergarden-prod/media/archive/doc/fgbnmsexpansiondeis.pdf

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.

O'Hop, J., M. Murphy, and D. Chagaris. 2012. The 2012 stock assessment report for yellowtail snapper in the south Atlantic and Gulf of Mexico. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, St. Petersburg, Florida. 341 pp. http://sedarweb.org/docs/sar/YTS_FWC_SAR.pdf

Olsen, D.A. and J.A. LaPlace. 1979. A study of the Virgin Island grouper fishery based on breeding aggregations. Proc. Gulf Carib. Fish. Inst., 31:130-144.

Osgood, K. E. (ed.) 2008. Climate impacts on U. S. living marine resources: National Marine Fisheries Services concerns, activities and needs. Silver Spring, Maryland, National Oceanic and Atmospheric Administration, 118pp. (NOAA Technical Memorandum NMFS-F/SPO, 89).

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 p.

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.

Porch, C.E., G.R. Fitzhugh, and B.C. Linton. 2013. Modeling the dependence of batch fecundity and spawning frequency on size and age for use in stock assessment of red snapper in U.S. Gulf of Mexico waters-SEDAR31-AW03. Southeast Fisheries Science Center, Miami, Florida 33149.

Reynolds, J.E. III, R.S. Wells, and S.D Eide. 2000. The Bottlenose Dolphin: Biology and Conservation. University Press of Florida. 289 pp.

Saari, C.R., Cowan, J.H., Boswell, K.M. 2014. Regional differences in the age and growth of red snapper (*Lutjanus campechanus*) in the U.S. Gulf of Mexico. Fishery Bulletin 112:261-273

Sadovy, Y. and A.-M. Eklund. 1999. Synopsis of biological information on the Nassau Grouper, *Epinephelus striatus* (Bloch, 1792), and the Jewfish, *E. itajara* (Lichtenstein, 1822). NOAA Technical Report NMFS 146. Technical Report of the Fishery Bulletin. FAO Fisheries Synopsis 157. U.S. Department of Commerce, Seattle, WA USA, 65 pp.

Savolainen, M.A., R.H. Caffey, and R.F. Kazmierczak. 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, Louisiana State University. Final report to National

Marine Fisheries Service. 171 pp. Online at www.laseagrant.org/pdfs/Gulf-RFH-Survey-Final-Report-2012.pdf

Schirripa, M. J., and C. M. Legault. 1999. Status of the red snapper fishery in the Gulf of Mexico: Updated through 1998. SFD-99/00-75. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

SEA (Strategic Environmental Assessment Division, NOS). 1998. Product overview: Products and services for the identification of essential fish habitat in the Gulf of Mexico. NOS, Page 7-62 DEIS for EFH for the Gulf of Mexico FMPs July 2003 Silver Spring MD; National Marine Fisheries Service, Galveston, Texas; and Gulf of Mexico Fishery Management Council. Tampa Florida.

SEDAR 3. 2003. Complete stock assessment report of yellowtail snapper in the southeastern United States – SEDAR 3, Assessment report 1. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org/docs/sar/SEDAR3_SAR1YTS_Final.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://www.sefsc.noaa.gov/sedar/.

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://www.sefsc.noaa.gov/sedar/.

SEDAR 15A Update. 2015. Stock assessment of mutton snapper (*Lutjanus analis*) of the U.S. south Atlantic and Gulf of Mexico through 2013 – SEDAR update assessment. Florida Fish and Wildlife Conservation Commission, St. Petersburg, Florida. 142 pp. http://sedarweb.org/docs/suar/SEDAR%20Update%20Stock%20Assessment%20of%20Mutton%20Snapper%202015_FINAL.pdf

SEDAR 19. 2010. Stock assessment report Gulf of Mexico and South Atlantic black grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 661 pp. http://sedarweb.org/docs/sar/Black_SAR_FINAL.pdf

SEDAR 22. 2011a. Stock assessment report Gulf of Mexico tilefish. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org/docs/sar/tilefish_SAR_FINAL.pdf

SEDAR 22. 2011b. Stock assessment report Gulf of Mexico yellowedge grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org/docs/sar/YEG_final_SAR.pdf

SEDAR 23. 2011. Stock assessment report South Atlantic and Gulf of Mexico goliath grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 248 pp.

http://sedarweb.org/docs/sar/S23_SAR_complete_and_final.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_sizereduced.pdf

SEDAR 31 Update. 2014. Stock assessment of red snapper in the Gulf of Mexico 1872 – 2013 - with provisional 2014 landings. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 242 pp. http://sedarweb.org/docs/suar/SEDARUpdateRedSnapper2014_FINAL_9.15.2015.pdf

SEDAR 33 Update. 2016a. Stock assessment update report Gulf of Mexico greater amberjack (*Seriola dumerili*). SEDAR, North Charleston SC. 148 pp. http://sedarweb.org/docs/suar/GagUpdateAssessReport_Final_0.pdf

SEDAR 33 Update. 2016b. Update report Gulf of Mexico Gag Grouper. SEDAR, North Charleston SC. 123 pp. http://sedarweb.org/docs/suar/GagUpdateAssessReport_Final_0.pdf

SEDAR 37. 2014. The 2013 stock assessment report for hogfish in the south Atlantic and Gulf of Mexico. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 573 pp. http://sedarweb.org/docs/sar/SEDAR37_Hogfish_SAR.pdf

SEDAR 42. 2015. Gulf of Mexico red grouper stock assessment report. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 612 pp. http://sedarweb.org/docs/sar/SEDAR_38_Gulf_SAR.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

SEDAR 45. 2016. Stock assessment report Gulf of Mexico vermilion snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 188 pp. http://sedarweb.org/docs/sar/S45_Final_SAR.pdf

SEDAR 49. 2016. SEDAR 49 Stock Assessment Report on Gulf of Mexico Data-limited Species. Southeast Data, Assessment, and Review, Charleston, South Carolina. 618 pp. http://sedarweb.org/sedar-49-final-stock-assessment-report-gulf-mexico-data-limited-species.

SEDAR 52. 2018. Stock assessment report for Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org.

SERO. 2012. Southeast Regional Office National Marine Fisheries Service. Estimated reduction in Gulf of Mexico recreational red snapper harvest associated with various bag limits. Southeast Regional Office, St. Petersburg, Florida.

SERO-LAPP-2015-04. 2015. Gulf of Mexico Red Snapper Recreational Season Length Estimates http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/reef_fish/2015/rs_framework_quota/documents/pdfs/rs_2015_rec_quota_projection.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 prospective of the importance of artificial habitat on the management of red snapper in the Gulf of Mexico. Reviews in Fisheries Science 17: 41-47.

Simpfendorfer, CA. 2001. Essential habitat of the smalltooth sawfish, *Pristis pectinata*. Report to the National Fisheries Service‘s Protected Resources Division. Mote Marine Laboratory, Technical Report (786) 21pp.

Simpfendorfer, C.A., and T.R. Wiley. 2005. Determination of the distribution of Florida’s remnant sawfish population and identification of areas critical to their conservation. Final Report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida.

Smith, C. L. 1972. A spawning aggregation of Nassau grouper, *Epinephelus striatus* (Bloch). Trans. Amer. Fish. Soc., 101**:**257-261.

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.

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.

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 40:16.

Strasburg, D. 1958. Distribution, abundance, and habits of pelagic sharks in the Central Pacific ocean. . Fishery Bulletin 138 Washington, U.S. Govt. Print. Off., 58, 335-361.

Szedlmayer, S. T. and J. Conti. 1998. Nursery habitat, growth rates, and seasonality of age-0 red snapper, *Lutjanus campechanus*, in the northeast Gulf of Mexico. Fishery Bulletin. 97:626-635.

Szedlmayer, S. T. and J. C. Howe. 1997. Substrate preference in age-0 red snapper, *Lutjanus campechanus*. Environmental biology of fishes 50: 203-207.

Szedlmayer, S.T. and R.L. Shipp 1994. Movement and growth of red snapper, *Lutjanus campechanus*, from an artificial reef area in the northeastern Gulf of Mexico. Bulletin of Marine Science 55:887-896.

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.

Topping, D.T. and S.T. Szedlmayer. 2011. Home range and movement patterns of red snapper (*Lutjanus campechanus*) on artificial reefs. Fisheries Research. 112: 77-84.

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.

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.

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

Walter, J, M.C. Christman, J.H. Landsberg, B. Linton, K. Steidinger, R. Stumpf, and J. Tustison. 2013. Satellite derived indices of red tide severity for input for Gulf of Mexico gag grouper stock assessment. SEDAR33-DW08. SEDAR, North Charleston, SC, 43 pp.

Waring, G.T., E. Josephson, K. Maze-Foley, and P.E. Rose (eds.). 2016. US Atlantic and Gulf of Mexico marine mammal stock assessments – 2015. NOAA Technical Memorandum NMFS-NE-238. 501 p.
http://www.nmfs.noaa.gov/pr/sars/pdf/atlantic2015_final.pdf

White, H. K., P. Hsing, W. Cho, T. M. Shank, E. E. Cordes, A. M. Quattrini, R. K. Nelson, R. Camilli, A. W. J. Demopoulos, C. R. German, J. M. Brooks, H. H. Roberts, W. Shedd, C. M. Reddy, and C. R.Fisher. 2012. Impact of the *Deepwater Horizon* oil spill on a deep-water coral community in the Gulf of Mexico. Proceedings of the National Academy of Science 109:20303-20308.

Wilson, D., R. Billings, R. Chang, H. Perez, and J. Sellers. 2014. Year 2011 Gulfwide emissions inventory study. US Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study BOEM 2014-666.

Wilson, Charles A., Nieland, D.L. 2001. Age and growth of red snapper, *Lutjanus campechanus*, from the northern Gulf of Mexico off Louisiana. Fishery Bulletin 99:653-664.

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

Woods, M. K. 2003. Demographic differences in reproductive biology of female red snapper (Lutjanus campechanus) in the northern Gulf of Mexico. Master's thesis. University of South Alabama, Mobile, Alabama.

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. 475 p.Chapter 8. Index

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APPENDIX A. RED SNAPPER LANDINGS AND TRIPS

Table A-1. Annual recreational red snapper landings ***for all modes*** by state (1986-2015), in whole weight of fish.

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	401,123	1,923,409	628,755	3,483	525,242
1987	387,077	897,447	281,412	54,030	454,200
1988	516,328	938,726	1,038,395	19,211	622,381
1989	544,007	362,359	708,400	341,941	980,566
1990	639,577	289,176	274,815	55,440	360,241
1991	877,662	412,597	968,807	179,601	451,819
1992	1,501,923	370,531	1,091,983	742,277	840,843
1993	2,038,695	1,237,924	1,579,456	907,243	1,281,487
1994	1,889,674	846,569	1,298,015	491,146	1,502,840
1995	1,734,545	565,357	1,498,252	155,566	1,455,778
1996	1,752,106	994,000	837,417	212,843	1,490,080
1997	2,650,058	1,007,178	1,074,486	632,172	1,325,784
1998	1,446,734	1,387,761	698,957	189,014	1,104,927
1999	1,975,892	1,420,582	776,530	143,799	588,085
2000	1,405,597	1,690,908	881,480	24,591	707,746
2001	2,221,042	2,095,912	309,510	108,454	509,885
2002	2,620,872	2,525,347	404,563	227,551	743,411
2003	2,315,502	2,201,846	544,732	365,829	666,133
2004	1,937,219	3,484,522	376,280	25,571	636,652
2005	1,361,826	2,242,439	484,250	5,222	582,181
2006	826,955	2,106,536	504,844	32,809	659,988
2007	1,134,693	3,295,292	908,429	3,399	466,979
2008	695,131	2,332,925	638,159	39,193	350,466
2009	1,207,913	2,630,439	1,054,595	43,574	660,337
2010	564,655	1,482,107	133,601	10,834	456,171
2011	3,606,454	1,975,772	600,358	69,478	482,045
2012	2,701,304	2,445,940	1,446,106	314,154	616,737
2013	4,424,247	3,777,372	589,642	422,529	489,112
2014	1,158,780	1,644,841	591,098	45,118	395,599
2015	2,468,809	1,631,295	1,214,971	44,694	600,382

Source: Southeast Fisheries Science Center (SEFSC) recreational annual catch limit (ACL) data (June 2018), with SEFSC Southeast Data Assessment and Review (SEDAR) 31 Update (2014) Access Point Angler Intercept Survey (APAIS) adjustments. Landings exclude shore mode.

Table A-2. Annual recreational red snapper landings by the ***private angling component***, by state (1986-2015), in whole weight of fish.

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	88,934	335,079	397,782	3,333	173,165
1987	179,372	332,788	76,970	53,757	60,455
1988	43,382	421,639	925,766	12,445	85,993
1989	71,790	176,352	570,607	336,770	37,182
1990	340,970	118,793	98,628	41,105	42,976
1991	458,409	129,731	29,944	168,884	72,367
1992	966,331	144,334	440,892	733,015	82,181
1993	999,221	136,594	888,122	827,117	105,635
1994	1,136,160	100,145	647,130	374,162	201,842
1995	919,526	45,798	832,915	151,391	289,471
1996	730,964	110,737	476,778	170,157	286,698
1997	1,288,722	56,515	610,487	549,048	264,841
1998	546,059	57,090	494,504	176,348	224,600
1999	1,425,824	361,676	586,835	132,036	156,918
2000	730,732	540,008	687,928	8,568	146,519
2001	1,370,655	1,047,142	222,333	87,634	119,065
2002	1,598,077	1,034,015	109,925	162,578	132,557
2003	1,357,478	944,187	247,210	325,327	112,954
2004	1,183,065	1,841,276	54,611	18,991	100,658
2005	719,236	1,182,012	82,982	5,222	186,278
2006	249,366	1,085,879	144,582	29,437	182,982
2007	542,033	1,784,411	684,663	3,399	128,485
2008	391,187	1,335,796	376,502	37,542	157,293
2009	834,329	1,511,782	802,254	43,574	170,412
2010	490,115	1,003,151	131,947	0	159,496
2011	3,127,693	993,880	538,459	59,448	171,888
2012	2,197,377	1,420,620	1,188,763	306,854	171,308
2013	3,877,683	3,105,730	489,204	418,737	254,563
2014	1,006,166	1,459,885	557,189	43,425	201,894
2015	1,711,421	766,237	1,059,302	34,209	235,305

Source: SEFSC recreational ACL data (June 2018), with SEFSC SEDAR 31 Update (2014) APAIS adjustments. Landings exclude shore mode.

Table A-3. Annual recreational red snapper landings by ***federal for-hire component*** (charter vessels and headboats), by state (1986-2015), in whole weight of fish.

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	312,188	1,588,330	230,974	149	352,077
1987	207,705	564,660	204,443	274	393,745
1988	472,946	517,087	112,629	6,765	536,388
1989	472,217	186,007	137,793	5,171	943,384
1990	298,607	170,384	176,187	14,335	317,265
1991	419,253	282,867	938,863	10,717	379,452
1992	535,591	226,198	651,091	9,262	758,662
1993	1,039,474	1,101,330	691,334	80,126	1,175,852
1994	753,514	746,424	650,884	116,984	1,300,998
1995	815,019	519,559	665,337	4,175	1,166,307
1996	1,021,142	883,262	360,639	42,686	1,203,382
1997	1,361,336	950,662	463,999	83,124	1,060,943
1998	900,676	1,330,671	204,453	12,666	880,327
1999	550,068	1,058,906	189,695	11,763	431,167
2000	674,864	1,150,900	193,552	16,023	561,227
2001	850,387	1,048,769	87,177	20,820	390,820
2002	1,022,795	1,491,332	294,638	64,973	610,854
2003	958,024	1,257,659	297,522	40,502	553,179
2004	754,153	1,643,246	321,670	6,580	535,994
2005	642,589	1,060,428	401,268	0	395,903
2006	577,589	1,020,657	360,262	3,371	477,006
2007	592,661	1,510,881	223,766	0	338,494
2008	303,943	997,129	261,657	1,651	193,173
2009	373,584	1,118,657	252,341	0	489,925
2010	74,540	478,957	1,654	10,834	296,675
2011	478,761	981,892	61,899	10,030	310,157
2012	503,927	1,025,320	257,344	7,300	445,429
2013	546,564	671,642	100,438	3,792	234,549
2014	152,614	184,957	33,909	1,693	193,705
2015	757,388	865,058	155,669	10,485	365,077

Source: SEFSC recreational ACL data (June 2018), with SEFSC SEDAR 31 Update (2014) APAIS adjustments. Landings exclude shore mode.

Table A-4. Annual recreational red snapper angler-trip estimates ***for all modes*** by state (1986-2015).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	18,107	102,522	37,750	4,268	45,225
1987	18,112	41,737	24,716	4,310	55,398
1988	18,101	154,342	36,138	6,689	55,448
1989	40,224	96,183	45,225	6,148	51,404
1990	63,109	62,717	26,129	5,092	50,336
1991	60,305	64,688	22,715	10,375	49,544
1992	78,785	89,312	28,497	28,179	72,661
1993	123,153	162,664	65,758	33,691	79,352
1994	89,895	142,736	53,290	23,528	96,110
1995	115,294	72,574	72,473	19,095	96,484
1996	93,164	121,004	45,214	15,233	95,384
1997	145,558	168,379	42,260	32,480	83,289
1998	89,154	214,613	26,668	16,053	88,628
1999	153,714	176,714	40,153	9,812	52,031
2000	111,111	155,302	32,537	3,810	65,004
2001	136,008	170,494	22,726	9,782	60,890
2002	139,253	188,021	16,193	13,613	70,080
2003	146,792	195,401	24,792	17,339	59,194
2004	126,699	258,043	43,372	5,208	65,685
2005	83,733	194,751	37,939	1,003	67,128
2006	72,876	301,060	58,765	4,150	81,385
2007	85,646	250,783	73,832	1,437	70,262
2008	61,098	223,191	45,570	10,261	26,299
2009	90,329	270,234	50,132	10,554	49,942
2010	24,129	129,100	3,468	426	37,742
2011	127,892	157,398	18,832	6,987	37,002
2012	86,253	193,385	49,766	14,167	37,241
2013	219,157	277,021	40,126	20,030	34,874
2014	76,136	141,406	63,256	3,725	24,235
2015	151,863	152,075	62,014	3,549	40,578

Source: Directed trip estimates from Southeast Region Headboat Survey (SRHS), Marine Recreational Information Program (MRIP), LA Creel (Louisiana trips from 2014-2015), and Texas Parks and Wildlife Department (TPWD). Note that directed trip estimates from these sources are not computed using the same methodologies and may not be directly comparable. SRHS does not collect targeting information.

Table A-5. Annual recreational red snapper angler trip estimates by the ***private angling component***, by state (1986-2015).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	8,085	20,330	19,716	4,198	14,718
1987	11,876	18,107	14,779	4,252	9,633
1988	3,890	45,423	30,081	5,994	10,886
1989	12,576	18,306	40,070	5,170	7,084
1990	40,569	10,142	14,470	4,392	10,595
1991	37,044	15,381	2,473	10,086	9,738
1992	52,250	9,160	15,870	27,781	11,108
1993	79,356	6,512	46,952	26,969	10,819
1994	54,877	4,696	37,262	14,615	18,216
1995	73,098	0	48,844	18,140	25,391
1996	50,877	17,401	30,506	9,860	27,544
1997	79,648	2,694	29,205	27,165	28,402
1998	38,482	3,416	17,918	13,816	25,646
1999	97,555	32,107	35,726	7,138	18,510
2000	67,049	27,729	25,949	2,202	22,252
2001	94,220	62,001	15,690	8,222	15,968
2002	90,431	66,561	8,798	10,546	16,793
2003	101,401	83,636	13,646	14,246	14,171
2004	67,728	129,099	13,281	4,240	16,318
2005	39,455	76,102	16,435	1,003	15,430
2006	20,014	177,469	25,070	4,150	20,977
2007	32,943	136,367	50,896	1,437	11,393
2008	22,960	88,854	30,689	10,261	9,914
2009	48,392	134,643	35,509	10,554	10,583
2010	16,326	73,595	3,338	0	5,791
2011	86,370	51,033	14,611	6,169	7,601
2012	51,794	77,457	38,413	13,515	6,572
2013	176,719	166,239	31,049	19,478	8,289
2014	46,909	50,415	60,146	3,433	3,173
2015	99,446	11,194	53,165	2,641	6,367

Source: Directed trip estimates from SRHS, MRIP, LA Creel (Louisiana trips from 2014-2015), and TPWD. Note that directed trip estimates from these sources are not computed using the same methodologies and may not be directly comparable. SRHS does not collect targeting information.

Table A-6. Annual recreational red snapper angler trip estimates by ***federal for-hire component*** (charter vessels and headboats), by state (1986-2015).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	10,022	82,192	18,034	70	30,507
1987	6,236	23,630	9,937	58	45,764
1988	14,211	108,919	6,057	695	44,562
1989	27,648	77,877	5,155	978	44,320
1990	22,540	52,575	11,659	700	39,741
1991	23,261	49,307	20,242	289	39,806
1992	26,535	80,152	12,627	398	61,553
1993	43,797	156,152	18,806	6,722	68,533
1994	35,018	138,040	16,028	8,913	77,894
1995	42,196	72,574	23,629	955	71,093
1996	42,287	103,603	14,708	5,373	67,840
1997	65,910	165,685	13,055	5,315	54,887
1998	50,672	211,197	8,750	2,237	62,981
1999	56,159	144,607	4,427	2,674	33,521
2000	44,062	127,573	6,588	1,608	42,752
2001	41,788	108,493	7,036	1,560	44,922
2002	48,822	121,460	7,395	3,067	53,287
2003	45,391	111,765	11,146	3,093	45,023
2004	58,971	128,944	30,091	968	49,367
2005	44,278	118,649	21,504	0	51,698
2006	52,862	123,591	33,695	0	60,408
2007	52,703	114,416	22,936	0	58,868
2008	38,138	134,337	14,881	0	16,385
2009	41,937	135,591	14,623	0	39,359
2010	7,803	55,505	130	426	31,950
2011	41,522	106,365	4,221	818	29,401
2012	34,459	115,928	11,353	652	30,668
2013	42,438	110,782	9,077	552	26,585
2014	29,227	90,991	3,111	292	21,062
2015	52,417	140,881	8,849	908	34,210

Source: Directed trip estimates from SRHS, MRIP, LA Creel (Louisiana trips from 2014-2015), and TPWD. Note that directed trip estimates from these sources are not computed using the same methodologies and may not be directly comparable. SRHS does not collect targeting information.

APPENDIX B. DELEGATION PROVISION

Magnuson-Stevens Fishery Conservation and Management Act 16 U.S.C. §1856(a)(3), (b)

(3) A State may regulate a fishing vessel outside the boundaries of the State in the following circumstances:

(A) The fishing vessel is registered under the law of that State, and (i) there is no fishery management plan or other applicable Federal fishing regulations for the fishery in which the vessel is operating; or (ii) the State's laws and regulations are consistent with the fishery management plan and applicable Federal fishing regulations for the fishery in which the vessel is operating.

(B) The fishery management plan for the fishery in which the fishing vessel is operating delegates management of the fishery to a State and the State's laws and regulations are consistent with such fishery management plan. If at any time the Secretary determines that a State law or regulation applicable to a fishing vessel under this circumstance is not consistent with the fishery management plan, the Secretary shall promptly notify the State and the appropriate Council of such determination and provide an opportunity for the State to correct any inconsistencies identified in the notification. If, after notice and opportunity for corrective action, the State does not correct the inconsistencies identified by the Secretary, the authority granted to the State under this subparagraph shall not apply until the Secretary and the appropriate Council find that the State has corrected the inconsistencies. For a fishery for which there was a fishery management plan in place on August 1, 1996 that did not delegate management of the fishery to a State as of that date, the authority provided by this subparagraph applies only if the Council approves the delegation of management of the fishery to the State by a three-quarters majority vote of the voting members of the Council.

(C) [Pertains to Alaska, only.]

(b) EXCEPTION.—

(1) If the Secretary finds, after notice and an opportunity for a hearing in accordance with section 554 of title 5, United States Code, that—

(A) the fishing in a fishery, which is covered by a fishery management plan implemented under this Act, is engaged in predominately within the exclusive economic zone and beyond such zone; and

(B) any State has taken any action, or omitted to take any action, the results of which will substantially and adversely affect the carrying out of such fishery management plan; the Secretary shall promptly notify such State and the appropriate Council of such finding and of his intention to regulate the applicable fishery within the boundaries of such State (other than its internal waters), pursuant to such fishery management plan and the regulations promulgated to implement such plan.

(2) If the Secretary, pursuant to this subsection, assumes responsibility for the regulation of any fishery, the State involved may at any time thereafter apply to the Secretary for reinstatement of its authority over such fishery. If the Secretary finds that the reasons for which he assumed such regulation no longer prevail, he shall promptly terminate such regulation.

(3) If the State involved requests that a hearing be held pursuant to paragraph (1), the Secretary shall conduct such hearing prior to taking any action under paragraph (1).

APPENDIX C. CONSERVATION EQUIVALENCY PROCEDURE

Requirements of Conservation Equivalency (Alternative 3), in each individual Gulf State's State Management Amendment for Action 1 (Authority Structure for State Management)

Alternative 3: Establish a management program in which [state] submits a plan describing the **conservation equivalency** measures [state] will adopt for the management of its portion of the recreational sector annual catch limit (ACL) in federal waters. The plan, which may be submitted annually or biannually, must specify the red snapper season structure and bag limit for the state's harvest of its assigned portion of the recreational sector ACL. To be a conservation equivalency plan (CEP), the plan must be reasonably expected to limit the red snapper harvest to [state]'s assigned portion of the recreational sector ACL. If [state]'s plan is determined by the National Marine Fisheries Service (NMFS) to not satisfy the conservation equivalency requirements, then the recreational harvest of red snapper in the federal waters adjacent to [state] would be subject to the default federal regulations for red snapper.

> **Option 3a:** The plan will be submitted directly to NMFS for review.
> **Option 3b:** The plan will first be submitted to a technical review committee. The technical review committee reviews and may make recommendations on the plan, which is either returned to [state] for revision or forwarded to NMFS for final review.

Discussion:

Under **Alternative 3**, a state would have the opportunity to submit a CEP to establish state management measures, including season start and end dates, season structure, and bag limit, for the recreational harvest of red snapper on a yearly or biannual basis. These plans would be reviewed by NMFS to insure the proposed management measures are a conservation equivalent to the federal regulations. Table 2.1.1 provides an example timeline for the submittal and approval of the CEPs under **Alternative 3**. This process would be altered for the first year of the program if this action is implemented mid-year. Under **Option 3b**, the CEP would be submitted to the technical review committee and a separate timeline may be established by the committee. However, the established timeline may also be applied for this option. The finalized plans with the technical review committee recommendation for approval would need to be submitted to NMFS by November 1 to allow time to publish a notice in the *Federal Register* by January 1 identifying a state with an approved CEP. Without an approved CEP, a state's anglers would be subject to the default federal regulations. If the proposed management measures extend beyond the range analyzed in this amendment, then NMFS may recommend preparing the appropriate documentation for the applicable laws to support the decision (e.g., National Environmental Policy Act [NEPA] analysis). NMFS would collaborate with a state in developing the appropriate documentation with the understanding that the development of the document could delay NMFS' ability to approve the CEP and may need further Council action for implementation.

Alternative 3 provides two options for the review process of CEPs. Under **Option 3a**, a state would submit its plan directly to NMFS for review while under **Option 3b**, the state would first

submit its CEP to a technical review committee, which would consist of one member from each state designated by the state fisheries director. The technical review committee would provide the initial review of the CEPs and may make recommendations on the plan, which would either be returned to the state for revision or forwarded to NMFS for final review and approval. Because of the additional time needed for the technical review committee to meet and review the CEPs, **Option 3b** would potentially entail a longer process for consistency determination than under **Option 3a**. On the other hand, the process under **Option 3b** provides for greater participation and input by state-level managers and stakeholders, increasing the involvement of local-level entities in the state management process. The proposed process under **Option 3b** is more similar to the Mid-Atlantic Fishery Management Council's management of summer flounder than is **Option 3a**.

Table 1. Example timeline for the review of CEPs by NMFS or the technical review committee for **Alternative 3**.

Timeline	Description
July 1	The state provides a brief written description of its preliminary CEP for the following year (e.g., the regulations they hope to implement the following year) to NMFS and the Council and demonstrate the proposal is supported by recent years' landings and effort data. At this time, NMFS would report concerns or alternative process requirements (e.g., additional NEPA documentation required if the proposed regulations are outside the scope of analysis this amendment and documentation for other applicable laws).
September 1	The state submits the CEP to NMFS or the Technical Review Committee.
October 1	NMFS or the Technical Review Committee responds to the state with the preliminary determination for whether the plan is a conservation equivalent to the federal default regulations. At this time, NMFS or the Technical Review Committee may approve the plan or request a revised CEP.
October 5	The state provides a revised CEP to NMFS or the Technical Review Committee for approval, if necessary.
November 1	If applicable, the Technical Review Committee provides the recommended state CEP to NMFS for final approval and processing.
January 1 (or sooner)	NMFS publishes a notice in the Federal Register identifying the state as having an approved CEP.

Each CEP shall include the following:

- Point of contact for the CEP.
- Point of contact with the authority to implement fishery management measures.
- Proposed CEP, including season structure and bag limit.
- Specification if the CEP is intended to be applicable for 1 or 2 years. Prior to approving the second year of the plan, it would be evaluated based on data from the first year. The plan may require revisions based on the NMFS review. A 2-year CEP could only be approved if there are 2 or more years before the program sunsets.
- Analysis demonstrating the ability of the CEP to constrain recreational harvest of red snapper to the allocated quota with a description of the methodology.
- Summary of the previous year's performance (e.g., was the harvest constrained at or below the state's quota?).
- Explanation of how the CEP will be enforced.

- If applicable, a description of the in-season monitoring program and plan to prohibit further harvest of red snapper if the state's portion of the recreational sector ACL is reached.
- If necessary, additional analysis and documentation supporting the proposed CEP, which may include NEPA, Magnuson-Stevens Act, or other applicable laws. This would only apply for CEP management strategies beyond the range analyzed in this amendment.
- Any other supporting documentation for the CEP, such as scientific research.

APPENDIX D. GULF OF MEXICO RED SNAPPER FEDERAL REGULATIONS RELEVANT TO STATE MANAGEMENT AMENDMENTS

Current as described in the eCFR, September 6, 2017. This is a summary only and is not a list of all regulations applicable to Gulf reef fish overall, but focuses on regulations that affect the recreational harvest of red snapper.

§622.9 Prohibited gear and methods—general.

This section contains prohibitions on use of gear and methods that are of general applicability, as specified. Additional prohibitions on use of gear and methods applicable to specific species or species groups are contained in subparts B through V of this part.

(a) *Explosives.* An explosive (except an explosive in a powerhead) may not be used to fish in the Caribbean, Gulf, or South Atlantic EEZ. A vessel fishing in the EEZ for a species governed in this part, or a vessel for which a permit has been issued under this part, may not have on board any dynamite or similar explosive substance.

(b) *Chemicals and plants.* A toxic chemical may not be used or possessed in a coral area, and a chemical, plant, or plant-derived toxin may not be used to harvest a Caribbean coral reef resource in the Caribbean EEZ.

(c) *Fish traps.* A fish trap may not be used or possessed in the Gulf or South Atlantic EEZ. A fish trap deployed in the Gulf or South Atlantic EEZ may be disposed of in any appropriate manner by the Assistant Administrator or an authorized officer.

(d) *Weak link.* A bottom trawl that does not have a weak link in the tickler chain may not be used to fish in the Gulf EEZ. For the purposes of this paragraph, a weak link is defined as a length or section of the tickler chain that has a breaking strength less than the chain itself and is easily seen as such when visually inspected.

(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.

§622.11 Bag and possession limits—general applicability.

(a) *Applicability.* (1) The bag and possession limits apply for species/species groups in or from the EEZ. Unless specified otherwise, bag limits apply to a person on a daily basis, regardless of the number of trips in a day. Unless specified otherwise, a person is limited to a single bag limit for a trip lasting longer than one calendar day. Unless specified otherwise, possession limits apply to a person on a trip after the first 24 hours of that trip. The bag and possession limits apply to a person who fishes in the EEZ in any manner, except a person aboard a vessel in the EEZ that has on board the commercial vessel permit required under this part for the appropriate species/species group. The possession of a commercial vessel permit notwithstanding, the bag and possession limits apply when the vessel is operating as a charter vessel or headboat. A person who fishes in the EEZ may not combine a bag limit specified in subparts B through V of this part with a bag or possession limit applicable to state waters. A species/species group subject to a bag limit specified in subparts B through V of this part taken in the EEZ by a person subject to the bag limits may not be transferred at sea, regardless of

where such transfer takes place, and such fish may not be transferred in the EEZ. The operator of a vessel that fishes in the EEZ is responsible for ensuring that the bag and possession limits specified in subparts B through V of this part are not exceeded.

§ 622.20 Permits and endorsements.

(b)(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.

§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) and (b) of this section.

(a) *Non-stainless steel circle hooks.* Non-stainless steel circle hooks are required when fishing with natural baits, except that other non-stainless steel hook types may be used when commercial fishing for yellowtail snapper with natural baits in an area south of a line extending due west from 25°09′ N. lat. off the west coast of Monroe County, Florida, to the Gulf of Mexico and South Atlantic inter-council boundary, specified in §600.105(c).

(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.

§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.

§ 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— …*

(b) *Seasonal closure of the recreational sector for red snapper*. The recreational sector for red snapper in or from the Gulf EEZ is closed from January 1 through May 31, each year. During the closure, the bag and possession limit for red snapper in or from the Gulf EEZ is zero.

§622.35 Gear restricted areas.

(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 percent, by weight, of all fish on board or landed. The Alabama SMZ is bounded by rhumb lines connecting, in order, the following points:

§ 622.37 Size limits.

(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.

§ 622.38 Bag and possession limits.

(b)(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.

§ 622.39 Quotas.

(a)(2)(i) *Recreational quota for red snapper.* (A) *Total recreational quota (Federal charter vessel/headboat and private angling component quotas combined).* For fishing year 2017 and subsequent fishing years—6.733 million lb (3.054 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 through 2022 fishing years. For the 2023 and subsequent fishing years, the applicable total recreational quota, specified in paragraph (a)(2)(i)(A) of this section, will apply to the recreational sector. For fishing years 2017 through 2022—2.848 million lb (1.292 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 through 2022 fishing years. For the 2023 and subsequent fishing years, the applicable total recreational quota, specified in paragraph (a)(2)(i)(A) of this section, will apply to the recreational sector. For fishing years 2017 through 2022—3.885 million lb (1.762 million kg), round weight.

(2) If the recreational fishery for the indicated species is closed, all harvest or possession in or from the Gulf EEZ of the indicated species is prohibited.

(c) *Restrictions applicable after a recreational quota closure or recreational component quota closure.* The bag limit for the applicable species for the recreational sector or recreational sector component in or from the Gulf EEZ is zero. When the Federal charter vessel/headboat component is closed or the entire recreational sector 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.

§ 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).* The total recreational ACT is 5.386 million lb (2.443 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 through 2022 fishing years. For the 2023 and subsequent fishing years, the applicable total recreational ACT, specified in paragraph (q)(2)(iii)(A) of this section, will apply to the recreational sector. The component ACT is 2.278 million lb (1.033 million kg), round weight, for fishing years 2017 through 2022.

(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 through 2022 fishing years. For the 2023 and subsequent fishing years, the applicable total recreational ACT, specified in paragraph (q)(2)(iii)(A) of this section, will apply to the recreational sector. The component ACT is 3.108 million lb (1.410 million kg), round weight, for fishing years 2017 through 2022.

APPENDIX E. 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), E.O. 12866 (Regulatory Planning and Review, Chapter 5) and E.O. 12898 (Environmental Justice, Section 3.5). 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 NMFS regulations at 15 C.F.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. Their 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

The Data Quality Act (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 DQA 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 Office of Management and Budget 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 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 will also undergo quality control prior to being used by the agency and a pre-dissemination review.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure the public is not overburdened with information requests, the federal government's information collection procedures are efficient, and federal agencies adhere to appropriate rules governing the confidentiality of such information. The PRA requires NMFS to obtain approval from the Office of Management and Budget before requesting most types of fishery information from the public. Action 1.2 to create a state-specific endorsement to the federal for-hire reef fish permit would require PRA approval.

National Historic Preservation Act

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

Historical research indicates that over 2,000 ships have sunk on the Federal Outer Continental Shelf between 1625 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 National Oceanic and Atmospheric Administration Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 12866: Regulatory Planning and Review

Executive Order 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan (See Chapter 5). RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Analysis. A regulation is significant if it a) has an annual effect on the economy of $100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments and communities; b) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; c) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or d) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

E.O. 12962: Recreational Fisheries

This Executive Order requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, it establishes a seven-member National Recreational Fisheries Coordination Council (Council) responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The Council also is responsible for developing, in cooperation with federal agencies, States and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

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).

APPENDIX F. ALTERNATIVES CONSIDERED BUT REJECTED

The following alternatives were removed from further consideration.

At its April 2018 meeting, the following options were removed from Action 2: Allocation, because alternatives truncated at 2009 do not reflect more recent harvest trends.

Alternative 2: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on the average of historical landings for the years (excluding 2010):

Option 2a: 1986-2009.
Option 2c: 1996-2009.
Option 2e: 2006-2009.
Option 2g: 50% of average historical landings for the years 1986-2009 and 50% of average historical landings for the years 2006-2009.

Alternative 5: Establish an allocation of the recreational sector ACL that may be used for state management programs by apportioning the private angling ACL and federal for-hire ACL among the states based on spatial abundance of red snapper biomass and recreational trips (**Options 5a-5f**), excluding 2010, and using one of the weightings from **Options 5g-5i**:

	Option	Time Series for Recreational Trips
Select one from 5a-5f:	**5a**	1986 – 2009
	5c	2006 – 2009
	5e	50% of the average number of recreational trips for the years 1986-2009 (5a) and 50% of the average number of recreational trips for the years 2006-2009 (5c).

APPENDIX G. PUBLIC COMMENTS RECEIVED

The Gulf of Mexico Fishery Management Council (Council) held a series of public hearings on state management for recreational red snapper. Summaries of the received public comments are provided below.

Public Hearings were held in the following locations:

Monday, December 3, 2018
Sanders Beach – Corrine Jones Center
913 South I Street
Pensacola, FL 35202

Tuesday, December 4, 2018
City of Destin Community Center
101 Stahlman Avenue
Destin, FL 32541

Wednesday, December 5, 2018
Renaissance Mobile Riverview Plaza Hotel
64 South Water Street
Mobile, AL 36602

Monday, December 10, 2018
Embassy Suites
4914 Constitution Avenue
Baton Rouge, LA 70808

Tuesday, December 11, 2018
Imperial Palace (IP) Casino and Resort
850 Bayview Avenue
Biloxi, MS 39530

Monday, January 7, 2019
Hyatt Place Fort Myers at the Forum
2600 Champion Ring Road
Ft. Myers, FL 33905

Tuesday, January 8, 2019
Hilton St. Petersburg Carillon Park
950 Lake Carillon Drive
St. Petersburg, FL 33716

Monday, January 14, 2019
Courtyard by Marriott Brownsville
3955 N. Expressway
Brownsville, TX 78520

Tuesday, January 15, 2019
Omni Hotels Corpus Christi
900 North Shoreline Blvd.
Corpus Christi, TX 78401

Wednesday, January 16, 2019
League City Civic Center and Recreation Center
300 West Walker Street
League City, TX 77573

Thursday, January 17, 2019
Via Webinar, 6:00 pm, EST

Summaries of Public Hearings

Pensacola, Florida
December 3, 2018

Council/Staff
Martha Bademan
Susan Boggs
Ava Lasseter
Camilla Shireman

16 members of the public attended.
Chris Phillips – Pensacola. He has always wanted state management and doesn't like what we see now, there are just too many rules. He does not want to give up the sunset under any circumstances and he thinks we have a long way to go.

Randy Sharp – Recreational fisherman. He asks that a slot limit not be used for red snapper, as they are killing a lot of red snapper now when they are not in season, and he doesn't want to kill the big ones. He would like to see NMFS and the states manage the reef, not just the individual fish, because in one month, they are killing triggerfish when trying to keep red snapper, then in the next, they are killing amberjack and it makes no sense at all.

Robert Turpin – Recreational angler. He doesn't see Magnuson as the problem, the problem is how it is implemented. As stakeholders, they are conservation minded, and it goes against their nature to waste the resource. He thinks it would be better to manage the reef fish population and eliminate regulatory discards. We know the mortality rate from barotrauma and we see the discard mortality from apex predators and those problems are only going to get worse. He sees recent management as pitting user groups against each other, and he would rather find ways to work together and make everyone's piece of the pie the largest.

For Action 1.1, he prefers Alternative 4. He feels the states should be the ones to ask for which component they want to manage. He supports Preferred Alternative 6 in Action 2, as he is fighting for the biggest allocation for Florida. For the state amendments, he supports Alternative 2 in Action 1; Alternative 2a in Action 2, and he has no preference for Action 3. He thinks FWC will begin to receive the criticism that NMFS gets now after they take over management. He is concerned that NMFS would shut down red snapper fishing affecting a state that has remaining quota, if it is determined that other states have overharvested their quota.

Destin, Florida
December 4, 2018

Council/Staff
Martha Bademan
Ava Lasseter
Camilla Shireman

26 members of the public attended.

Bruce Varner – He is concerned about the for-hire season starting before the private angling season in Florida, and he wants an equal starting date.

Cliff Cox – Charter operator. He wants to stay under Council management, but wants to find something better than what they have. Right now, the fleet is crunched up in the summer and he wants to be able to catch red snapper at other times throughout the year. He thinks private anglers need something better, too. He looks forward to using electronic logbooks and wants to accurately report landings.

Jeff Shoults – Charter operator. He supports sector separation and would like to see some type of pilot program for private anglers that requires them to report their fish when they come in the pass. The private angling component has no accountability measures, and he wants to see something like what Alabama has. He asks that the for-hire component be left alone; they are doing well. He is fine with the states managing in state waters rather than the federal government.

Tim Adams – Charter operator. He supports sector separation and says it is working well. For him, the biggest issue is accountability. He has friends running different boats and they don't have the togetherness to make management work. He did not think it was fair to not have the same start date for both recreational components in Florida. He supports Preferred Alternative 2, state management for private angling only.

Billy Archer – Dual-permitted charter and commercial. He supports Amendment 50 as long as the for-hire sector is left out of it. He agrees with all the preferred alternatives. He thinks that reporting for private anglers should be required when anglers buy their fishing license. He preferred the for-hire fleet having the jump start on the season before the private angling season began.

Jim Green – President, Destin Charter Boat Association. He supports Amendment 50 without the for-hire component in it. Sector separation has stabilized their fishery. They have been working on a long-term management plan for for-hire operators, and FWC has heard them and agreed to keep them out of state management. They have electronic logbooks coming and federal management is the way they want to go.

Mike Eller – Charter operator. He hears that private anglers want more access, but says they are held back by lack of data. They need management that requires them to report their landings. He noted that when Florida changed the start date for the private anglers, it was a problem for people in Destin. He asks FWC to let people know at least 6 months in advance if it is going to set a different start date. He supports state management and hopes this is the first step toward improving access. But, he says the state has responsibility not to go over its quota and not to damage the resource.

Kyle Lowe – Charter operator. He supports Amendment 50 for private anglers only and said Amendment 40 has been critical for their industry. He supports whatever helps the private anglers, but asks that the for-hire operators be left out.

Gary Jarvis – Charter operator. Sector separation has delivered on everything they thought it would, including bringing stability to the fleet and being good for private anglers. He supports state management for private anglers, which makes them their own sector and also makes the states accountable. At the same time, he says he does not want federal for-hire vessels included in state management, because their management is working for them and the consumers. He thinks FWC staff is tremendous, but that can always change after another election if they are involved in state management. He says the federal process is arduous and frustrating, but with the diverse amount of different inputs on the Council, you are more assured of a good outcome. Plus, the MSA gives them a right to exist, which is something that FWC and Florida's constitution can't guarantee.

Mobile, Alabama
December 5, 2018

Council/Staff
Kevin Anson
Ava Lasseter
Camilla Shireman

12 members of the public attended.

Blakeley Ellis – Recreational angler. He supports state management and was happy with this past season. He thinks each state did a good job working together and praised his state's officials. He feels his state's managers can more efficiently manage the resource for their anglers. He encourages the state to move forward and make state management permanent.

Gary Bryant – Charter operator, President of Alabama Charter Fishing Association. He supports Amendment 50 for the private anglers. For charter boats, he asks to stay in the federal system and supports the current preferred alternatives. He says this is a good example of the public asking for something better and working to get it, and shows the flexibility provided by the MSA. He encourages the states to make it happen and hopes they can resolve the issues over a small amount of fish.

James Quint – Recreational angler. He thanks the state for the fishing season last year and notes that you have to fight through red snapper to get to other fish. He supports moving forward with state management.

Justin Fadalla – Recreational angler. He first learned about the Council when there was a 3-day federal season, which was too short. He thanks Alabama's resource managers for the many more opportunities with this year's season.

Edwin Lamberth – Recreational angler. He supports Amendment 50, but thinks it should include both the private and for-hire components and that the states should manage everything. He supports whichever alternatives give the states the most control. He says the states can count the fish better. He wants the Council to address red snapper reallocation between the commercial and recreational sectors.

Baton Rouge, Louisiana
December 10, 2018

Council/Staff
Patrick Banks
Jonathan "JD" Dugas
Ava Lasseter
Camilla Shireman

24 members of the public attended.

Gunner Waldmann – President, Louisiana chapter CCA. He supports Amendment 50 and asks that the Louisiana Council members vote on the best measures for Louisiana anglers concerning the red snapper season length, size, or bag limits.

Lucas Bissett – Recreational angler, charter for-hire state. He supports Amendment 50 and the current preferred alternatives for Louisiana's amendment.

Robert Allain III – CCA chapter president. He supports Amendment 50 and all preferreds.

Nick Rauber – He supports Amendment 50. When snapper season is shut down, it creates bad morale for the tournaments if they can't catch those fish. He wants everyone to work as a team, and to have this community or teamwork so all can enjoy. He is concerned about red snapper discard mortality when they are caught in the off-season. He appreciates everyone's efforts that have gone into doing this and doing what's best for Louisiana.

John Lombardo – Speaking on behalf of Congressman Garret Graves. He supports Amendment 50. For years, the federal government has restricted anglers' access to the public resource. However, over the past few years, with the help of the National Marine Fisheries Service, they have made significant steps towards ensuring that recreational fishers have a voice in the process. Our collective work with the states and NMFS has put the state in the driver's seat for managing the fishery and it's critical to continue this dialogue to strike a balance between recreational and commercial sectors.

Jim McDowell – Recreational angler. He supports Amendment 50 and the preferred alternatives. He appreciates the work that's been done on this.

Camp Matens – Former Council member and Gulf States Marine Fisheries Commission member. He thinks they have done a good job moving state management in a direction they can live with. On Action 1.1, he recommends Preferred Alternative 2. He would like the for-hire

component to be included, but he thinks we need to move forward with this. For Action 2 for allocation, he supports 19% for Louisiana. For closures in federal waters, Action 3, he would like to see the Gulf be a free zone so it doesn't matter where you fish, but where you land the fish. For the authority structure, he supports delegation, which makes it so you don't have to go back every 2 years. Post-season quota adjustment, he supports that if you get one [payback] you should get the other [carryover]. He would like to see this move forward.

George Huye – Recreational fisherman and CCA volunteer. He thanks LDWF staff for initiating and pushing for state management. He would like to see the charter for-hire combined into state management. He would also like to see the preferred alternatives pass, so that they do not go back to the old way of doing things. He enjoyed this past season and wants LDWF to have as much control as possible.

Tommy Elkins – Chairman, CCA Mississippi. He appreciates the cooperativeness he is seeing across the states. He supports Amendment 50 and the preferred alternatives.

Rudy Valenciano – Recreational fisherman, Ad Hoc Private Angler Red Snapper AP member. He is pleased with the progress they have made, moving from the 3-day season to where they can now fish the whole summer. He supports Amendment 50, but would still like to bring the for-hire sector into state management. He doesn't want to leave any snapper in the water that belong to Louisiana.

Lawrence Marino – Speaking on behalf of Attorney General Jeff Landry. He supports state management and all the preferreds. He would have preferred that state management include the for-hire sector as well as the removal of the sunset on sector separation, but understands that ship has passed.

Joe Macaluso – Recreational angler. He knows that everyone in Louisiana supports state management. Louisiana's anglers are ready for state management. But, he wants the for-hire sector included. He doesn't like that states with the majority of the for-hire operations in the Gulf are dictating that they take Preferred Alternative 2. He says Louisiana needs to go to Alternative 3, because Louisiana can better manage a larger quota that includes both private angling and federal for-hire. He supports delegation to give their state maximum authority over a resource that is not overfished nor undergoing overfishing, adding that mangrove snapper and cobia have now come under fire. LA Creel demonstrates the willingness of Louisiana fishermen to support state management including the for-hire sector, and the state has demonstrated an ability beyond the other states to better manage red snapper, an abundant resource in the western Gulf.

Richard Fischer – Communications manager, Louisiana Charter Fishermen's Association. He is here on behalf of federal permit holders in Louisiana who are in favor of being a part of state management. The majority of federal permitholders in the state are in support of being managed by the state rather than the feds. He said that although there is a separate for-hire quota, there have been underages in all the recent years, and the for-hire operators are only landing 50% of their historical average. That's 50% of the for-hire quota that's not going to Louisiana anglers, and is going to Florida and Alabama. They want to stop the ACL migration and let their guys be

able to fish those percentages. If they get a fair percentage, the season might last up to 10 months depending on how long it takes them to go out and catch the fish. He says it's important that Louisiana anglers catch those fish, as it's Louisiana anglers that pay taxes in Louisiana and go out to restaurants and go out to bait shops, etc., and that's what they want to fix with state management.

He thinks the logistical concerns with having the for-hire sector in state management can be easily addressed. HE says they have established that their for-hire operators can't reach half their quota, so clearly the season would be longer than the 50 or so days that the federal season is going to be. He says the seasons could be open on concurrent days. He also noted the for-hire endorsement could identify the state in which a for-hire vessel will land. Louisiana's for-hire industry wants to be in state management and they would like the preferred alternative to change back to Alternative 4. Alternative 3 would be fine, but they don't want to tell other states what to do.

Randy Pausina – He does not wish to speak, but supports Amendment 50.

Robert Barham – He does not wish to speak, but supports Amendment 50.

Biloxi, Mississippi
December 11, 2018

Council/Staff
Paul Mickle
Dale Diaz
Joe Spraggins
Ava Lasseter
Camilla Shireman

14 members of the public attended.

F.J. Eicke – CCA Mississippi. He also provided a comment letter from CCA. Speaking for CCA, he said that state management has really worked in Mississippi and congratulates the state for the work that has been done including Tails n' Scales. He feels that the charter for-hire sector should be under state management and opposes the proposed quota system for the charter fleet. He prefers Alternative 3 in Action 1.1, which includes the for-hire component. He added that everyone knows that red snapper has become the species of major concern in the Gulf, and he hopes that the Great Red Snapper Count will give some great information.

Ralph Humphrey – Recreational angler. He noted that everyone seems happy with state management and is grateful for the efforts by the state of Mississippi for laying the foundation for taking over a marine resource that the state should have been managing all along. He concurs with all the preferred alternatives.

Johnny Marquez – Recreational angler, Mississippi Wildlife Federation Member. He is happy to see red snapper management move to the states. He believes MDMR has done a great job in

showing that they can manage the fishing season and monitor the catch. He would like to see a different alternative for the charter for-hire sector and prefers Alternative 4. He does not want a conflict between the private and for-hire sectors, but thinks the state can provide flexibility to both and he wants to see them managed together. He expressed concern that Mississippi's for-hire fleet could drop out of the snapper fishery because the number of fish that could be caught went down, and there may be a de facto transfer of allocation to other states. He likes the alternative that uses Mississippi's 10 best years for allocation. He said it is harder for their captains to get to the resource, whereas other states' fleets are closer and don't have to go as far out. He also prefers delegation to conservation equivalency, as it is more permanent and direct.

Clarence Seymour – Charter operator, Reef Fish AP member. He thanks the MDMR team for developing Tails n' Scales and for working with law enforcement. He prefers Preferred Alternative 2 in Action 1.1, and Preferred Alternative 6 in Action 2. He does not think the for-hire fleet is ready to be in state management. He understands why some people might prefer for the for-hire sector to be in it, but he thinks they could possibly fish year-round if they were allocated the right amount of fish. He noted that the previous year's season let recreational anglers get on the water 7-8 days before the for-hire fleet was allowed out. He stated the fishery needed stability of set opening dates and that his year, he had trips booked in advance. He stated that a split season that includes October 1 -31 would only give him 2 red snapper fishing trips because of a decline in tourism due to football season, adding that "when the tailgates drop, fishing stops." He noted that Amendment 40 kept the June 1 season opening date that is popular because of school being out and people being on vacation. Many years ago there was a free for all fishery and nobody ever thought fishing would be reduced to 3 days. He added that Amendment 40 helped solve that problem, but that Amendment 39 was not what the states needed – Amendment 50 is what the states need and is the best thing that has ever happened to the private angling sector.

He said at a previous meeting he was asked about historical captain permits and that he wanted to take tonight's opportunity to state for the public record that he retracts what he previously said during public comment about supporting the conversion of historical captain permits. He originally said he was for it, but after consideration is now against it.

Steve Tomeny – Charter operator. He is very impressed with Tails n' Scales and thinks all five Gulf states should use it or some like it that uses hail-outs. He supports state management for private anglers, but does not want the charter for-hire sector included. He thinks including the for-hire sector would negate what they gained in Amendment 40. He added that putting charter-for-hire in Amendment 50 would make it very difficult to ensure that the for-hire component receives the 42% allocation of the recreational fish.

Fort Myers, Florida
January 7, 2019

<u>Council/Staff</u>
Martha Guyas
Carrie Simmons
Emily Muehlstein

4 members of the public attended.

Craig Blewett – Private angler. He believes that state management makes sense. Allowing the states more flexibility is a good idea and he supports the amendment.

He also mentioned that the goliath grouper stock has rebounded so much that they're a nuisance. They may be harming other species and he would like the Council and FWC to consider allowing limited harvest.

Duncan Russell – Private angler. He expressed concern about allowing other anglers to fish in federal waters off a state that is closed. He supports allowing the states to request closure of federal waters and believes that it shouldn't present an enforcement issue. There should be a way to enforce area closures since most everyone has a GPS unit onboard. If Florida wants to close its red snapper management zone, people from other states would be able to tell if they were in open or closed waters. GPS recordings could also be taken to show where anglers have been and where you're fishing.

He also asked that the Council and FWC consider a tag-based harvest for goliath grouper. He would like it to cost enough money (several hundred dollars) to prohibit everyone from getting one, but feels that one tag per angler should be allowed. He reiterated that goliath are a pest.

Saint Petersburg, Florida
January 8, 2019

Council/Staff
Martha Guyas
Carrie Simmons
Emily Muehlstein

19 members of the public attended.

Stephen Furman – Private angler, CCA. He thanks FWC for working to get more days for recreational fishermen and believes that the state is better equipped to manage red snapper. He doesn't think the federal government should manage reef fish at all. Instead, they should focus on highly migratory species and pelagics.

Dylan Hubbard – Federally permitted for-hire owner/operator. He is glad that the Council continues to work toward state management. As a for-hire operator, he thinks it's good to see progress in management for the private anglers. He thanked FWC for getting the most allocation for its anglers. He encourages the Council to take final action so state management can be in place when the EFPs expire in 2020.

He expressed support for Action 1, Alternative 2, adding that the federally permitted for-hire fleet should not be included in state management. Federal permits are a big investment; his business has spent over $300,000 on permits, and he doesn't want those permits to lose value under state management. The federally permitted for-hire vessels are going to have mandatory

electronic reporting requirements and become accountable for everything they catch. He wants to remain under federal management and under the federal quota.

In Action 2, he supports Alternative 6 and believes that the allocations used in the EFPs should be adopted because they've already been agreed upon. He also expressed concern about using boundary lines to divide the Gulf of Mexico. He believes it would overcomplicate management and encourages the states to work together to avoid this at all costs.

John Shipman – Private angler. He has been fishing in the Gulf as a private angler for a long time and respects the for-hire industry and its wishes. He recognizes that the fishery is a finite resources and encourages the Council to listen to what the captains are asking for.

Dion Philipon – Private angler. He has fished across the Gulf and has noticed progress and better management of the fisheries lately. He supports state management. The last few years have been tough with short seasons. He is very happy to see more days from the EFPs and hopefully, through state management. He believes that each component of the recreational sector should be allowed to select whether or not they want to be managed by the states or remain under federal management.

Eric Mahoney – Federally permitted for-hire owner/operator. He supports Action 1, Alternative 2 and is happy that the Council is finally moving forward with doing something for the private recreational anglers. The entire for-hire industry doesn't want to be a part of state management. State management is something that private recreational anglers need. All sectors support Alternative 2 and the for-hire captains are willing to help and support the private anglers in state management.

Fish have to be counted in the private angling component of the recreational sector. There must be a way through tags or stamps to get more accountability. It's important to find out what's being caught by the private anglers and he feels that is the only way they can get more fish.

Mike Colby – President Clearwater Marine Association, Gulf Seafood Institute, federally permitted for-hire owner/operator. Noting that state management has built-in challenges, he echoes the sentiment of federally permitted captains who support Action 1, Alternative 2. He does not want to include the federal for-hire component in state management. He wants red snapper to remain under the Magnuson-Stevens Act and he believes that moving forward with Amendment 50 will keep it there.

When electronic log books are added to the charter sector, it will add great accountability. He already reports on a voluntary basis. State management is a great step forward for the private anglers who have long been asking for more reliable management. He does anticipate some challenges from the multiple quota monitoring programs that will be used by the states under state management. He knows it will take lots of hard work and oversight from the states to pull this amendment off.

Lima Julio – Federal for-hire. He recently bought a federal for-hire permit. He sees that people around the room want to report. However, Pinellas County is one of the most populated counties

in Florida and there are only 20 anglers in the room. With that said, it's not realistic to think that fishermen want to report. Also, expecting private anglers to report would require a huge budget and workload that would make it nearly impossible. Real people have to input the reported catches and take the data and figure things out. The for-hire captains have invested money and are more likely to report because it supports their business. However, it's not realistic to require private anglers to report.

Roger Makowski – Private angler. He has been recreational fishing for 30 years and this is the best red snapper fishery he has ever seen 50-80 miles offshore and red snapper are taking over his grouper spots. Last week he released 23 red snapper between 8 and 15 lbs; all of them were vented, and three didn't live. The population is expanding and overtaking other species. He can't catch red grouper or gag because of the red snapper. He mentioned that what he's reporting is a common perception among his peers who are all seeing the same problem. He believes that regulations should be loosened to allow more harvest, and suggests a weekends season, or a 1 fish at 20 inches per person to get them off some of the reefs. He supports Action 1, Alternative 2. He also encourages harvest reporting programs because they would allow for more fishing.

Brad Gorst – Federally permitted for-hire owner/operator. He says he is a bit cynical about state management. Back when there was a 3-day federal season, it was because of the states. The states opened state water seasons and forced the federal season to be shorter. He doesn't want to be a part of that. He thinks state management is a good solution for private anglers, but not for-hire vessels. He supports Action 1, Alternative 2.

Brownsville, TX
January 14, 2019

Council/Staff
Lance Robinson
Ava Lasseter
Jessica Matos

2 members of the public attended.

Michael Walker – Charter operator. For allocation, he objects to Preferred Alternative 6, which would give Florida 45.78% and Alabama 25.34% of the private angling ACL, but Texas, with far more habitat and area than Alabama would only get 6%. He understands there may be more fishermen there and they've done a good job with their artificial reef system, but he feels Texas needs more than 6%. He supports Alternative 5d, using 25% of biomass. He says if there is more biomass in the west and effort in the east, then you need zones and you need to give Texas more allocation.

Mark Roberts – Recreational angler. He has enjoyed going into federal waters to fish for red snapper.

Corpus Christi, Texas
January 15, 2019

Council/Staff
Lance Robinson
Greg Stunz
Ava Lasseter
Jessica Matos

26 members of the public attended.

Charlie Alegria – Commercial dealer of red snapper. He supports the for-hire operators and wants to keep federal charter boats out of state management. He wants to keep it friendly, and notes that these guys work hard.

Michael Miglini – Commercial and charter boats. Unless federally permitted charter operators are given the option to be in state management, he feels they should be left out, because including them would be bad for conservation. In the last 4 years of sector separation, the federal for-hire fleet has harvested at or under its ACT, while private anglers has been exceeding their ACT. He says it would be poor conservation to put the group that does not meet its ACT in with the group that exceeds its ACT. The federal for-hire sector is beginning electronic data reporting, and he hopes data collection is going to get better for private anglers. Right now, he doesn't understand the numbers. Compared to the 2017 season, recreational landings for Texas in 2018 are only 30% more than Mississippi, despite having a year-round state water season and 82-day federal water season. This is why he asks about data collection reporting and he hopes there is a consistent Gulf-wide system for reporting. He is concerned that if Texas gets only a small percent of the allocation, even with biomass added in, he is concerned that another state could shut down fishing in Texas. He speaks in favor of leaving the for-hire sector out of state management, or giving them the option to be included.

Troy Williamson – Recreational angler, CCA Government Affairs Committee Chairman, Reef Fish AP member. He is speaking for CCA Texas, and provides his statement for the written record as well. CCA appreciates the efforts to provide better access to citizens through Amendment 50 and the recognition that one-size-fits-all Gulf-wide management is unworkable. With the state directors taking on management in 2018-2019, the states have shown they could do a better job. State management works because management is local and flexible. Each state knows how to best manage the fishery for its anglers, whether they use private boats or the charter fleet. In Action 1.1, CCA supports Alternative 4, to let each state decide if it will manage both private anglers and the charter fleet. CCA believes the states will better deliver a season for all its anglers, regardless of the platform they fish from. CCA encourages the states to continually evaluate their management, taking into account evolving conditions and the health of the red snapper biomass off each state. Hands on management combined with the states' enhanced data collection programs will lead to timely, adaptable management regimes.

Ron Moser – Private angler. He notes the strong red snapper population even after the robust fishing season, which was great. In Action 1.1, he supports Alternative 4. In Action 2, he is

unhappy with the allocation numbers for Texas. He questions putting 75% of the fish where most fish are not located, adding that Alternative 6 reeks of mismanagement. He thinks consideration of biomass is critical, and they shouldn't allocate using political numbers. He supports Alternative 2 for delegation.

Brenda Ballard – Recreational angler. She supports Amendment 50 and is thankful for the additional opportunities to fish. She trusts that TPWD will make the best decisions for them. In Action 1.1, she supports Alternative 4 and thinks Texas' Council members will be great advocates for Texas anglers.

William Bradley – Private angler. He has watched the red snapper stock dramatically increase, so someone is doing something right. With regard to private anglers versus charter for-hire, he used to go fishing on for-hire vessels. Even then, he considered himself to be a private angler and he would use for-hire vessels again if his boat breaks. Thus, he supports Alternative 4. He also wonders why Texas would get such a small amount of quota when they have so much biomass. He thinks it seems a bit stingy and they need to get Florida's stock size up rather than penalize Texas.

League City, Texas
January 16, 2019

Council/Staff
Lance Robinson
Ava Lasseter
Jessica Matos

53 members of the public attended.

Irby Basco – Former Council member, recreational angler. He thinks Preferred Alternative 2 will be their best bet and knows Texas will do a great job of managing red snapper. He thinks the overage/underage adjustment is good. He says a viable commercial and for-hire fishery are needed to let those not living on the Gulf coast have access to fish. He wants to show his support for this so far.

Scott Hickman – Charter operator. He thinks state management is a great idea for the private angler as it gives them flexibility. When he looks at the landings, biomass, and an economy with so many boats being sold, he is concerned about the Texas landings. He wants Texas to require the use of iSnapper, like Mississippi's Tales-n-Scales. He said the Texas system used to be good, but a lot of fish are not being counted. He asks that mandatory iSnapper be implemented, like other states have mandatory data reporting. He supports Preferred Alternative 2 and wants to keep the charter for-hire sector out of state management. He says they feel good about their allocation and are working toward electronic logbooks.

Johnny Williams – Charter operator. He supports Alternative 2 of Action 1.1, but for private anglers only and asks that the for-hire sector not be included in state management. In Action 2, he supports using the longer time series under Option 2a, but also thinks biomass should be taken

into consideration. He says that over the years, Texas has suffered the burden of rebuilding the stock, noting that they have always had the fish in Texas. Now, the fish have expanded into other states. For Action 3, he agrees that states should be able to close waters off their coast to vessels from other states if biomass is taken into consideration. He reiterates that he doesn't want his boats to be in state management. He likes sector separation and wants a good fishery for anglers in Texas.

Michael Regan – Charter operator. He supports Alternative 2 for recreational anglers and wants the charter sector managed separately.

Shane Bonnot – CCA. He thinks one-size-fits-all management doesn't work and that a regional approach is needed. He said the states know best how to manage their own fisheries. In Action 1.1, he supports Alternative 4 to let states decide which components to manage. Whether or not it's done by delegation or conservation equivalency, he doesn't want to repeat the mistakes under federal management. He asks the states to keep evaluating their state management plans and the stock, and to adapt to changes in the fishery.

Bubba Cochrane – Recreational and commercial fisherman. He supports Preferred Alternative 2 and wants to keep charter boats out of state management. He said recent management has been good for private anglers and they are happier than they've been in a long time. He wants improvements in recreational data collection, such as implementing something mandatory and electronic.

Thomas Hilton – Private recreational angler. He says recreational fishermen are recreational regardless of what boat they are on, and he supports Alternative 4. The Texas charter fleet gave up almost 2 weeks of trips this year and would have gotten a longer season if they had been managed under the Texas EFP. It is in their customers' best interest for Texas charter boats to be under Texas management. Under federal management, they are managed the same as in Alabama and Florida, and says that Texas is subsidizing anglers in those states. He supports a data collection program similar to Mississippi's Tales n' Scales, and said voluntary reporting is useless. He supports Alternative 4, but says to maintain the separate management of the components, including separate quotas and paybacks. He supports the charter electronic logbook program, which is long overdue. He was glad to see the Charter AP vote to reject catch shares, which would severely restrict their seasons. He supports including biomass in the allocation, as that's in all their best interest and he feels it's an important part of the fishery equation. For Action 2, he supports Alternative 5b plus 5f, or 5c plus 5f, which would give Texas the most allocation. He supports using biomass because Texas has the most fish. He also supports the overage and underage adjustment to the state's quota.

Mike Jennings – Charter operator. He recognizes everyone's support of Amendment 50, but there is an issue of access by the two components of the fishery. He says that charter operators have to follow some laws that private anglers do not and with those laws, the charter fleet has lost access as their percentage has decreased. He supports state management for private anglers (Action 1.1, Alternative 2), to help with their access to a federal season. He says the charter fleet is not against state management, but against separate regulations. He is still looking at the 2022 end to sector separation and is worried that this amendment would result in losing that

separation. He reiterates his support for Amendment 50, and Alternative 2 in Action 1.1, but asks that the charter fleet be left out of it.

Abby Webster – Charter operator. She supports Action 1, Preferred Alternative 2, and supports Amendment 50 if the charter fleet is left out of it.

David Angel – Private angler. He can't go offshore when he wants and appreciates the flexibility the state is considering. He supports Amendment 50, and in Action 1, supports Alternative 4, which gives the best chance for everyone. He would have more flexibility if he could choose to fish from his own boat or a for-hire boat, they could be managed separately but have the same fishing dates. He supports having both the overage and underage adjustment, either way, they would still use up all their allocation. He supports improving accountability and has iSnapper on his phone now. He thinks enforcement could be difficult, but he supports using hard facts.

Bill Platt – Charter operator, recreational fisherman. He supports Preferred Alternative 2 for Amendment 50. He supports the use of iSnapper. He has used other state apps for accounting and that is what is needed here in Texas. He supports the quota overage and underage adjustment.

Greg Ball – Charter operator. He supports Amendment 50, but says the accountability is not there and a mandatory system is needed. He thinks iSnapper is great if you can get everyone to use it. He wants charter boats to stay out of Amendment 50 and supports Preferred Alternative 2.

Taylor Borel – Charter operator. In Action 1, he supports Alternative 2 and wants accountability for the private recreational sector.

John Cunningham – He supports Amendment 50 with Preferred Alternative 2. He asks to keep the sectors separated as it is working well. He says the accountability is there for the for-hire sector and the private anglers need to work on theirs.

Sepp Haukebo – Recreational angler, Environmental Defense Fund. He supports Amendment 50. At the last Council meeting, people spoke in favor of it and he wants to get this done and not argue over 1% or less of allocation. He fishes off headboats and says while it may seem good to lump the charter fleet in with the private anglers, for now he supports keeping the charter fleet separate. He supports Action 1.1, Alternative 2. They need to get better data in there; all states are going to ramp up their landings so it would be great to have Texas' landings reflected there. Even iSnapper data shows two times the landings of what Texas' creel survey shows.

Evan Harrington – Charter operator. He doesn't fully support Amendment 50; because they don't have good data collection yet. He would support state management if mandatory reporting was required for the recreational sector. He supports Alternative 2 in Action 1.1.

Shane Cantrell – Charter operator. He supports Alternative 2 in Action 1.1, adding that other alternatives would jeopardize his business. For Alternative 4, management of his sector would

go into a black box, and he doesn't really understand how TPWD sets its season. There is only one day a year to speak to Texas' commission, while in other states, stakeholders have more opportunities to address their commissions. Based on past history, he has to compete with an uncapped sector. He doesn't have faith in being managed by the state right now, but he would love to see bridges built there. He feels this could be problematic down the road, as far as what other states are doing, if Texas is left behind. He is concerned that if accountability is not addressed, in 10 years Texas is going to have less quota than Mississippi.

Jason McRae – Charter operator. He supports Alternative 2 in Action 1.1.

Daniel Green – Charter operator for federal and state permitted boats. He supports Amendment 50 and Alternative 2. He participated in the iSnapper pilot program and thinks it would be a good tool to get recreational data.

David Conrad – Charter operator. He supports Alternative 2 and strongly supports iSnapper for mandatory data collection.

Donny O'Neal – Charter operator. He supports Alternative 2 and wants to keep the for-hire sector separate. Looking at the allocations by state, he is not sure how Texas ends up with 6% as a big state and Louisiana ends up with almost 20%. He says maybe it has to do with Texas' creel survey and suggests that it be ramped up to get more fish for Texas. He prefers federal management because it gives him some stability.

Greg Mitschke – Recreational fisherman. He fishes 60-70 miles from the central Texas coast, and this is his first public hearing. He thinks the regulations have worked for the fishermen, because there are plenty of red snapper. He can't think of any other fish they target for which everyone can get their limit in as short a time as 45 minutes, and maybe that's a problem. Looking at the table comparing the allocations, he thinks there is a disconnection between the landings and biomass given what he sees on the water. Right now, he says the fishery is fine.

Webinar
January 17, 2019

Council/Staff
Tom Frazer
Emily Muehlstein
Ava Lasseter
Carrie Simmons

16 members of the public attended. No public testimony was provided.

Additional Public Comments

Prior to development of this Amendment 50, the Council evaluated state management for the recreational sector through Amendment 39: Regional Management of Recreational Red Snapper. The Council held scoping workshops and two rounds of public hearings. Summaries

of the scoping workshops (held January 14-22, 2013) and public hearings (held August 1-15, 2013) may be found in the appendix of the final draft of Amendment 39 (http://gulfcouncil.org/wp-content/uploads/B-9a-2016-Jan-DEIS-RF39-Regional-Management-12-8-15.pdf). Summaries from the second round of public hearings (October 19 - September 2, 2015) may be found on the Council's website (http://archive.gulfcouncil.org/council_meetings/BriefingMaterials//BB-01-2016/B%20-%209(b)%202016%20Jan%20RF39%20Public%20Hearing%20Summaries%20from%20Oct%202015.pdf). These summaries are incorporated here by reference.