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AUGUST COUNCIL DRAFT
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 Draft Environmental Impact Statement, Regulatory Impact Review, Regulatory Flexibility Analysis, Social Impact Assessment/Fishery Impact Statement)

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Abbreviations Used in This Document

ABC	Acceptable biological catch
ACL	Annual catch limit
ACT	Annual catch target
AM	Accountability measure
AP	Advisory panel
B	Biomass
EA	Environmental assessment
EDAH	Estimated domestic annual harvest
EEZ	Exclusive economic zone
EIS	Environmental impact statement
F	Fishing mortality rate
FL FWC	Florida Fish and Wildlife Conservation Commission
FMP	Fishery management plan
IFQ	Individual fishing quota
MFMT	Maximum fishing mortality threshold (overfishing threshold)
MRIP	Marine Recreational Information Program
MSRA	Magnuson-Stevens Reauthorization Act of 2006
MSST	Minimum stock size threshold (overfished threshold)
MSY	Maximum sustainable yield
NMFS	National Marine Fisheries Service (NOAA Fisheries)
NOAA	National Oceanic & Atmospheric Administration
NS1	National Standard 1 (in the Magnuson-Stevens Act)
OFL	Overfishing limit
OY	Optimum yield
PSA	Productivity-susceptibility analyses
PSE	Proportional standard error
RA	Regional Administrator
SAFMC	South Atlantic Fishery Management Council
SDC	Status determination criteria
SEDAR	Southeast Data, Assessment and Review Panel
SEP	Socioeconomic Panel
SFA	Sustainable Fisheries Act of 1996
SPR	Spawning potential ratio
SSB	Spawning stock biomass
SSBR	Spawning stock biomass ratio
SSC	Scientific and Statistical Committee
TAC	Total allowable catch
TALFF	Total allowable level of foreign fishing

GENERIC ANNUAL CATCH LIMITS/ACCOUNTABILITY MEASURES AMENDMENT FOR THE GULF OF MEXICO FISHERY MANAGEMNT COUNCIL'S RED DRUM, REEF FISH, SHRIMP, AND CORAL AND CORAL REEFS FISHERY MANAGEMENT PLANS

INCLUDING A DRAFT ENVIRONMENTAL IMPACT STATEMENT, INITIAL REGULATORY FLEXIBILITY ANALYSIS, DRAFT REGULATORY IMPACT REVIEW AND DRAFT SOCIAL IMPACT ASSESSMENT/FISHERY IMPACT STATEMENT

Proposed actions:	Remove some species from Reef Fish Resources and Coral Reefs FMP. Establish multi-species groupings for specifying ACLs, ACTs, and AMs. Establish ABC and ACL/ACT control rules, ABCs, ACLs, ACTs, and AMs for species not undergoing overfishing. Establish a framework procedure for modifying ACLs, ACTs and management measures. Specify allocations among the commercial, and recreational sectors for black grouper. Define accountability measures for stocks included in this amendment.
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ABSTRACT
The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires the Regional Fishery Management Councils and NOAA Fisheries Service to prevent overfishing while achieving optimum yield (OY) from each fishery. When it is determined a stock is undergoing overfishing, measures must be implemented to end overfishing. In cases where stocks are overfished, the Councils and NOAA Fisheries Service must implement rebuilding plans. Revisions to the Reauthorized Magnuson-Stevens Act in 2006 required that by 2010, Fishery Management Plans (FMPs) for fisheries determined by the Secretary of Commerce to be subject to overfishing establish a mechanism for specifying annual catch limits (ACLs) at a level that prevents overfishing and does not exceed the recommendations of the respective Council's Scientific and Statistical Committee (SSC) or other established peer review processes. These FMPs must also, within this timeframe, measures to ensure accountability. By 2011, FMPs for all other fisheries, except fisheries for species with annual life cycles, must meet these requirements. Amendments 30A (GMFMC 2008) and 30B (GMFMC 2008) specified ACLs for species subject to overfishing. The Council is addressing the remaining species in this amendment.

The purpose of the Generic Annual Catch Limits/Accountability Measures Amendment for the Gulf of Mexico is to implement measures expected to prevent overfishing and achieve optimum yield (OY) while minimizing to the extent practicable adverse social and economic effects. Long-term measures include the implementation of the following items: 1) changes to the snapper grouper fishery management unit, including the removal of some species and the development of species groups; 2) establish ABC and ACL/ACT control rules; 3) ACLs and annual catch targets (ACTs); 4) establish a framework procedure for modifying ACLs and ACTs, control rules, and management measures; 5)commercial and recreational percent allocation of black grouper; 5) accountability measures (AMs) if limits and targets are projected to be exceeded or have been exceeded; and 6) regulations necessary to ensure mortality is at or below the annual limits and targets. OY, the ultimate goal of any fishery management plan, is the portion of the fish stock that provides the greatest economic, social, and ecological benefit to the nation.

The need for action is to specify overfishing limits (OFLs), ACLs, and AMs, where needed and comply with Reauthorized Magnuson-Stevens Act requirements. The Gulf of Mexico Fishery Management Council (Council) is utilizing several tools to achieve OY in this generic amendment. These tools include a determination from the Council's (SSC) for the overfishing limit (OFL). The SSC also works with the Council to determine acceptable biological catch (ABC) based on an ABC control rule. The OFL is an estimate of the catch level above which overfishing is occurring. This value may stem from the outcome of a stock assessment and is equivalent to the yield at the maximum fishing mortality threshold. The SSC may use other methods to estimate OFL in the absence of a stock assessment. The ABC is defined as the level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty, and should be specified based on the ABC control rule. Using the ABC as a start, the Council is proposing an annual catch limit (ACL) for the stocks in the Gulf of Mexico. The ACL is an annual limit expressed in pounds or numbers of fish that serves as the basis for invoking accountability measures (AMs). AMs are designed to provoke an action once the ACL is reached during the course of a fishing season to reduce the risk overfishing will occur. The Council is considering the implementation of AMs in this amendment. While AMs act to prevent overfishing in a fishery, the Council must specify regulations in order to ensure that overfishing does not occur.

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EXECUTIVE SUMMARY

The Generic Annual Catch Limits/Accountability Measures Amendment document and draft environmental impact statement (DEIS) will present and evaluate management alternatives that specify mechanisms to set acceptable biological catch (ABC), annual catch limits (ACLs), and accountability measures (AMs) for four of the Fishery Management Plans in the Gulf of Mexico. Specifically, this Generic document would amend the Reef Fish Resources, Red Drum, Shrimp, and Coral and Coral Reefs Fishery Management Plans (FMP). The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSRA) was signed into law by President George W. Bush on January 12, 2007, following its 2006 passage by the U.S. Congress. This reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA, M-S Act) includes new requirements for ACLs and AMs and other provisions regarding preventing and ending overfishing (16 U.S.C. §1853(a)(15)). As a result, NOAA's National Marine Fisheries Service (NMFS) revised guidance for implementing National Standard 1 (74 FR 3178;January 16, 2009; NS1) which became effective February 17, 2009. To address the MSA requirements and the revised National Standard 1 guidance, the Council has prepared this document in consultation with NMFS. This Generic Amendment is being developed in accordance with the MSA, and the National Environmental Policy Act (NEPA), the former being the primary domestic legislation governing fisheries management in the U.S. Exclusive Economic Zone (EEZ).

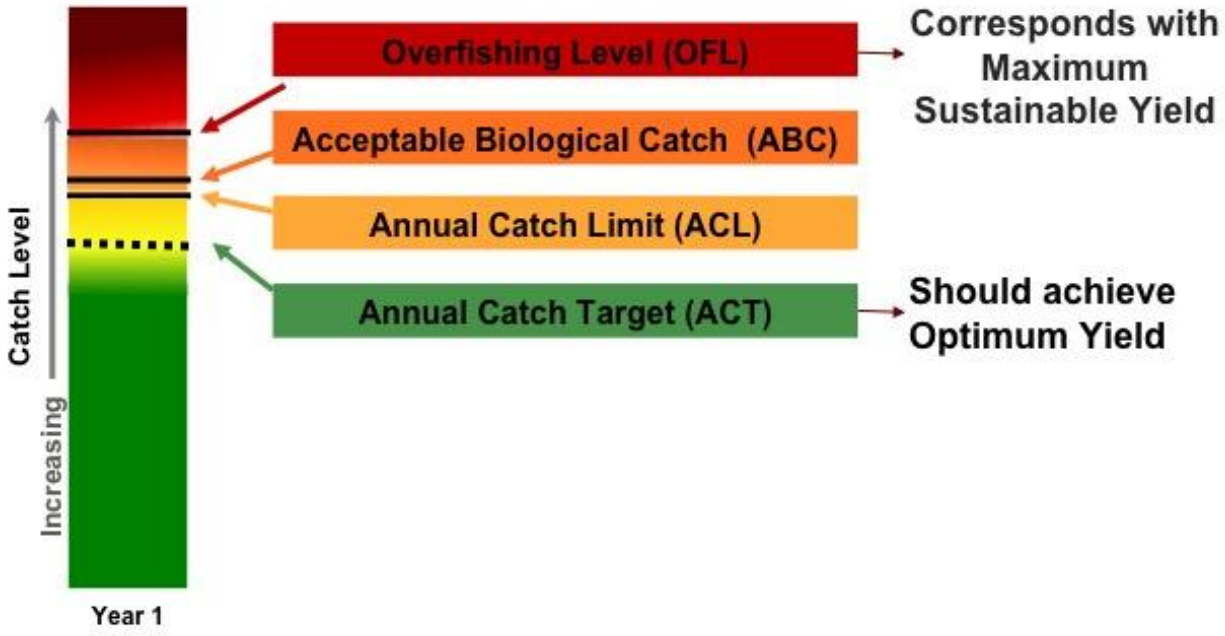
Although this Generic Amendment is being prepared primarily in response to the new requirements under MSA and requirements of NEPA, it will also address the requirements of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). When preparing an FMP or FMP amendment, the Council also must comply with the applicable requirements of the Regulatory Flexibility Act (RFA), the Administrative Procedure Act (APA), the Paperwork Reduction Act (PRA), the Coastal Zone Management Act (CZMA), the Information Quality Act (IQA), and Executive Orders. These other applicable laws and executive orders help ensure that in developing an amendment, the Council considers the full range of alternatives and their expected impacts on the marine environment, living marine resources, and the affected human communities. This integrated document will contain all required elements of the FMP amendment as required by NEPA and information to ensure consistency with other applicable laws and executive orders.

The proposed actions in this amendment would: 1) transfer management of selected species to State or Federal Agencies 2) removal selected stocks from Reef Fish Fishery Management Plan 3) develop species groupings to reduce the risk of exceeding catch limits 4) describe the process by which ABC will be specified to account for scientific uncertainty 5) develop initial specification of ACLs procedures to address for management uncertainty, 6) develop standardized framework procedures for implementing management changes pursuant to the provisions of the FMP 7) establish ACLs (and/or Annual Catch Targets (ACTs)) for species that do not currently have harvest quotas and 8) establish AMs for each of the catch frameworks.

NMFS produced guidelines (National Standard 1 Guidelines; NS1) which provide detail on how to comply with the new requirements for ACLs and AMs under the MSA. The terms introduced

through that guidance (OFL, ABC, ACL, ACT) relate as given in the following figure. NS1 Guidelines state, “The Council should generally set the ACL lower than the ABC to take into account other factors related to preventing overfishing or achieving optimum yield (OY), or it may set the ACL equal to the ABC and take these additional factors into account when setting an ACT below the ACL.”

NMFS produced guidelines (National Standard 1 Guidelines; NS1) which provide detail on how to comply with the new requirements for annual catch limits (ACLs) and accountability measures (AMs) under the MSA. The terms introduced through that guidance (OFL, ABC, ACL, ACT) relate as given in the following figure.



NS1 Guidelines state, “The Council should generally set the ACL lower than the ABC to take into account other factors related to preventing overfishing or achieving optimum yield (OY), or it may set the ACL equal to the ABC and take these additional factors into account when setting an ACT below the ACL.”

1. Introduction

1.1 Background

The Magnuson-Stevens Reauthorization Act (MSRA) of 2006 established new requirements to end and prevent overfishing through the use of annual catch limits (ACLs) and accountability measures (AMs). Implementation of ACL/AM provisions must begin in 2010 or earlier for stocks subject to overfishing, and in 2011 or earlier for all other stocks under federal management.

The Generic ACL/AM Amendment will address ACLs and AMs for the remaining stocks in the Council's fishery management plans (FMPs) with the exception of species managed under the Coastal Migratory Pelagics FMP and Spiny Lobster FMP, which will be addressed in joint plan amendments with the South Atlantic Fishery Management Council (SAFMC). In addition, the Council could choose to revisit and adjust the ACL/AM provisions previously adopted for red snapper, greater amberjack, gray triggerfish and gag if the Council finds it is necessary in order to be consistent with policies adopted in the Generic ACL/AM Amendment.

1.2 Status of Gulf of Mexico FMP Stocks

The official status of stocks managed in federal fishery management plans is maintained by the NOAA Fisheries Office of Sustainable Fisheries and is updated on a quarterly basis. The status of 50 stocks in Gulf of Mexico FMPs that are subject to action in this amendment, as of the third quarter 2009, is shown in Table 1.2.1 (annual stocks such as shrimp other than royal red, and stocks managed under a joint FMP are not included). Four stocks are currently listed as overfished and undergoing overfishing (gag, gray triggerfish, greater amberjack, red snapper), although the overfishing status of red snapper is expected to change as a result of the 2009 update assessment. Ten stocks are classified as not undergoing overfishing but overfished status is unknown or undefined (red drum, goliath grouper, Nassau grouper, royal red shrimp, stone crabs, and five classifications of corals). Five stocks are also classified as neither undergoing overfishing nor overfished (black grouper, mutton snapper, red grouper, vermilion snapper, and yellowtail snapper). In addition, a recently completed stock assessment on yellowedge grouper under SEDAR 22 have concluded that this stocks is neither overfished not undergoing overfishing. For the remaining 30 stocks classifications have not been determined, either because there is no stock assessment, or because the assessment was inconclusive. The most recent status of stocks listing is available at
http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm.

The Fish Stock Sustainability Index (FSSI) is a performance measure for the sustainability of selected U.S. fish stocks that are important to commercial and recreational fisheries. Stocks with an FSSI index are assigned a point value of 0 to 4 (higher is better) based on availability of information to determine overfishing/overfished status and the status of the stock. A detailed description of the FSSI is available at:
http://www.nmfs.noaa.gov/sfa/statusoffisheries/2009/thirdquarter/fssi_summary_changes_q3_2009.pdf.

Table 1.2.1 Status of stocks in Gulf of Mexico FMPs subject to annual catch limits as of first quarter 2011.

FMP	Stock	Overfishing?	Overfished?	Approaching Overfished Condition?	FSSI Score
Red Drum	Red drum	No	Undefined	Unknown	1.5
Reef Fish	Almaco jack	Unknown	Undefined	Unknown	non-FSSI
	Anchor tilefish	Unknown	Undefined	Unknown	non-FSSI
	Banded rudderfish	Unknown	Undefined	Unknown	non-FSSI
	Black grouper	No	No	No	4
	Blackfin snapper	Unknown	Undefined	Unknown	non-FSSI
	Blackline tilefish	Unknown	Undefined	Unknown	non-FSSI
	Blueline tilefish	Unknown	Undefined	Unknown	non-FSSI
	Cubera snapper	Unknown	Undefined	Unknown	non-FSSI
	Dog snapper	Unknown	Undefined	Unknown	non-FSSI
	Dwarf sand perch	Unknown	Undefined	Unknown	non-FSSI
	Gag	Yes	Yes	N/A	1
	Goldface tilefish	Unknown	Undefined	Unknown	non-FSSI
	Goliath grouper	No	Unknown	Unknown	1.5
	Gray snapper	Unknown	Undefined	Unknown	non-FSSI
	Gray Triggerfish	Yes	Yes	N/A	1
	Greater amberjack	Yes	Yes	N/A	1
	Hogfish	Unknown	Undefined	Unknown	0
	Lane snapper	Unknown	Undefined	Unknown	non-FSSI
	Lesser amberjack	Unknown	Undefined	Unknown	non-FSSI
	Mahogany snapper	Unknown	Undefined	Unknown	non-FSSI
	Misty grouper	Unknown	Undefined	Unknown	non-FSSI
	Mutton snapper	No	No	No	non-FSSI
	Nassau grouper	No	Undefined	Unknown	1.5
	Queen snapper	Unknown	Undefined	Unknown	non-FSSI
	Red hind	Unknown	Undefined	Unknown	non-FSSI
	Red grouper	No	No	No	4
	Red snapper	Yes	Yes	N/A	1
	Rock hind	Unknown	Undefined	Unknown	non-FSSI
	Sand perch	Unknown	Undefined	Unknown	non-FSSI
	Scamp	Unknown	Undefined	Unknown	non-FSSI
	Schoolmaster	Unknown	Undefined	Unknown	non-FSSI
	Silk snapper	Unknown	Undefined	Unknown	non-FSSI
	Snowy grouper	Unknown	Undefined	Unknown	0
	Speckled hind	Unknown	Undefined	Unknown	non-FSSI
	Tilefish	Unknown	Undefined	Unknown	non-FSSI
	Vermilion snapper	No	No	No	4
	Warsaw grouper	Unknown	Undefined	Unknown	non-FSSI
	Wenchman	Unknown	Undefined	Unknown	non-FSSI
	Yellowedge grouper	Unknown	Undefined	Unknown	0
	Yellowfin grouper	Unknown	Undefined	Unknown	non-FSSI
	Yellowmouth grouper	Unknown	Undefined	Unknown	non-FSSI
	Yellowtail snapper	No	No	No	4
Shrimp	Royal red shrimp	No	Undefined	No	1.5
Stone Crab	Stone crabs	No	Undefined	Unknown	1.5
Coral and Coral Reefs	Black corals (Antipatharia)	No	Undefined	Unknown	non-FSSI
	Fire corals (Milleporidae)	No	Undefined	Unknown	non-FSSI
	Hydrocorals (Stylasteridae)	No	Undefined	Unknown	non-FSSI
	Soft corals (Octocorallia)	No	Undefined	Unknown	non-FSSI
	Stony corals (Scleractinia)	No	Undefined	Unknown	non-FSSI
	Wild live rock	No	Undefined	Unknown	non-FSSI
	Aquacultured live rock	No	Undefined	Unknown	Non-FSSI

1.3 Purpose and Need for Action

As part of the 2006 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act, Section 303, Contents of Fishery Management Plans, was amended to add the following.

> "(15) establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability."

In January 2009, the National Marine Fisheries Service published revised guidelines for implementing National Standard 1 to provide guidance on how to comply with the new annual catch limit and accountability measure requirements [74 FR 3178].

The purpose of the Generic ACL/AM Amendment is to implement the statutory requirements reflected in National Standard 1 guidelines, to establish the methods for implementing ACLs, AMs and associated parameters for stocks managed solely by the Gulf Council, along with initial specifications of an ACL that may be changed under a framework procedure for specifying an ACL. The Gulf Council will also implement species groupings and or the removal of species from fishery management plans based upon geographic landings and harvest levels.

The need for this action is to improve management capability to prevent and end overfishing and to maintain stocks at healthy levels, and to do so in a consistent and structured manner across all FMPs.

1.4 Actions in the Amendment

The actions in this amendment follow a progressive sequence in the establishment of annual catch limits and accountability measures.

- Actions 1, 2, and 3 determine which stocks or stock groupings are in need of annual catch limits and which may not need ACLs due to being removed from the fishery management plans, delegated to other management agencies, or combined with other stocks to form a species grouping.

- Actions 4, 5 and 6 establish the necessary procedures for determining and implementing annual catch limits and associated management measures by creating an ABC control rule, an ACL/ACT control rule, and a framework procedure for implementing management changes.

- Action 7 is where the annual catch limits, and optionally annual catch targets are specified. This section also handles apportionment of stocks that occur across jurisdictional boundaries between the Gulf Council and South Atlantic Council, and allocation of black grouper between commercial and recreational fisheries.

- Action 8 establishes the accountability measures.

A more detailed description of the purpose for each action follows. These actions are discussed more thoroughly in Section 2, Management Actions.

Action 1. Transfer management of selected stocks to other agencies. For some stocks, presence in the federal waters of the Gulf of Mexico is uncommon and may represent a stock that is predominately within the jurisdiction of the South Atlantic Fishery Management Council, or a stock may have a limited geographic range and be landed entirely in a single state. National Standard 7 states that, the extent practicable, unnecessary duplication should be avoided. In cases in which the fishery could be or is already adequately managed by states or by state/Federal programs, consistent with the policies and standards of the Magnuson-Stevens Act, National Standard 7 may be best implemented by transferring management to another agency.

Action 2. Removal of Stocks from Reef Fish Fishery Management Plan. The Council currently manages 42 reef fish species. Many of these species were originally placed in the fishery management plan for data monitoring purposes, rather than because they were considered to be in need of management. Taking into account mandated specifications to provide ACLs and AMs for species in a fishery management plan other than annual stocks or designated ecosystem component species, the Council may choose to simplify its system of ACLs by removing some of the less frequently landed species that are not in need of management. An alternative approach would be to designate such species as ecosystem components. However, for reasons discussed in Acton 2, these species are not currently believed to meet the criteria to be designated as ecosystem components.

Action 3. Species groupings. In some cases, groups of stocks share a common habitat and are caught with the same gear in the same area at the same time.. In some cases the status of a stock is unknown, but they are caught in conjunction with a stock whose status is known. Some groupings already exist in management, i.e., shallow-water grouper, deep-water grouper, and tilefishes. Grouping of species that share similar fishery characteristics can simplify or reduce the number of catch limits needed, and can allow species where there is insufficient information to determine status to managed under an annual catch limit for an indicator stock whose status is known. Care should be taken, however, to assure that species groupings and resulting ACLs will protect the weakest stock in the group.

Action 4. ABC control rule. Standard methods for determining the appropriate acceptable biological catch will allow the SSC to determine an objective and efficient assignment of ABC at or below the OFL that takes into account scientific uncertainty regarding the true value of OFL. Because of different levels of information about the status of stocks, separate control rules will be needed for data-adequate and data-poor stocks. In some cases, the nature of the fishery or other considerations may require a separate control rule for a given stock.

Action 5. ACL/ACT control rule. ACLs are required, while ACTs are optional. Control rules for setting these catch levels will provide guidance to the Council on setting objective and efficient assignment of catch limits that take into account management uncertainty. As with the ABC control rule, different levels of information about catch levels and management of stocks

may require separate control rules for data-adequate and data-poor stocks. In some cases, the nature of the fishery or other considerations may require a separate control rule for a given stock.

Action 6. Generic framework procedure. The current framework procedures for setting TAC in the various FMPs are outdated and do not comply with current terminology and practices. These framework procedures need to be updated to allow the setting of ACL and ACT, and where possible, streamlined to allow more efficient management.

Acton 7. Initial specification of ACLs. Once transfer of management, species groupings, sector allocations, and appropriate control rules have been established, the task of assigning initial annual catch limits, and optionally annual catch targets, can proceed. An additional task that needs to be addressed in this action is the apportionment of stocks that cross jurisdictional boundaries between the Gulf Council and South Atlantic Council (black grouper and, if necessary, yellowtail snapper and muttons snapper), and, for black grouper, the commercial and recreational allocations.

Action 8. Accountability measures. In-season and post-season accountability measures need to be established to keep catch levels within the designated annual catch limits or to restore catch levels to those limits if exceeded. These accountability measures will need to take into account the timeliness of the catch data for in-season monitoring, as well as whether the stock is under a rebuilding plan.

2. Management Actions

Action 1. Management of Species by Other State or Federal Agencies

2.1.1 Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia)

Alternative 1. No action, retain management of octocorals under the Coral and Coral Reefs Fishery Management Plan

Preferred Alternative 2. Remove octocorals from the Coral and Coral Reefs Fishery Management Plan

Alternative 3. Remove octocorals from the Coral and Coral Reefs Fishery Management Plan and request the Secretary of Commerce designate the South Atlantic Fishery Management Council as the responsible Council.

2.1.2 Action 1.2 Stone Crab Fishery Management Plan (Menippe mercenaria, M. adina, and their hybrids)

At the October 2010 meeting, the Council voted to repeal the Stone Crab Fishery Management Plan. A vote to repeal a fishery management plan requires a favorable vote by 75% of all voting members. This supermajority vote was met with a vote of 14 in favor, 0 against, and 3 not present. As a result of the vote, this action and all other actions dealing with stone crab have been removed from the amendment. The request to the Secretary to repeal the Stone Crab FMP will be made as a separate action.

The management consequence of this action is to allow state fishery management agencies to extend state regulations into federal waters for vessels registered in the state or returning to a port in that state. The vast majority of stone crabs are landed in Florida. In a letter to the Council dated August 13, 2010, the Florida Fish and Wildlife Conservation Commission stated that they were fully prepared to protect the resource and the interests of fishermen in state and federal waters through appropriate regulations. Louisiana and Texas also have small landings of stone crab off their coasts, and could extend their regulations into federal waters. The Environmental Assessment, Regulatory Impact Review, and Regulatory Flexibility Act Analysis to Repeal the Fishery Management Plan for the Stone Crab Fishery of the Gulf of Mexico will be available on the Southeast Regional Office website by fall 2011 (http://sero.nmfs.noaa.gov/).

2.1.3 Action 1.3 Nassau Grouper, Epinephelus striatus

Alternative 1. No action, retain management of Nassau grouper under the Reef Fish Fishery Management Plan

Alternative 2. Remove Nassau grouper from the Reef Fish Fishery Management Plan

Preferred Alternative 3. Remove Nassau grouper from the Reef Fish Fishery Management Plan and request the Secretary of Commerce designate the South Atlantic Fishery Management Council as the responsible Council.

2.1.4 Action 1.4 Yellowtail Snapper, Ocyurus chrysurus

Preferred Alternative 1. No action, retain management of yellowtail snapper under the Reef Fish Fishery Management Plan

Alternative 2. Remove yellowtail snapper from the Reef Fish Fishery Management Plan

Alternative 3. Remove yellowtail snapper from the Reef Fish Fishery Management Plan and request the Secretary of Commerce designate the South Atlantic Fishery Management Council as the responsible Council

Alternative 4. Add yellowtail snapper to a joint plan with the South Atlantic Fishery Management Council.

2.1.5 Action 1.5 Mutton Snapper, Lutjanus analis

Preferred Alternative 1. No action, retain management of mutton snapper under the Reef Fish Fishery Management Plan

Alternative 2. Remove mutton snapper from the Reef Fish Fishery Management Plan

Alternative 3. Remove mutton snapper from the Reef Fish Fishery Management Plan and request the Secretary of Commerce designate the South Atlantic Fishery Management Council as the responsible Council.

Alternative 4. Add mutton snapper to a joint plan with the South Atlantic Fishery Management Council.

Discussion:

For all the following sub-actions the Councils are reviewing the need for management at the federal level and making decisions based on an individual species need. In most cases when a stock assessment is available the stock straddles the Gulf and South Atlantic Councils Fishery Management boundaries (e.g., yellowtail snapper and mutton snapper). In the case of octocorals the Gulf and South Atlantic Councils have separate management plans for octocorals, but share a joint quota of 50,000 colonies annually from federal waters. Once the federal quota has been reached the State of Florida closes their waters to the harvest of allowable octocorals.

Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa)

The Fishery Management Plan for Coral and Coral Reefs have been jointly managed by the Gulf and South Atlantic Councils since 1982. The joint jurisdiction of the two Councils extends from the Virginia/North Carolina border in the South Atlantic to the Texas/Mexico border in the Gulf of Mexico. However, with implementation of Joint Amendment 2, the single FMP was divided into two separate fishery management plans for the South Atlantic and Gulf of Mexico Fishery Management Councils (GMFMC and SAFMC 1994). Octocorals were added to the Fishery Management Unit under the original plan (GMFMC and SAFMC 1982). The definition of allowable octocorals changed little over the development of new fishery management plans. However, Joint Amendment 2, redefined octocorals as an erect non-encrusting species of the subclass Octocorallia, including only the substrate covered by and within 1 inch of the holdfast. Harvest of the common sea fan, (*Gorgonia ventalina*) and Venus sea fan (*G. flabellum)* are prohibited (GMFMC and SAMFC 1994).

Joint Amendment 1 set an annual allowable harvest of octocorals in the exclusive economic zone of 50,000 colonies (GMFMC and SAFMC 1990). This was defined as the optimum yield and overfishing was defined as the annual level of harvest that exceeds optimum yield (GMFMC and SAFMC 1990). Florida Fish and Wildlife Conservation Commission (Florida FWC) had no limits on the harvest of octocorals for commercial purposes unless and until the season for all harvest of octocorals in federal exclusive economic zone waters adjacent to state waters was closed. At such time, "the season for harvest of octocorals in state waters shall also close until October 1, the start of fishing season, upon notice given by the Executive Director of the Fish and Wildlife Conservation Commission" (Florida Administrative Code 68B-42.006). Florida FWC has documented commercial landings of octocorals since 1991, when the monitoring program was discussed and endorsed in Joint Amendment 1 (GMFMC and SAFMC 1990). Florida FWC requires commercial octocoral harvesters to have a Saltwater Products License, Restricted Species Endorsement, and Marine Life Endorsement (Florida Administrative Code 68B-42.0065). Recreational landings for octocorals do not have a separate monitoring program, but Florida FWC requires harvesters to purchase a saltwater fishing license. Additionally, recreational regulations limit harvest of octocorals to 6 colonies per person per day for federal and state waters (GMFMC and SAFMC 1990; Florida Administrative Code 68B-42.005).

Octocorals are primarily harvested from state waters and used in the aquarium trade, although in some cases octocorals are harvested for biomedical research (GMFMC and SAFMC 1982; GMFMC and SAFMC 1990). Today most compounds found in octocorals that may be used in medical research are synthesized (SAFMC 2009). The joint annual quota of 50,000 colonies has not been reached by the fishery. The average annual number of colonies commercially landed from state waters during the 2000-2008 time series was 38,473 colonies off both coasts combined (Figure 2.1.1.1). Fewer colonies were landed from Gulf and South Atlantic federal waters during the 2000-2008 time series, with annual average landings of 3,868 and 5,635 colonies, respectively (Figure 2.1.1.1). The 2009 data were not included because they were preliminary.

Alternative 1 is the no action alternative which would retain management of octocorals under the current Coral and Coral Reefs Fishery Management Plan for the Gulf of Mexico. Under this

alternative annual catch limits and accountability measures would need to be developed (see Action 7, for setting an annual catch limit).

Preferred Alternative 2 would remove octocorals from the Coral and Coral Reefs Fishery Management Plan with the assumption that Florida FWC would agree to accept the responsibility for octocoral management. Octocorals are a Florida fishery with a majority (78%) of the landings coming from state waters off both coasts. Florida FWC has taken the lead in documenting commercial octocoral landings as well as implementing compatible regulations with NOAA Fisheries Service and the Gulf and South Atlantic Council's by closing state waters to harvest of octocorals when the exclusive economic zone quota is filled. If Florida FWC agreed to accept the management of octocorals they would be removed from the Gulf Council's Coral and Coral Reef Fish Fishery Management Plan, and management measures would no longer need to be established. Florida State regulations could extend into federal waters for vessels registered in Florida or returning to a Florida port. Under section 306 (3)(A) of the Magnuson-Stevens Act 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 regulation for the fishery in which the vessel is operating. Vessels registered outside the State of Florida are unlikely to become involved in the current octocoral fishery which is a small commercial fishery primarily operating in the Florida Keys (S. Brown, Florida FWC and FWRI, biologist, personal communication). Further it is very unlikely that an operation harvesting species in south Florida waters could profitably return to other states to land the harvested product. The cost of fuel would make the harvest landed in states other than Florida prohibitive. Another issue would be keeping the octocorals alive during the transit.

During the April 2011 Council meeting the Gulf and South Atlantic Councils received a letter from Florida FWC, stating the Commission agreed to manage the allowable octocoral fishery in both Florida state waters and federal waters adjacent to the state (letter log file number 5914; Appendix 15.4). The South Atlantic Council decided to retain allowable octocorals in their Coral FMP in federal waters off North Carolina, South Carolina, and Georgia and set the ACL at zero, but allow Florida FWC to assume management of octocorals off the State of Florida. In order for Florida FWC to take over management of this fishery, Florida octocoral regulations must be extended into federal waters and the regulations must be modified to establish an annual quota for allowable harvest in state and federal waters off Florida. The Commission is committed to preserving the resource and is considering extension of state regulations into federal waters for allowable octocorals see the letter in Appendix 15.4. At a June 8-9, 2011 Florida FWC meeting, the Commissioners directed staff to develop possible rule modifications that would extend state requirements governing the harvest of marine life (aquarium species) into federal waters adjacent to state waters, and to create a commercial quota for octocorals and adopt areas in federal waters currently closed to their harvest.

Alternative 3 would remove octocorals from the Coral and Coral Reef Fishery Management Plan and request that the Secretary of Commerce designate the South Atlantic Fishery Management Council (South Atlantic Council) management of octocorals throughout their range. If the South Atlantic Council agrees to take over the responsibility of management, the Secretary of Commerce designates this action under section 304(f) of the Magnuson-Stevens Act

(50 CFR 600.320 (c)). A majority, 78% of the commercial octocoral landings occur in South Atlantic waters versus 22% in the Gulf of Mexico (Figure 2.1.1.1). The average South Atlantic commercial landings from state and federal waters during the 2000-2008 time series was 33,980 colonies, annually; whereas, the average Gulf of Mexico commercial landings from state and federal waters during the same time series was 9,593 colonies, annually. Under this alternative the Gulf Council would no longer need management measures for octocorals, because the South Atlantic Council would manage them throughout their range.

Action 1.1 is administrative in nature and is not expected to have impacts on the biological/ecological environment. The current management measures in place for this resource are not expected to change under **Preferred Alternative 2** compared to **Alternatives 1** and **3**. However, if the state of Florida does not assume management of octocorals after they are removed from the Fishery Management Plan then federal management would not exist. Based on the same preferred alternative selected by the South Atlantic Council and letter of support from Florida FWC, it is likely they will assume management of octocorals.

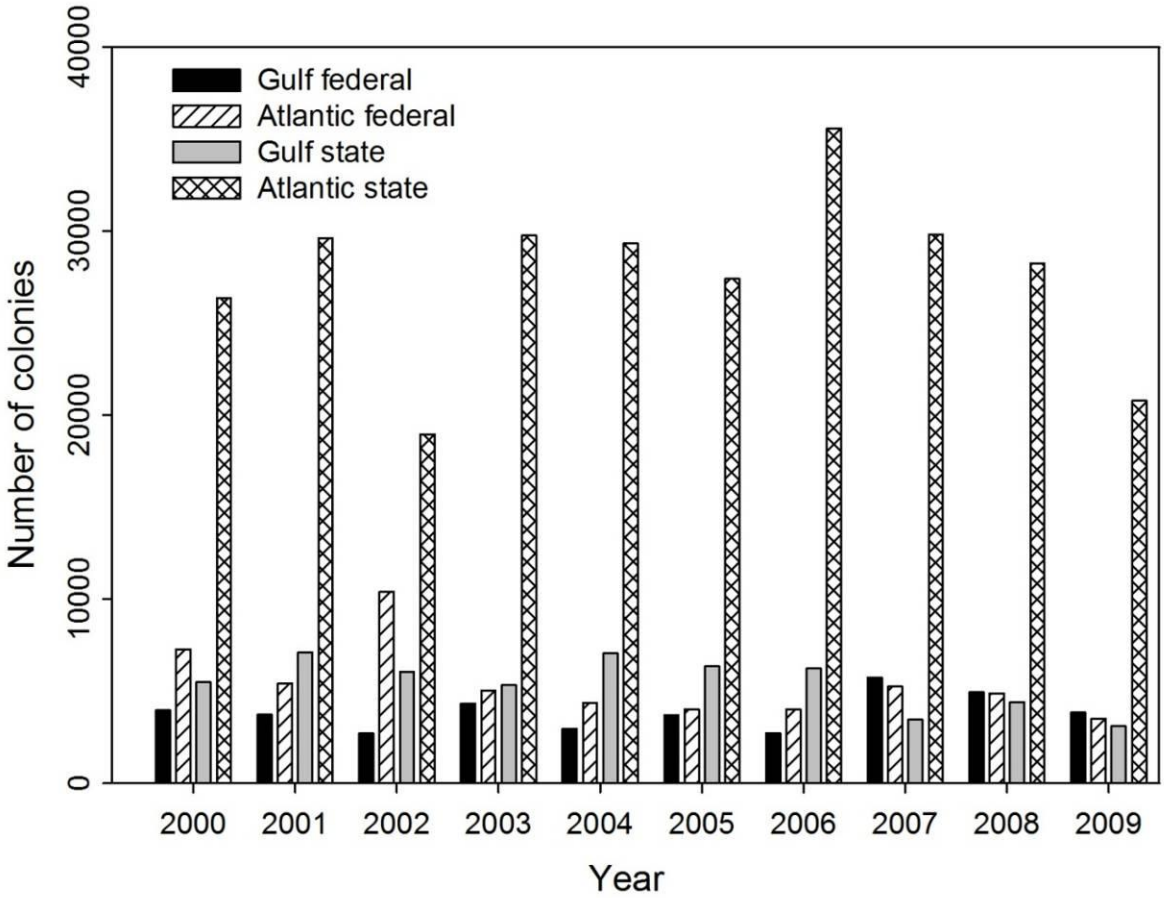


Figure 2.1.1.1. Octocoral landings from Gulf federal, South Atlantic federal, Gulf state, and South Atlantic state waters during the 2000-2009 time series. Note 2009 data are preliminary. Source: S. Brown, Florida FWC and FWRI, biologist 2010.

Action 1.2 Stone Crab Fishery Management Plan

Formerly Stone Crab

Action 1.3 Nassau Grouper, Epinephelus striatus

Nassau grouper were placed in the original Fishery Management Unit of the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico and were regulated with a minimum size limit of 12-inches fork length (GMFMC 1981). Nassau grouper are commonly found in Bermuda, Florida, and the Caribbean, but they are rare in the Gulf (Hoese and Moore 1977; Shipp 1986). In the Gulf, Nassau grouper have been reported off Texas, southwestern Florida, and the west coast of the Yucatan. Adults are associated with coral reefs, while juveniles occur in sea-grass beds (McEachran and Fechhelm 2005). Amendment 1 modified the minimum size limit for Nassau grouper to 20-inches total length and placed Nassau grouper within the shallow-water grouper component for commercial quota (GMFMC 1989).

Harvest of Nassau grouper is currently prohibited within the United States due to the species being overfished and undergoing overfishing. The Nassau grouper fisheries in the Southeast region were closed by the South Atlantic Fishery Management Council in 1992 through Amendment 4 (SAFMC 1991), by Florida FWC under Reef Fish, Chapter 46-14, F.A.C. (effective December 31, 1992), and by the Gulf of Mexico Fishery Management Council in 1996 through Amendment 14 (GMFMC 1996).

Nassau grouper is found predominately in south Florida and the Caribbean; however, they have been landed in low numbers off Texas and Louisiana during 1981-1990. These landings were likely from the Flower Garden Banks area (McEachran and Fechhelm 2005). There also could be species identification issues found in early MRFSS landings.

Landings Data

The methods used to partition landings of Nassau grouper between the Gulf and South Atlantic Councils are detailed under the yellowtail snapper **Action 1.4**. However, a summary is provided here using the following methods: Commercial landings are based on annual landings summary and are assigned to subregion based on fisher-reported catch area; headboats based from North Carolina to the Florida Keys are considered South Atlantic jurisdiction and Gulf-based headboats from Monroe County to Texas are considered Gulf jurisdiction; and Marine Recreational Fisheries Statistics Survey data was post-stratified to break the Florida Keys out from the Gulf of Mexico landings and re-assigned to the South Atlantic Council.

Total Gulf-wide landings of Nassau grouper from 1981-1992 averaged 32,543 pounds whole weight (16% of the landings) and South Atlantic landings averaged 173,214 pounds whole weight (84% of the landings; Table 2.1.3.1). A majority of the Nassau grouper landings are off the State of Florida compared to other Gulf and South Atlantic states.

Due to the South Atlantic Council prohibiting the harvest of Nassau grouper in 1992, comparison of landings were made from 1981-1992 between state and federal waters of the Gulf and South Atlantic (Source: Post-stratified MRFSS 2011 and Southeast Fisheries Science Center ACL datasets 2010). Landings in the Gulf from 1981-1992 indicate 42% of the landings came from federal waters, 55% from state waters, and 3% from unknown waters. Landings in the South Atlantic from 1981-1992 indicate 36% of the landings came from federal waters, 64% from state waters, and less than 1% from unknown waters (Table 2.1.3.1).

Table 2.1.3.1. Landings of Nassau grouper (whole weight) in federal, state, and unknown waters of the Gulf of Mexico and South Atlantic from 1981-1996.

	Federal waters		State waters		Unknown		Total	
Year	**Gulf**	**Atlantic**	**Gulf**	**Atlantic**	**Gulf**	**Atlantic**	**Gulf**	**Atlantic**
1981	3,860	77,747	42,567	216,789	----	----	**46,427**	**294,536**
1982	32,843	108,945	1,468	59,628	----	----	**34,311**	**168,573**
1983	16,292	128,541	0	317,959	----	----	**16,292**	**446,500**
1984	53,399	2,460	11,676	314,282	----	----	**65,075**	**316,742**
1985	11,341	71,266	0	29,595	----	----	**11,341**	**100,861**
1986	7,003	270,757	54,295	106,176	47	79	**61,345**	**377,012**
1987	20,560	998	22,879	45,745	257	721	**43,696**	**47,464**
1988	8,531	1,276	14	23,045	0	519	**8,545**	**24,840**
1989	2,099	23,564	28	48,927	6,080	470	**8,207**	**72,961**
1990	2,076	30,003	83,983	82,015	228	135	**86,287**	**112,153**
1991	7,838	23,717	0	59,367	53	123	**7,891**	**83,207**
1992	1,102	2,194	0	35,038	0	150	**1,102**	**37,382**
1993	1,824	17,090	25	23,736	4,128	98	**5,977**	**40,924**
1994	269	3,512	0	2,740	0	72	**269**	**6,324**
1995	798	0	0	0	15	44	**813**	**44**
1996	57	0	0	1,843	0	56	**57**	**1,899**
Average	**10,618**	**47,629**	**13,558**	**85,430**	**983**	**224**	**24,852**	**133,214**

Sources: Post-stratified MRFSS (2011) for recreational (1981-1996) and SEFSC ACL Datasets (2011) for headboat (1986-1996) and commercial (1986-1996). Please see text for full description of jurisdictional apportionment between the Gulf and South Atlantic coasts.

Alternative 1 no action would retain management of Nassau grouper under the Reef Fish Fishery Management Plan. If this alternative were selected as preferred, annual catch limits and accountability measures would need to be established by 2011. The annual catch limit would equal zero based on the current prohibition of harvest, with the exception of Nassau grouper landed for research purposes.

Alternative 2 would remove Nassau grouper from the Reef Fish Fishery Management Plan, with the assumption that Florida FWC would agree to accept the responsibility of management. Nassau grouper is predominately a Florida species with low landings in the other Gulf states and no landings in other South Atlantic states. A larger percent of landings came from state waters (55%) in the Gulf compared to federal waters at 42%; whereas, a greater number of Nassau grouper landings came from state waters of the South Atlantic approximately 64% during the years the fishery was open (1981-1992). If Nassau grouper was removed from the Gulf Council's Reef Fish Fishery Management Plan then management measures would no longer need to be established. Florida state regulations could extend into federal waters for vessels registered in Florida or returning to a Florida port. Under section 306 (3)(A) of the Magnuson-Stevens Act 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 regulation for the fishery in which the vessel is operating.

Preferred Alternative 3 would remove Nassau grouper from the Reef Fish Fishery Management Plan and request that the Secretary of Commerce designate the South Atlantic Council as the responsible Council. A majority of the landings when the fishery was open 1981-1992 were from the South Atlantic waters (84%). If the South Atlantic Council agrees to take over the responsibility of management, the Secretary of Commerce designates the South Atlantic as the lead under section 304(f) of the Magnuson-Stevens Act (50 CFR 600.320 (c)). Nassau grouper can no longer be harvested, but management measures would still need to be established and monitored by the South Atlantic Council if designated as the managing Council by the Secretary of Commerce. The Gulf Council received a letter at their October 2010 meeting from the South Atlantic Council which stated their intent to accept this responsibility should the Secretary of Commerce designate them the responsible Council (Appendix 15.5). If **Alternative 3** continues to be the preferred it should result in maintaining consistent regulations throughout the species range and facilitate continued conservation and management of Nassau grouper.

Action 1.3 is administrative in nature and is not expected to have impacts on the physical environment or the biological/ecological environment. The current management measures in place for this resource are not expected to change under **Preferred Alternative 3** compared **Alternatives 1** and **2**.

Action 1.4 Yellowtail Snapper, Ocyurus chrysurus

The original Reef Fish Fishery Management Plan placed yellowtail snapper in the Fishery Management Unit (GMFMC 1981). Amendment 1 set a 12-inch total length size limit for the recreational and commercial sectors that was compatible with state of Florida regulations (GMFMC 1989). The catch of yellowtail snapper is also limited by the 10-snapper aggregate bag limit for recreational anglers and the licensing requirements for commercial fishers. The most recent stock assessment was completed in 2003 by Florida FWC within the Southeast Data, Assessment, and Review procedure. The stock assessment indicated that yellowtail snapper were neither undergoing overfishing or overfished and that the maximum sustainable yield

ranged from 2,074,550 to 3,011,515 pounds with fishing mortality at a maximum sustainable yield (F_{MSY}) equal to 0.35 per year (SEDAR 3 2003).

Yellowtail snapper are tropical reef fish that are most abundant in the Bahamas, south Florida, and the Caribbean. They range from the western Atlantic as far north as Massachusetts and as far south as Brazil, including the northern and southern Gulf of Mexico (McEachran and Fechhelm 2005). Yellowtail snapper are primarily landed in the State of Florida, but MRFSS has documented recreational landings in low numbers off the Gulf state of Louisiana and south Atlantic states of Georgia, South Carolina, and North Carolina.

Reproductive seasonality is reported to vary among populations, from extended spring-summer spawning (e.g., southeast Florida) to year-round spawning in the Bahamas and in the Caribbean (Grimes 1997). For example, Thompson and Munro (1974) reported that yellowtail snapper spawn off Jamaica during February, with a second spawn during September and October. In south Florida, spawning is concentrated in the Florida Keys (Barbieri and Colvocoresses 2003) and Riley's Hump area near the Dry Tortugas (Lindeman et al. 2000). Yellowtail spawning extends over most of the spring and summer, peaking during May-July. Large spawning aggregations of yellowtail snapper are reported to occur seasonally off the coasts of Cuba, the Turks and Caicos, and the U.S. Virgin Islands. In the continental U.S., a large spawning aggregation is reported to form during May-July at Riley's Hump near the Dry Tortugas off Key West, Florida (SEDAR 3 2003).

Landings Data

The following methods were used to partition landings of yellowtail snapper and mutton snapper between the Gulf and South Atlantic Councils by sector. Commercial landings are based on annual landings summary and are assigned to subregion based on fisher-reported catch area (i.e., north of U.S. 1 landings are considered to be the Gulf of Mexico jurisdiction and South of U.S. 1 landings are considered to be the South Atlantic jurisdiction; Figure 2.1.4.1a). Headboats based from North Carolina to the Florida Keys are considered South Atlantic jurisdiction and Gulf-based headboats from Monroe County to Texas are considered Gulf jurisdiction. Marine Recreational Fisheries Statistics Survey data was post-stratified to break the Florida Keys out from the Gulf of Mexico landings. The MRFSS landings from the Florida Keys were then re-assigned to the South Atlantic Council, because most legal sized yellowtail snapper (12-inch TL) and mutton snapper (16-inch TL) would likely be caught in South Atlantic waters (Figure 2.1.4.1b). A potential additional issue when using commercial logbook data is there is only one space to record area fished. It is plausible in Monroe County that fishers could fish in both state and federal waters in one day, possibly on both coasts; however, only one area fished location is documented in logbooks.

Total Gulf-wide landings of yellowtail snapper from 1999-2008 averaged 455,174 pounds whole weight (23% of the landings) and South Atlantic landings averaged 1,503,480 pounds whole weight (77% of the landings; Figure 2.1.4.2). Data from the Southeast Fisheries Science Center ACL datasets (2010) were used to derive these apportionments based on the written description stated above. A majority of the landings are off the State of Florida compared to other Gulf and South Atlantic states. Commercial landings of yellowtail snapper off Florida were also

predominately from the South Atlantic in 2008 (Figure 2.1.4.4a; Source: Florida FWC, FWRI, 2010). Recreational landings of yellowtail snapper showed a similar trend in waters from the State of Florida in 2008 between the Gulf and South Atlantic with a great number of fish (100,000+) in multiple counties reported from the South Atlantic Council's jurisdiction (Figure 2.1.4.4b).

The last 10 years (1999-2008) of data were used to compare the landings of yellowtail snapper from state and federal waters in the Gulf and South Atlantic (Source: Post-stratified MRFSS 2011 and Southeast Fisheries Science Center ACL datasets 2010). Landings in the Gulf from 1999-2008 indicate 10% of the landings came from federal waters and 90% from state waters. Landings in the South Atlantic from 1999-2008 indicate 72% of the landings came from federal waters and 28% from state waters (Figure 2.1.4.3). Note: Commercial landings not recorded as "state or federal waters" are not reported in the graph; these represent less than 1% of the total Gulf landings and 14% of the total South Atlantic landings.

Recreational landings of yellowtail snapper reported to MRFSS are low off other Gulf and South Atlantic states. Landings from 1999-2008 were not reported in Mississippi or Texas; however, Alabama landed an average of 13 pounds whole weight (ww) and Louisiana landed an average of 93 pounds ww during this period (Southeast Fisheries Science Center ACL datasets, 2010). Other South Atlantic states also had low landings. Georgia landed an average 8 pounds ww, South Carolina landed an average 264 pounds ww, and North Carolina landed 29 pounds ww during the 1999-2008 time series (Southeast Fisheries Science Center ACL datasets, 2010).

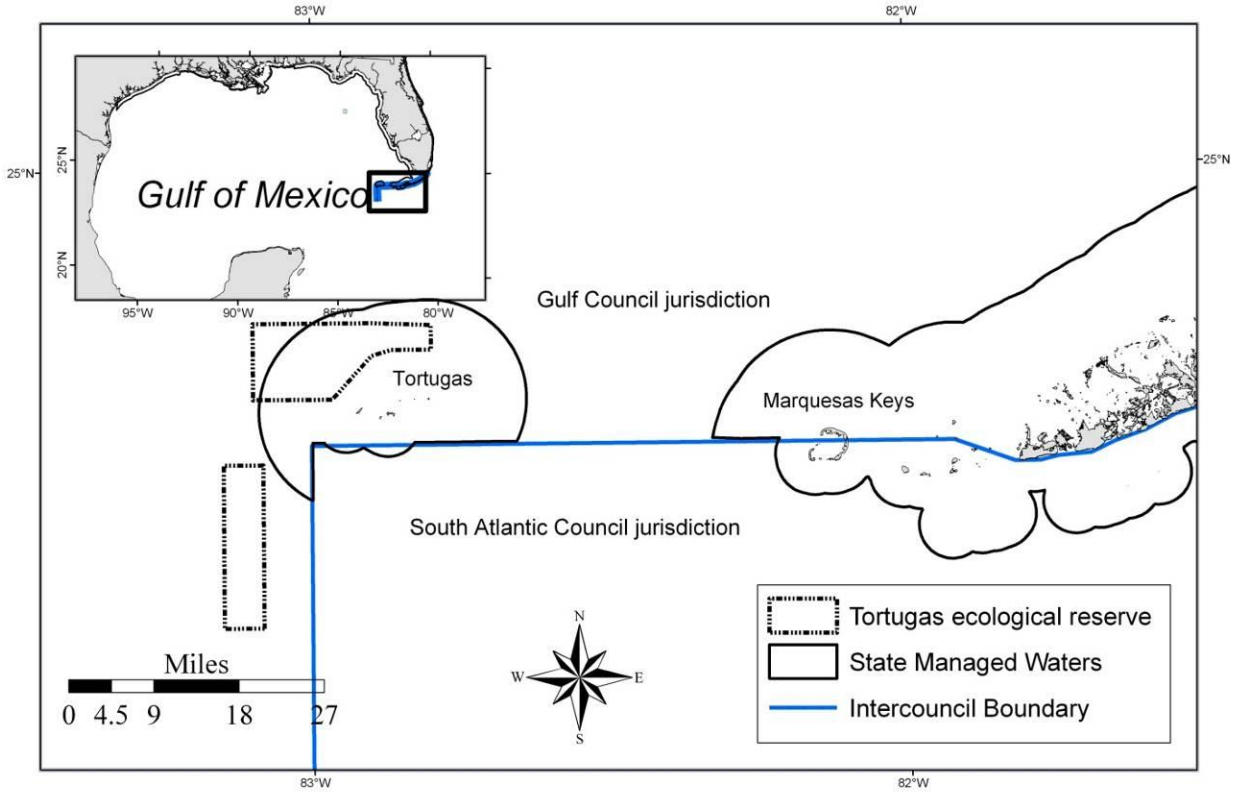


Figure 2.1.4.1a. Inter-Council jurisdiction boundary in southern Florida, Florida Keys and Monroe County between the Gulf of Mexico and South Atlantic Councils. Landings south

or east of inter-Council boundary are assigned to the South Atlantic Council. A full description of the inter-Council boundary can be found: 61 FR 32540, June 24, 1996, as amended at 63 FR 7075, February 12, 1998 Source: J. Froeschke, Gulf Council staff.

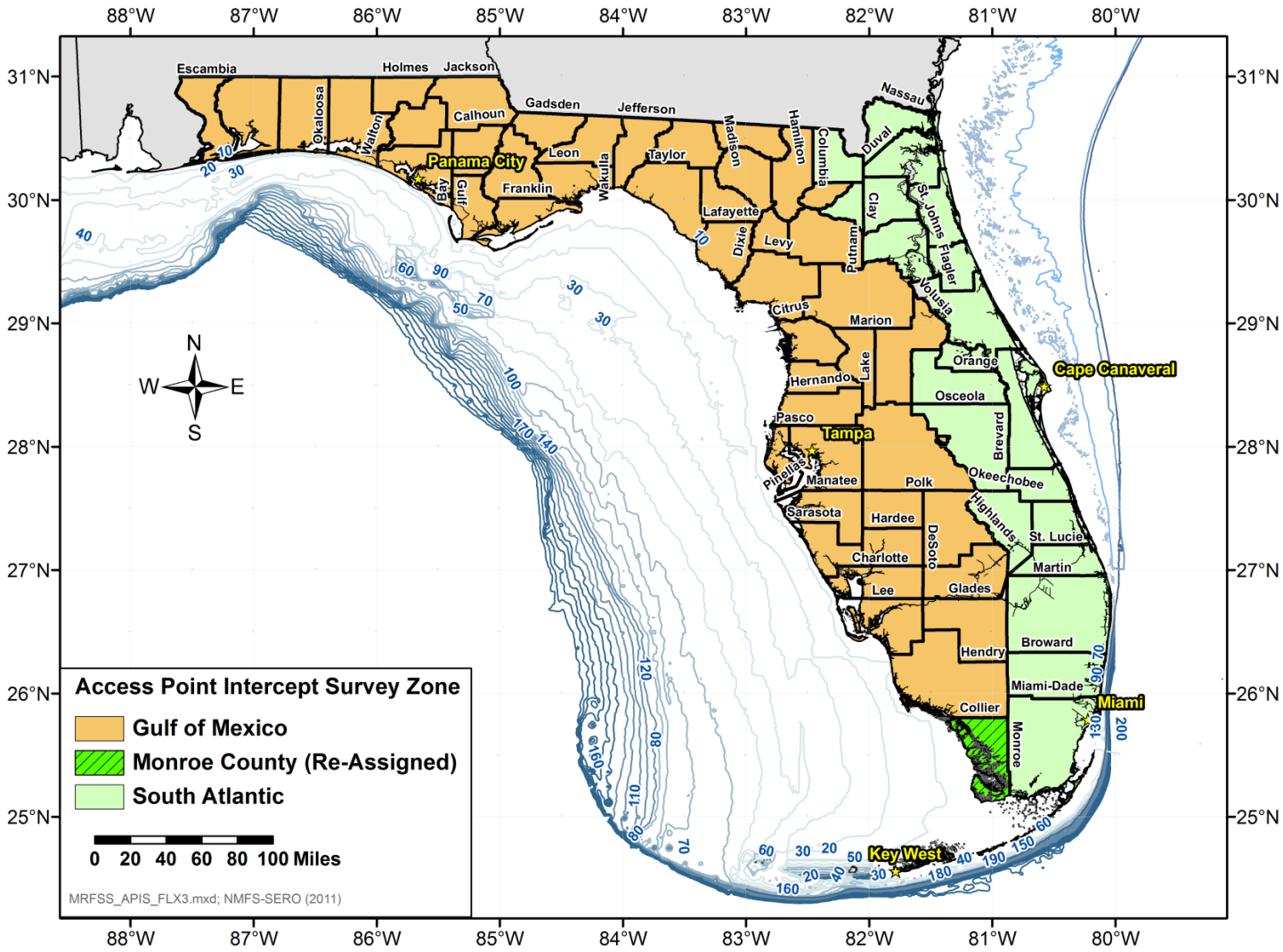


Figure 2.1.4.1b. Counties in the State of Florida that are access point intercepts for the recreational sector. Monroe County has been re-assigned to the South Atlantic jurisdiction. Source: N. Farmer, Southeast Regional Office staff.

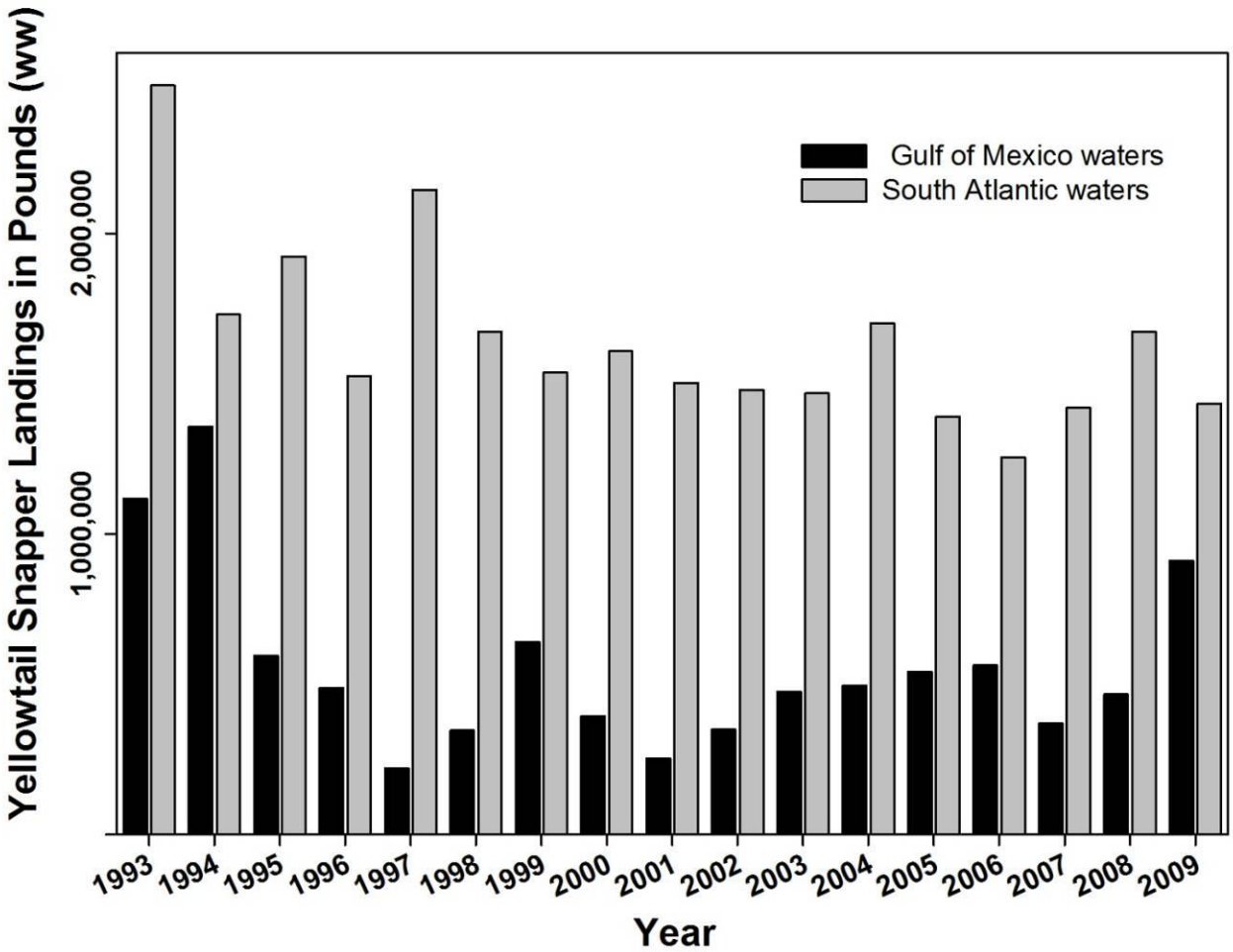


Figure 2.1.4.2. Yellowtail snapper landings in pounds whole weight (ww) off the Gulf and Atlantic coasts from 1993-2009. Source: Southeast Fisheries Science Center ACL datasets, 2010. Please see text for full description of jurisdictional apportionment between the Gulf and South Atlantic coasts.

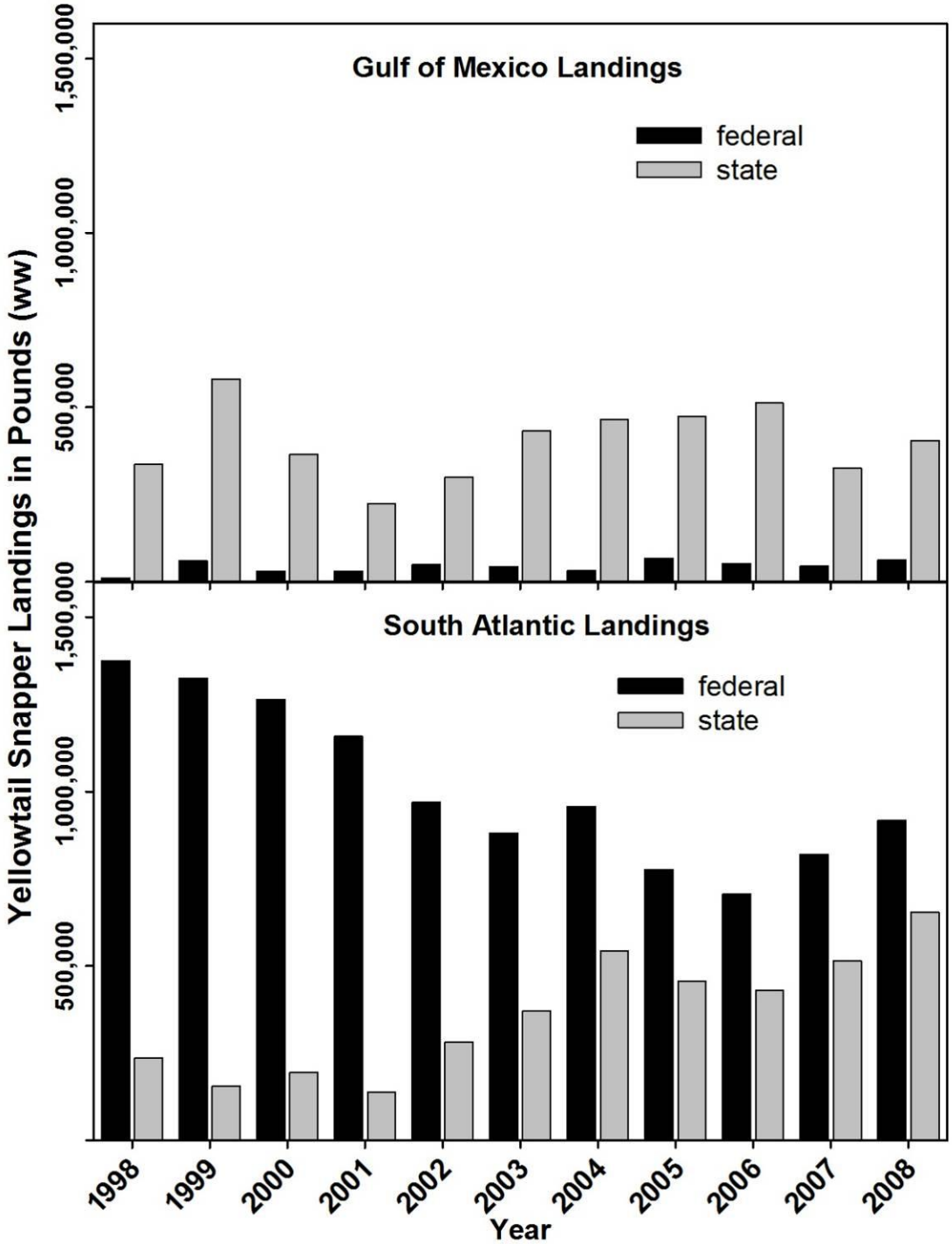


Figure 2.1.4.3. Yellowtail snapper landings in pounds whole weight (ww) off the Gulf and Atlantic coasts from 1998-2008 by federal and state waters. Source: Southeast Fisheries Science Center ACL datasets, 2010. Please see text for full description of jurisdictional apportionment between the Gulf and South Atlantic coasts. Note: Commercial landings from 1998-2008 not recorded as "state or federal waters" are not reported in the graph; these represent less than 1% of the total Gulf landings and 14% of the total South Atlantic landings.

In 2008, commercial landings of greater than 50,000 pounds were reported in Monroe and Miami-Dade Counties (Figure 2.1.4.4 a). The east coast of Florida had a higher number of recreational landings (greater than 100,000 fish) in multiple counties compared to the west coast (Figure 2.1.4.4 b).

a. Commercial landings (pounds) **b. Recreational landings (numbers of fish)**

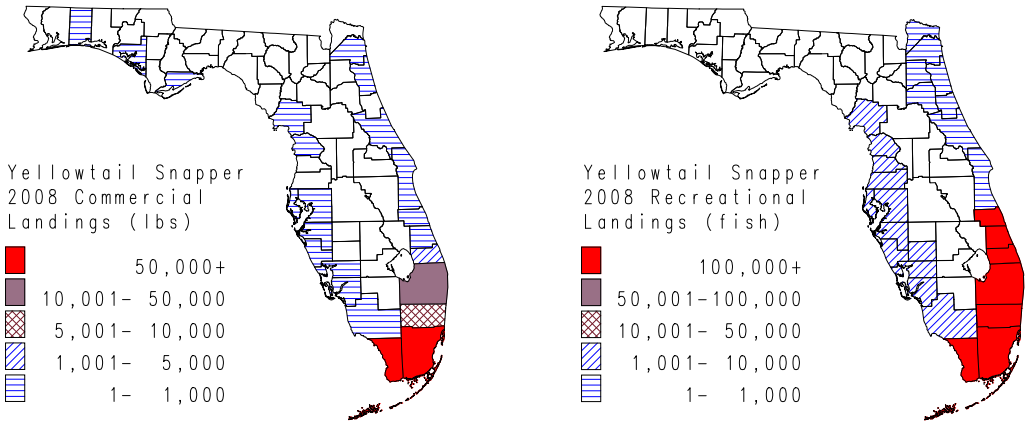


Figure 2.1.4.4. Geographic distribution of yellowtail snapper landed during 2008. (a) Commercial landings (pounds) by county; (b) Recreational landings (numbers of fish) by region. Source: Florida's Inshore and Nearshore Species: 2008 Status and Trends Report, Florida FWC, FWRI, July 2009.

Preferred Alternative 1 is the no action alternative and would retain management of yellowtail snapper under the Reef Fish Fishery Management Plan. Over the last year Florida FWC and the Gulf Council have been working together to review the need for federal management of yellowtail snapper. In August 2010 the Gulf Council received a letter from Florida FWC stating they were willing to work with both the Gulf and South Atlantic Councils to determine if this species and others were in need of federal management (Appendix 15.6). Under the current preferred alternative the yellowtail snapper stock would need to be apportioned between the Gulf and South Atlantic Councils, addressed in Action 7.3.2. After apportionment, each Council would be responsible for establishing management measures for yellowtail snapper. At the June 2011 Council meeting, Florida FWC stated they did not think that fishing effort and harvest by out-of-state vessels could be adequately managed in federal waters if yellowtail snapper were removed from the FMP (Appendix 15.7). Therefore, the Council selected the current alternative as preferred which was to retain management of yellowtail snapper in the Reef Fish Fishery Management Plan.

Alternative 2 would remove yellowtail snapper from the Reef Fish Fishery Management Plan, with the assumption that Florida FWC would agree to accept the responsibility for management of this species. Yellowtail snapper is predominately landed in Florida (90%) with low landings in the other Gulf and South Atlantic states. In addition, Florida FWC has taken the lead in establishing minimum size limits, documenting commercial yellowtail snapper landings, and helping to complete a stock assessment (SEDAR 3 2003). If Florida FWC would agree to manage yellowtail snapper they would be removed from the Gulf Council's Reef Fish Fishery Management Plan, and management measures would no longer need to be established. Florida

state regulations could extend into federal waters for vessels registered in Florida or returning to a Florida port. Under section 306 (3)(A) of the Magnuson-Stevens Act 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 regulation for the fishery in which the vessel is operating. The majority of the yellowtail snapper landings in the Gulf of Mexico (90%) were from state waters and 28% of landings in the South Atlantic were from state waters from 1999-2008. It is possible that vessels would travel from out of state to harvest yellowtail snapper in federal waters and return to another state to land the fish; however, given the distances the potential costs associated with such an operation, is unlikely to occur. Between 1999-2008, less than 1% of yellowtail snapper landings reported to MRFSS were landed in any state other than Florida. Florida FWC sent a letter to the Gulf Council at their August 2010 meeting stating they intended to look into management responsibility of these species (Appendix 15.6). At several Council meetings the State of Florida Council representative has discussed potential issues and concerns with the State of Florida assuming management of yellowtail snapper. These concerns have been primarily focused around management of out of state vessels and additional pressure on the resource due to tightening regulations on other species. At the June 2011 Council meeting Florida FWC stated in a letter they felt yellowtail snapper should remain in a federal Fishery Management Plan (Appendix 15.7).

Alternative 3 would remove yellowtail snapper from the Reef Fish Fishery Management Plan and request that the Secretary of Commerce designate the South Atlantic Council as the responsible Council. The Gulf Council received a letter at their October 2010 meeting from the South Atlantic Council which stated their intent to accept this responsibility should the Secretary of Commerce designate them the responsible Council (Appendix 15.5). If the South Atlantic Council agrees to take over responsibility they would manage yellowtail snapper throughout their range. If is this alternative was selected as preferred it should result in maintaining consistent regulations throughout the species range and facilitate continued conservation and management of yellowtail snapper. However, there are issues regarding permitting and recreational aggregate bag limits that will need to be resolved for both yellowtail snapper and mutton snapper if these stocks are delegated to the South Atlantic Council.

For commercial fishing, these stocks are fished well into the Gulf of Mexico (yellowtail snapper are caught as far north as Steinhatchee, FL). Both South Atlantic snapper-grouper permits and Gulf reef fish permits are under a moratorium, so some existing Gulf fishermen will be excluded if a snapper-grouper permit is required to fish for them. How would the South Atlantic Council handle the commercial permitting requirements? One possibility might be to allow these species to be caught in the Gulf of Mexico under a reef fish permit, but otherwise be subject to the South Atlantic regulations and annual catch limit.

For charter and headboat operations, a snapper-grouper charter permit is required by the South Atlantic Council, and a reef fish permit is required by the Gulf Council. The Gulf permit is under a moratorium, but the South Atlantic permit is not. Consequently, charter and headboat vessels operating in the Gulf could obtain a South Atlantic snapper-grouper permit. However, this would add an administrative burden on Gulf operators to catch just these two species, and it could reduce the effectiveness of the Gulf permit moratorium to limit the number of for-hire vessels operating in the Gulf. A solution might be the same as suggested for commercial permits, i.e., allow these species to be caught by charter and headboats in the Gulf of Mexico

under a reef fish permit, but otherwise be subject to the South Atlantic regulations and annual catch limit.

For recreational fishing, yellowtail snapper and mutton snapper are both currently part of the Gulf's 10-fish aggregate snapper bag limit. If they are delegated to the South Atlantic Council, they can probably no longer be part of the Gulf's aggregate bag limit. However, if they subsequently become part of the South Atlantic Council's aggregate bag limit, that would effectively double the snapper limit for recreational fishers in the Gulf, i.e., 10 yellowtail and mutton snapper under the South Atlantic aggregate bag limit plus 10 other snapper under the Gulf aggregate bag limit. The most effective solution would be for the South Atlantic Council to take yellowtail and mutton snapper out of their aggregate snapper limit and give them each an individual bag limit.

All of the above solutions would require action by the South Atlantic Council upon accepting management of these stocks.

In order for **Alternative** 3 to be implemented, the Secretary of Commerce would designate the South Atlantic Council as lead under section 304(f) of the Magnuson-Stevens Act (50 CFR 600.320 (c)). Total landings were greater in the South Atlantic (77%) compared to the landings from the Gulf of Mexico (23%) from 1999-2008 (Source: SEFSC ACL datasets, 2010). In addition, yellowtail snapper are primarily caught and landed off the State of Florida from the South Atlantic jurisdiction (Figures 2.1.4.4a and 2.1.4.4b). This species is currently managed as one stock throughout its range by the South Atlantic and Gulf Council as well as the State of Florida. It would be beneficial for one management agency to manage yellowtail snapper throughout their range, instead of managing yellowtail snapper in two different FMPs in conjunction with the State of Florida. However, it should be noted during public hearings it was stated that it was beneficial to have more than one management agency involved even though it might lengthen the time needed to modify management measures. Further, if both Councils continue management of yellowtail snapper the acceptable biological catch would need to be split into jurisdictional allocations using the Council boundary, the Florida Keys (Monroe County). There are some issues with splitting landings in Monroe County. For example, in the commercial logbooks there is only one place to report “catch area”, but in Monroe County fishers likely fish in state and federal waters of the Gulf and South Atlantic in one day, even more probable over an extended trip (S. Brown, Florida FWC, personal communication).

Alternative 4 would allow yellowtail snapper to be jointly managed by the Gulf and South Atlantic Councils by creating a new joint fishery management plan. There are two joint plans currently in effect, the Spiny Lobster Fishery Management Plan and the Coastal Migratory Pelagics Fishery Management Plan. This alternative would create a third such plan. As with the existing joint plans, both Councils would need to agree to the alternatives and a coordinated approach to management. Appropriate special scientific and statistical committees and advisory panels would need to be created by both Councils, adding an additional layer of administration. A possible advantage of this alternative would be to have consistent regulations across jurisdictional boundaries in the south Florida area. However, **Alternative 3** could accomplish the same objective without the additional administrative requirements, provided the permitting and bag limit issues discussed under **Alternative 3** can be resolved. It is unlikely that a joint fishery management plan can be established before the end of 2011. Thus, both the South Atlantic and Gulf Councils would be required to maintain management measures for yellowtail snapper in their respective jurisdictions even if this alternative is adopted. As mentioned under **Alternative 3** it should be noted during public hearings it was stated that it was beneficial to

have more than one management agency involved even though it might lengthen the time needed to modify management measures, primarily for a checks and balances system.

Action 1.4 is administrative in nature and is not expected to have impacts on the physical or biological/ecological environments. The current management measures in place for this resource are not expected to change under **Preferred Alternative 1**. **Alternatives 2** is the only alternative where federal management of the resource would no longer occur. If the state of Florida does not assume management of yellowtail snapper if it was removed from the Fishery Management Plan then this species would not be federally managed. However, vessels returning to port would have to follow the states regulations going to port, so by default the species could likely fall under the State of Florida's regulations. Based on the letter received at the June 2011 Council meeting Florida FWC is unlikely to accept management of yellowtail snapper, which is why the Gulf Council currently selected to retain this species under the FMP (Appendix 15.7). Under **Alternatives 3** and **4,** either the South Atlantic Council or both the Gulf and South Atlantic Councils, respectively would remain involved. Therefore, federal management would still exist and it is unlikely any negative biological or ecological impacts on the resource could occur under **Preferred Alternative 1**, **Alternative 3** or **Alternative 4**. If Florida FWC did not assume management of yellowtail snapper under **Alternative 2** than negative impacts to the resource are possible, but based on the current **Preferred Alternative 1** and the supporting letters is not likely to occur.

Action 1.5 Mutton Snapper, Lutjanus analis

Note: See discussion of **Alternative 3** under Action 1.4 (yellowtail snapper) for a discussion of issues regarding permits and aggregate bag limits for both yellowtail snapper and mutton snapper.

Mutton snapper were placed in the original Fishery Management Unit of the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (GMFMC 1981). Amendment 1 set a 12-inch total length size limit for the recreational and commercial sectors that was compatible with Florida State regulations (GMFMC 1989). Amendment 5 to the Reef Fish Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico established a seasonal closure during May and June for all fishing at Riley's Hump to protect mutton snapper spawning aggregations (GMFMC 1993). Amendment 16B to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico increased the minimum size limit for mutton snapper to 16-inches total length (GMFMC 1999); which is currently the minimum size limit for both recreational and commercial fishers. Mutton snapper are part of the 10-snapper aggregate bag limit for recreational anglers.

This species occurs in the western Atlantic as far north as Massachusetts and as far south as Brazil and into the Gulf of Mexico. Mutton snapper is associated with coral reefs, sandy bottoms, and sea grasses, including estuaries and bays with mangroves (McEachran and Fechhelm 2005).

A recent stock assessment has been completed in the Gulf of Mexico and South Atlantic for mutton snapper (SEDAR 15A 2008). The stock status ratios from the base run were F2006/F30% = 0.51 and SSB2006/SSBF30% = 1.14. Using the current status criteria, the base run indicates that the stock is healthy and is neither overfished or undergoing overfishing (SEDAR 15A 2008).

Landings Data

Data from the Southeast Fisheries Science Center ACL datasets, 2010 was used to derive these apportionments based on the written description stated above under yellowtail snapper cited as (Southeast Fisheries Science Center ACL datasets, 2010; Figures 2.1.4.1a and 2.1.4.1b). Total Gulf-wide landings of mutton snapper from 1999-2008 average 135,532 pounds whole weight (18% of the landings) and South Atlantic landings average 615,379 pounds whole weight (82% of the landings; Figure 2.1.5.1).

The last 10 years (1999-2008) of data were used to compare state and federal waters landings of mutton snapper in the Gulf and South Atlantic (Source: Southeast Fisheries Science Center ACL datasets, 2010). Landings in the Gulf from 1999-2008 indicate 87% of the landings came from federal waters and 13% from state waters. Landings in the South Atlantic from 1999-2008 indicate 47% of the landings came from federal waters and 53% from state waters (Figure 2.1.5.2). Note: Commercial landings not recorded as "state or federal waters" are not presented in graph; these represent less than 1% of the total Gulf landings and 20% of the total South Atlantic landings.

Landings of mutton snapper reported to MRFSS are low off other Gulf and South Atlantic states. Landings from 1999-2008 were not recorded for Alabama or Mississippi; however, Louisiana landed an average of 168 pounds ww and Texas landed 244 pound ww (Southeast Fisheries Science Center ACL datasets, 2010). Other South Atlantic states also had low landings. In Georgia an average 19 pounds ww were landed, South Carolina landed an average 203 pounds ww, and North Carolina did not report landings during the 1999-2008 time series (Southeast Fisheries Science Center ACL datasets, 2010).

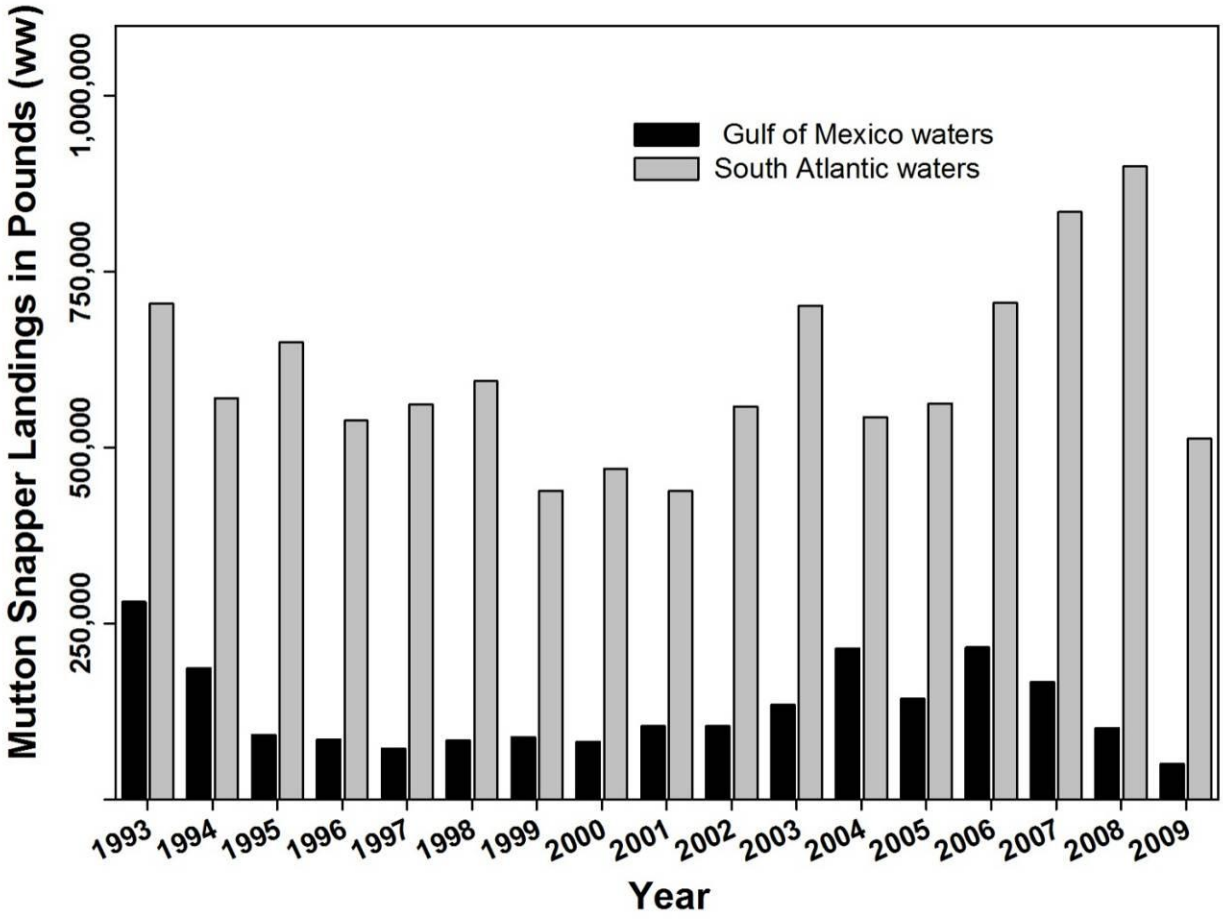


Figure 2.1.5.1. Mutton snapper landings in pounds whole weight (ww) off the Gulf and Atlantic coasts from 1993-2009. Source: Southeast Fisheries Science Center ACL datasets, 2010. Please see text for full description of jurisdictional apportionment between the Gulf and South Atlantic coasts.

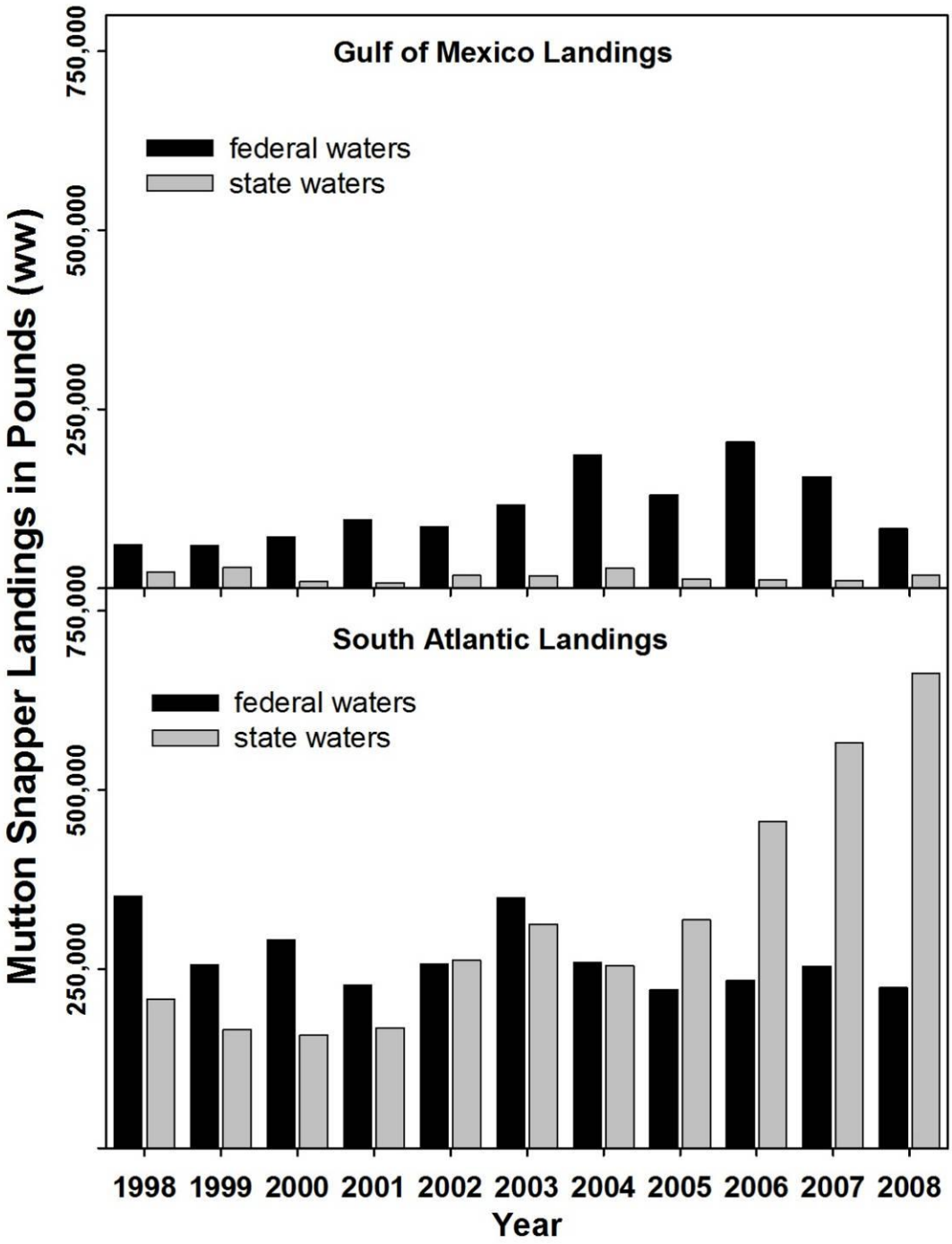


Figure 2.1.5.2. Mutton snapper landings in pounds whole weight (ww) off the Gulf and Atlantic coasts from 1998-2008 by federal and state waters. Source: Southeast Fisheries Science Center ACL datasets, 2010. Please see text for full description of jurisdictional apportionment between the Gulf and South Atlantic coasts. Note: Commercial landings from 1998-2008 not recorded as "state or federal waters" are not reported in the graph; these represent less than 1% of the total Gulf landings and 20% of the total South Atlantic landings.

Preferred Alternative 1 is the no action alternative and would retain management of mutton snapper under the Reef Fish Fishery Management Plan. Over the last year Florida FWC and the Gulf Council have been working together to review the need for federal management of mutton snapper. In August 2010 the Gulf Council received a letter from Florida FWC stating they were

willing to work with both the Gulf and South Atlantic Councils to determine if this species and others were in need of federal management (Appendix 15.6). At the June 2011 Council meeting, Florida FWC stated they did not think that fishing effort and harvest by out-of-state vessels could be adequately managed in federal waters if transferred to Florida FWC (Appendix 15.8). Therefore, the Council selected the current alternative as preferred which was to retain management of mutton snapper in the Reef Fish Fishery Management Plan. Under the current **Preferred Alternative 1** mutton snapper would need to be apportioned between the Gulf and South Atlantic Councils and is addressed in Action 7.3.3. After apportionment, each Council would be responsible for establishing management measures for mutton snapper.

Alternative 2 would remove mutton snapper from the Reef Fish Fishery Management Plan, with the assumption that Florida FWC would agree to accept the responsibility of management. Mutton snapper is predominately a Florida species. The state of Florida accounts for the vast majority of mutton snapper landings, with low average landings in other Gulf and South Atlantic states. If Florida FWC agrees to accept management of mutton snapper they would be removed from the Gulf Council's Reef Fish Fishery Management Plan, and management measures would no longer need to be established. Florida state regulations could extend into federal waters for vessels registered in Florida or returning to a Florida port. Under section 306 (3)(A) of the Magnuson-Stevens Act 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 regulation for the fishery in which the vessel is operating. It is possible that vessels would travel from out of state to harvest mutton snapper in federal waters and return to another state to land the fish; however, given the distances the potential costs associated with such an operation, is unlikely to occur. Florida FWC sent a letter to the Gulf Council at their August 2010 meeting stating they intended to look into management responsibility of these species (Appendix 15.6). At several Council meetings the State of Florida Council representative has discussed potential issues and concerns with the State of Florida assuming management of mutton snapper. These concerns have primarily focused around management of out of state vessels and additional pressure on the resource due to tightening regulations on other species. At the June 2011 Council meeting Florida FWC stated in a letter they felt mutton snapper should remain in the federal Fishery Management Plan (Appendix 15.8).

If the state of Florida does not assume management of yellowtail snapper after it is removed from the Fishery Management Plan then this species would not be managed. However, vessels returning to port would have to follow the states regulations going to port, so by default the species could likely fall under the State of Florida's regulations. Without federal management or State of Florida management extended into federal waters it is possible that negative biological and ecological impacts could occur.

Alternative 3 would remove mutton snapper from the Reef Fish Fishery Management Plan and request that the Secretary of Commerce designate the South Atlantic Fishery Management Council as the responsible Council.

As with yellowtail snapper, there are some issues regarding permitting and recreational aggregate bag limits that will need to be resolved if mutton snapper stocks are delegated to the South Atlantic Council. A detailed discussion of these issues and possible solutions are contained in the **Alternative 3** discussion of Action 1.4 (yellowtail snapper), and also apply to this action.

If the South Atlantic Council agrees to take over the responsibility of management, the Secretary of Commerce would designate the South Atlantic Council as lead under section 304(f) of the Magnuson-Stevens Act (50 CFR 600.320 (c)). Management measures would still need to be established and monitored by the South Atlantic Council if designated by the Secretary of Commerce as the responsible Council. However, if both Councils continue to manage mutton snapper, the acceptable biological catch would need to be split into jurisdictional allocations using the Council boundary, the Florida Keys (Monroe County).

Mutton snapper are primarily caught and landed off the State of Florida, with 61% of the Florida commercial landings occurring off the South Atlantic (Florida FWC, FWRI, 2010). Seventy-one percent of the Florida recreational landings were documented from the South Atlantic (Southeast Fisheries Science Center ACL datasets, 2010). This species is currently managed as one stock throughout its range by three management agencies, the South Atlantic Council, Gulf Council, and State of Florida. It would be beneficial for one management agency to manage mutton snapper throughout its range, instead of managing mutton snapper in two different FMPs in conjunction with the State of Florida. However, it should be noted during public hearings it was stated that it was beneficial to have more than one management agency involved even though it might lengthen the time needed to modify management measures. Further, if both Councils continue management of yellowtail snapper the acceptable biological catch would need to be split into jurisdictional allocations using the Council boundary, the Florida Keys (Monroe County). There are some issues with splitting landings in Monroe County. For example, in the commercial logbooks there is only one place to report "catch area", but in Monroe County fishers likely fish in state and federal waters of the Gulf and South Atlantic in one day, even more probable over an extended trip (S. Brown, Florida FWC, personal communication).

Alternative 4 would allow mutton snapper to be jointly managed by the Gulf and South Atlantic Councils by creating a new joint fishery management plan. There are two joint plans currently in effect, the Spiny Lobster Fishery Management Plan and the Coastal Migratory Pelagics Fishery Management Plan. This alternative would create a third such plan. As with the existing joint plans, both Councils would need to agree to the alternatives and a coordinated approach to management. Appropriate special scientific and statistical committees and advisory panels would need to be created by both Councils, adding an additional layer of administration. A possible advantage of this alternative would be to have consistent regulations across jurisdictional boundaries in the south Florida area. However, **Alternative 3** could accomplish the same objective without the additional administrative requirements, provided the permitting and bag limit issues discussed under **Alternative 3** can be resolved. It is unlikely that a joint fishery management plan can be established before the end of 2011. Thus, both the South Atlantic and Gulf Councils would be required to maintain management measures for mutton snapper in their respective jurisdictions even if this alternative is adopted. As mentioned under **Alternative 3** it should be noted during public hearings it was stated that it was beneficial to have more than one management agency involved even though it might lengthen the time needed to modify management measures, primarily for a checks and balances system.

Action 1.5 is administrative in nature and is not expected to have impacts on the physical or biological/ecological environment. The current management measures in place for this resource are not expected to change under **Preferred Alternative 1**. **Alternative 2** is the only alternative where federal management of the resource would no longer occur. If the State of Florida does not assume management of mutton snapper after it is removed from the Fishery Management Plan then this species would not be federally managed. However, vessels returning to port would have to follow the states regulations going to port so by default the species could likely

fall under the State of Florida's regulations. Based on the letter received at the June 2011 Council meeting Florida FWC is unlikely to accept management of mutton snapper, which is why the Gulf Council decided to retain this species under the FMP (Appendix 15.8). Under **Alternative 3** and **4,** either the South Atlantic Council or both the Gulf and South Atlantic Councils, respectively would remain involved. Therefore, federal management would still exist and it is unlikely any negative biological or ecological impacts would occur under **Preferred Alternative 1, Alternative 3,** or **Alternative 4**. If Florida FWC did not assume management of mutton snapper under **Alternative 2** than negative impacts to the resource could occur.

2.2 Action 2. Removal of Stocks from Reef Fish Fishery Management Plan

Action 1: Remove Species from the Reef Fish Fishery Management Plan.
Alternative 1. No Action. Do not remove any species from the Reef Fish Fishery Management Plan.

Alternative 2. Remove species in the list below with 100,000 lbs. average landings or less except for those with prohibited harvest or those that:

Option a. Are long-lived (defined as maximum age greater than 30 years).
Option b. May be misidentified as another species in the Reef Fish Fishery Management Plan.
Option c. Have a trend in landings that may indicate a change in status.

Preferred Alternative 3. Remove species that have average annual landings of 15,000 pounds or less except for those with prohibited harvest or those that:

Option a. Are long lived (defined as greater than 30 years).
Preferred Option b. May be misidentified as another species in the reef fish fishery management plan.
Preferred Option c. Have a trend in landings that may indicate a change in status.

Species selected for removal under the preferred alternative and preferred option are:

Anchor tilefish	Misty grouper	Sand perch
Blackline tilefish	Schoolmaster	Dwarf sand perch
Red hind	Dog snapper	
Rock hind	Mahogany snapper	

Alternative 4. Remove species from the Reef Fish Fishery Management Plan if the Federal waters of the Gulf of Mexico are at the fringe of the species distribution, even if other criteria for retention exist.

Preferred Alternative 5. Remove sand perch and dwarf sand perch from the Reef Fish Fishery Management Plan.

Note: More than one preferred alternative can be selected.

Discussion: The Gulf of Mexico Fishery Management Council currently manages 42 reef fish species. Twenty of these species have mean annual landings near or less than 100,000 pounds (Table 2.2.1). Although these species, with the exception of sand perch, are landed mainly from federal waters, they were originally placed in the fishery management plan to assure that they

would be included in any monitoring programs, rather than because they were considered to be in need of management (SSC summary report, March 2011). Taking into account mandated specifications to provide annual catch limits and accountability measures for species in a fishery management plan other than annual stocks or designated ecosystem component species, the Council may choose to remove some or all of these less frequently landed species. However, species removal is based on the premise that all landings are monitored by the NMFS, regardless of whether the species are in the reef fish fishery management plan. This should address the monitoring of the vast majority of species, however; it is important to acknowledge that some gaps may occur.

As previously stated, the species under consideration in this action were originally placed in the fishery management plan for purposes of data collection. If they are removed, it is possible that a commercial vessel without a reef fish permit could harvest these species and land them without reporting them. However, given the low landings of the selected species, it is unlikely that a vessel could stay in business harvesting only these species. A vessel with a federal reef fish permit is required to sell their fish only to a federally permitted dealer, under which all landings are reported. Therefore, it is unlikely that removal of these species will affect the data collection and monitoring of them.

The National Standard 1 guidelines provide that a Council may, but is not required to use, an ecosystem component classification. Ecosystem component species are not considered to be ‘‘in the fishery” and thus are not required to have annual catch limits. The guidelines provide that species may be declared ecosystem component species for any of the following reasons: for data collection purposes; for ecosystem considerations related to specification of optimum yield for the associated fishery; as considerations in the development of conservation and management measures for the associated fishery; and/or to address other ecosystem issues. However, to be considered for possible classification as an ecosystem component species, the species should meet four criteria:

(A) Be a non-target species or non-target stock;
(B) Not be determined to be subject to overfishing, approaching overfished, or overfished;
(C) Not be likely to become subject to overfishing or overfished, according to the best available information, in the absence of conservation and management measures; and
(D) Not generally be retained for sale or personal use.

Although the species under consideration for removal are “non-target species” and were originally included in the FMP for data collection purposes, they are not currently thought to fulfill the requirements for classification as ecosystem species. The life history parameters for many of these species are unknown precluding stock assessments to ascertain if they are overfished or undergoing overfishing. Furthermore, if caught, these species are highly likely to be retained for sale or for personal use.

Rationale for species removal was based on multiple criteria including suggestions by members of the Gulf Council’s SSC, Council members and Council staff. The first criterion for removal is that species have low fairly stable landings in recent years (2000 – 2009; Figures 2.2.1 a - d). The two landings criteria suggested by the Council are annual average landings of 100,000 lbs., and or 15,000 lbs. or less. The 100,000 lbs alternative covered all species except the sand

perches that were originally designated for removal in Action 1. Candidates for removal under this first tier include all 18 species, anchor tilefish, goldface tilefish, blackline tilefish, red hind, rock hind, yellowfin grouper, yellowmouth grouper, misty grouper, speckled hind, schoolmaster, dog snapper, mahogany snapper, cubera snapper, lesser amberjack, blackfin snapper, silk snapper, queen snapper, and wenchman. The restrictive threshold of 15,000 lbs average landings would remove up to 13 species including anchor tilefish, blackline tilefish, red hind, rock hind, yellowfin grouper, yellowmouth grouper, misty grouper, schoolmaster, dog snapper, mahogany snapper, cubera snapper, blackfin snapper, and queen snapper. No other landings alternatives were provided as these two alternatives cover either all or most of the species being considered for removal that are not normally targeted and are typically taken incidentally in a directed fishery for other species.

It must be noted that low landings alone were not considered a sufficient criterion for species removal from the fishery management plan as landings could be influenced by factors other than stock size including changes in effort or management. In other cases, there may be considerations that would indicate, despite low landings, that a species should be retained under management; examples include species with prohibited harvest (e.g., red drum, goliath, Nassau grouper). An additional criterion under consideration is maximum reported age for each species, misidentification with other species within the fishery management plan, an upward or downward trend in the landings that could indicate a change in stock status.

Sand perch and dwarf sand perch were placed in the original Fishery Management Plan for the Reef Fish Fishery of the Gulf of Mexico (GMFMC 1981) for purposes of data collection. These species are typically taken incidentally in the directed fishery for other species, or for use as bait. The only management measures in the Reef Fish FMP are actions to exclude sand perches from management, e.g., exempt from bag limits, exempt from stressed area restrictions.

Amendment 14 examined the use of fish traps in the Gulf of Mexico and reviewed an observer study on fish traps (GMFMC 1996). This study documented sand perch as a species caught in fish traps that represented 10% of the bycatch, which was kept and used for bait 18% of the time (GMFMC 1996). Fish traps were phased out over a ten-year period as a result of Amendment 14 (GMFMC 1996). Amendment 15 excluded sand perch and dwarf sand perch from the 20-fish aggregate bag limit (GMFMC 1997). Amendment 18A prohibited reef fish species, except sand perch and dwarf sand perch, from being used as bait by any gear type in the commercial and recreational fisheries (GMFMC 2005c).

Other than by size, fishers would probably be unable to distinguish between a sand perch and dwarf sand perch. The dwarf sand perch has a preoperculum bearing numerous strong spines diverging from a single cluster; whereas the sand perch has spines on the preoperculum radiating from two clusters (Shipp 1986; McEachran and Fechhelm 2005). The maximum known size of the dwarf sand perch is 9.8-inches total length (TL) whereas, the average size is 5-inches TL. The maximum size of sand perch is larger around 12 inches TL, whereas, the average size is 6-inches TL (Shipp 1986; McEachran and Fechhelm 2005).

Commercial and recreational landings are documented for sand perch, but not for dwarf sand perch (Table 2.2.1). It is possible these two species are misidentified based on the difficulty in distinguishing between them. Both species are probably landed, but are not distinguishable by fishers and therefore probably all recorded as sand perch. The rationale for removing sand perch and dwarf sand perch is based on the Gulf Council's history of management for these two species. These two species are the only allowable species that can be retained for bait under

Amendment 18A and are likely incidentally caught and retained for that purpose (GMFMC 2005c). Removal of sand perches from the FMP is consistent with previous Council actions to explicitly exclude these species from regulations such as recreational bag limits, stressed area restrictions, and prohibition of the use of reef fish for bait (GMFMC 1981; 1996; 1997; and 2005c).

Table 2.2.1. Species that qualify for removal under Alternative 3, 4 or 5, plus the combined preferred alternatives. (Source: Nick Farmer, NMFS Southeast Regional Office, personal communication) An X indicates a species that would be removed under a given option. A black box indicates a species that does not qualify for removal and would be retained. Edge = those species for which Federal waters of the Gulf of Mexico are at the fringe of their range. The combined column on the right shows the results of the Council's Preferred Alternative 3bc plus Alternative 5. These species are also listed in bold and italics.

				Alt 2 <100,000 lbs			Alt 3 <15,000 lbs			Alt 4 edge sp.	Alt 5 sand perch	Combined Pref Alt 3bc + Alt 5
Species	Max Age	Average Lbs. Landed 2000-2009	Percent state waters	a	b	c	a	b	c			
Anchor tilefish	unk	No record	0%	X	X	X	X	X	X	X		X
Goldface tilefish	unk	33,435	0%	■	X	X	■	■	■	■		■
Blackline tilefish	unk	25	0%	■	X	X	■	X	X	■		X
Red hind	19	4,862	23%	X	X	X	X	X	X	X		X
Rock hind	16	4,478	37%	X	X	X	X	X	X	X		X
Yellowfin grouper	15	7,316	1%	X	■	X	X	■	X	X		■
Yellowmouth grouper	41	1,268	1%	■	■	X	■	■	X	■		■
Misty grouper	41	365	21%	■	X	X	■	X	X	X		X
Speckled hind	25	75,342	0%	X	X	■	■	■	■	■		■
Schoolmaster	12	2,438	46%	X	X	X	X	X	X	X		X
Dog snapper	12	3,649	12%	X	X	X	X	X	X	X		X
Mahogany snapper	29	22	0%	X	X	X	X	X	X	X		X
Cubera snapper	22	10,780	4%	X	■	■	X	■	■	■		■
Lesser amberjack	10	55,753	1%	X	■	■	■	■	■	■		■
Blackfin snapper	8	3,899	2%	X	■	X	X	■	X	X		■
Silk snapper	29	47,179	7%	X	X	■	■	■	■	■		■
Queen snapper	30	12,475	4%	X	■	X	X	■	X	X		■
Wenchman	11	55,328	3%	X	X	■	■	■	■	■		■
Sand Perch	2	104,793	57%	■	■	■	■	■	■	■	X	X
Dwarf sand perch	7	No record	unk	■	■	■	■	■	■	■	X	X

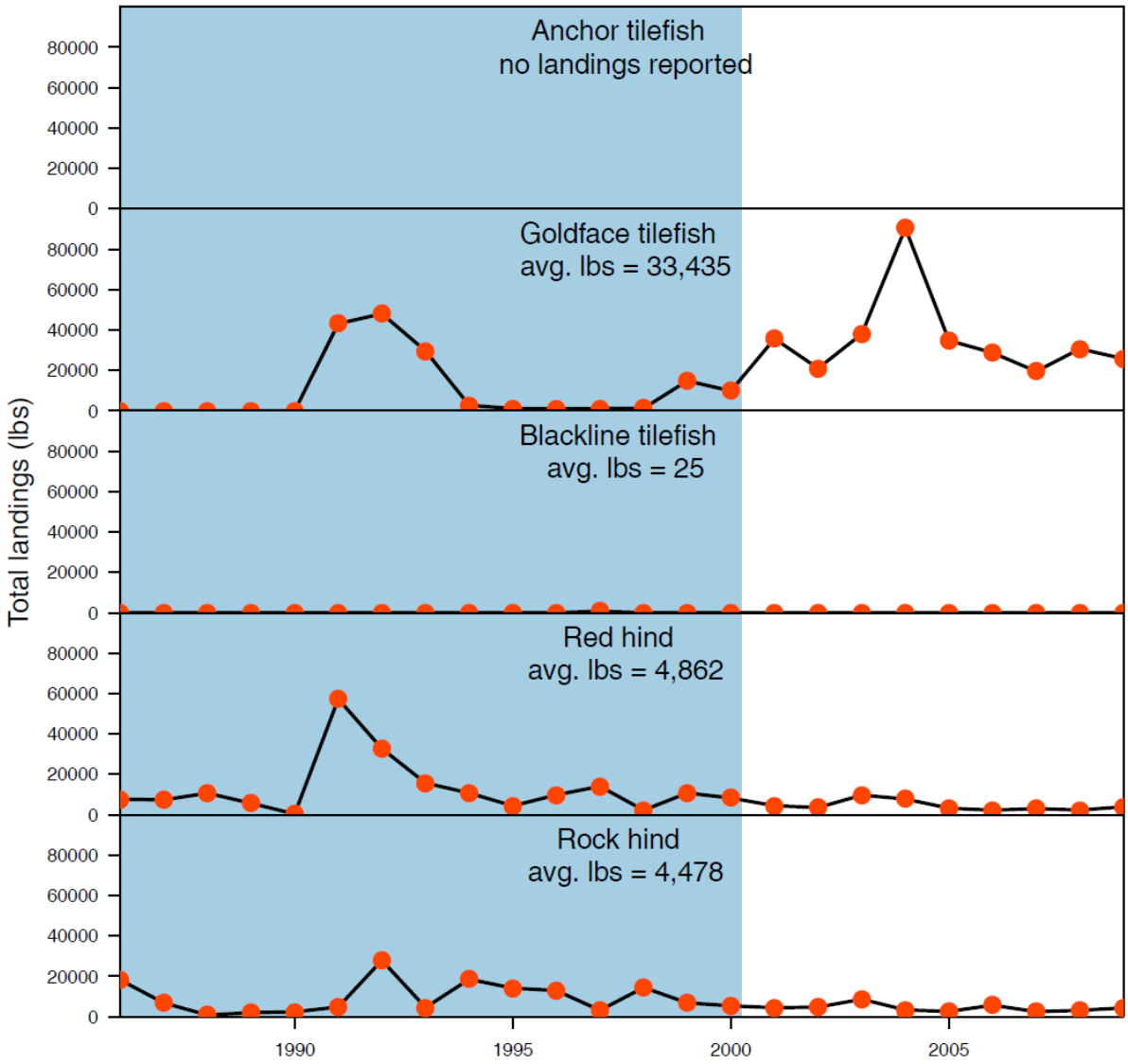


Figure 2.2.1a. Annual commercial and recreational landings of anchor tilefish, goldface tilefish, blackline tilefish, red hind and rock hind in the Gulf of Mexico. (Average based on years 2000-2009.) Blue shaded area not used in calculation of average annual landings. (Source: Southeast Fisheries Science Center ACL datasets, 2010)

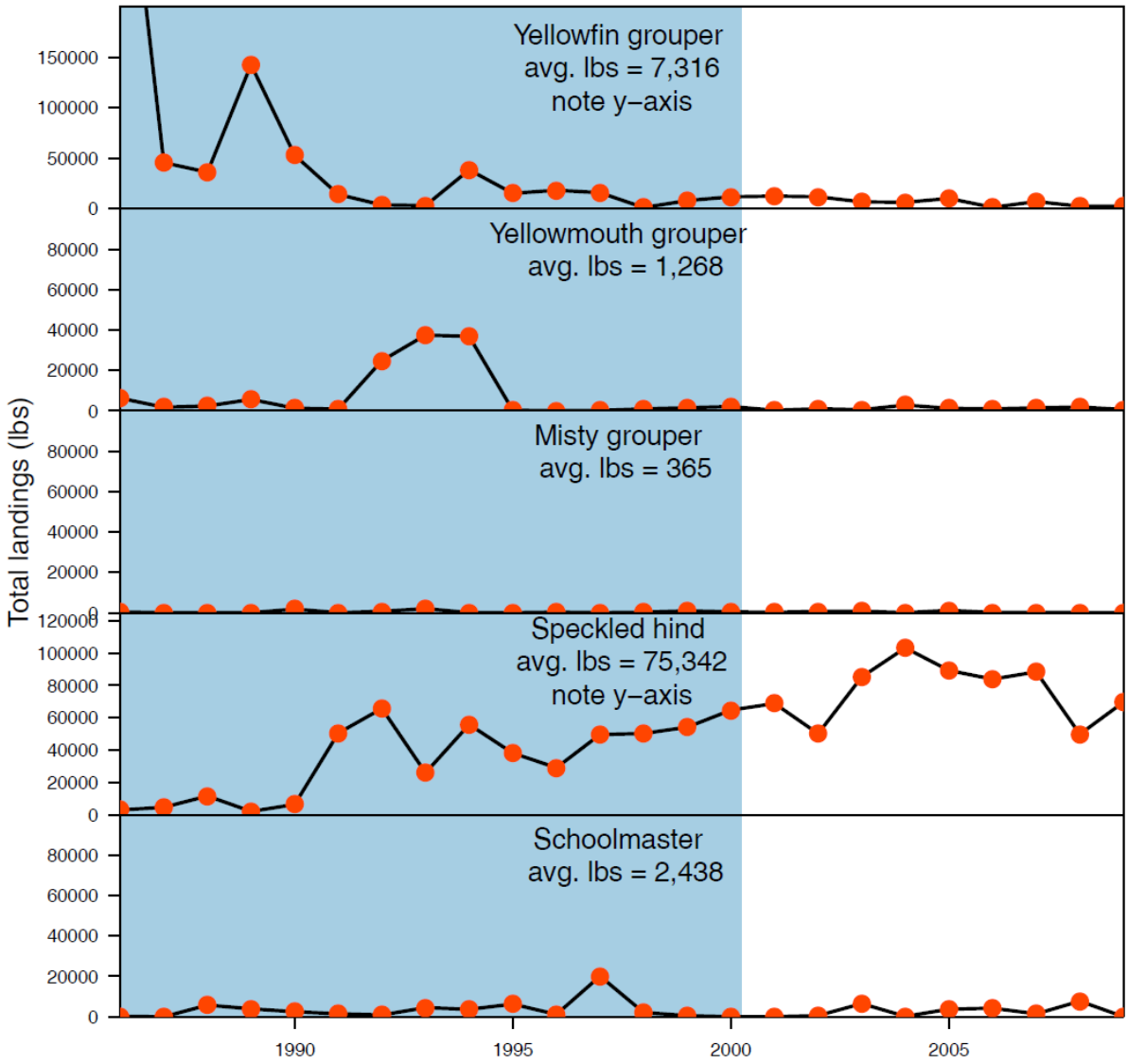


Figure 2.2.1b. Annual commercial and recreational landings of yellowfin grouper, yellowmouth grouper, misty grouper, speckled hind, and schoolmaster in the Gulf of Mexico. (Average based on years 2000-2009.) Blue shaded area not used in calculation of average annual landings. (Source: Southeast Fisheries Science Center ACL datasets, 2010)

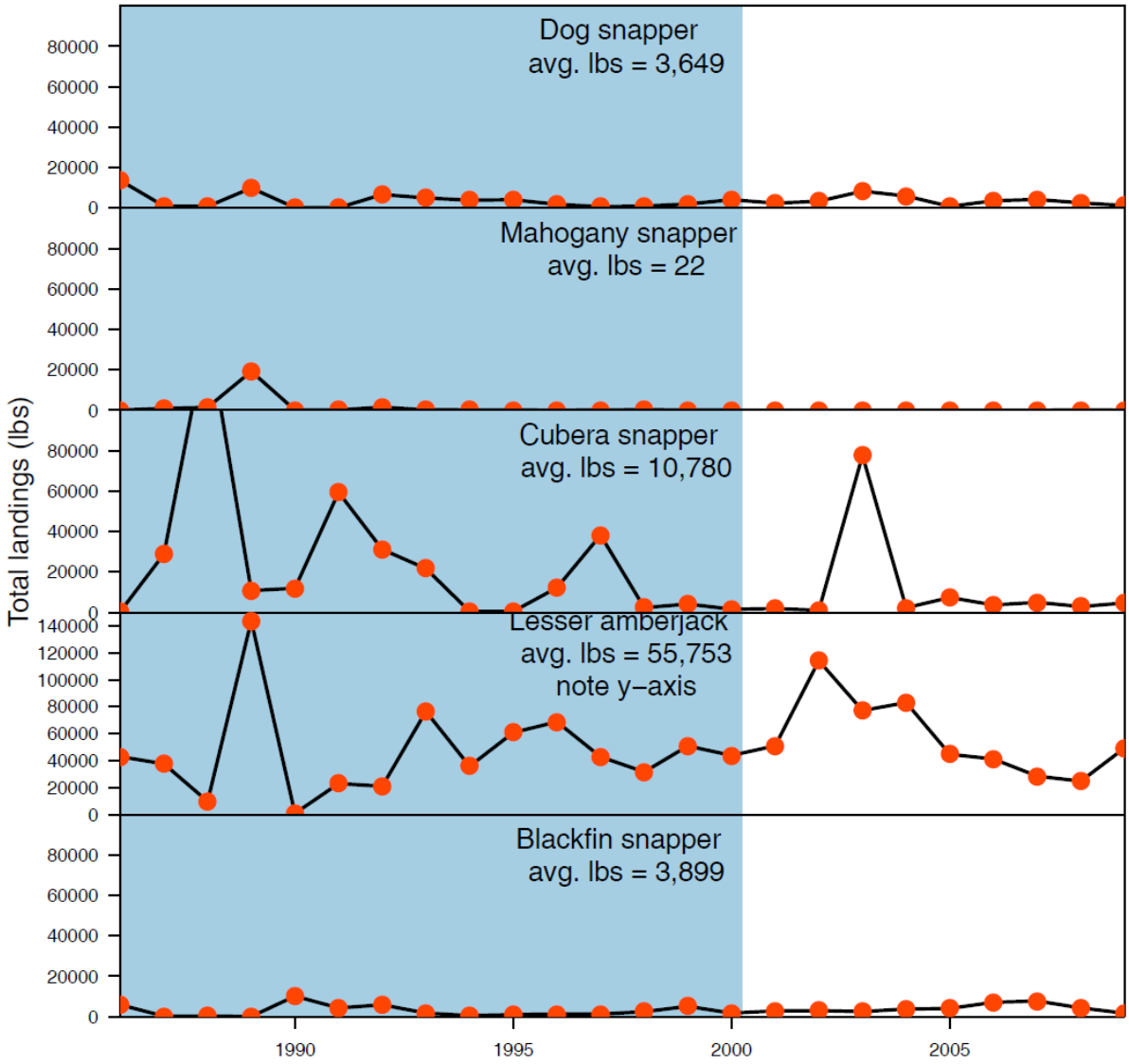


Figure 2.2.1c. Annual commercial and recreational landings of dog snapper, mahogany snapper, cubera snapper, lesser amberjack, and blackfin snapper in the Gulf of Mexico. (Average based on years 2000-2009.) Blue shaded area not used in calculation of average annual landings. (Source: Southeast Fisheries Science Center ACL datasets, 2010)

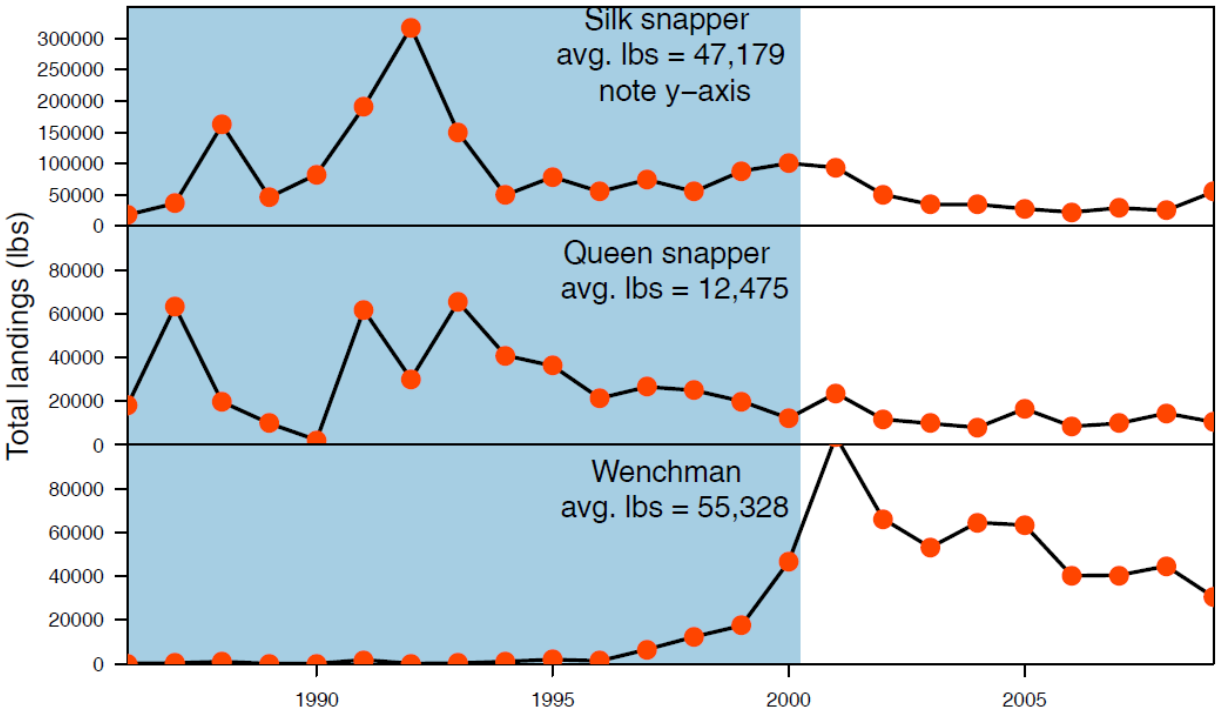


Figure 2.2.1d. Annual commercial and recreational landings of silk snapper, queen snapper, and wenchman in the Gulf of Mexico. (Average based on years 2000-2009.) Blue shaded area not used in calculation of average annual landings. (Source: Southeast Fisheries Science Center ACL datasets, 2010)

Discussion: Alternative 1, no action**,** does not remove any species from the Reef Fish Fishery Management Plan. All stocks listed in the Gulf Council's fishery management plans would be required to have annual catch limits and accountability measures, or would be required to be part of an aggregation of stocks that has either an aggregation or indicator species annual catch limit and accountability measures.

Alternative 2 would consider species that have an average of less than 100,000 lb in landings; however, these species would be further evaluated to determine if there are other criteria that warrant retaining or removing them in the Fisheries Management Plan. Table 2.2.1 lists species that appear to meet these criteria for removal and these species are described in the synopsis below. These considerations include under **Option a,** maintaining those species in the management plan that are long lived. Fishing can affect the life-history of some fish populations making them more susceptible to overexploitation because it usually targets a limited range of age classes thereby directly affecting the age structure of a population. Fish natural mortality and fecundity are age related. Long lived species are often more vulnerable to fishing pressure because of relatively long period required to reach sexual maturity thus increasing the probability of capture before they are capable of spawning. (Crouse 1999; Pitcher and Hart 1982; Wootton 1998). Species that fit this category include yellowmouth, misty grouper, mahogany snapper, silk snapper, and queen snapper (Table 2.2.1).

Under **Alternative 2 Option b** a species may be retained for management if it is commonly misidentified as another species that is also in the reef fish fishery management plan. For

example, the distribution of the lesser and greater amberjack overlaps in the western Atlantic and Gulf of Mexico. The slot size for greater amberjack was put into place by the Gulf Council because of misidentification problems among the jacks. Removing lesser amberjack from the fishery management plan may result in lesser amberjack being targeted increasing the harvest of undersized greater amberjack because of misidentification. Other examples from the list of candidates for possible removal from the management plan include yellowmouth grouper that are mistaken for scamp, yellowfin that have been confused with yellowmouth grouper, blackfin snapper misidentified as red or silk snapper, queen snapper confused as gray snapper and smaller cubera snapper that are also often confused with gray snapper. Removal of these species may increase harvest of the unintended species due to misidentification.

Under Alternative 2 Option c a species may be retained if there has been a trend in landings that may indicate a change in status. A decline in landings over time may be the result of overfishing, poor recruitment, or changes in habitat quality or abundance.

Preferred Alternative 3 establishes more restrictive criteria for removal regarding landings but has the same considerations for retention as **Alternative 2.** Under **Preferred Alternative 3**, species may be removed that have average annual landings of 15,000 pounds or less except for those with prohibited harvest that also fit at least one of the criterion for retention. **Options a, b, and c** are the same as those under **Alternative 2.** The Council selected **Preferred Alternative 3, and Preferred Options b and c** based on the smaller average annual landings than in **Alternative 2,** misidentification concerns and the possibility of a significant trend in landings that may indicate a change in status. Under the preferred alternative and preferred options the species that would be removed include anchor tilefish, blackline tilefish, red hind, rock hind, misty grouper, schoolmaster, dog snapper, and mahogany snapper, while yellowmouth grouper and cubera snapper and queen snapper would be retained due to potential misidentification with scamp and gray snapper respectively.

Alternative 4 provides a mechanism to remove species from the Reef Fish Fishery Management Plan if the Gulf of Mexico are at the fringe of the species' distribution, even if other criteria for retention exist. This alternative can be used in conjunction with the above alternatives and is used to identify species in the Gulf of Mexico that are at the fringe of their geographic range based. These species primarily occur in waters under management by other agencies, management in the Gulf of Mexico is likely to have little effect on the stock status of these species. Thus, these species may be considered appropriate for removal even if they meet one or more of the criteria for retention. For example, schoolmaster are one of the most common snapper on Caribbean reefs, but are rare in the Gulf due to unsuitable habitat (Hoese and Mooore 1977; Shipp 1986). In such a case, management by the Gulf Council would have little effect on the species population as a whole. Unfortunately, little is known about most of the other species' life history attributes and ranges.

Preferred Alternative 5. Remove sand perch and dwarf sand perch from the Reef Fish Fishery Management Plan.

Sand perch and dwarf sand perch were placed in the original Fishery Management Plan for the Reef Fish Fishery of the Gulf of Mexico (GMFMC 1981) for data collection purposes. Dwarf and sand perches are difficult to distinguish and landings have only been reported as "sand perch" yet this likely comprises both species. Mean annual landings were 104,000 lbs for this group. These small species are the only species that can be retained for bait under Amendment 18A and are likely incidentally caught and retained for that purpose (GMFMC 2005c). These

species are not normally target species and are typically taken incidentally in the directed fishery for other species. Amendment 14 examined the use of fish traps in the Gulf of Mexico and reviewed an observer study on fish traps (GMFMC 1996). This study documented sand perch as a species caught in fish traps that represented 10% of the bycatch, which was kept and used for bait 18% of the time (GMFMC 1996).

Brief Species Synopses

Brief synopses of each of the species being considered in this action follows.

There are no reported landings for **Anchor tilefish** during the 1999-2008 time span. Although the lack of landings may be due to misidentification, or the species being caught so infrequently that there are no landings in most years, this species is found in deep water and is rarely fished by the recreational sector. It is rarely been recognized in the northwestern Gulf (Hoese and Moore 1977). Although the stock status is unknown and it is unknown whether the species will become overfished and undergo overfishing, considering there are no reported landings it appears to be non-targeted despite being retained if caught (Figure 2.2.1a).

Goldface tilefish are found at depths ranging 90-192 m in the western Atlantic from North Carolina to Brazil and the Greater Antilles. In the Gulf of Mexico, it is found associated with rubble covered bottom off the Dry Tortugas, Louisiana, Texas and Vera Cruz, Mexico. Although their maximum lifespan is unknown, other species such as the golden tilefish has been reported to live to 46 years for females and 39 years for males. Goldface tilefish are landed in the Gulf of Mexico (Figure 2.2.1a), but there is no information on whether the species is overfished or undergoing overfishing; however, the species live in burrows and do not migrate, this fact might leave them more vulnerable to fishing pressure.

Blackline tilefish are found at depths ranging 45-495 m in the western Atlantic from North Carolina to South America and the Lesser Antilles. It is also found throughout the Gulf of Mexico (McEachran and Fechhelm 2005); however, it does not appear to be targeted in the Gulf (Figure 2.2.1a).

Red hind are associated with shallow coral reefs and rocky areas at depths ranging 2 – 100 m in the western Atlantic from North Carolina and Bermuda to Brazil, the Bahamas and Greater and Lesser Antilles McEachran and Fechhelm 2005). Although it occurs in the Gulf of Mexico, it is only common from the very southern portion (Shipp 1986). Its maximum life span is 22 years. Landings are low in the Gulf of Mexico (Figure 2.2.1a).

Rock hind are found at depths ranging to 100 ft in high relief areas throughout the Gulf of Mexico, the Caribbean to Brazil. Despite their extensive range, they are not abundant (Shipp 1986).

Yellowfin grouper occur at depths ranging 2 – 137 m associated with rocky substrates and coral reefs in the western Atlantic from North Carolina and Bermuda to southern Brazil, the Bahamas, and the Greater and Lesser Antilles. Although they occur in the southeastern Gulf of Mexico over muddy bottoms, they are uncommon in the northern Gulf of Mexico (Hoese and Moore 1977; Shipp 1986). This species does not appear to be targeted in the Gulf of Mexico (Figure 2.2.1b).

Yellowmouth grouper are found around coral reefs and rocky areas at depths of 20 – 150 m in the western Atlantic from North Carolina and Bermuda to southern Brazil, the Bahamas, Greater and Lesser Antilles and the Gulf of Mexico. Not common in the Gulf, this species occurs off western Florida, the Texas Flower Garden Banks and off Mexico in the Bay of Campeche (McEachran, and Fechhelm 2005). Although landings are low in the Gulf of Mexico,(Figure 2.2.1b), they are a long-lived species, living for 41 years and their removal from management may have unforeseen results.

Misty grouper are found at depths ranging 30-400 m in the western Atlantic from North Carolina and Bermuda to Belize, the Bahamas, Trinidad, and the Greater and Lesser Antilles and the Gulf of Mexico (McEachran, and Fechhelm 2005). Misty Grouper do not appear to be targeted in the Gulf (Figure 2.2.1b) and has a lifespan of 41 years.

Speckled hind are found over rocky bottoms in the western Atlantic from North Carolina and Bermuda to Quintanna Roo, Mexico at depths ranging 25-183 m. They occur throughout the Gulf of Mexico and Florida Keys. Although not as long-lived as yellowmouth grouper, speckled hind live to be over 20 years old (McEachran and Fechhelm 2005). They appear to be targeted in the Gulf, and landings trends appear to be declining (Figure 2.2.1b).

Schoolmaster are found in the warm temperate to tropical waters of the western Atlantic from Massachusetts and Bermuda to northeastern Brazil, the Bahamas, Greater and Lesser Antilles and the Gulf of Mexico. This species is one of the most common snapper of Caribbean reefs. In the Gulf it occurs over a variety of bottom types throughout shallow coastal areas; however, it is rare in the Gulf (Hoese and Mooore 1977; Shipp 1986). It does not appear to be targeted in the Gulf (Figure 2.2.1b).

Dog snapper are found in the western Atlantic from Massachusetts to northern Brazil, the Bahamas, and Greater and Lesser Antilles. It is found in the coastal waters throughout the Gulf of Mexico. Adults are associated with coral reefs (McEachran and Fechhelm 2005). They are absent from mud bottoms in the Gulf (Shipp 1986). Low landings have been constant (Figure 2.2.1c).

Mahogany snapper are found in clear shallow water over rocky bottoms near coral reefs and over sandy bottoms and seagrass beds in the western Atlantic from North Carolina to Venezuela, the Bahamas, Greater and Lesser Antilles. Very common in the Caribbean, this species does occur in the Gulf of Mexico; however, records of this species from the northern Gulf have been reported to be questionable. This species is solitary or found in small groups at depths of 100 m (325 ft). (McEachran, and Fechhelm 2005; http://www.flmnh.ufl.edu/descript/MahoganySnapper/MahoganySnapper.html). This species does not appear to be targeted in the Gulf of Mexico (Figure 2.2.1c).

As adults, **cubera snapper** are solitary reef dwellers found at depths up to 55 m (175 ft) from Massachusetts to Brazil in the western Atlantic, Bermuda, the Bahamas, the Greater and Lesser Antilles and the Gulf of Mexico. Landings may be uncertain because smaller specimens of this species are often confused with gray snapper but can be distinguished from gray snapper based on the shape of their vomerine tooth patch. In the gray snapper this area is shaped like an anchor, in the cubera it is a triangle. The cubera snapper is an aggregate spawner and are considered to be particularly vulnerable to overfishing during their spawning activities off Florida and the Caribbean; (http://www.flmnh.ufl.edu/descript/CuberaSnapper/CuberaSnapper.html).

The habitat of the **lesser amberjack** overlaps much of the habitat of the greater amberjack in the western Atlantic and Gulf of Mexico. http://www.flmnh.ufl.edu/descript/LesserAmberjack/Lesser_Amberjack.html). The slot size for greater amberjack was put into place because of misidentification problems among the jacks. Removing lesser amberjack from the fishery management plan may result in lesser amberjack being targeted increasing the harvest of undersized greater amberjack because of misidentification. Additionally, there appears to be a downward trend in lesser amberjack (Figure 2.2.1c).

Blackfin snapper are found over sandy and rocky bottoms, drop-offs and ledges at depths ranging 80 – 230 m in the western Atlantic from Massachusetts and Bermuda to southeastern Brazil, the Bahamas, the Greater and Lesser Antilles, and the Gulf of Mexico. Although they occur throughout the Gulf, they are more common in the Caribbean. They often school in groups of 20-30 individuals. Although they are sometimes confused with red snapper, the black comma-shaped mark at the base of the pectoral fins and the rounded anal fin easily distinguishes them from red snapper. http://www.flmnh.ufl.edu/descript/BlackfinSnapper/BlackfinSnapper.html). Average landings are low and they do not appear to be targeted (Figure 2.2.1c).

Silk snapper occur at depths of 90-140 m over sandy, gravelly and coralline bottoms in the western Atlantic from North Carolina and Bermuda to northern Brazil, the Bahamas, Greater and Lesser Antilles and is common throughout the Gulf of Mexico (McEachran and Fechhelm 2005). Average annual landings over the past nine years show no discernable trend in landings (Figure 2.2.1 d).

Although **queen snapper** occur in the eastern and southern Gulf, they are rare in the northern Gulf. This deep water (135 – 450 m) species is more commonly found over rocky bottoms in the western Atlantic from North Carolina and Bermuda to Brazil including the Bahamas, and Greater and Lesser Antilles (McEachran and Fechhelm 2005). Since 2000, average annual landings show no discernable trend (Figure 2.2.1 d).

Wenchman snapper are found over rough bottoms at depths ranging 24 – 488 m in the western Atlantic from North Carolina to southern Brazil, the Greater and Lesser Antilles and throughout the entire Gulf of Mexico (McEachran, and Fechhelm 2005). Beginning in 2000, landings increased and are now showing a downward trend (Figure 2.2.1d).

Dwarf sand perch are a small serranid found mostly on mud and silt bottoms in near shore waters to 120 m in the western Atlantic to northern Brazil including the Gulf of Mexico and Florida Keys (McEachran, and Fechhelm 2005). There are no reported landings for this species in the Gulf (Table 2.2.1). This may be a combination of misidentification with sand perch and not being landed but instead being used for bait.

Sand perch are a small serranid often associated with sandy to shelly bottoms or limestone and coral substrates in the western Atlantic from Virginia to Brazil including the Gulf of Mexico. In the Gulf it is most abundant off Florida and Campeche (McEachran, and Fechhelm 2005). Although average landings of 104,793 lbs (2000-2009) were reported for sand perch in the Gulf of Mexico (Table 2.2.1), all fish landed many not have been sand perch. Some fish may have been dwarf sand perch due to misidentification issues between the two species.

2.3 Action 3. Species Groupings

In the following alternatives and options for indicator species, the selection of an indicator species means that an annual catch limit and/or sector- annual catch limit will be set for indicator species, and accountability measures will apply to the entire group if the indicator species annual catch limit or sector- annual catch limit is exceeded.

Alternative 1. No Action - Maintain existing species groups as shown in Figure 2.3.1. Group annual catch limit s will be established for each group. In addition, individual annual catch limits may be established for species within each group where sufficient information exists to establish individual annual catch limits.

Alternative 2. Species groups are revised from existing groups as shown in Figure 2.3.2. Group annual catch limits will be established for each group. In addition, individual annual catch limit s may be established for species within each group where sufficient information exists to establish individual annual catch limits.

Alternative 3. Species groups are based on NMFS stock group analysis as shown in Figure 2.3.3. There are two levels of species groups. Group annual catch limits will be established for each upper level group. In addition, individual annual catch limits will be established for single-species sub-groups and multi-species sub-groups within each upper level group.

Preferred Alternative 4. Species groups are based on NMFS stock groups analysis but further revised to accommodate the grouper and tilefish IFQ groupings as shown in Figure 2.3.4. There is a single level of species groupings equal to the sub-groups in Alternative 3. Annual catch limits will be established for each single species and for each multi-species group.

Preferred Alternative 5. Within each group (or sub-group for Alternative 3), an indicator species will be selected based on:

a. The most vulnerable stock in the group based on productivity-susceptibility analyses. Species in the group (or sub-group for Alternative 3) will be subject to accountability measures as a group when the indicator species annual catch limit is exceeded.
b. For groups with an assessed species, use the assessed species as the indicator species. Species in the group will be subject to accountability measures when the indicator species annual catch limit is exceeded. For groups without an assessed species, do not use an indicator species. Species in the group (or sub-group for Alternative 3) will be subject to accountability measures when the group annual catch limit is exceeded.
c. **Preferred option**. No indicator species is used, the ACL will be based on the sum of catch limits of all species in the group.

Figure 2.3.1. Alternative 1 No Action, maintains the existing species groups as developed and established by the Council.

Alternative 1: STATUS QUO + INDIVIDUALS [w/ ACTION 2 *PREFERRED*]

Tilefish
Tilefish (Golden)$_1$
Blueline Tilefish$_2$
Goldface Tilefish

Deep-Water Grouper
Yellowedge Grouper$_1$
Warsaw Grouper$_2$
Snowy Grouper
Speckled Hind

Shallow-Water Grouper
Red Grouper$_1$
Gag$_{1,2}$
Black Grouper$_1$
Scamp
Yellowmouth Grouper
Yellowfin Grouper

Individual ACLs
Gray Snapper
Hogfish$_1$
Cubera Snapper
Tilefish (Golden)$_1$
Yellowedge Grouper$_1$
Greater Amberjack$_1$
Lesser Amberjack
Almaco Jack
Banded Rudderfish
Red Snapper$_1$
Gray Triggerfish$_1$
Vermilion Snapper$_1$
Lane Snapper
Silk Snapper
Wenchman
Queen Snapper
Blackfin Snapper
Mutton Snapper$_1$
Yellowtail Snapper$_1$

Individual ACLs (Set in Other Actions)
Red Drum
Gag$_1$
Red Grouper$_1$
Greater Amberjack$_1$
Red Snapper$_1$
Gray Triggerfish$_1$
Goliath Grouper$_1$
#Nassau Grouper
#Octocorals
Corals other than allowable octocorals
Live rock

22 ACLs plus 9 ACLs set in other actions

1 = Assessed
2 = Most Vulnerable (PSA)
 # Stock designated for removal or delegation

Figure 2.3.2. Alternative 2 New Groups & Individuals, maintains the existing groups, and develops three new groups. The three new groups; Jacks, Mid/Deep-Water Complex, and Shallow-Water Complex, are based upon NMFS scientific review but also maintain consistency with existing IFQ groupings. In addition, the tilefish (golden) is split off from the other tilefishes based on public comment.

Alternative 2: STATUS QUO + NEW GROUPS [w/ ACTION 2 *PREFERRED*]

Tilefish
Tilefish (Golden)$_1$
Blueline Tilefish$_2$
Goldface Tilefish

Deep-Water Grouper
Yellowedge Grouper$_1$
Warsaw Grouper$_2$
Snowy Grouper
Speckled Hind

Shallow-Water Grouper
Red Grouper$_1$
Gag$_{1,2}$
Black Grouper$_1$
Scamp
Yellowmouth Grouper
Yellowfin Grouper

Mid-Water Snapper
Red Snapper$_1$
Gray Triggerfish$_1$
Vermilion Snapper$_1$
Lane Snapper
Silk Snapper$_2$
Wenchman
Blackfin Snapper
Queen Snapper

Jacks
Greater Amberjack$_1$
Lesser Amberjack$_2$
Almaco Jack
Banded Rudderfish

Individual ACLs
Vermilion Snapper$_1$
Lane Snapper
Gray Snapper
Hogfish$_1$
Cubera Snapper
Tilefish (Golden)$_1$
Yellowedge Grouper$_1$
Mutton Snapper$_1$
Yellowtail Snapper$_1$

Individual ACLs (Set in Other Actions)
Red Drum
Gag$_1$
Red Grouper$_1$
Greater Amberjack$_1$
Red Snapper$_1$
Gray Triggerfish$_1$
Goliath Grouper$_1$
#Nassau Grouper
#Octocorals
Corals other than allowable octocorals
Live rock

14 ACLs plus 9 ACLs set in other actions

1 = Assessed
2 = Most Vulnerable (PSA)
 # Stock designated for removal or delegation

Figure 2.3.3. Alternative 3 Two-Level Groups Based upon NMFS scientific review that included multiple statistical techniques that were used to identify species assemblages: (1) hierarchical cluster analysis based on life history parameters; abundance; and presence-absence, (2) co-occurrence matrices, and (3) nodal analysis.

Alternative 3: NMFS 'TWO-LEVEL COMPLEXES' [w/ ACTION 2 *PREFERRED*]

Tilefish	Sub-Complex
Tilefish (Golden)$_1$ Blueline Tilefish$_2$ Goldface Tilefish	Blueline Tilefish$_2$ Goldface Tilefish

Jacks	Sub-Complex
Greater Amberjack$_1$ Lesser Amberjack$_2$ Almaco Jack Banded Rudderfish	Lesser Amberjack$_2$ Almaco Jack Banded Rudderfish

Deep-Water Grouper	Sub-Complex
Yellowedge Grouper$_1$ Warsaw Grouper$_2$ Snowy Grouper Speckled Hind	Warsaw Grouper$_2$ Snowy Grouper Speckled Hind

Shallow-Water Grouper	Sub-Complex
Red Grouper$_1$ Gag$_{1,2}$ Black Grouper$_1$ Scamp Yellowmouth Grouper Yellowfin Grouper	Yellowmouth Grouper Yellowfin Grouper

Mid-Water Snapper	Sub-Complex
Red Snapper$_1$ Gray Triggerfish$_1$ Vermilion Snapper$_1$ Lane Snapper Silk Snapper$_2$ Wenchman Blackfin Snapper Queen Snapper	Silk Snapper$_2$ Wenchman Queen Snapper Blackfin Snapper

Individual ACLs
Vermilion Snapper$_1$
Lane Snapper
Gray Snapper
Hogfish$_1$
Cubera Snapper
Black Grouper$_1$
Scamp
Tilefish (Golden)$_1$
Yellowedge Grouper$_1$
Mutton Snapper$_1$
Yellowtail Snapper$_1$

Individual ACLs (Set in Other Actions)
Red Drum
Gag$_1$
Red Grouper$_1$
Greater Amberjack$_1$
Red Snapper$_1$
Gray Triggerfish$_1$
Goliath Grouper$_1$
#Nassau Grouper
#Octocorals
Corals other than allowable octocorals
Live rock

21 ACLs plus 9 ACLs set in other actions

1 = Assessed
2 = Most Vulnerable (PSA)
 # Stock designated for removal or delegation

Figure 2.3.4. Preferred <u>Alternative 4</u> Single Level Groups Based upon NMFS scientific review and grouper and tilefish IFQ groupings. This is similar to Alternative 3 except that only the sub-complexes and individual stocks are used. There is no upper level group.

Alternative 4 (Preferred): NMFS 'SUB-COMPLEX ONLY' & IFQ SPECIES
[TIERED FROM ACTION 2 *PREFERRED* + OPTION C: NO INDICATOR SPECIES *PREFERRED*]

Tilefish
Tilefish (Golden)$_1$
Blueline Tilefish$_2$
Goldface Tilefish

Shallow-Water Grouper
Black Grouper$_{1,2}$
Scamp
Yellowmouth Grouper
Yellowfin Grouper

Deep-Water Grouper
Yellowedge Grouper$_1$
Warsaw Grouper$_2$
Snowy Grouper
Speckled Hind

Jacks
Lesser Amberjack$_2$
Almaco Jack
Banded Rudderfish

Mid-Water Snapper
Silk Snapper$_2$
Wenchman
Blackfin Snapper
Queen Snapper

Individual ACLs
Vermilion Snapper$_1$
Lane Snapper
Gray Snapper
Hogfish$_1$
Cubera Snapper
Mutton Snapper
Yellowtail Snapper

Individual ACLs (Set in Other Actions)
Red Drum
Gag$_1$
Red Grouper$_1$
Greater Amberjack$_1$
Red Snapper$_1$
Gray Triggerfish$_1$
Goliath Grouper$_1$
#Nassau Grouper
#Octocorals
Corals other than allowable octocorals
Live rock

12 ACLs plus 9 ACLs set in other actions

1 = Assessed
2 = Most Vulnerable (PSA)
 # Stock designated for removal or delegation
<u>Possible Indicator Species (option b)</u>

Discussion: The National Standard 1 Guidelines require that the Gulf Council develop annual catch limits and (optionally) annual catch targets for each of its managed fisheries. However, only 13 of the 42 species managed by the Gulf Council Reef Fish FMP will have been assessed by 2011 (e.g., red snapper, vermilion snapper, gray triggerfish, greater amberjack, black grouper, red grouper, goliath grouper, hogfish, yellowedge grouper, mutton snapper, yellowtail snapper, golden tilefish, and gag grouper). For purposes of setting annual catch limits, the guidelines allow stocks in a fishery to be grouped into stock complexes when appropriate. Reasons for grouping stocks include situations where stocks in a multispecies fishery cannot be targeted independent of one another and maximum sustainable yield cannot be defined on a stock-by-stock basis; where there is insufficient data to measure their status; or when it is not feasible for fishermen to distinguish individual stocks among their catch. The Reef Fish FMP already has a number of stock groupings, but these groupings were established prior to many of the current stock assessments and annual catch limit requirements. In light of the current guidelines and information about the fisheries, it may be appropriate to revisit the stock groupings.

Alternative 1 maintains the existing species groupings as developed and established by the Council, with the following caveats.

1. Most shallow-water grouper and deep-water grouper regulations apply to the groupings as listed except for IFQ regulations. Under the grouper IFQ program, speckled hind and warsaw grouper are included as shallow-water grouper.
2. Under the grouper IFQ program, scamp can be considered either a shallow-water grouper or a deep-water grouper. Once all of an IFQ account holder's other shallow-water grouper allocation has been landed and sold, or transferred, or if an IFQ account holder has no shallow-water grouper allocation, then deep-water grouper allocation may be used to land and sell scamp.

For purposes of setting species group annual catch limits and annual catch targets, Alternative 1 follows the original species groupings.

Alternative 2 is based on **Alternative 1**, but establishes additional species groupings. This alternative attempts to maintain species grouping that are compatible with the group IFQ system. Tilefish (golden) is separated from the other tilefishes based on information from commercial fishermen that they are fished at different depths and habitats. Greater amberjack is separated from the other jacks based on geographical differences in distribution. A mid-water snapper complex and shallow-water snapper complex are established based on similar depth ranges. The additional groupings create groups for species for which data may be too sparse to accurately set individual annual catch limits.

Alternative 3 is based on a statistical analysis of stocks assemblages as discussed below. There are two levels of species groupings. Six upper level groups contains all of the species within a group for tilefishes, shallow-water grouper, deep-water grouper, jacks, shallow-water snapper, and mid-water snapper. Each upper level group is divided into sub-complexes consisting of one or more species from the upper group. Annual catch limits will be established for each sub-complex, and for each upper level group. The annual catch limit for the upper level group cannot exceed the sum of the catch limits for the sub-complexes. Accountability measures will be triggered for a sub-group when that sub-group's annual catch limit is exceeded. In addition, if the upper level annual catch limit is exceeded, accountability measures will be applied to all species in the upper level group even if there are some individual species or sub-groups that have not exceeded their catch limits. There are several species that do not fit into any of the groups and will have individuals annual catch limits.

Preferred Alternative 4 has been selected by the Council as the preferred method to establish annual catch limits using species groupings. It is similar to **Alternative 3** except that there is no upper level of groups. Furthermore, species designated for removal in Actions 1 and 2 have been removed, and the grouper and tilefish groupings have been organized to be consistent with the respective IFQ groupings. This alternative was recommended by the Standing and Statistical Committee over **Alternative 3** because it is a simpler alternative, and the Standing and Statistical Committee did not feel that there was an advantage to have two levels of annual catch limits. Annual catch limits and accountability measures in this alternative are applied only to the individual species and sub-groups. As with **Alternative 3**, groups are based on a statistical analysis of stocks assemblages as discussed below. There are several species that do not fit into any of the groups and will have individuals annual catch limits.

Preferred Alternative 5 is used in conjunction with one of the above alternatives to determine how indicator species are used in multi-species groups (or sub-groups for **Alternative 3**). **Option a** selects the most vulnerable species to overfishing based on productivity-susceptibility (PSA) analyses. The indicator species is the only species within a group that is given an annual catch limit. If that annual catch limit is exceeded, accountability measures are triggered for all species in the group. This reduces the number of annual catch limits that need to be assigned. However, this option does not make use of catch levels from the other species in a group, inferring that catches of the indicator and other species occur in about the same proportion. **Option b** selects an assessed species as the indicator species if the group includes an assessed species. Otherwise, no indicator species is used, and the annual catch limit is based on the sum of catch limits of all species in the group. **Preferred Option c** does not use an indicator species. The annual catch limit is based on the sum of catch limits of all species in the group regardless of whether there is an assessed species. **Alternatives 1 and 2** contain groups with more than one assessed species, complicating the application of the first part of this option.

Recent NMFS Stock Groupings Analysis

The Gulf of Mexico Fisheries Management Council (Gulf Council) currently manages 42 finfish species under its Reef Fish Fishery Management Plan (FMP). Traditionally, management measures have been implemented based upon species-specific stock assessment results. However, only 14 species managed by the Gulf Council Reef Fish FMP will have been assessed by 2011 (e.g., red snapper, vermilion snapper, gray triggerfish, greater amberjack, black grouper, red grouper, goliath grouper, hogfish, yellowedge grouper, mutton snapper, yellowtail snapper, golden tilefish, blueline tilefish, and gag grouper).

One possible approach for developing annual catch limits for unassessed species would be to assign them to assemblages that would be managed as units. The NMFS Annual Catch Limits Final Rule states that "…the vulnerability of stocks to the fishery should be evaluated when determining if a particular stock complex should be established or reorganized, or if a particular stock should be included in a complex" (50 CFR 600.310(b)(8) in 74 FR 3205). National Standard 3 for fishery conservation and management (MSRA §301) states that "to the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination." A stock complex, as defined by the recently amended National Standard 1 guidance, is "a group of stocks that are sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks is similar" (74 FR 3178). Stocks may be

grouped into complexes if: 1) they cannot be targeted independently of one another in a multispecies fishery; 2) there is not sufficient data to measure their status relative to established status determination criteria; or 3) when it is feasible for fishermen to distinguish individual stocks among their catch (50 CFR 600.310(b)(8) in 74 FR 3178). A management unit is defined as "a fishery or that portion of a fishery identified in a FMP as relevant to the FMP's management objectives" (50 CFR 600.320(d)). Management units may be organized based on biological, geographic, economic, technical, social, or ecological considerations (50 CFR 600.320(d)(1)).

The objectives of the NMFS stock groupings analysis were threefold: (1) To determine whether species assemblages can be identified in the Gulf of Mexico among the 42 managed Reef Fish FMP species, (2) To determine if these assemblages are consistent between commercial and recreational fisheries, and (3) To develop species complexes that are "…sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks is similar" per National Standard 1.

Methods

Following Lee and Sampson (2000), multiple statistical techniques were used to identify species assemblages: (1) species life history and depth of occurrence, (2) percent landings and percent trips by dataset, (3) dimension reduction and hierarchical cluster analyses based on life history; abundance; and presence-absence, (4) correlation matrices, (5) nodal analyses, and (6) maps of species distributions. These results were synthesized across analyses to develop potential species complexes for annual catch limit management sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks would be similar.

Life History and Landings Data

Life history parameters were assembled from peer-reviewed literature, Southeast Data Assessment and Review (SEDAR) reports, unpublished data from the NMFS Panama City Laboratory, Stock Assessment and Fishery Evaluation (SAFE) reports, and from FishBase (Froese and Pauly 2009). Data from the Gulf of Mexico was used whenever possible. Depth of occurrence records were assimilated from FishBase, with minimum and maximum depths of occurrence recorded (Froese and Pauly 2009).

Commercial logbook, commercial observer, headboat logbook, recreational survey, and fishery-independent bottom longline data were used to evaluate similarities in spatial and temporal patterns of fisheries exploitation in the Gulf of Mexico for species in the Gulf Reef Fish FMP. Commercial logbook records (SEFSC logbook data, accessed 6 May 2010) summarize landings on a trip level, with information for each species encountered including landings (in lbs), primary gear used, and primary area and depth of capture. Depth of capture is an important consideration when evaluating similarities in fisheries vulnerability and is only available in logbook records from 2005 onward, reported as a mean depth of capture, by species captured. It should be noted that a single depth of fishing is reported for each species per trip, although they may be encountered at numerous depths during multiple sets, and even within a single drifting longline set. Additionally, depth is occasionally misreported in fathoms rather than feet.

For the purposes of these analyses, logbook landings were summarized by species, year, month, gear type, statistical area, and depth. Trip-level adjustments were made to black grouper and gag

grouper landings to account for geographic differences in misidentification rates following recommendations from SEDAR-10 (2006). Year and month were defined by the date the fish were landed. Vertical line (e.g., handline and electric rig) and longline gear types were evaluated separately. Area fished was based on the 21 Gulf of Mexico commercial logbook statistical areas (Figure 1). Depth of capture was aggregated into atmospheric pressure bins (e.g., 33 ft = 2 atm, 66 ft = 3 atm, etc.). Records with no reported depth or area of capture were removed from consideration; these represented approximately 9% of the total available records for both the longline and vertical line clusters. Overall, 27,566 longline and 121,767 vertical line commercial logbook records from 2005-2009 were evaluated.

For the commercial logbook data, separate analyses were conducted for commercial longline (CLL) and commercial vertical line (CVL) gear types. Landings were binned by month to maximize the variety of species landed while still capturing temporal trends in abundance. Fishermen will typically make multiple sets on a trip, sometimes in geographically distant areas, targeting different species. Binning by area and depth (commercial) reduced the probability of grouping species caught during the same time period that would likely not co-occur during any given set due to disparate geographic distributions.

In July 2006, NMFS implemented a mandatory reef fish observer program (RFOP) to characterize the reef fish fishery operating in the U.S. Gulf of Mexico. The mandatory RFOP provides general fishery bycatch characterization, estimates managed finfish discard and release mortality levels, and estimates protected species bycatch levels. The RFOP provides set-level information on species encountered on trips using bottom longline, electric (bandit) reel, and handlines. Overall, 140,204 records representing 9,031 sets from 2005-2009 were evaluated.

The recreational headboat sector of the reef fish fishery was evaluated using headboat survey (HBS) logbook data (Southeast Region Headboat Survey data , accessed 19 April 2010) reported by headboat operators. Headboats are large, for-hire vessels that typically accommodate 20 or more anglers on half- or full-day trips. Headboat records are arranged similar to commercial logbook records, and contain trip-level information on number of anglers, trip duration, date, area fished, and landings (number fish) and releases (number fish) of each species. Headboat landings and encounters (landings plus releases) were summarized by species, year, month, trip duration, and area fished. Trip duration was considered the best proxy for depth fished, as trips of longer duration are more likely to go farther offshore. Area fished was aggregated at the most common reporting level (1° latitude by 1° longitude). As with the commercial fishery data, area fished is self-reported and this introduces error into the analysis. Additionally, vessels fishing in multiple areas during a trip would be constrained by the current data form to select one area fished for the trip, which limits the spatial precision of the analysis. Records with no geographic area reported (~3%) were removed from consideration. Overall, 121,334 headboat records from 2004-2009 were evaluated.

The private, rental, and for-hire charter sectors were evaluated using data from the Marine Recreational Fisheries Statistics Survey (MRFSS) dockside intercept records. MRFSS intercepts collect data on port agent observed landings (‘A’ catch) and angler reported landings (‘B1’ catch) and discards (‘B2’ catch) in numbers by species, two-month wave (e.g., Wave 1 = Jan/Feb, … Wave 6 = Nov/Dec), area fished (inland, state, and federal waters), mode of fishing (charter, private/rental, shore), and state (west Florida, Alabama, Mississippi, and Louisiana). We aggregated all MRFSS intercepts from the Gulf of Mexico from 2000-2009 by year, wave, mode, and area fished; computing a catch-per-angler-per-trip (CPAT) by species for the whole

catch (e.g., 'A'+'B1'+'B2' catch). Overall, 64,782 dockside intercept records from 2000-2009 were evaluated.

Since 1995, NMFS has conducted fishery-independent shark bottom-longline (BLL) surveys throughout the Gulf of Mexico in depths from 9-55 m (Grace & Henwood 1997). In 1999, these surveys were expanded to survey an offshore snapper-grouper component (primarily red snapper) out to depths of 366 m (SEDAR7-DW7 2004). Study sites were randomly selected and longline sets were made parallel to depth contours. Gangion test and length varied between years. J-hooks were used prior to 1999, and circle hooks after 1999. Soak times were always one hour, using 100 #15/0 hooks baited with Atlantic mackerel (Scomber scombrus). Methods were standardized in 2001, with the survey expanded to cover the entire U.S. Gulf over depths ranging from 9-366 m. Effort was proportionally allocated based upon shelf width within 60 nautical mile statistical zones (81-82° W, 82-83° W, etc.) and stratified by depth (50%: 9-73 m, 40%: 73-183 m, 10%: 183-366 m). Data were recorded as catch per unit effort (CPUE=number of species per 100 hook hour). NMFS-BLL data was aggregated at the set level. Overall, 851 records of managed reef fish landings from 1995-2009 were evaluated.

Grouping unassessed stocks into complexes helps achieve several management goals:
(1) implement annual catch limits by statutory deadline,
(2) avoid implementing accountability measures for stocks whose landings fluctuate due to rarity or species identification issues,
(3) allow primary data collection and enforcement focus on economically important stocks, and
(4) promote regulations considerate of a multispecies context; a prelude to ecosystem-based management.

Ideally, stock complexes would be viewed as an adaptive management strategy, and could be modified based upon improved data collection or new assessments.

There are four approaches towards applying accountability measures to stock complexes:
(1) set species-specific annual catch limits,
(2) set annual catch limits for stock complexes and for indicator stocks within complexes,
(3) set annual catch limits for stock complexes without using indicator stocks,
and (4) set annual catch limits for an indicator stock within the complex.

These approaches are not mutually exclusive. For example, a broad complex might be formed with an overall annual catch limit, which, if exceeded, would trigger accountability measures. Within this broader complex, one or several sub-complexes might be designated. Each sub-complex could have an annual catch limit either based on all species in the complex or on one or more indicator species. Finally, some sub-complexes might contain only one species, and would require a species-specific annual catch limit.

2.4 Action 4. Acceptable Biological Catch Control Rule

Alternative 1. Do not specify an acceptable biological catch control rule. The overfishing limit and acceptable biological catch will be set by the SSC on an ad hoc basis for each stock or stock assemblage individually.

<u>Preferred Alternative 2</u>. Adopt the acceptable biological catch control rule described in Table 2.4.1. The indicated default risk of exceeding overfishing limit for Tier 2, or default acceptable biological catch buffer levels for Tier 3a and 3b, are to be used unless specified otherwise by the Council on a stock by stock basis.

Alternative 3. Adopt an acceptable biological catch control rule where the buffer between the overfishing limit and acceptable biological catch will be a fixed level consisting of:

a. Acceptable biological catch = 75% (or other percentage) of the overfishing limit
b. Acceptable biological catch = the yield at 75% (or other percentage) of F_{MSY}

Table 2.4.1. Acceptable Biological Catch Control Rule.

Tier 1 Acceptable Biological Catch Control Rule	
Condition for Use	A quantitative assessment provides both an estimate of overfishing limit based on maximum sustainable yield or its proxy and a probability density function of overfishing limit that reflects scientific uncertainty. Specific components of scientific uncertainty can be evaluated through a risk determination table.
OFL	OFL = yield resulting from applying F_{MSY} or its proxy to estimated biomass.
ABC	The Council with advice from the SSC will set an appropriate level of risk (P*) using a risk determination table that calculates a P* based on the level of information and uncertainty in the stock assessment. ABC = yield at P*.
Tier 2 Acceptable Biological Catch Control Rule	
Condition for Use*	An assessment exists but does not provide an estimate of MSY or its proxy. Instead, the assessment provides a measure of overfishing limit based on alternative methodology. Additionally, a probability density function can be calculated to estimate scientific uncertainty in the model-derived overfishing limit measure. This density function can be used to approximate the probability of exceeding the overfishing limit, thus providing a buffer between the overfishing limit and acceptable biological catch.
OFL	An overfishing limit measure is available from alternative methodology.
ABC	Calculate a probability density function around the overfishing limit measure that accounts for scientific uncertainty. The buffer between the overfishing limit and acceptable biological catch will be based on that probability density function and the level of risk of exceeding the overfishing limit selected by the Council. a. Risk of exceeding OFL = 50% b. Risk of exceeding OFL = 40% c. Risk of exceeding OFL = 30% (default) Set ABC = OFL – buffer at risk of exceeding OFL
Tier 3a Acceptable Biological Catch Control Rule	
Condition for Use*	No assessment is available, but landings data exist. The probability of exceeding the overfishing limit in a given year can be approximated from the variance about the mean of recent landings to produce a buffer between the overfishing limit and acceptable biological catch. Based on expert evaluation of the best scientific information available, recent historical landings are without trend, landings are small relative to stock biomass, or the stock is unlikely to undergo overfishing if future landings are equal to or moderately higher than the mean of recent landings. For stock complexes, the determination of whether a stock complex is in Tier 3a or 3b will be made using all the information available, including stock specific catch trends.
OFL	Set the overfishing limit equal to the mean of recent landings plus two standard deviations. A time series of at least ten years is recommended to compute the mean of recent landings, but a different number of years may be used to attain a representative level of variance in the landings.
ABC	Set acceptable biological catch using a buffer from the overfishing limit that represents an acceptable level of risk due to scientific uncertainty. The buffer will be predetermined for each stock or stock complex by the Council with advice from the SSC as: a. ABC = mean of the landings plus 1.5 * standard deviation (risk of exceeding OFL = 31%) b. ABC = mean of the landings plus 1.0 * standard deviation (default) (risk of exceeding OFL = 16%) c. ABC = mean of the landings plus 0.5 * standard deviation (risk of exceeding OFL = 7%) d. ABC = mean of the landings (risk of exceeding OFL = 2.3%)
Tier 3b Acceptable Biological Catch Control Rule	
Condition for Use[Note 1]	No assessment is available, but landings data exist. Based on expert evaluation of the best scientific information available, recent landings may be unsustainable.
OFL	Set the overfishing limit equal to the mean of landings. A time series of at least ten years is recommended to compute the mean of recent landings, but a different number of years may be used to attain a representative level of variance in the landings.
ABC	Set acceptable biological catch using a buffer from the overfishing limit that represents an

	acceptable level of risk due to scientific uncertainty. The buffer will be predetermined for each stock or stock complex by the Council with advice from its SSC as: e. ABC = 100% of OFL f. ABC = 85% of OFL g. ABC = 75% of OFL (default) h. ABC = 65% of OFL

Note 1: Changes in the trend of a stock's landings or a stock complex's landings in three consecutive years shall trigger a reevaluation of their acceptable biological catch control rule determination under Tiers 2, 3a, or 3b.

Note 2: There may be situations in which reliable landings estimates do not exist for a given data-poor stock. The approach and methodology for setting OFL and ABC will be determined on a case-by-case basis, based on expert opinion and the best scientific information available.

Discussion: Section 600.310(f)(4) of the National Standard 1 guidelines requires that each Council establish an acceptable biological catch control rule that should be based, when possible, on the probability that an actual catch equal to the stock's acceptable biological catch would result in overfishing.

Under Alternative 2, Table 2.4.1 represents an acceptable biological catch control rule for determining the appropriate level of risk and/or buffer to set between the overfishing limit and acceptable biological catch. In all cases the annual estimate of maximum sustainable yield is the overfishing limit. The acceptable biological catch control rule offers three tiers of guidance for setting acceptable biological catch based on the amount of information for a given stock. With less information there is greater scientific uncertainty, and therefore the buffer between the overfishing limit and acceptable biological catch will be greater.

The top tier, Tier 1, is for stocks that have undergone a quantitative assessment that has produced an estimate of maximum sustainable yield and a probability distribution around the estimate. For these stocks, specific factors related to uncertainty in the assessment can be evaluated through the use of a risk determination table, and converted into an appropriate level of risk, or P*. An example of a risk determination table is given in Table 2.4.4. Different methodologies may be needed for different types of assessments. Therefore, the risk determination table is not part of the ABC control rule, but rather a methodology developed and applied by the SSC to the control rule.

Tier 2 is for stocks that have not had a quantitative assessment that produces a estimate of maximum sustainable yield or maximum sustainable yield proxy. However, an overfishing limit can be calculated using an alternative methodology. The control rule does not specify the methodology to use in setting the overfishing limit, but rather, the buffer between the overfishing limit and acceptable biological catch. The overfishing limit is set by the SSC based on their best judgment of the appropriate method. This could be through the use of less data intensive methods. Examples of such methods include depletion corrected average catch (DCAC), or stock reduction analysis (SRA). The overfishing limit could also be based on a time series of landings. If based on a time series, the overfishing limit might be set conservatively at the mean of the landings, or if the SSC feels that the stock can remain stable at higher fishing levels, at the maximum observed landings, or at some point in between. A probability distribution can be developed around the mean of time-series of landings and used to determine the size of the buffer between the overfishing limit and acceptable biological catch. Although the buffer is based on the standard error around the mean of the landings, if we can determine the mean of a stable annual catch series and the related standard deviation and standard error, we can then add some number to the mean to arrive at a different overfishing limit knowing the standard deviation and standard error should remain the same (personal communication on 7/8/2010 from

Elbert Whorton, statistician, University of Texas Medical Branch). Therefore, buffers based on this method can also be used with alternative overfishing limits that are simply some value added to the mean. The level of scientific risk is determined by Council policy from within a range of 30% to 50% to match the range of risk used in Tier 1. This level of risk is converted into an appropriate acceptable biological catch based on the overfishing limit minus the buffer determined from the probability distribution.

Tier 3a is for stocks that have not been assessed, but are stable over time, or in the judgment of the SSC the stock or stock complex is unlikely to undergo overfishing at current average levels or at levels moderately higher than current average levels. Under this tier, the average landings are recommended as the annual catch target, and the overfishing limit and acceptable biological catch are set above the current average. Setting the buffer at some multiple of standard deviations allows the buffer size to vary with the amount of variability of the stock since standard deviation is a measure of variability. Stocks with high variability will have a higher buffer while those with less variability will have a lower buffer. If the overfishing limit is set at 2.0 standard deviations above the mean, then at 1.0 standard deviations above the mean, the recommended default for overfishing limit, there is a 16 percent probability that annual landings in any given year will exceed the overfishing limit. At acceptable biological catch levels of 1.5, 1.0, and 0.5 standard deviations above the mean the probability of exceeding the overfishing limit will be 31% and 7% respectively. If the acceptable biological catch is set equal to the mean, the probability of exceeding the overfishing limit will be 2.3%. These probabilities assume that the annual catch target and annual catch limit are set equal to the acceptable biological catch. In reality, the annual catch target is likely to be set at a lower value that accounts for management uncertainty based on the annual catch limit/annual catch target control rule, which will reduce the probability of overfishing even further.

Tier 3b is for stocks that do not meet the requirements of either Tier 1 or Tier 2, and in the judgment of the SSC the current fishing levels may not be sustainable over time. At this tier, the mean of the landings becomes the overfishing limit, and the acceptable biological catch is set to some percentage of the overfishing limit. A statistically valid probability distribution around the overfishing limit estimate cannot be determined. For these stocks a fixed percentage between the overfishing limit and acceptable biological catch is adopted as a buffer to represent scientific uncertainty. The default buffer level for each stock is to set the acceptable biological catch at 75% of the overfishing limit unless a different risk level is determined by Council policy.

There may be situations when there is not even a reliable time series of recent landings. For example, fisheries that are currently closed in federal waters (e.g., goliath grouper, red drum) have no recent landings from federal waters. If these fisheries are reopened at some future time, none of the above tiers may be applicable. Therefore, note 2 was added to the control rule, which states that in situations where reliable landings estimates do not exist, the approach and methodology for setting OFL and ABC will be determined on a case-by-case basis, based on expert opinion and the best scientific information available.

Testing of Buffer Levels Under Different Tiers

As the tier levels increase from Tier 2 to Tier 3s and Tier 3b, the increasing uncertainty should result in larger buffers between the overfishing limit and acceptable biological catch. However, this is not intuitive from looking at the control rule, particularly since the catch levels under Tier 2 may be either higher or lower than under Tier 3a or Tier 3b depending upon the method

selected for determining the overfishing limit in Tier 2 (Tiers 3a and 3b each have a defined fixed method). Scientific uncertainty is reflected in the size of the buffer between the overfishing limit and acceptable biological catch, rather than the absolute values. To test whether Tier 3a and Tier 3b produce a higher buffer between the overfishing limit and acceptable biological catch than Tier 2, the overfishing limit and acceptable biological catch was calculated under each of the methods for two randomly selected stocks, vermilion snapper and lane snapper, using the landings data and P* probability distributions that were available to the SSC at their July 2010 meeting. As shown in Tables 2.4.2 and 2.4.3, in both cases, at the default risk levels, the Tier 3a buffer was greater than Tier 2, and the Tier 3b buffer was greater than Tier 3a, indicating that the control rule does account for greater scientific uncertainty with the more data poor methods.

Table 2.4.2. Tier 2, 3 and 3a calculations of overfishing limit-acceptable biological catch buffer and possible overfishing limit and acceptable biological catch values for vermilion snapper. Catch values and buffers are in millions of pounds. The default values recommended by the SSC for setting the buffer were used for each tier.

Vermilion snapper								
			OFL=mean		OFL=75th percentile		OFL=max	
Method	Value used to Calculate Buffer	**Buffer**	OFL	ABC	OFL	ABC	OFL	ABC
Tier 2	P* = 0.25	**-0.18**	2.77	2.59	3.25	3.07	3.74	3.56
Tier 3a	OFL = 2 standard deviations above mean of landings ABC = 1 standard deviation above mean of landings	**-0.65**	4.08	3.42				
Tier 3b	OFL = mean of landings ABC = 75% of mean of landings	**-0.69**	2.77	2.08				

Table 2.4.3. Tier 2, 3 and 3a calculations of overfishing limit-acceptable biological catch buffer and possible overfishing limit and acceptable biological catch values for lane snapper. Catch values and buffers are in millions of pounds. The default values recommended by the SSC for setting the buffer were used for each tier.

Lane snapper								
			OFL=mean		OFL=75th percentile		OFL=max	
Method	Value used to Calculate Buffer	**Buffer**	OFL	ABC	OFL	ABC	OFL	ABC
Tier 2	P* = 0.25	**-0.012**	0.244	0.232	0.287	0.275	0.330	0.318
Tier 3a	OFL = 2 standard deviations above mean of landings	**-0.057**	0.358	0.301				
	ABC = 1 standard deviation above mean of landings							
Tier 3b	OFL = mean of landings	**-0.061**	0.244	0.183				
	ABC = 75% of mean of landings							

For some data poor stocks it may not be possible to develop an estimate of overfishing limit due to poor data quality, scarcity of landings data, or for other reasons. Such stocks should be made part of a species group where overfishing limit and overfishing limit-acceptable biological catch buffer and possible overfishing limit and acceptable biological catch values will be determined on either the group or on an indicator stock for the group.

Alternative 1, the no action alternative, does not specify an acceptable biological catch control rule. The SSC would set acceptable biological catch for each stock or stock assemblage using their best judgment of where the acceptable biological catch should be set. The National Standard 1 guidelines require that fishery management plans contain an acceptable biological catch control rule, defined as " a specified approach to setting the ABC for a stock or stock complex as a function of the scientific uncertainty in the estimate of OFL and any other scientific uncertainty" (600.310(f)(2)(iii)). Since this alternative does not provide a specified approach, it is not viable under the guidelines.

Preferred Alternative 2 uses the acceptable biological catch control rule described in this section. In Tier 1 the overfishing limit is determined from a quantitative stock assessment, while in Tiers 2 and 3 the SSC will determine the most appropriate methodology for setting an overfishing limit. For data poor stocks subject to one of the Tier 3 rules Tier 3a is the least conservative since it sets the acceptable biological catch and overfishing limit above the observed mean of the landings. However, this is only done if in the judgment of the SSC the stock is unlikely to undergo overfishing at the levels selected. Tier 3b is the most conservative since the overfishing limit is set equal to the current mean landings, and the acceptable biological catch is set at a lower value. This tier will usually require management changes to be effectively implemented.

Alternative 3 establishes a much simpler control rule where a single buffer is used to separate the overfishing limit and acceptable biological catch. **Option a** sets the buffer at 75% of the overfishing limit, which is the buffer used to set the red snapper acceptable biological catch after the 2009 update assessment. **Option b** sets the buffer equal to the current Optimum Yield definition of the yield at 75% of F_{MSY}. Both options set the acceptable biological catch at a conservative level. However, this one size fits all approach may not be optimum for all stocks,

although at least one SSC member has argued that this is appropriate for establishing scientific uncertainty, and it eliminates the subjective evaluations required under **Preferred Alternative 2**.

Table 2.4.4. Example of a risk determination table for use with acceptable biological catch control rule Tier 1.

$$P^* = exp\left[-a - b \sum_{i\ dimension} Dimension\ score_i\right]$$

P* = 0.410

S_{hi} = 3.998

Maximum Risk **0.50** a= 0.693

Minimum Risk **0.30** b= 0.1277703

$$a = -ln(0.45) \qquad b = -\frac{a + ln(0.15)}{S_{hi}} \qquad S_{hi} = highest\ possible\ score$$

Element scores are scaled from zero to a maximum. In this example the maximum is 2.00, but this can be changed

Dimension	Dimension Wt	Tier No.	Tier Wt	Element Score	Element	Score it	Element Result	Tier Result	Dimension Result
Assessment Information	**1**	1	1	0.00	Quantitative, age-structured assessment that provides estimates of exploitation and biomass; includes MSY-derived benchmarks.		0.67	0.67	0.67
				0.67	Quantitative, age-structured assessment provides estimates of either exploitation or biomass, but requires proxy reference points.	x			
				1.33	Quantitative, non-age-structured assessment. Reference points may be based on proxy.				
				2.00	Quantitative assessment that provides relative reference points (absolute measures of status are unavailable) and require proxies.				
Characterization of Uncertainty	**1**	1	.333	0.0	The OFL pdf provided by the assessment model includes an appropriate characterization of "within model" and "between model/model structure" error. The uncertainty in important inputs (such as natural mortality, discard rates, discard mortality, age and growth parameters, landings before consistent reporting) has been described with using Bayesian priors and/or bootstrapping and/or Monte Carlo simulation and the full uncertainty has been carried forward into the projections.		0.67	0.223	0.89
				0.67	The OFL pdf provided by the assessment model includes an approximation of observation and process error. The uncertainty in important inputs (such as natural mortality, discard rates, discard mortality, age and growth parameters, landings before consistent reporting) has been described with ***SENSITIVITY RUNS*** and the full uncertainty has been carried forward into the projections.	x			
				1.33	The OFL pdf provided by the assessment model includes an incomplete approximation of observation and process error. The uncertainty in important inputs (such as natural mortality, discard rates, discard mortality, age and growth parameters, landings before consistent reporting) has been described with ***SENSITIVITY RUNS*** but the full uncertainty ***HAS NOT*** been carried forward into the projections.				
				2.0	The OFL provided by the assessment ***DOES NOT*** include uncertainty in important inputs and parameters.				
		2	.333	0.0	Retrospective patterns have been described, and are not significant.		2.0	0.666	
				1.0	Retrospective patterns have been described and are moderately sig.				
				2.0	Retrospective patterns ***have not*** been described ***or*** are large.	X			
		3	0				0	0	
					NOT USED				
						z			
		4	.333	0.0	Known environmental covariates are accounted for in the assessment.	x	0.0	0	
				1.0	Known environmental covariates are **partially** accounted for in the assessment.				
				2.0	Known environmental covariates ***are not*** accounted for in the assessment.				

2.5 Action 5. ACL/ACT Control Rules

Alternative 1. No action. Do not have an ACL/ACT control rule. The Council will establish an ACL for each fishery and sector individually.

Preferred Alternative 2. Establish an initial estimate of ACL/ACT based on the spreadsheet method (described below), followed by a review by the Socioeconomic Panel.

Alternative 3. Establish an initial estimate of ACL/ACT based on the flow chart method, followed by a review by the Socioeconomic Panel.

Alternative 4. Use the ACT calculated in ABC Control Rule Tier 3a (if used), or establish a fixed buffer between ACL and ACT (or between ABC and ACL if ACT is not used) as follows, followed by a review by the Socioeconomic Panel:

a. 25% (or other single buffer) for all sectors
b. 0% buffer for IFQ fisheries, 25% (or other buffer) for all other sectors
c. 2% buffer for IFQ fisheries, 25% (or other buffer) for all other sectors

Note: For fisheries that are allocated into sectors (commercial, recreational, and for-hire if implemented), the ACL/ACT control rule will be applied separately to each sector.

Alternative 5. For each of the following species/species groupings, establish a fixed buffer between the ACL and ACT (or between the ABC and ACL if ACT is not used), with the buffer to be selected as one of the following percentages of ABC, followed by a review by the Socioeconomic Panel:

a. 0%
b. 10%
c. 15%
d. 25%

Select one of the above percent options for each of the following:

Single species stocks

Gray Snapper ____
Lane Snapper ____
Vermilion Snapper ____
Cubera Snapper ____
Hogfish ____
Mutton Snapper ____
Yellowtail Snapper ____

Stock groupings (see Action 3, Alternative 4 for explanation of groups)
All groups are unallocated

Tilefishes aggregate ____
Other Shallow-water Grouper ____
Deep-water grouper ____
Mid-water Snapper ____
Jacks ____

Discussion: In each of the alternatives for calculating ACL/ACT, except for Alternative 1 (no action), there are two steps to the ACL/ACT control rule.

Step 1: Initial calculation of ACL/ACT. Apply the selected methodology to each sector separately to derive a sector ACL or sector ACT. If the stock is not allocated, apply the Control Rule Table to the stock as a whole.

Step 2: Socioeconomic Adjustment. Convene the Socioeconomic Panel (SEP) to review the ABC, ACL and ACT recommendations. The SEP may recommend an adjustment to the ACL/ACT levels based on socioeconomic considerations.

Annual catch limits (ACL) and annual catch targets (ACT) have different purposes. The purpose of an ACL, in conjunction with accountability measures, is to prevent overfishing 600.310(f)((5)(i)). An ACT is optional, but if used, The objective for establishing the ACT and related AMs is that the ACL not be exceeded (600.310(f)((6)).

Alternative 1, no action, does not establish an ACL/ACT control rule. The National standard 1 guidelines state that If ACT is specified as part of the AMs for a fishery, an ACT control rule is utilized for setting the ACT (600.310(f)((6)). Therefore, if the Council intends to use ACTs, a control rule is required, and this is not a viable alternative. If only ACLs are used, there is no requirement to use a control rule for setting ACL. This alternative could be adopted, and ACLs would be set by the Council on an ad hoc basis. The only requirements being that the ACLs cannot exceed the acceptable biological catch and that the system of ACLs and AMs be reviewed and modified if necessary if ACLs are exceeded more than once in a four year period. However, the Council may still choose to adopt a control rule for guidance in setting ACLs.

<u>Preferred Alternative 2</u> sets the initial estimate of ACL/ACT based on a spreadsheet based system that utilizes a point system and a series of components that represent various aspects of management uncertainty to derive a percent buffer between ACL and ACT (or between ABC and ACL). The Council determines the minimum and maximum buffer to use, and the points are adjusted to the appropriate value between those limits. The basic formula for this system is:

$$Weighted\ Buffer = \left[\left(\frac{sum\ of\ points}{max.\ possible\ points} * range\ between\ \mathrm{min}\ and\ \mathrm{max}\ buffer\right) + \mathrm{min}\ buffer\right] * O$$

Where *O* is the overfished status of the stock used as a weighting factor. The control rule table consists of several additive components representing management uncertainty, plus a weighting factor (multiplicative component). Most of the components are simple yes/no type evaluations with either 0 or 1 point assigned. The components were selected to represent proxies for various sources of management uncertainty.

Figure 2.5.1. Alternative 2 – Spreadsheet based ACL/ACT control rule.

ACL/ACT Buffer Spreadsheet			version 4.1 - April 2011		
sum of points	4				
max points	7.0		Buffer between ACLand ACT (or ABC and ACL)	Unweighted	11
Min. Buffer	0	**min. buffer**	User adjustable	Weighted	14
Max Unw.Buff	19	max unwt. Buff			
Max Wtd Buff	25	**max wtd. buffer**	User adjustable		
	Component	Element score	Element	Selection	Element result
	Stock assemblag	0	This ACL/ACT is for a single stock.	x	0
		1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		
	Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years		not applicab
		1	Catch limit has been exceeded 2 or more times in last 4 years		
			For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded	0.0	
			Not applicable (there is no catch limit)	x	
			Apply this component to recreational fisheries, not commercial or IFQ fisheries		
	Precision of Landings Data Recreational	0	Method of absolute counting		2
		1	MRIP proportional standard error (PSE) <= 20		
		2	MRIP proportional standard error (PSE) > 20	x	
			Not applicable (will not be included in buffer calculation)		
			Apply this component to commercial fisheries or any fishery under an IFQ program		
	Precision of Landings Data Commercial	0	Landings from IFQ program		1
		1	Landings based on dealer reporting	x	
		2	Landings based on other		
			Not applicable (will not be included in buffer calculation)		
	Timeliness	0	In-season accountability measures used or fishery is under an IFQ		1
		1	In-season accountability measures not used	x	
				Sum	4
	Weighting factor				
		Element weight	Element	Selection	Weighting
	Overfished statu	0	1. Stock biomass is at or above B_{OY} (or proxy).		0.3
		0.1	2. Stock biomass is below B_{OY} (or proxy) but at or above B_{MSY} (or proxy).		
		0.2	3. Stock biomass is below B_{MSY} (or proxy) but at or above minimum stock size threshold (MSST).		
		0.3	4. Stock is overfished, below MSST.		
		0.3	5. Status criterion is unknown.	x	

Overview of Spreadsheet Based ACL/ACT Control Rule (Alternative 2)

Component: Stock Assemblage

The ACL or ACT can be applied to either a single stock or to an assemblage of stocks (including an indicator species used to represent an assemblage). When an ACL/ACT applies to an assemblage of stocks, there is an implicit assumption that the stocks in the assemblage have similar biological characteristics and selectivities. It is unlikely, however, that the stocks have exactly the same characteristics and selectivities. Since it is likely that not all stocks in an assemblage will react to management actions in the same way, an assemblage of stocks has more management uncertainty than a single stock.

Component: Ability to Constrain Catch

This component evaluates past management success as an indicator of uncertainty of future success. Both frequency and magnitude of past overages relative to catch limits are examined. The National Standard 1 guidelines recommend that the system of ACLs and accountability measures be reviewed if catch limits are exceeded more than one in the past four years. Based on this guidance, the frequency of overages is divided into two levels, 1 or less times, or 2 or more times. In addition, if there have been any overages, an additional 0.5 points are added for each 10 percentage points (rounded up to the nearest 10%) above the catch limit for the year with the greatest overage of the past four years. If there were no catch limits during any of the past four years, a "not applicable" selection can be made, which removes this component from the calculations.

Component: Precision of Landings Data - Recreational

There are two sections to this component, recreational and commercial/IFQ. Only one should be used with allocated stocks, with the other set to "not-applicable". If a stock has not been allocated, select the appropriate setting for each section.

For recreational fisheries, although there is not currently an absolute method of counting recreational catches, the spreadsheet allows for one to potentially exist in the future, and to keep the point system for recreational precision comparable to the point system for commercial precision. Otherwise, the proportion standard error (PSE) calculated by the Marine Recreational Information Program (MRIP) is used as a proxy to represent overall precision of the recreational harvest estimates. A PSE of 20 is used as the break point between good and poor precision, since this is used by several other NMFS assessments and studies (for example, Vaughan and Carmichael 2000). An average of the most recent 3 years is used to avoid transient spikes in the data. Note: If the for-hire sector is separated out and the MRIP charterboat survey continues to be used to estimate charterboat catches, then this section will be applicable to the for-hire sector. Either the recreational or commercial Precision of Landings Data should be set to "not applicable", but not both.

Component: Precision of Landings Data - Commercial

For commercial fisheries, the method used to monitor catches is used to represent precision of the commercial harvest estimates. IFQ systems attempt to monitor all commercial landings and are considered the most precise form of monitoring. Non-IFQ systems are monitored through dealer reporting, but not all dealers are surveyed. NMFS attempts to survey dealers who account for 95% of the landings (personal communication, NMFS Southeast Regional Office staff), so that this form of monitoring is less precise than IFQ systems. Finally, if some other method of monitoring commercial landings is used (for example, logbook records which are self-reported), the lowest level of precision is assigned. Note: If the for-hire sector is separated out and placed under an IFQ system, then this section will be applicable to the for-hire sector.

Component: Timeliness

This component is related to the ability of management to respond to changes in fishing pressure. This is partly a function of how timely the landings reports are, and partly a function of how quickly changes in management measures can be implemented. Both of these components are implicitly incorporated in the decision whether or not to use in-season accountability measures.

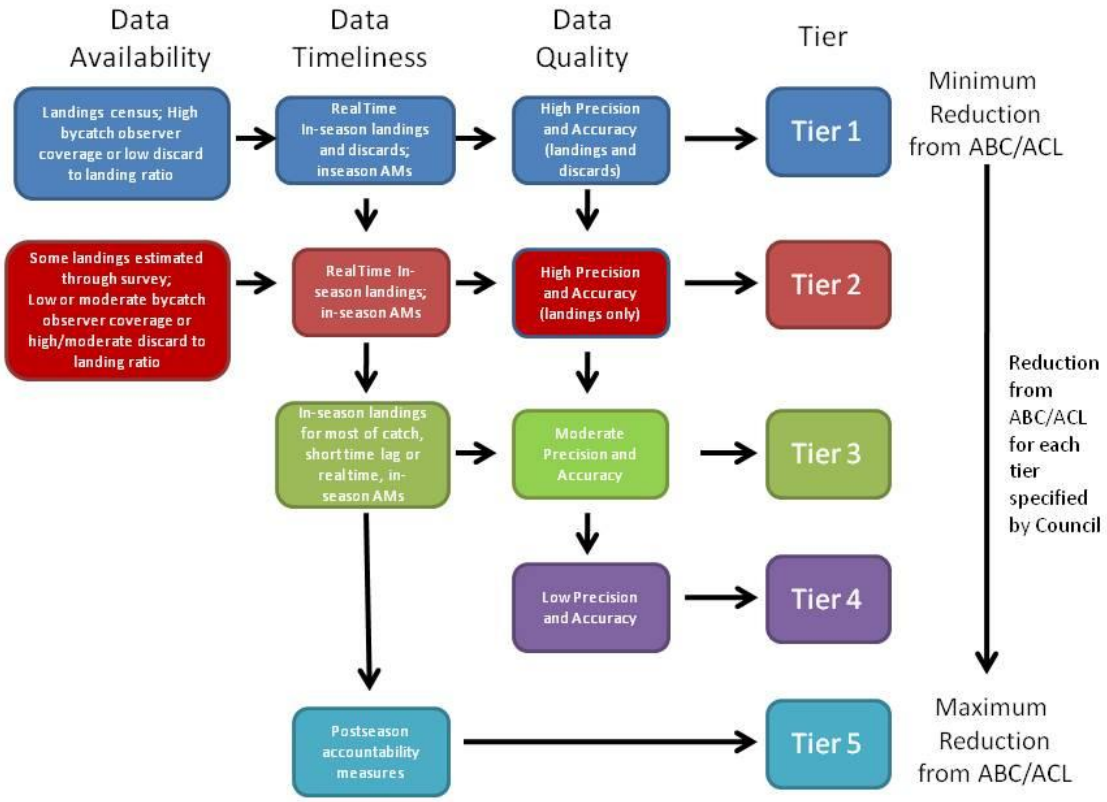
Therefore, the use or non-use of in-season accountability measures is used as a proxy for timeliness. Since IFQ fisheries report landings in almost real time, they are considered to have a high level of timeliness and are ranked with in-season accountability measures.

Weighting Factor: Stock Status

Stock status is not included in the initial calculation of the buffer to use, but is applied to the final result to adjust the buffer. The status of the stock is a function of the stock assessment's outputs relative to management benchmarks. A stock that is in relatively poor condition may require a more precautionary approach in the form of a larger buffer between ACL and ACT (or between ABC and ACL). If a stock is at or above its optimum yield (B_{OY}) level, then no adjustment is needed for the unweighted buffer. For stocks at lower biomass levels, a weighting adjustment is made to the buffer to account for the stock status. For example, a stock that is below B_{OY} but above B_{MSY} will have the buffer increased by 10%.

Alternative 3 sets the initial estimate of ACL/ACT using a flowchart based system that evaluates the availability, timeliness and quality of the data used to monitor catches. Overages in previous years are not included as they are considered a function of the quality and timeliness of the data.

Figure 2.5.2. Alternative 3 – Flow chart based ACL/ACT control rule.



Overview of Flow Chart Based ACL/ACT Control Rule Table (Alternative 3)

Component: Data Availability

This component evaluates the availability of landings and bycatch data. In the Gulf of Mexico, landings are available through either censuses (e.g., IFQ, trip ticket, commercial quota monitoring or headboat logbook) or surveys (MRFSS or TPWD creel surveys). Landings obtained from a census are typically more readily available than landings estimated from a survey. Bycatch is estimated through observer programs (headboat, commercial reef fish) and statistical expansions of angler-reported discards (MRFSS). In some instances, bycatch data are not estimated (e.g., TPWD creel survey). In the flow chart, the availability of bycatch data ranges from high to low observer coverage or low to high discard to landing ratios when observer estimates are not available.

Component: Data Timeliness

This component evaluates whether landings and discard estimates are available in-season. Data timeliness ranges from real-time in season landings and discards to the availability of landings only after the fishing season. All fisheries currently managed by the Gulf Council would fall under Tiers 2-5 as no fishery currently has both real-time in-season monitoring and estimation of discards. Species managed under the Red Snapper and Grouper-Tilefish IFQs would fall into Tier 2 for data timeliness, as real-time in-season landings are available for these species. Recreational species managed by the Council would fall primarily into Tiers 3 or 4 for data timeliness, as landings may be available in-season, but with substantial delays. If only post-season landings are available, the ACL/ACT would be set based on the lowest tier and no further evaluation would be done.

Component: Data Quality

This component evaluates the precision of the landings data for fisheries that have in-season landings and/or discard estimates. Precision and accuracy are characterized as high, moderate or low as there are no standard units for evaluating these metrics across sectors and survey programs. The highest tier is reserved for fisheries that have real-time estimates of both landings and discards, and those estimates have high precision and accuracy. It is unlikely that any fisheries in the Gulf of Mexico would meet this level. The remaining fisheries with in-season landings estimates are placed into tiers 2, 3 or 4, with tier 5 reserved for fisheries that do not have in-season landings estimates.

Tier Levels

The specification of reduction targets for each tier level is a Council policy decision. During the October 6, 2010 ACL/ACT Control Rule Working Group webinar, one suggestion for a range of ACL/ACT buffers from 0% to 35% was as shown in column a below in Table 2.5.1. This distribution of buffer tiers can be adjusted to other ranges as shown in the other columns.

Table 2.5.1. Tiered buffers for Alternative 3 at various ranges.

	a: 0% - 35%	b: 0% - 25%	c: 0% - 15%
-	Tier 1 – 0% buffer	0% buffer	0% buffer
-	Tier 2 – 5% buffer	3.6% buffer	2.1% buffer
-	Tier 3 – 15% buffer	10.7% buffer	6.4% buffer
-	Tier 4 – 25% buffer	17.9% buffer	10.7% buffer
-	Tier 5 – 35% buffer	25% buffer	15% buffer

Categories for data availability, timeliness, and quality are purposefully undefined and provide a qualitative versus quantitative approach for managers to set ACL/ACT buffers. However, as such they leave the determination of an appropriate category setting open to subjectivity. The ACL/ACT Control Rule Working Group recommended during their October 6, 2010 webinar that an additional tier be added to explicitly address frequency and magnitude of past overruns, although as explained above past overruns are largely a function of data timeliness and to a lesser extent data accuracy. In addition, the flow chart may need to be split to account for fisheries under quota management vs. those not under quota management.

Alternative 4 is the simplest of the alternatives. If, in setting ABC, the Tier 3a ABC control rule is used, use the ACT calculated in that method (which is the mean of recent year's landings). Otherwise, set a fixed percent buffer that represents management uncertainty over a broad range of fisheries. A buffer of 25% is used because that is close to the average buffer between ACT and ABC for those Tier 3a stocks calculated by the SSC at the time that this discussion was written (range 19% to 31%, mean = 23%), and it is consistent with the current buffer between target (OY) and limit (MSY) catch levels adopted from the 1998 technical guidance on the use of precautionary approaches to implementing National Standard 1 (Restrepo et al. 1998). That guidance suggested, for stocks that are not overfished, setting a buffer such that the fishing mortality rate at OY was 75% of the fishing mortality rate at MSY, or approximately a 25% difference in catch levels in the first year. Restrepo et al (1998) suggested that this buffer level was consistent with a 20% to 30% probability of exceeding the limit harvest level. **Option a** would apply this buffer to all sectors and fisheries. **Option b** would eliminate the buffer for IFQ fisheries since their landings are closely monitored, but would apply the 25% buffer to all remaining sectors. **Option c** would apply a small precautionary buffer to the IFQ fisheries while keeping the 25% buffer on the remaining sectors.

Alternative 5 sets a percent buffer between ACL and ACT (or between ABC and ACL if ACT is not used) separately for each species or species grouping. This is similar to **Alternative 4**, except that this alternative allows a different buffer to be selected for each species, species grouping, or sector, whereas **Alternative 4** uses a single buffer percentage for all stocks (or one buffer for IFQ stocks and another buffer for all others). The buffer can be selected from a choice of four options. **Option a** is 0%, which means there is no buffer, ACL = ACT (or ABC = ACL). This would be appropriate only if there was no management uncertainty that the catch would exceed the ACL. **Options b, c, and d** set the buffer at progressively larger levels from 10% to 15% to 25%. Thus, this alternative covers the same 0% to 25% range of buffers as in the defaults for **Alternatives 2, 3 and 4**. There are no specified criteria for which option to use, this would be up to the best judgment of the Council.
Table 2.5.2 presents the buffers and resulting ACT (or ACL) in 2012 for stocks and stock groupings to be assigned catch limits in this amendment under Alternatives 2, 3 and 4.

Table 2.5.2. ACT (or ACL) percent buffers and values for stocks and stock groupings under alternatives 2, 3, or 4. Values are in millions of pounds except for Cubera snapper, which is in pounds. Tilefishes, Other shallow-water grouper, and Deep-water grouper are in gutted weight, all others are in whole weight.

				Alt 2		Alt 3		Alt 4		
				Spreadsheet		Flow Chart		option a	option b	option c
Stock/Stock Complex	OFL	ABC (Total ACL)	Sector apportionment of ACL	Buffer %	ACT	Tier	ACT	Fixed 25% ACT	0% IFQ/25% others ACT	2% IFQ/25% Others ACT
Other Shallow-water Grouper Aggregate with multi-year ACL										
2012 Other Shallow-water grouper (Total)	n/a	0.688								
- 2012 Other Shallow-water grouper (Comm)	n/a		0.556	4%	0.534	2 (3.6%)	0.536	0.417	0.556	0.545
2013 Other Shallow-water grouper (Total)	n/a	0.700								
- 2013 Other Shallow-water grouper (Comm)	n/a		0.566	4%	0.543	2 (3.6%)	0.546	0.425	0.566	0.555
2014 Other Shallow-water grouper (Total)	n/a	0.707								
- 2014 Other Shallow-water grouper (Comm)	n/a		0.572	4%	0.549	2 (3.6%)	0.551	0.429	0.572	0.561
2015 Other Shallow-water grouper (Total)	n/a	0.710								
- 2015 Other Shallow-water grouper (Comm)	n/a		0.574	4%	0.551	2 (3.6%)	0.553	0.431	0.574	0.563
Deep-water Grouper Aggregate with multi-year ACL										
2012 Deep-water grouper (Total)	1.238	1.216								
- 2012 Deep-water grouper (Comm)			1.173	4%	1.127	2 (3.6%)	1.131	0.880	1.173	1.150
2013 Deep-water grouper (Total)	1.228	1.207								
- 2013 Deep-water grouper (Comm)			1.165	4%	1.118	2 (3.6%)	1.123	0.874	1.165	1.141
2014 Deep-water grouper (Total)	1.218	1.198								
- 2014 Deep-water grouper (Comm)			1.156	4%	1.110	2 (3.6%)	1.114	0.867	1.156	1.133
2015 Deep-water grouper (Total)	1.208	1.189								
- 2015 Deep-water grouper (Comm)			1.147	4%	1.101	2 (3.6%)	1.106	0.861	1.147	1.124
2016 and beyond Deep-water grouper (Total)	1.113	1.105								
- 2016 and beyond Deep-water grouper (Comm)			1.066	4%	1.024	2 (3.6%)	1.028	0.800	1.066	1.045
Tilefishes Aggregate ACL										
Tilefishes complex (Total)	0.747	0.608								
Tilefishes complex (Comm)			0.606	4%	0.582	2 (3.6%)	0.584	0.455	0.606	0.594
Aggregate Stocks that are not part of an IFQ										
Jacks complex	0.372	0.312	0.312	11%	0.278	5 (25%)	0.234	0.234	0.234	0.234
Mid-water snapper complex	0.209	0.166	0.166	18%	0.136	5 (25%)	0.125	0.125	0.125	0.125
Single Stock ACLs										
Gray snapper	2.88	2.42	2.420	14%	2.081	5 (25%)	1.815	1.815	1.815	1.815
Lane snapper	0.358	0.301	0.301	14%	0.259	5 (25%)	0.226	0.226	0.226	0.226
Vermilion snapper	4.08	3.42	3.420	14%	2.941	5 (25%)	2.565	2.565	2.565	2.565
Cubera snapper	7005	5065	5065	14%	4356	5 (25%)	3799	3799	3799	3799
Hogfish	0.272	0.208	0.208	14%	0.179	5 (25%)	0.156	0.156	0.156	0.156
The following stocks have OFL and ABC that straddles Gulf and South Atlantic jurisdictions. Total OFL and ABC are shown, plus the Gulf apportionment of ABCbased on the alternatives in Actions 7.3.2 and 7.33. The Gulf apportionment of ABC equals the Gulf ABC = Gulf ACL.										
Stock	Total OFL	Total ABC	Gulf apportionment of ABC = ACL	Buffer %	ACT	Tier	ACT	Fixed 25% ACT	0% IFQ/25% others ACT	2% IFQ/25% Others ACT
Mutton Snapper - Multiple Apportionment Alternatives in Action 7.3.3										
Mutton snapper - Apportionment Alt. 2	1.48	1.13	0.203	14%	0.175	5 (25%)	0.153	0.153	0.153	0.153
Mutton snapper - Apportionment Alt. 3	1.48	1.13	0.237	14%	0.204	5 (25%)	0.178	0.178	0.178	0.178
Yellowtail snapper - Multiple apportionment and ABC alternatives in Action 7.3.2										
Yellowtail snapper - Gulf only SSC rec.	0.997	0.848	0.848	11%	0.755	5 (25%)	0.636	0.636	0.636	0.636
Yellowtail snapper - SA total ABC, App. Alt 2	n/a	2.899	0.783	11%	0.697	5 (25%)	0.587	0.587	0.587	0.587
Yellowtail snapper - SA total ABC, App. Alt 3	n/a	2.899	0.725	11%	0.645	5 (25%)	0.544	0.544	0.544	0.544
Yellowtail snapper - SA total ABC, App. Alt 4	n/a	2.899	0.667	11%	0.593	5 (25%)	0.500	0.500	0.500	0.500

- Other shallow-water grouper complex = black grouper + scamp + yellowfin grouper + yellowmouth gr..
- Other shallow-water grouper ACLs assume a black grouper allocation of 82% commercial, 18% recreational, and that the commercial sector takes 80.1% of the scamp, yellowfin and yellowmouth grouper combined, based on landings during 2001-2004.
- Deep-water grouper complex = yellowedge grouper + warsaw grouper + snowy grouper + speckled hind.
- Deep-water grouper ACLs assume that the commercial sector takes 96.5% of combined landings based on landings during 2001-2004.
- Tilefish complex = golden tilefish + blueline tilefish + goldface tilefish.
- Tilefish ACLs assume that the commercial sector takes 99.8% of combined landings, based on landings during 2001-2004.
- Jacks complex = lesser amberjack + banded rudderfish + Almaco jack
- Mid-water snapper complex = silk snapper + Wenchman + blackfin snapper + queen snapper

Several stocks in Table 2.5.2 are listed as "Unallocated stocks with Commercial IFQ." These stocks have no official commercial:recreational allocation, but IFQ allocation is distributed that can be used to commercially harvest these stocks. This amendment is not addressing any permanent allocation of these stocks, as such allocation can be addressed in a future amendment in which the alternatives and issues can be fully evaluated.

Historically, the Council and/or NOAA Fisheries Service have used average landings to set quotas for unallocated IFQ species. In Secretarial Amendment 1 to the Reef Fish FMP, average landings during 1996-2000 were used to set the current 1.02 mp gw commercial DWG quota and 0.44 mp gw tilefish quota. In Amendment 30B to the Reef Fish FMP, average landings during 2001-2004 were used to set the current 0.41 mp gw other shallow-water grouper catch allowance. In both of these amendments, no specific recreational:commercial allocation was defined. To maintain consistency with previous amendments, the proportion of commercial landings was determined for 1996-2000 (DWG and tilefish) and 2001-2004 (OSWG) in order to define commercial IFQ quotas. During 2001-2004, 96.5% of the overall DWG landings, 99.8% of the overall tilefish landings, and 80.1% of the overall scamp and yellowmouth grouper landings were commercial. Using these proportions, the commercial IFQ quotas can be set by multiplying the aggregate ACL (or ACT if specified) for DWG and tilefish by the proportion of historic commercial landings (96.5% for DWG and 99.8% for tilefish). For OSWG, the Council is explicitly defining an allocation for black grouper, but is not specifying an allocation for the remaining other shallow-water grouper species. The commercial IFQ catch allowance for OSWG can be set by multiplying the commercial ACL (or ACT if specified) for black grouper by the 82:18 allocation. This amount can then be added to the aggregate ACL for the remaining OSWGs (i.e., yellowmouth + scamp) times the proportion of historic commercial landings (80%) for scamp and yellowmouth grouper to determine an overall commercial catch allowance for all OSWGs. No recreational sector-specific allocation would be defined for IFQ managed species.

Table 2.5.2 specifies the commercial quotas for IFQ managed species. Based on the Council's preferred ACL control rule (Alternative 2), quotas for DWG and tilefish would be set at 1.102 and 0.582 mp gw, respectively, in 2012. For OSWG, the catch allowance would be set at 0.524 mp gw in 2012. In 2011, the quota for DWG was 1.02 mp gw, the quota for tilefish was 0.44 mp gw, and the quota for OSWG was 0.41 mp gw.

National Standard 4 of the MSA requires conservation and management measures to be fairly and equitably distributed among fishermen when assigning fishing privileges or allocation. In doing so, an FMP may not differentiate between residents of different states when assigning allocation, must reasonably calculate allocation to promote conservation, and must ensure no entity acquires an excessive share of the resource. The Council and NOAA Fisheries Service previously set quotas for DWG, OSWG, and tilefish in Secretarial Amendment 1 and Amendment 30B. In this amendment, the Council is setting commercial quotas in a consistent manner as those previous amendments, while accounting for new scientific information (e.g., update ABCs) and an explicit commercial: recreational allocation for black grouper. The IFQ program issues allocation to individual fishermen based on the level the quota is set. Share caps are already in place to prevent commercial fishermen from obtaining an excessive share of the quota. Additionally, setting the quotas based on historical landings percentages (and the black grouper allocation) is fair and equitable because it apportions the same percentage of harvest to each sector as has been historically harvested by that sector. For the commercial sector, each of the quotas for DWG, OSWG, and tilefish in 2012 will be greater than the quotas in 2011. These quotas are based on scientific advice by the Council's SSC and have been reduced to account for management uncertainty using the Council's preferred ACL control rule. The aggregate ACLs

for DWG, OSWG, and tilefish are expected to promote conservation by preventing overfishing. If the aggregate ACLs are exceeded, AMs will be triggered.

2.6 Action 6. Generic Framework Procedure

Alternative 1. No Action. Do not modify the existing framework procedures for implementing management measures.

Preferred Alternative 2. Adopt the base Generic Framework Procedure as provided below.

Alternative 3. Adopt the more broad Framework Procedure as specified below.

Alternative 4. Adopt the more narrow Framework Procedure as specified below.

Discussion: The full text of the framework procedure for each alternative follows. Table 2.6.1 highlights the major differences among the alternatives. The Council felt like **Preferred Alternative 2** provided the best balance between the actions allowed to be implemented under the framework, and the procedure required take these actions. In order to provide the ability to respond in a timely fashion to a wide array of issues the Council felt it was best to include feasible options under the framework, which are embodied in **Preferred Alternative 2.** In addition, the Council felt **Preferred Alternative 2** provided the opportunity for sufficient public review and involvement in the process, while still accommodating the ability for more streamlined implementation.

Table 2.6.1. Comparison of alternative framework procedures. Alternative 1 is not included because each FMP has its own framework procedure.

	Alternative 2 (base)	**Alternative 3 (broad)**	**Alternative 4 (narrow)**
Types of framework processes	- Open abbreviated - Open standard - Closed	- Open - Closed	- Open - Closed
When can open framework be used	- New stock assessment - New information or circumstances - When changes are required to comply with applicable law or a court order. Abbreviated framework can be used for minor or insignificant changes. Standard framework for all other allowed changes.	In response to any additional information or changed circumstances.	Only when there is a new stock assessment.
Actions that can be taken	- Abbreviated Open framework can be used for actions that are considered minor and insignificant. - Standard Open framework used for all others. Lists of actions that can be taken under Abbreviated and Standard Open framework are given. - Closed framework can be used for a specific list of actions.	- Open framework can be used for a representative list of actions, plus other measures deemed appropriate by the Council. - Closed framework can be used for a specific list of actions, plus any other immediate action specified in the regulations.	- Open framework can only be used for specific listed actions. - Closed framework can be used for a specific list of actions.
Public input	Requires public discussion at least one Council meeting	Requires public discussion at one Council meeting	Requires public discussion during at least three Council meetings, and discussion at separate public hearings within the areas most affected

			by the proposed measures.
AP/SSC participation	The Council may convene its SSC, SEP, or AP, as appropriate	Convening the SSC, SEP, or AP, prior to final action is not required	The Council shall convene its SSC, SEP, and AP
How is a request of action made	- Abbreviated requires a letter or memo from the Council with supporting analyses - Standard requires a completed framework document with supporting analyses	Via letter, memo, or the completed framework document with supporting analyses.	Via letter, memo, or the completed framework document with supporting analyses.

<u>Preferred Alternative 2</u> (Base)

This framework procedure provides standardized procedures for implementing management changes pursuant to the provisions of the FMP. There are two basic processes, the open framework process and the closed framework process. Open frameworks address issues where there is more policy discretion in selecting among various management options developed to address an identified management issue, such as changing a size limit to reduce harvest. Closed frameworks address much more specific factual circumstances, where the FMP and implementing regulations identify specific action to be taken in the event of specific facts occurring, such as closing a sector of a fishery after their quota has been harvested.
Open Framework:

1. Situations under which this framework procedure may be used to implement management changes include the following:

    a. A new stock assessment resulting in changes to the overfishing limit, acceptable biological catch, or other associated management parameters.

    In such instances the Council may, as part of a proposed framework action, propose an annual catch limit (ACL) or series of ACLs and optionally an annual catch target (ACT) or series of ACTs, as well as any corresponding adjustments to MSY, OY, and related management parameters.

    b. New information or circumstances.

    The Council will, as part of a proposed framework action, identify the new information and provide rationale as to why this new information indicates that management measures should be changed.

    c. Changes are required to comply with applicable law such as MSA, ESA, MMPA, or are required as a result of a court order.

    In such instances the Regional Administrator will notify the Council in writing of the issue and that action is required. If there is a legal deadline for taking action, the deadline will be included in the notification.

2. Open framework actions may be implemented in either of two ways, abbreviated documentation, or standard documentation process.

    a. Abbreviated documentation process. Regulatory changes that may be categorized as a routine or insignificant may be proposed in the form of a

letter or memo from the Council to the Regional Administrator containing the proposed action, and the relevant biological, social and economic information to support the action. If multiple actions are proposed, a finding that the actions are also routine or insignificant must also be included. If the Regional Administrator concurs with the determination and approves the proposed action, the action will be implemented through publication of appropriate notification in the Federal Register. Actions that may be viewed as routine or insignificant include, among others:

i. Reporting and monitoring requirements,

ii. Permitting requirements,

iii. Gear marking requirements,

iv. Vessel marking requirements,

v. Restrictions relating to maintaining fish in a specific condition (whole condition, filleting, use as bait, etc.),

vi. Bag and possession limit changes of not more than 1 fish,

vii. Size limit changes of not more than 10% of the prior size limit,

viii. Vessel trip limit changes of not more than 10% of the prior trip limit,

ix. Closed seasons of not more than 10% of the overall open fishing season,

x. Species complex composition, including species subject to limited access privilege program (LAPP) management, requiring new share specification,

xi. Restricted areas (seasonal or year-round) affecting no more than a total of 100 square nautical miles,

xii. Respecification of ACL, ACT or quotas that had been previously approved as part of a series of ACLs, ACTs or quotas,

xiii. Specification of MSY, OY, and associated management parameters (such as overfished and overfishing definitions) where new values are calculated based on previously approved specifications,

xiv. Gear restrictions, except those that result significant changes in the fishery, such as complete prohibitions on gear types,

xv. Quota changes of not more than 10%, or retention of portion of an annual quota in anticipation of future regulatory changes during the same fishing year,

b. Standard documentation process. Regulatory changes that do not qualify as a routine or insignificant may be proposed in the form of a framework document with supporting analyses. Non routine or significant actions that may be implemented under a framework action include:

i. Specification of ACTs or sector ACTs, and modifications to ACL/ACT control rule,

ii. Specification of ABC and ABC control rules,

iii. Rebuilding plans and revisions to approved rebuilding plans,

iv. The addition of new species to existing limited access privilege programs (LAPP),

v. Changes specified in section 4(a) that exceed the established thresholds.

3. The Council will initiate the open framework process to inform the public of the issues and develop potential alternatives to address the issues. The framework process will include the development of documentation and public discussion during at least one council meeting.

4. Prior to taking final action on the proposed framework action, the Council may convene its SSC, SEP, or AP, as appropriate, to provide recommendations on the proposed actions.

5. For all framework actions, the Council will provide the letter, memo, or the completed framework document along with proposed regulations to the Regional Administrator in a timely manner following final action by the Council.

6. For all framework action requests, the Regional Administrator will review the Council's recommendations and supporting information and notify the Council of the determinations, in accordance with the MSA[1] and other applicable law.

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[1] SEC. 304. ACTION BY THE SECRETARY 16 U.S.C. 1854

(a) REVIEW OF PLANS.—

(1) Upon transmittal by the Council to the Secretary of a fishery management plan or plan amendment, the Secretary shall—

(A) immediately commence a review of the plan or amendment to determine whether it is consistent with the national standards, the other provisions of this Act, and any other applicable law; and

(B) immediately publish in the Federal Register a notice stating that the plan or amendment is available and that written information, views, or comments of interested persons on the plan or amendment may be submitted to the Secretary during the 60-day period beginning on the date the notice is published.

(2) In undertaking the review required under paragraph (1), the Secretary shall—

(A) take into account the information, views, and comments received from interested persons;

(B) consult with the Secretary of State with respect to foreign fishing; and

(C) consult with the Secretary of the department in which the Coast Guard is operating with respect to enforcement at sea and to fishery access adjustments referred to in section 303(a)(6).

(3) The Secretary shall approve, disapprove, or partially approve a plan or amendment within 30 days of the end of the comment period under paragraph (1) by written notice to the Council. A notice of disapproval or partial approval shall specify—

(A) the applicable law with which the plan or amendment is inconsistent;

Closed Framework:

1. Consistent with existing requirements in the FMP and implementing regulations, the Regional Administrator is authorized to conduct the following framework actions through appropriate notification in the Federal Register:

    a. Close or adjust harvest any sector of the fishery for a species, sub-species, or species group that has a quota or sub-quota at such time as projected to be necessary to prevent the sector from exceeding its sector-quota for the remainder of the fishing year or sub-quota season,

    b. Reopen any sector of the fishery that had been prematurely closed,

    c. Implement accountability measures, either in-season or post-season.

Alternative 3 (BROAD)

This framework procedure provides standardized procedures for implementing management changes pursuant to the provisions of the FMP. There are two processes, the open framework process and the closed framework process. Open frameworks address issues where there is more policy discretion in selecting among various management options developed to address an identified management issue, such as changing a size limit to reduce harvest. Closed frameworks address much more specific factual circumstances, where the FMP and implementing regulations identify specific action to be taken in the event of specific facts occurring, such as closing a sector of a fishery after their quota has been harvested.

(B) the nature of such inconsistencies; and
(C) recommendations concerning the actions that could be taken by the Council to conform such plan or amendment to the requirements of applicable law. If the Secretary does not notify a Council within 30 days of the end of the comment period of the approval, disapproval, or partial approval of a plan or amendment, then such plan or amendment shall take effect as if approved.

(4) If the Secretary disapproves or partially approves a plan or amendment, the Council may submit a revised plan or amendment to the Secretary for review under this subsection.
(5) For purposes of this subsection and subsection (b), the term "immediately" means on or before the 5th day after the day on which a Council transmits to the Secretary a fishery management plan, plan amendment, or proposed regulation that the Council characterizes as final.

(b) REVIEW OF REGULATIONS.—
(1) Upon transmittal by the Council to the Secretary of proposed regulations prepared under section 303(c), the Secretary shall immediately initiate an evaluation of the proposed regulations to determine whether they are consistent with the fishery management plan, plan amendment, this Act and other applicable law. Within 15 days of initiating such evaluation the Secretary shall make a determination and—

(A) if that determination is affirmative, the Secretary shall publish such regulations in the Federal Register, with such technical changes as may be necessary for clarity and an explanation of those changes, for a public comment period of 15 to 60 days; or
(B) if that determination is negative, the Secretary shall notify the Council in writing of the inconsistencies and provide recommendations on revisions that would make the proposed regulations consistent with the fishery management plan, plan amendment, this Act, and other applicable law.

(2) Upon receiving a notification under paragraph (1)(B), the Council may revise the proposed regulations and submit them to the Secretary for reevaluation under paragraph (1).
(3) The Secretary shall promulgate final regulations within 30 days after the end of the comment period under paragraph (1)(A). The Secretary shall consult with the Council before making any revisions to the proposed regulations, and must publish in the Federal Register an explanation of any differences between the proposed and final regulations.

Open Framework:

1. The council may utilize this framework procedure to implement management changes in response to any additional information or changed circumstances.

   The Council will, as part of a proposed framework action, identify the new information and provide rationale as to why this new information requires that management measures be adjusted.

2. Open framework actions may be implemented at any time based on information supporting the need for adjustment of management measures or management parameters:

   a. Actions that may be implemented via the framework procedure include:

      i. Reporting and monitoring requirements,

      ii. Permitting requirements,

      iii. Bag and possession limits,

      iv. Size limits,

      v. Vessel trip limits,

      vi. Closed seasons,

      vii. Species complex composition, or inclusion of new species under existing limited access privilege programs (LAPP),

      viii. Restricted areas (seasonal or year-round),

      ix. Respecification of ACL, ACT or quotas that had been previously approved as part of a series of ACLs, ACTs or quotas,

      x. Specification of MSY, OY, and associated management parameters (such as overfished and overfishing definitions) where new values are calculated based on previously approved specifications,

      xi. Gear restrictions, except those that result in significant changes in the fishery, such as complete prohibitions on gear types,

      xii. Quota changes,

      xiii. Specification of ACTs or sector ACTs, and modifications to ACL/ACT control rule,

      xiv. Specification of ABC and ABC control rules,

xv. Rebuilding plans and revisions to approved rebuilding plans,

xvi. Any other measures deemed appropriate by the council.

3. The Council will initiate the open framework process to inform the public of the issue and develop potential alternatives to address the issue. The framework process will include the development of documentation and public discussion during one council meeting.

4. For all framework actions, the Council will provide the letter, memo, or the completed framework document along with proposed regulations to the Regional Administrator following final action by the Council.

5. For all framework action requests, the Regional Administrator will review the Council's recommendations and supporting information and notify the Council of the determinations, in accordance with the MSA and other applicable law.

Closed Framework:

2. Consistent with existing requirements in the FMP and implementing regulations, the Regional Administrator is authorized to conduct the following framework actions through appropriate notification in the Federal Register:

a. Close or adjust harvest any sector of the fishery for a species, sub-species, or species group that has a quota or sub-quota at such time as projected to be necessary to prevent the sector from exceeding its sector-quota for the remainder of the fishing year or sub-quota season,

b. Reopen any sector of the fishery that had been prematurely closed,

c. Implement accountability measures, either in-season or post-season,

d. Take any other immediate action specified in the regulations.

Alternative 4 (NARROW)

This framework procedure provides standardized procedures for implementing management changes pursuant to the provisions of the FMP. There are two basic processes, the open framework process and the closed framework process. Open frameworks address issues where there is more policy discretion in selecting among various management options developed to address an identified management issue, such as changing a size limit to reduce harvest. Closed frameworks address much more specific factual circumstances, where the FMP and implementing regulations identify specific action to be taken in the event of specific facts occurring, such as closing a sector of a fishery after their quota has been harvested.

Open Framework:

1. Situations under which this framework procedure may be used to implement management changes include only the following:

a. A new stock assessment resulting in changes to the overfishing limit, acceptable biological catch, or other associated management parameters.

In such instances the Council may, as part of a proposed framework action, propose an annual catch limit (ACL) or series of ACLs and optionally an annual catch target (ACT) or series of ACTs, as well as any corresponding adjustments to MSY, OY, and related management parameters.

2. Open framework actions may be implemented only in response to the above conditions.

   a. Actions that may be implemented via the framework procedure include only the following:

      i. Reporting and monitoring requirements,

      ii. Bag and possession limits,

      iii. Size limits,

      iv. Closed seasons,

      v. Restricted areas (seasonal or year-round),

      vi. Quotas.

3. The Council will initiate the open framework process to inform the public of the issue and develop potential alternatives to address the issue. The framework process will include the development of documentation and public discussion during at least three council meetings, and shall be discussed at separate public hearings within the areas most affected by the proposed measures.

4. Prior to taking final action on the proposed framework action, the Council shall convene its SSC, SEP, and AP to provide recommendations on the proposed actions.

5. For all framework actions, the Council will provide the letter, memo, or the completed framework document, and all supporting analyses, along with proposed regulations to the Regional Administrator in a timely manner following final action by the Council.

6. For all framework action requests, the Regional Administrator will review the Council's recommendations and supporting information and notify the Council of the determinations, in accordance with the MSA and other applicable law. The Regional Administrator will provide the Council weekly updates on the status of the proposed measures.

Closed Framework:

3. Consistent with existing requirements in the FMP and implementing regulations, the Regional Administrator is authorized to conduct the following framework actions through appropriate notification in the Federal Register:

   a. Close or adjust harvest any sector of the fishery for a species, sub-species, or species group that has a quota or sub-quota at such time as projected to be necessary to prevent the sector from exceeding its sector-quota for the remainder of the fishing year or sub-quota season,

   b. Reopen any sector of the fishery that had been prematurely closed,

   c. Implement accountability measures, either in-season or post-season.

2.7 Action 7. Initial specification of Annual Catch Limits

Stocks that do not require setting of ACL in this amendment

There are several stocks for which the annual catch limits have been effectively set already or are being addressed in other amendments, and do not need to be readdressed in this amendment.

Red drum: The harvest of red drum in the EEZ is currently set to zero by the Red Drum FMP. Although harvest does occur in state waters, this harvest is beyond federal jurisdiction. Therefore, the annual catch limit for red drum is effectively set at zero. Any change to this catch level will require a Red Drum FMP amendment.

Goliath grouper: The harvest of goliath grouper in the Gulf EEZ was prohibited under Reef Fish Amendment 2. The Gulf states also prohibit harvest of goliath grouper in state waters. A stock assessment is currently underway, but any change to goliath grouper catch limits as a result of the assessment will require a Reef Fish FMP amendment. The annual catch limit for goliath grouper is zero.

Nassau grouper: The harvest of Nassau grouper in the Gulf EEZ was prohibited under Reef Fish Amendment 14. The Gulf states also either prohibit harvest of Nassau grouper in state waters or the species does not occur in their state waters. Any change to Nassau grouper catch limits will require a regulatory action. The annual catch limit for Nassau grouper is zero.

Corals other than allowable octocorals: The harvest of corals other than those defined as allowable octocorals is prohibited under the Coral and Coral Reefs FMP, and the Council does not intend to allow harvest. Therefore, the annual catch limit for corals other than allowable octocorals is zero.

Allowable octocorals: These are being removed from the FMP under Action 1.
Live rock: Live rock harvest, except for aquacultured live rock, is prohibited under the Coral and Coral Reefs FMP. Therefore, the annual catch limit for wild live rock is zero. Aquacultured live rock harvesters are required to use a substrate that is not native to the Gulf of Mexico in order to allow it to be differentiated from wild live rock. Since the base rock is not a native Gulf

of Mexico resource, and the individual organisms that settle on the rock are not managed by the Council, annual catch limits are not required for aquacultured live rock.

Greater amberjack and gray triggerfish: These species were declared overfished and placed under rebuilding plans in Reef Fish Amendment 30A. That amendment defined annual catch limits and accountability measures that include overage adjustments for the annual catch limit being exceeded. An update assessment was recently conducted for greater amberjack. Any changes to the annual catch limit resulting from that update assessment will be implemented in a separate regulatory amendment.

Gag and red grouper: Amendment 30B established annual catch limits and annual catch targets for gag and red grouper. Update assessments for both stocks were conducted in 2009. As a result of the 2009 assessment, gag were declared overfished, and a rebuilding plan is currently being developed under Reef Fish Amendment 32.

Red snapper: Red snapper are overfished and are under a rebuilding plan to restore the stock by 2032. A February 2010 regulatory amendment established the annual catch limit but used the terminology, total allowable catch, for consistency with the framework procedure for setting TAC. That framework procedure is being updated in this amendment. An additional regulatory amendment was approved to revise the total allowable catch for 2011.

The stocks with annual catch limits that are currently in place or are being established through other amendments are shown at the end if this section in Table 2.7.3.2. In addition, stocks managed under the joint Coastal Pelagics FMP and Spiny Lobster FMP will have their annual catch limits established through joint amendments to those fishery management plans.

2.7.1 Action 7.1. Specify Annual Catch Limit for Commercial Stone Crab Species (Menippe spp. and their hybrids)

Formerly Stone Crab

2.7.2 Action 7.2. Specify Annual Catch Limit for Commercial Royal Red Shrimp

Alternative 1. No Action, do not set an annual catch limit for commercial royal red shrimp.

Preferred Alternative 2. The Scientific and Statistical Committee recommended an overfishing limit of 392,000 lbs of tails, annually and an acceptable biological catch of 334,000 lbs of tails, annually for the commercial sector. Based on these recommendations the commercial royal red shrimp Annual Catch Limit will be set at:

Preferred Option a. Set ACL = 334,000 pounds of tails, annually (100% of the Acceptable Biological Catch)

Option b. Set ACL = 250,500 pounds of tails, annually (75% of Acceptable Biological Catch)

Option c. Set an Annual Catch Limit corresponding to the Annual Catch Limit/Annual Catch Target control rule

Alternative 3. Set an annual catch limit based on average landings

Option a: ACL = 141,379 pounds of tails, annually (average landings from all available years 1962-2008)

Option b: ACL = 191,860 pounds of tails, annually (average landings from last 5 years)

Option c: ACL = 233,182 pound of tails, annually (average landings from the last 10 years)

Discussion: This action establishes alternatives for setting annual catch limits for Gulf of Mexico royal red shrimp, *Hymenopenaeus robustus*. In Shrimp Amendment 13, the Scientific and Statistical Committee approved a range for maximum sustainable yield of 392,000 to 650,000 pounds of tails, annually (GMFMC 2005). The range of maximum sustainable yield and definition of optimum yield were approved through the Generic Sustainable Fisheries Act in 1999 and implemented in Shrimp Amendment 13 [71 FR 56039]. This species is not currently believed to be overfished or undergoing overfishing, based on the definitions established in Shrimp Amendment 13. Further definitions for optimum yield were also established such as an optimum yield equal to maximum sustainable yield. An overfishing threshold was also established in Shrimp Amendment 13, as a fishing mortality rate that results in an annual catch exceeding maximum sustainable yield for two consecutive years. The overfished definition for royal red shrimp was defined as the spawning stock biomass less than 50% of the biomass at maximum sustainable yield (GMFMC 2005).

However, the new National Standard 1 guidelines only allow the overfishing limit and acceptable biological catch to be in terms of a single value, not a range. Therefore the Scientific and Statistical Committee reviewed updated landings and made recommendations for an overfishing limit and acceptable biological catch for commercial royal red shrimp. However, the Scientific and Statistical Committee was also concerned that the stock assessment was old and recommended a new stock assessment be completed for this species as soon as possible during their May 2010 meeting.

The royal red sector of the shrimp fishery in the Gulf of Mexico is conducted in deep waters from approximately 100 and 300 fathoms with a limited number of participants. In 2009, there were 277 vessels with Gulf of Mexico active endorsements (J. Dudley, NOAA permits office, personal communication). Low participation in this sector may be partly because of these fishing depths and the distance from shore, only a small number of boats have historically participated in the fishery. In addition, to a commercial shrimp vessel permit, Shrimp Amendment 13, required a royal red shrimp endorsement to harvest royal red shrimp from the Gulf exclusive economic zone. **Alternative 1** is the no action alternative. If this alternative was selected as the preferred alternative, the National Standard 1 guidelines would not be met in 2011.

Commercial royal red shrimp landings were low in the early 1960's when the sector was developing; however, by the 1970's the sector was well established (Figure 2.7.2.1). The maximum landings in the last ten years occurred in 2002 when landings reached 315,495 pounds of tails. Minimum landings of royal red shrimp over the last ten year occurred in 2008, when landings stopped at 138,116 pounds of tails. Thus, the quota for this species of 392,000 pounds of tails has not been met since its imposition or since 1962 based on all available landings.

At their meeting May 2010 the Scientific and Statistical Committee reviewed updated landings of royal red shrimp and text from Shrimp Amendment 13 that cited the 1995 stock assessment

completed by Richard Condrey. The 1995 assessment revealed the range of the maximum sustainable yield was 650,000 to 392,000 pounds of tails. After discussion the committee made an overfishing limit recommendation of 392,000 pounds of tails annually and an acceptable biological catch recommendation of 334,000 pounds of tails annually. The overfishing limit was based on the lower maximum sustainable yield estimate cited in the 1995 assessment and approved previously by the Scientific and Statistical Committee. The acceptable biological catch was based on the highest catch in 1994 of 334,000 pounds of tails. **Alternative 2** explores using the Scientific and Statistical Committee's recommendations to set an annual catch limit. **Preferred Alternative 2** **Option a** would set the annual catch limit equal to 100% of the acceptable biological catch at 334,000 pounds of tails annually. **Alternative 2 Option b** would set the annual catch limit equal to 75% of the acceptable biological catch at 250,500 pounds of tails, annually. **Alternative 2 Option c** would set the annual catch limit corresponding to the annual catch limit/annual catch target control rule.

Alternative 3 options would set an annual catch limit for royal red shrimp based on average landings (Figure 2.7.2.1). **Alternative 3 Option a** would set the lowest annual catch limit under all the options in **Alternative 3**. It is based on all landings from all available years 1962-2008. **Option b** would set annual catch limit at 191,860 pounds of tails, annually and **Option c** would set annual catch limit at 233,182 pounds of tails, annually. All of the options under **Alternative 3** based on averaged landings are more conservative than Options under **Alternative 2**.

None of the options for setting annual catch limits under **Alternative 2 and 3** are expected to have negative impacts to the ecological and biological environment. The highest annual catch limit that potentially could be set is **Preferred Alternative 2** **Option a**, when the highest landings were recorded and what the Scientific and Statistical Committee recommended as the acceptable biological catch. It is unlikely that the commercial royal red shrimp fishery will exceed this annual catch limit based on the last ten years of landings, limited participation in the fishery, and depth and location that the fishery is prosecuted. The rationale for not reducing the harvest from the ABC is based upon the fishery having a limited number of vessels, with variable participation, and the catch is monitored.

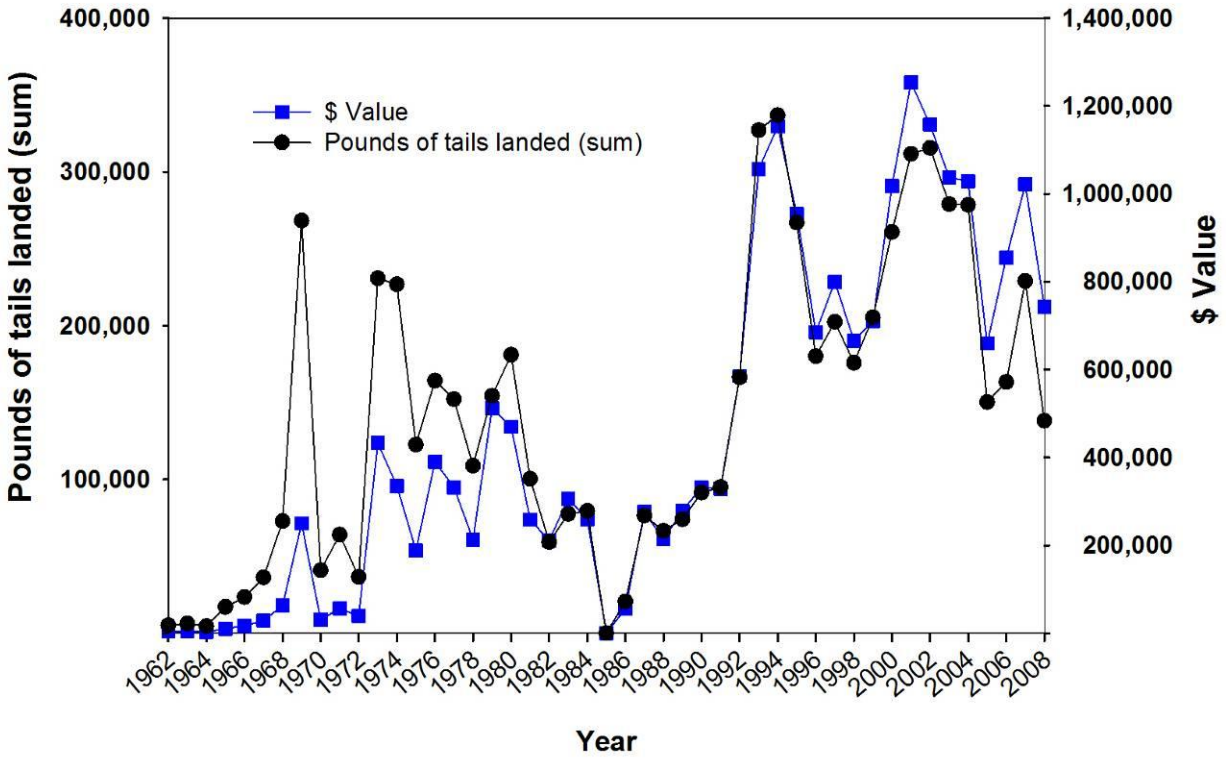

Figure 2.7.2.1 Gulf of Mexico Landed Royal Red Shrimp and the dollar ($) value from 1962 through 2008. Source: J. Nance, NMFS-SEFSC Galveston, Texas.

2.7.3 Action 7.3. Jurisdictional Apportionment of Stocks between Gulf of Mexico and South Atlantic

2.7.3.1 Action 7.3.1. Establish Jurisdictional Apportionment for Black Grouper.

Alternative 1. No action-Do not establish jurisdictional apportionment of the black grouper acceptable biological catch (ABC) between the Gulf and South Atlantic Councils.

Preferred Alternative 2. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for black grouper acceptable biological catch (ABC) based on the following method: South Atlantic = 47% of ABC and Gulf = 53% of ABC (Established by using 50% of catch history from 1986-2008 + 50% of catch history from 2006-2008).

Alternative 3. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for black grouper acceptable biological catch (ABC) based on one of the following method: South Atlantic = 50% of ABC and Gulf = 50% of ABC (Divide the ABC evenly between the two Councils).

Discussion: At the June 2010 Council meeting a motion was made for Gulf and South Atlantic staff to work together to develop alternative methods for apportioning the black grouper catch between the two Councils' jurisdictional areas. The stock assessment for black grouper treated the Gulf and South Atlantic management unit as a single stock rather than providing separate assessments. The Gulf Council received a letter dated June 10, 2010 from the South Atlantic Council accepting the Gulf Council's acceptable biological catch (ABC) control rule and the ABC recommendation developed by the Gulf Scientific and Statistical Committee (SSC).

Tables 2.7.3.1.1 and 2.7.3.1.2. The Gulf SSC recommends that a five-year time stream from 2011-2015, to include landings and dead discards in whole weight as the ABC for black grouper, for a P* of 0.33 (Source: OFL projections Table A3.3.4.17 of the final SEDAR 19 stock assessment report and ABC projections, R. Muller, FL FWC, FWRI, personal communication).

Table 2.7.3.1.1 OFL Projections

	OFL		
Year	**Landings**	**Discards**	**Total**
2011	695,007	123,952	818,959
2012	652,810	127,396	780,206
2013	627,552	130,213	757,765
2014	619,665	130,237	749,902
2015	615,801	130,207	746,008

Table 2.7.3.1.2 ABC Projections

	ABC		
Year	**Landings**	**Discards**	**Total**
2011	523,000	126,761	649,761
2012	522,543	132,399	654,942
2013	545,595	130,978	676,574
2014	558,711	130,314	689,025
2015	564,737	130,018	694,755

Currently, the ABC applies across Council jurisdictions; therefore, the Councils would have to agree to a jurisdictional apportionment between the Gulf and South Atlantic. Since black grouper are primarily landed off the state of Florida especially off southern Florida and in the Florida Keys (Monroe County), jurisdictional apportionment of this stock presents some issues. These issues primarily revolve around dividing the recreational landings in Monroe County, because the current Gulf and South Atlantic Council jurisdictional boundary line is the Florida Keys.

After discussions with the SEDAR 19 analysts regarding recreational landings (MRFSS-charterboat, private, and shore mode) the recommendation was made to remove all Florida Keys landings from the Gulf Council landings including discards and place them into the South Atlantic landings. Legal sized black grouper caught in the Florida Keys, are more likely to have been caught from South Atlantic jurisdictional waters; however, based on the current system of MRFSS landings for Monroe County they were previously grouped into the Gulf landings. Black grouper are probably caught in the back reef area of the Florida Keys (Gulf Council jurisdiction), but are probably not legal size (B. Muller, FL FWC, FWRI, personal communication). The headboat harvest already accounts for Florida Keys (Monroe County) by including those landings in the South Atlantic jurisdiction (SEDAR 19 2010). The commercial data set used to derive the jurisdictional apportionment is from the Florida trip ticket program so that "area fished" could be stratified, which is particularly important for the Florida Keys. By using this commercial data set so that Florida Keys (Monroe County) landings could be split between Council jurisdictions resulted in higher landings than were used in the stock assessment; because, additional adjustments were not completed (SEDAR 19 2010).

Recreational landings are predominately from in the South Atlantic Council jurisdiction whereas; the commercial landings are predominately from the Gulf Council jurisdiction (Figure 2.7.3.1). However, in recent years (2005-2008) commercial landings between the Gulf and South Atlantic Councils were similar. Recreational landings in the South Atlantic have increased gradually over the last four years (2005-2008).

Alternative 1 is the no action alternative and would not establish jurisdictional apportionment of black grouper between the Gulf and South Atlantic Councils. Under this alternative, the black grouper stock would be managed jointly. The two Councils would need to agree on an annual catch limit and a recreational and commercial sector allocation. In addition, to a common set of regulations (i.e., bag limits and closed seasons). However, since black grouper is part of the Gulf of Mexico grouper IFQ program, either some provision would need to be made for South Atlantic snapper-grouper permit holders to participate in the black grouper portion of the IFQ program, or black grouper would need to be removed from the IFQ program. Either of these actions is beyond the scope of this amendment, and would require approval by current IFQ participants in a referendum.

Preferred Alternative 2 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for black grouper acceptable biological catch based on the following method: South Atlantic = 47% of the ABC and Gulf = 53% of the ABC. This is currently the same preferred alternative the South Atlantic Council has selected. These percentages were derived by using the formula presented in the June 10, 2010 letter from the South Atlantic Council to the Gulf Council as the following: use 50% of catch history from 1986-2008 + 50% of catch history from 2006-2008 (Figure 2.7.3.1.1). The effect of this method is to use all available years to determine the split, and to provide additional weight to the most recent three years. The Gulf Council selected

Alternative 2 as the preferred alternative at their August 2010 meeting the South Atlantic Council selected **Alternative 2** as the preferred alternative at their September 2010 meeting.

Alternative 3 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for black grouper acceptable biological catch based on the following method: South Atlantic = 50% of the ABC and Gulf = 50% of the ABC, dividing the ABC evenly between the two Councils.

In recent years, commercial landings of black grouper have been similar in each Council's jurisdiction and using catch history results in percentages that are close to a 50:50 split of the ABC (Figure 2.7.3.1.2). For example, using catch history in 2001-2008 resulted in a jurisdictional apportionment of ABC for the South Atlantic = 49% and Gulf = 51% of the ABC. This time series was started in 2001 the first full year in the Gulf of Mexico EEZ that different minimum size limits were adopted for both the commercial (24 inches total length) and recreational (22 inches total length) sectors. The South Atlantic Fishery Management Council increased the minimum size limit from 20 inches total length to 24 inches total length in 1999 for both sectors. Using catch history in 1999-2008 resulted in a jurisdictional apportionment of ABC for the South Atlantic = 46% of the ABC and Gulf = 54% of the ABC.

The range of alternatives considered under this action is consistent with the National Standard 4 guidelines requiring fair and equitable allocations. The Gulf and South Atlantic Councils developed this suite of alternatives cooperatively. **Alternative 3** would be a 50:50 split of the resource between the two Councils. **Preferred Alternative 2** represents both the present and a historical participation in the fishery for black grouper in both Councils' jurisdictions. **Preferred Alternative 2** is based on the longest landings time series available for black grouper and would allocate 53% and 47% of the ABC to the Gulf and South Atlantic Councils, respectively.

Actions 7.3.1, 7.3.2, and 7.3.3 jurisdiction apportionment of black grouper, yellowtail snapper, and mutton snapper are primarily administrative in nature and are not expected to have impacts on the biological/ecological environment. The current management measures in place for these resources by each Council are not expected to change, because none of these species have been identified as overfished or undergoing overfishing. The acceptable biological catch recommended by the representative Councils' Scientific and Statistical Committees were cooperatively decided. Both Councils then have to agree on the jurisdictional apportionment percentages based on historical catch histories and then each Council is responsible for establishing management measures for each of these species.

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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June 10, 2010

Dr. Robert Shipp, Chair
Gulf of Mexico Fishery Management Council
2203 N Lois Avenue, Suite 1100
Tampa, Florida 33607

Dear Bob,

During the June 7-11th meeting, the South Atlantic Fishery Management Council (South Atlantic Council) discussed the black grouper stock assessment and the recommendations from the respective Councils' SSCs. The South Atlantic Council decided to include the ABC control rule and ABC recommendation developed by the Gulf of Mexico Fishery Management Council's (Gulf of Mexico Council) SSC as an alternative for black grouper in their Comprehensive ACL Amendment.

The assessment treated the Gulf and South Atlantic management units as a single stock rather than provide separate assessments for each of the two management units. Therefore, the ABC applies across jurisdictions. The South Atlantic Council believes both Councils must agree to a jurisdictional allocation for the Gulf and South Atlantic. The South Atlantic Council respectively requests that the Gulf of Mexico Council consider the following formula when discussing the percentage spilt between the two Councils:

Allocation by jurisdiction = (0.5 * catch history) + (0.5 * current trend) whereby, catch history =1986 onward, current trend = 2006-2008 for this amendment, and 3 years rolling forward for future amendments addressing black grouper.

Sincerely,

Duane Harris
Chairman

cc: Council Members and Staff
Monica Smit-Brunello
Dr. Bonnie Ponwith
Dr. Steve Bortone

Figure 2.7.3.1.1. June 10, 2010 Letter from South Atlantic Council describing allocation method used in <u>Preferred Alternative 2</u>.

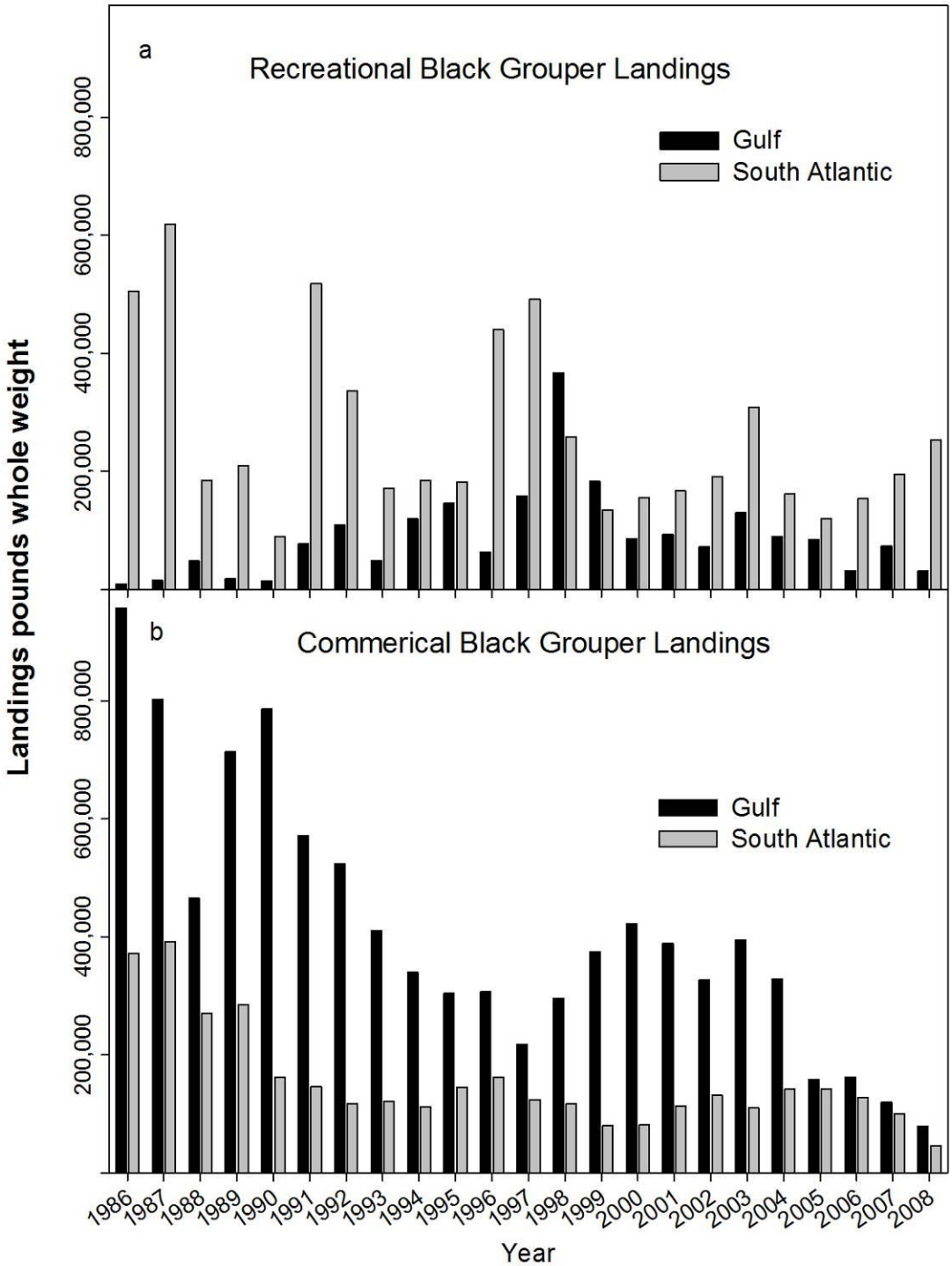


Figure 2.7.3.1.2 a and b. Landings of black grouper in whole weight (WW) in the Gulf and South Atlantic jurisdictions a) recreational landings (MRFSS and headboat data combined) and b) commercial black grouper landings. Sources: MRFSS data from T. Sminkey, NOAA Fisheries, personal communication and headboat data from SEDAR 19 Final Data Workshop Report. Commercial data from Florida's trip ticket program, R. Muller, FL FWC, FWRI, personal communication.

2.7.3.2 Action 7.3.2. Establish Jurisdictional Apportionment for Yellowtail Snapper

Alternative 1. Do not establish jurisdictional apportionment of the yellowtail snapper acceptable biological catch (ABC) between the Gulf and South Atlantic Councils.

Alternative 2. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch (ABC) based on the following method: South Atlantic = 73% of ABC and Gulf = 27% of ABC (Established by using 50% of catch history from 1993-2009 + 50% of catch history from 2007-2009).

Preferred Alternative 3. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch (ABC) based on the following method: South Atlantic = 75% of ABC and Gulf = 25% of ABC (Established by using 50% of catch history from 1993-2008 + 50% of catch history from 2006-2008).

Alternative 4. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch (ABC) based on the following method: South Atlantic = 77% of ABC and Gulf = 23% of ABC (Established by using catch history from 1999-2008).

Discussion: The Gulf and South Atlantic Councils' requested that jurisdiction apportionment alternatives be developed for yellowtail snapper between the two Council's jurisdictional areas. The stock assessment for yellowtail snapper treated the Gulf and South Atlantic management unit as a single stock rather than providing separate assessments. The stock assessment concluded this species is not overfished or undergoing overfishing (SEDAR 3 2003). The South Atlantic Scientific and Statistical Committee recommended an acceptable biological catch based on the optimum yield value from the 2003 stock assessment and the overfishing limit is the yield at F_{MSY} (Table 2.7.3.2.1). The Gulf Scientific and Statistical Committee reviewed the yellowtail landings and SEDAR 3 2003 assessment at their March 22-24, 2011 meeting. The Gulf SSC used Tier 3a of their ABC Control Rule and landings from 1999-2008 to recommend an OFL = 997,101 lbs ww and an ABC = 847,698 lbs ww. Due to these being based on Gulf landings only, after an apportionment alternative is selected by both Councils the resulting ABC apportionment for the Gulf should be close to the ABC recommendation made by the Gulf SSC.

Table 2.7.3.2.1. The OFL and ABC recommendations for yellowtail snapper from the South Atlantic Scientific and Statistical Committee.

OFL (ww)	ABC (ww)
Yield @ F_{MSY}	2,898,500 lbs.

Source: The ABC is the average of the OY defined as $75\%_{MSY}$ for the "fleet" and "ICA" models Table 2 minutes from the South Atlantic SSC report.

Currently, the ABC applies across Council jurisdictions; therefore, the Councils would have to agree to a jurisdictional apportionment between the Gulf and South Atlantic. This species is widely distributed throughout tropical and warm temperate Atlantic waters. In the western Atlantic yellowtail range from Massachusetts and Bermuda to southern Brazil, including the northern and southern Gulf of Mexico, the Bahamas, and the Greater and Lesser Antilles (McEachran and Fechhelm 2005: SEDAR 3 2003).

The following methods were used to partition landings of yellowtail snapper between the Gulf and South Atlantic Councils by sector. Commercial landings are based on annual landings summary and are assigned to subregion based on fisher-reported catch area (i.e., north of U.S. 1 landings are considered to be the Gulf of Mexico jurisdiction and South of U.S. 1 landings are considered to be the South Atlantic jurisdiction; Figure 2.1.4.1a). Headboats based from North Carolina to the Florida Keys are considered South Atlantic jurisdiction and Gulf-based headboats from Monroe County to Texas are considered Gulf jurisdiction. Marine Recreational Fisheries Statistics Survey data was post-stratified to break the Florida Keys out from the Gulf of Mexico landings. The MRFSS landings from the Florida Keys were then re-assigned to the South Atlantic Council, because most legal sized yellowtail snapper (12-inch TL) and mutton snapper (16-inch TL) are caught in South Atlantic waters (Figure 2.1.4.1b). A potential additional issue when using commercial logbook data is there is only one space to record area fished. Since yellowtail snapper are primarily landed off the state of Florida especially southern Florida and in the Florida Keys (Monroe County), jurisdictional apportionment of this stock presents some issues. It is plausible in Monroe County that fishers could fish in both state and federal waters in one day, possibly on both coasts; however, only one area fished location is documented in logbooks.

Yellowtail snapper are likely caught in the back reef area of the Florida Keys (Gulf Council jurisdiction), but are probably not legal size (B. Muller, FL FWC, FWRI, personal communication, 2011). Juveniles are typically found over shallow-water including the back reef on patch reefs and grass beds. Adult yellowtail snapper typically inhabit sandy areas near offshore reefs at depths ranging from 10-70 m (SEDAR 3 2003). Based on information in the stock assessment and discussions with the analyst juvenile yellowtail are likely greater in abundance in the Gulf Council jurisdiction and adults along the reef tract are in greater abundance in the South Atlantic Council jurisdiction (B. Muller, personal communication, 2011).

Alternative 1 is the no action alternative and would not establish jurisdictional apportionment of yellowtail snapper between the Gulf and South Atlantic Councils. Under this alternative, yellowtail snapper would be managed jointly. The two Councils would need to agree on an annual catch limit and on a common set of regulations (i.e., bag limits, size limits, and closed season(s)). If the Councils decided to allocate this species they would also have to agree on recreational and commercial allocation.

Alternatives 2 through **4** take into account any management changes that took place for yellowtail snapper in both the Gulf and South Atlantic Council since all catch history data begins in 1993. In the Gulf of Mexico, Amendment 1 effective in 1990 set a 12-inch minimum size limit for the recreational and commercial sectors that was compatible with state of Florida regulations (GMFMC 1989). Amendment 1 also limited the catch of yellowtail snapper by the 10-snapper aggregate bag limit for recreational anglers and the licensing requirements for commercial fishers (GMFMC 1989). In the South Atlantic, the original Fishery Management Plan, effective in 1985 set a 12-inch minimum size limit for yellowtail snapper and a 10-snapper per person possession limit (SAFMC 1986).

Alternative 2 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch based on the following method: South Atlantic = 73% of ABC and Gulf = 27% of the ABC. These percentages were derived by using the formula presented in the June 10, 2010 letter from the South Atlantic Council for black grouper apportionment as the following: use 50% of the catch history from 1993-2009 + 50% of the catch history from 2007-2009. The South Atlantic Council is using catch histories that include landings in 2009 and their inclusion is consistent with other data sets in their Comprehensive ACL/AM Amendment. The idea behind this method is to use all available years to determine the split and to provide additional weight to the most recent three years.

Preferred Alternative 3 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch based on the following method: South Atlantic = 75% of ABC and Gulf = 25% of the ABC. These percentages were also derived by using the formula presented in the June 10, 2010 letter from the South Atlantic Council for black grouper apportionment as the following: use 50% of the catch history from 1993-2008 + 50% of the catch history from 2006-2008. The South Atlantic Council also selected this alternative as preferred at their June 2011 meeting.

The concept of this method is to use all available years to determine the split but this data set was stopped in 2008. Stopping the catch history in 2008 is consistent with other data sets used in the Gulf ACL/AM Amendment. Using catch histories in the last ten years from 2000-2009 results in a jurisdictional apportionment of South Atlantic = 76% of the ABC and Gulf = 24% of the ABC, which is between this alternative and **Alternatives 4**.

Alternative 4 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch based on the following method: South Atlantic = 77% of ABC and Gulf = 23% of ABC. These percentages were derived by using the most recent ten years of catch history data from 1999-2008, but stopping in 2008 similar to the methods used for black grouper apportionment and consistent with many of the data time series used throughout the Gulf Generic ACL/AM amendment.

2.7.3.3 Action 7.3.3. Establish Jurisdictional Apportionment for Mutton Snapper.

Alternative 1. No action-Do not establish jurisdictional apportionment of the mutton snapper acceptable biological catch (ABC) between the Gulf and South Atlantic Councils.

Preferred Alternative 2. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for mutton snapper acceptable biological catch (ABC) based on the following method: South Atlantic = 82% of ABC and Gulf = 18% of ABC (Established by using 50% of catch history from 1990-2008 + 50% of catch history from 2006-2008).

Alternative 3. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for mutton

snapper acceptable biological catch (ABC) based on the following method: South Atlantic = 79% of ABC and Gulf = 21% of ABC (Established by using catch history from 2002-2006).

Discussion: The Gulf and South Atlantic Councils' requested that jurisdiction apportionment alternatives be developed for mutton snapper between the two Councils jurisdictions. The stock assessment for mutton snapper treated the Gulf and South Atlantic management unit as a single stock rather than providing separate assessments. The stock assessment was completed in 2008 and concluded that the stock is neither overfished nor undergoing overfishing. The South Atlantic SSC recommended that the overfishing limit (OFL) be set equal to the equilibrium maximum sustainable yield proxy, which is the yield at $F30\%_{SPR}$= 1.52 mp and the acceptable biological catch (ABC) be set equal to the equilibrium optimum yield, which is the yield at $F40\%_{SPR}$ = 1.16 mp. The Gulf SSC recommended a consistent OFL and ABC, but separated landed weight from the dead discards (Table 2.7.3.3.1).

Table 2.7.3.3.1. The OFL and ABC recommendations for mutton snapper from Gulf and South Atlantic SSCs in pounds whole weight (ww).

OFL (ww)		
Landings	**Discards**	**Total**
1,480,000	35,300	1,515,300

ABC (ww)		
Landings	**Discards**	**Total**
1,130,000	26,500	1,156,500

Currently, the ABC applies across Council jurisdictions; therefore, the Councils would have to agree to a jurisdictional apportionment between the Gulf and South Atlantic. Mutton snapper are widely distributed in the western Atlantic from Massachusetts and Bermuda to southeastern Brazil, including the Gulf of Mexico, the Bahamas, and the Greater and Lesser Antilles. Mutton snapper is found throughout the coastal waters of the Gulf of Mexico and is associated with coral reefs, sandy bottoms, and seas grasses, including estuaries and bays with mangroves (McEachran and Fechhelm 2005: SEDAR 15A 2008).

There are high landings of mutton snapper off the state of Florida especially southern Florida and in the Florida Keys (Monroe County). The following methods were used to partition landings of mutton snapper between the Gulf and South Atlantic Councils by sector. Commercial landings are based on annual landings summary and are assigned to subregion based on fisher-reported catch area (i.e., north of U.S. 1 landings are considered to be the Gulf of Mexico jurisdiction and South of U.S. 1 landings are considered to be the South Atlantic jurisdiction; Figure 2.1.4.1a). Headboats based from North Carolina to the Florida Keys are considered South Atlantic jurisdiction and Gulf-based headboats from Monroe County to Texas are considered Gulf jurisdiction. Marine Recreational Fisheries Statistics Survey data was post-stratified to break the Florida Keys out from the Gulf of Mexico landings. The MRFSS landings from the Florida Keys were then re-assigned to the South Atlantic Council, because most legal sized yellowtail snapper (12-inch TL) and mutton snapper (16-inch TL) would likely be caught in South Atlantic waters (Figure 2.1.4.1b). A potential additional issue when using commercial logbook data is there is only one space to record area fished. It is plausible in Monroe County that fishers could fish in both state and federal waters in one day, possibly on both coasts; however, only one area fished location is documented in logbooks.

Alternative 1 is the no action alternative and would not establish jurisdictional apportionment of mutton snapper between the Gulf and South Atlantic Councils. Under this alternative, mutton snapper would be managed jointly. The two Councils would need to agree on an annual catch limit and on a common set of regulations (i.e., bag limits, size limits, and closed season(s)). If

the Councils decided to allocate this species they would also have to agree on recreational and commercial allocation.

Preferred Alternative 2 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for mutton snapper acceptable biological catch based on the following method: South Atlantic = 82% of the ABC and Gulf = 18% of the ABC. These percentages were derived by using the formula presented in the June 10, 2010 letter from the South Atlantic Council for black grouper apportionment as the following: use 50% of the catch history from 1990-2008 + 50% of the catch history from 2006-2008. The concept of this method is to use all available years to determine the split. The catch history ends in 2008 and is consistent with other data sets used in the Gulf ACL/AM Amendment. The catch history was recommended to begin in 1990 when fish identification and sampling methods improved (J. O'Hop, personal communication). The South Atlantic Council also selected this alternative as preferred at their June 2011 meeting.

Alternative 3 would establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for mutton snapper acceptable biological catch based on the following method: South Atlantic = 79% of the ABC and Gulf = 21% of the ABC. These percentages were derived by using catch histories from 2002-2006, the five most recent years of data. **Alternatives 2** and **3** are similar, with only 3% difference in apportionment of the acceptable biological catch of mutton snapper between the Gulf and South Atlantic Councils. The recreational landings (MRFSS and headboat) are primarily from the South Atlantic jurisdiction.

2.7.4 Action 7.4. Establish Recreational and Commercial Sector Allocations for Black Grouper in the Gulf of Mexico

Alternative 1. No Action-Do not establish sector allocations for black grouper based on the Gulf Council's allocated acceptable biological catch (ABC).

Alternative 2. Using the Gulf Council's allocated acceptable biological catch (ABC) and divide the annual catch limit (ACL) between the commercial and recreational sector based on average landings from 1986-2008: Recreational = 18% of ACL and Commercial = 82% of ACL.

Alternative 3. Using the Gulf Council's allocated acceptable biological catch (ABC) and divide the annual catch limit between the commercial and recreational sector based on average landings from 2001-2008: Recreational = 24% of ACL and Commercial = 76% of ACL.

Preferred Alternative 4. Using the Gulf Council's allocated acceptable biological catch (ABC) and divide the annual catch limit between the commercial and recreational sector based on average landings from 2004-2008: Recreational = 27% of ACL and Commercial = 73% of ACL.

Discussion: This action would further divide the annual catch limit (ACL) into recreational and commercial sector allocations. In the Gulf, black grouper have primarily been landed by the commercial sector with low recreational landings (Figure 2.7.3.1.2). In 1998, there was a spike in black grouper landed by the recreational sector, but since that time recreational landings have

dropped (Figure 2.7.3.1.2a). Commercial landings of black grouper in the Gulf were relatively stable from 1999-2004, but have decreased in recent years, 2005-2008 (Figure 2.7.3.1.2b).

Currently, the commercial grouper harvest is managed under an individual fishing quota (IFQ) program. Individual fishing quota shares are issued for deep-water grouper (yellowedge grouper, misty grouper, warsaw grouper, snowy grouper, and speckled hind, plus scamp under certain circumstances), red grouper, gag, and other shallow-water grouper (black grouper, scamp, yellowfin grouper, rock hind, red hind, and yellowmouth grouper, plus warsaw grouper and speckled hind under certain circumstances). Now that a black grouper stock assessment has been completed and black grouper could be expected to have its own sector allocation, black grouper would need to be removed from the other shallow-water grouper IFQ group and given its own quota and subsequent IFQ shares. The quota for the remaining other shallow-water grouper would be reduced by the amount of the black grouper quota. There would also be a recreational allocation and potentially an annual catch target if the Council chooses. However, unless the Council decides in a separate action to establish a species-specific bag limit or closed season, recreational harvest of black grouper will continue to be managed under an aggregate grouper bag limit and closed season.

Alternative 1 is the no action alternative and would not establish recreational and commercial allocations for black grouper from the Gulf Council's apportionment of ABC.

Alternative 2 would take the ACL derived from the Gulf Council's ABC apportionment for black grouper and divide it between the recreational and commercial sector based on average landings from 1986-2008. This is the longest time series of landings available for both sectors and would allocate 18% of the ACL to the recreational sector and 82% of the ACL to the commercial sector. However, it should be noted that recreational data collection and fish species identification were notably improved in 1991.

Alternative 3 would take the ACL derived from the Gulf Council's ABC apportionment for black grouper and divide it between the recreational and commercial sector based on average landings from 2001-2008. This time series was started in 2001, because that is the first full year in the Gulf of Mexico EEZ that different minimum size limits were adopted for both the commercial (24 inches total length) and recreational (22 inches total length) sectors. Using these years of average landings would allocate 24% of ACL to the recreational sector and 76% of the ACL to the commercial sector. However, in past actions when the Gulf Council has established sector allocation the last ten years of landings have been used, such as the 1999-2008 time series. If average landings were used from 1999-2008, the result would be the same recreational and commercial allocations as the 2001-2008 average landings.

Preferred Alternative 4 would take the ACL derived from the Gulf Council's ABC apportionment for black grouper and divide it between the recreational and commercial sectors based on average landings from 2004-2008. This time series is the shortest and reflects the recent catch history for black grouper. It does not include 2009 landings, which is consistent with other data sets used in the Gulf ACL/AM Amendment. **Preferred Alternative 4** would allocate 27% of the ACL to the recreational sector and 73% of the ACL to the commercial sector.

The range of alternatives under this action is consistent with the National Standard 4 guidelines requiring fair and equitable allocation between sectors. **Preferred Alternative 4** uses the most recent landings of black grouper and maintains consistent methods used throughout development

of this amendment which exclude 2009 landings. The Council considered a reasonable range of alternatives, the longest time series (**Alternative 2**) and two more recent time series of landings **Alternatives 3** and **Preferred Alternative 4**. The Council selected **Preferred Alternative 4** using the most recent 5 years of landings to allocate 27% and 73% of the apportioned ACL between the recreational and commercial sectors, respectively.

This **Action 7.4** is primarily administrative in nature and is not expected to have impacts on the physical or biological/ecological environment. The current management measures in place for this resource are not expected to change under **Preferred Alternative 4** compared to **Alternatives 2** and **3**.

2.7.5 Action 7.5. Specify ACL and ACT for Reef Fish Stocks and Stock Groupings

Alternative 1. No action. Do not set annual catch limits or annual catch targets for stocks or stock groups. The limits set in previous or concurrent actions will apply where applicable.

Preferred Alternative 2. Set annual catch limits and optionally annual catch targets as indicated by the annual catch limit control rule selected in Section 2.5. These are specified in Table 2.7.5.1.1.

Alternative 3. Set annual catch limits and optionally annual catch targets at a fixed 10 percent (other percentage) buffer between the acceptable biological catch and annual catch limit, or if annual catch limit is set equal to acceptable biological catch, between the annual catch limit and annual catch target.

The following options apply to either Alternative 2 or 3:

Preferred Option a: The value specified in the ACL/ACT control rule will be the annual catch target (ACT) and the annual catch limit (ACL) equals ABC, unless otherwise specified by the Council on a case by case basis.

Option b: The value specified in the ACL/ACT control rule will be the annual catch limit, and ACT will not be used, unless otherwise specified by the Council on a case by case basis.

Table 2.5.2 in Section 2.5 contains the ACL (or ACT) value of stocks under various control rule alternatives. The Marine Recreational Information Program (MRIP) is in the process of developing new methodologies for estimating catch data from the Access Point Angler Intercept Survey, which will eliminate potential biases in the data that were identified by the National Research Council in its 2006 review of recreational fisheries survey methods. These new methodologies are being applied to recreational data back to 2003. The corrected recreational data will be released sometime in 2011. However, due to statutory deadlines, this amendment cannot wait for the corrected data to be released and for ACLs to be reevaluated based on the corrected data. Any corrections, if needed, can be done in a subsequent amendment or framework action.

The Council selected the ABC Control Rule in Action 4. based upon the Scientific and Statistical Committee recommendations to use varying levels of scientific uncertainty in setting the ACL.

The ACT Control Rule utilizes Assessment Information and Characterization of Uncertainty to develop a percentage to be used when calculating the ACT from the ACL.

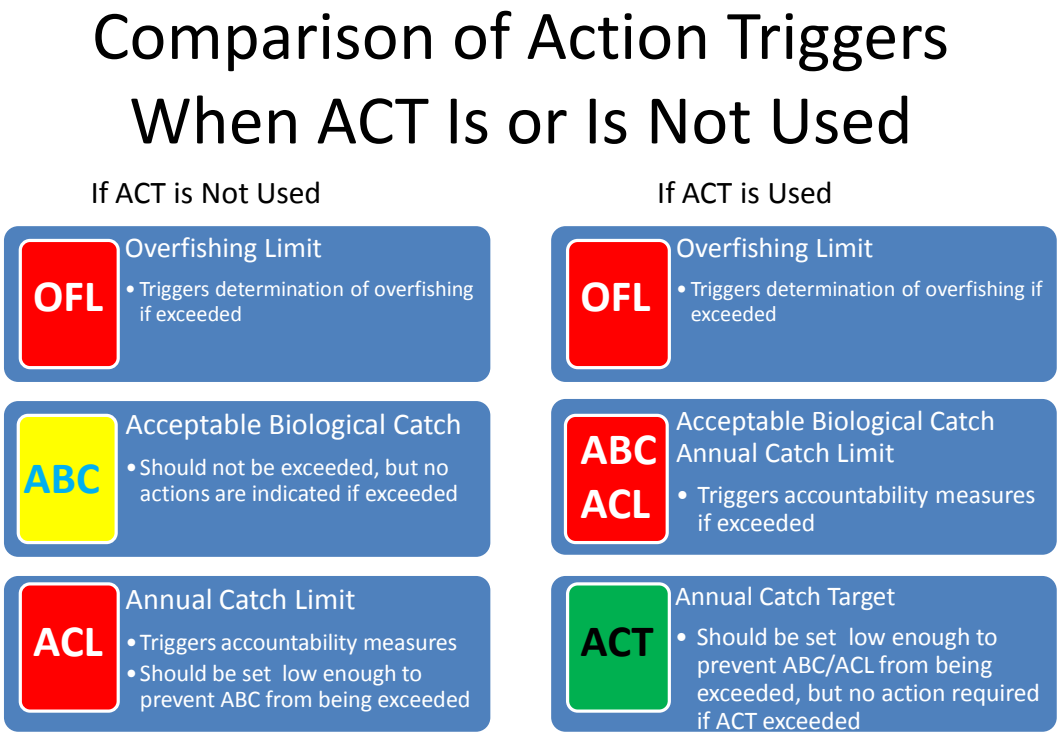
2.7.5.1 Comparison of Action Triggers When ACT is or is Not Used

The use of annual catch target (ACT) is optional. It is recommended in the National Standard 1 guidelines for stocks where in-season accountability measures are not used. In this amendment, ACT is an in-season accountability measure and is assumed that in most cases either ABC=ACL and ACT is the management target (**Preferred Option a**), or ACL is the management target and ACT is not used (**Option b**). The effect of the two choices is illustrated in Figure 2.7.5.1.1. The management target is at the same level regardless of which option is used. Under **Option b** (ACT is not used), accountability measures are triggered as soon as catches exceed the management target level. However, under Option a (ACT is used and ACL=ABC), the trigger for accountability measures is set higher, at the ABC level. This allows catches to fluctuate above the management target to a certain extent without triggering the accountability measures.

Preferred Option a is appropriate when management chooses to allow catch fluctuations above and below the management target, and the ACT is set low enough that the fluctuations are unlikely to exceed the ACL. The use of ACTs as a form of inseason accountability measure is recommended in the National Standard 1 guidelines.

Option b is appropriate when catch fluctuations do not exist, or are small enough that catches are unlikely to exceed the management target. This method may also be appropriate if management chooses to adopt a more conservative approach to constraining harvest below the ABC.

Figure 2.7.5.1.1. Comparison of effective actions when ACT is or is not used.



Red indicates levels where actions are triggered.

Table 2.7.5.1.1. OFL and ABC specifications from SSC and ACL/ACT specifications from the Gulf Council.

Stock	Year	OFL	ABC	ACL			ACT			Comments
				Total	Comm	Rec	Total	Comm	Rec	
Other Shallow-water Grouper IFQ Aggregate with multi-year ACL										
Other Shallow-water grouper -black grouper -scamp -yellowmouth grouper - yellowfin grouper	2012 2013 2014 2015	not defined* not defined* not defined* not defined*	0.688 mp gw 0.700 mp gw 0.707 mp gw 0.710 mp gw (includes Gulf apportionment of black grouper ABC)	0.688 mp gw 0.700 mp gw 0.707 mp gw 0.710 mp gw	0.556 mp gw 0.566 mp gw 0.572 mp gw 0.574 mp gw	not defined* not defined* not defined* not defined*	not defined* not defined* not defined* not defined*	0.534 mp gw 0.543 mp gw 0.549 mp gw 0.551 mp gw	not defined* not defined* not defined* not defined*	
*OFL is not defined because of incompatible OFLs: the black grouper SEDAR 19 OFL is for Gulf and South Atlantic combined, while the OFLs for the other grouper are for the Gulf of Mexico. The Recreational ACL and the Total and Recreational ACTs are undefined because there is no defined allocation of recreational harvest. Black Grouper OFL and ABC from SEDAR 19 and March 2010 SSC – Tier 1. Scamp OFL and ABC is Tier 3a using 1999-2008 ACL data. Yellowmouth grouper OFL and ABC is Tier 3a using 1995-2008 ACL data. **Mar. 2011 SSC.**										
Deep-water Grouper IFQ Aggregate with multi-year ACL										
Deep-water grouper -warsaw grouper -snowy grouper -speckled hind -yellowedge grouper	2012 2013 2014 2015 2016+	1.24 mp gw 1.23 mp gw 1.22 mp gw 1.21 mp gw 1.11 mp gw	1.22 mp gw 1.21 mp gw 1.20 mp gw 1.19 mp gw 1.11 mp gw	1.22 mp gw 1.21 mp gw 1.20 mp gw 1.19 mp gw 1.11 mp gw	1.17 mp gw 1.17 mp gw 1.16 mp gw 1.15 mp gw 1.07 mp gw	not defined* not defined* not defined* not defined* not defined*	not defined* not defined* not defined* not defined* not defined*	1.13 mp gw 1.12 mp gw 1.11 mp gw 1.10 mp gw 1.02 mp gw	not defined* not defined* not defined* not defined* not defined*	
*The Recreational ACL and the Total and Recreational ACTs are undefined because there is no defined allocation of recreational harvest. Yellowedge is from SEDAR 22 and May 2011 SSC – Tier 1. Other ABC is Tier 3b rec. with ABC = 100% of OFL using 1992-2008 ACL data. **Mar. 2011 SSC.**										
Tilefishes IFQ Aggregate ACL										
Tilefishes Tilefish (golden) Blueline tilefish Goldface tilefish		0.747 mp gw	0.608 mp gw	0.608 mp gw	0.606 mp gw	not defined*	not defined*	0.582 mp gw	not defined*	
*The Recreational ACL and the Total and Recreational ACTs are undefined because there is no defined allocation of recreational harvest. Tilefish (golden) is from SEDAR 22 and May 2011 SSC. However, the assessment was considered inadequate for management advice, so the OFL and ABC are based on Tier 3a using the SEDAR 22 1992-2008 landings data. OFL and ABC for the other tilefishes is based on Tier 3a using the 1992-2008 ACL data set. (May 2011 SSC)										
Aggregate Stocks that are not part of an IFQ										

Stock	Year	OFL	ABC	ACL			ACT			Comments
				Total	Comm	Rec	Total	Comm	Rec	
Jacks complex -Almaco jack -banded rudderfish -lesser amberjack		0.372 mp ww	0.312 mp ww	0.312 mp ww	not allocated		0.278 mp ww	not allocated		ABC is Tier 3a using 2000-2008 ACL data. **July 2010**
Mid-water Snapper -silk snapper -wenchman -blackfin snapper -queen snapper		0.209 mp ww	0.166 mp ww	0.166 mp ww	not allocated		0.136 mp ww	not allocated		ABC is Tier 3a using 2000-2008 ACL data. **Jan 2011 rec.**
Single Stock ACLs										
Gray snapper		2.88 mp ww	2.42 mp ww	2.42 mp ww	not allocated		2.08 mp ww	not allocated		ABC is Tier 3a using 1999-2008 ACL data **Dec. 2010 SSC**
Lane snapper		0.358 mp ww	0.301 mp ww	0.301 mp ww	not allocated		0.259 mp ww	not allocated		ABC is Tier 3a using 1999-2008 ACL data **Jul. 2010 SSC**
Vermilion snapper		4.08 mp ww	3.42 mp ww	3.42 mp ww	not allocated		2.94 mp ww	not allocated		ABC is Tier 3a using 1999-2008 data **July 2010 SSC**
Cubera snapper		7,000 lbs ww	5,070 lbs ww	5,070 lbs ww	not allocated		4,360 lbs ww	not allocated		ABC is Tier 3a using 1999-2008 data **May 2011 SSC**
Hogfish		0.272 mp ww	0.208 mp ww	0.208 mp ww	not allocated		0.179 mp ww	not allocated		ABC is Tier 3a using 1999-2008 ACL data **July 2010 and Mar. 2011 SSC**
Mutton Snapper – depends upon selection of jurisdictional apportionment in Section 7.3.3										
Mutton snapper – Apportionment Alternative 2		1.48 mp ww	1.13 mp ww	0.203 mp ww (18% apport)			0.175 mp ww			ABC is Tier 3a using 1999-2008 data **July 2010 SSC**
Yellowtail Snapper – depends upon selection of jurisdictional apportionment in Section 7.3.2										
Yellowtail snapper – Apportionment Alternative 3		not defined*	0.725 mp ww	0.725 mp ww (25% apport)			0.645 mp ww			ABC is Tier 3a using 1999-2008 data **July 2010 SSC**
* For Apportionment Alternatives 2, 3, and 4 the South Atlantic SSC did not specify a numerical OFL, but defined it as the yield at F_{MSY}.										

Table 2.7.5.1.2. Stocks that already have ACL or are being assigned ACL in another amendment. These stocks are listed for informational purposes only. No action is needed in this amendment.

Stock	Year	OFL	ABC	ACL			ACT			Comments
				Total	Comm	Rec	Total	Comm	Rec	
Reef Fish Individual Species										
Red grouper	To be set in Reef Fish Amendment 32									
Gag	To be set in Reef Fish Amendment 32									
Goliath grouper		0	0	0	0	0	0	0	0	
Nassau grouper		0	0	0	0	0	0	0	0	
Gray triggerfish*	2011 2012	undefined	0.731 mp ww 0.793 mp ww	0.731 mp ww 0.793 mp ww	0.106 mp ww 0.106 mp ww	0.457 mp ww 0.457 mp ww	n/a	0.106 mp ww 0.106 mp ww	0.405 mp ww 0.405 mp ww	Amend 30A
Red snapper	2011 2012 2013 2014 2015	9.58 mp ww 9.98 mp ww 10.62 mp ww 11.19 mp ww 11.73 mp ww	7.185 mp ww 7.485 mp ww	See October 2010 regulatory amendment			See October 2010 regulatory amendment			
Shrimp										
Royal red shrimp		undefined	392,000 lbs tails	334,000 lbs tails	334,000 lbs tails	0	Not used			
Corals and Coral Reefs										
Corals other than allowable octocorals		0	0	0	0	0	0	0	0	
Allowable octocorals		undefined	50,000 colonies	50,000 colonies			Not used			Quota is joint with Gulf and SA.
Live rock (wild)		0	0	0	0	0	0	0	0	

* On June 23, 2008, NMFS approved gray triggerfish total allowable catch (annual catch limit) to increase each year from 2008 through 2012. However, the commercial quota was only approved to increase though 2010, and in the codified regulations the recreational sector annual catch limit only increases through 2010. As a result, there are 0.168 mp of unallocated gray triggerfish annual catch limit in 2011 and 0.230 mp of unallocated annual catch limit in 2012.

Notes: Gray triggerfish sector ACLs are from Amendment 30A, Table 2.2.3. They do not add up to the total ACL because the recreational ACL is a 3-year running average of the recreational allocation, and is compared to the 3-year running average catch to determine if accountability measures are triggered.

2.7.6 Method for Determining Overfishing

The 2009 National Standard 1 guidelines provides a definition of overfishing that allows overfishing to be determined in two ways, by a fishing mortality rate or by a level of catch:

> § 600.310 (e)(2)(i)(B)
>
> *"Overfishing (to overfish) occurs whenever a stock or stock complex is subjected to a level of fishing mortality or annual total catch that jeopardizes the capacity of a stock or stock complex to produce maximum sustainable yield (MSY) on a continuing basis."*

The National Standard 1 guidelines provide more detail about these two methods, and require that FMPs select one of the methods:

> § 600.310 (e)(2)(ii)(A)
>
> *Status Determination Criteria to determine overfishing status. Each fishery management plan (FMP) must describe which of the following two methods will be used for each stock or stock complex to determine an overfishing status.*
>
> *(1) Fishing mortality rate exceeds maximum fishing mortality threshold (MFMT). Exceeding the MFMT for a period of 1 year or more constitutes overfishing. The MFMT or reasonable proxy may be expressed either as a single number (a fishing mortality rate or F value), or as a function of spawning biomass or other measure of reproductive potential.*
>
> *(2) Catch exceeds the overfishing limit (OFL). Should the annual catch exceed the annual OFL for 1 year or more, the stock or stock complex is considered subject to overfishing.*

The overfishing limit is defined as an annual level of catch that corresponds directly to the maximum fishing mortality threshold, and is the best estimate of the catch level above which overfishing is occurring. When sufficient information exists to conduct a stock assessment, an overfishing limit is generated with each of the assessment's model runs. The SSC selects the model run that they judge as providing the best scientific advice to the Council, and the overfishing limit for that model run becomes the specified overfishing limit. The overfishing limit will vary from year to year in response to changes in the stock biomass, so it is often presented as a yield stream of several years.

When there is insufficient information to conduct a stock assessment, an acceptable biological catch (ABC) is selected by the SSC based on the SSC's best estimate of a sustainable catch level. For example, the acceptable biological catch may be based on an average of recent annual catches. The SSC may also be asked to specify an overfishing limit if it was not specified through a stock assessment. However, the National Standard 1 guidelines provide no guidance for setting the overfishing limit for data poor stocks.

Each of the two methods for determining overfishing has its benefits and drawbacks.

MFMT Method

The MFMT method is a more direct way of comparing the fishing rate to the maximum allowed rate of fishing, and it is less sensitive to recent fluctuations in recruitment. The estimates of fishing mortality are based on apical F (maximum annual fishing mortality at any age). However, fishing mortality rates cannot be directly measured. They must be calculated as part of a stock assessment or assessment update, thus fishing mortality rates are only available for years when assessments are conducted. Furthermore, this method cannot be used at all if there is no stock assessment, and hence no fishing mortality estimate, for a given fishery.

The current fishing mortality ($F_{current}$) reported in an assessment actually has a lag of one or more years. The most recent data used in assessments are usually the year prior to the year in which the analysis is conducted, and sometimes two years prior. Furthermore, the $F_{current}$ fishing mortality rate is often the average of the three most recent years in order to smooth out year-to-year fluctuations in the estimate.

OFL Method

The OFL method is based on catch levels that are more easily understood by constituents than fishing mortality. Unlike fishing mortality rates, a determination can be made on an annual basis as soon as catch totals are available. Furthermore, a maximum catch level can be set for data poor stocks in the absence of a stock assessment by using alternate methods such as historical catch levels. However, the use of the OFL method might not be appropriate for stocks with highly variable recruitment that cannot be predicted and therefore incorporated into the forecast of stock condition on which the overfishing limit is based.

Note: For stocks with stock assessments, the estimate of fishing mortality has a lag of one or more years as previously discussed. Therefore, the yield corresponding to overfishing limit is a yield projected by the assessment even for the current year. For data poor stocks, the SSC may be asked to provide not only an acceptable biological catch, but also an overfishing limit. The National Standard 1 guidelines provide little guidance on specification of an overfishing limit. However, a response to comment 27 in the Federal Register notice states, "The overfishing limit for a year is calculated from the maximum fishing mortality threshold and the best estimate of biomass for a stock in that year, and thus is simply the maximum fishing mortality threshold converted into an amount of fish." [FR 74 3187]. Data poor stocks will generally not have a maximum fishing mortality threshold or estimate of biomass. In such cases, it may be necessary for the SSC to develop alternative methods for estimating an overfishing limit.

> **The MFMT method will be used to determine overfishing for stocks or stock complexes which have stock assessments and estimates of current fishing mortality rates and maximum fishing mortality threshold only in years in which a stock assessment is conducted. For other years, and for stocks or stock complexes without stock assessments or without estimates of fishing mortality and maximum fishing mortality threshold, the OFL method will be used to determine overfishing.**

2.8. Action 8. Accountability Measures

The purpose of this section is to consider alternatives to implement accountability measures for different fisheries and sectors. Accountability measures are designed to prevent annual catch limits from being exceeded, and if exceeded, correct or mitigate any overages (50 CFR 600.310(g)). The National Standard 1 guidelines for accountability measures identify two types. These are in-season accountability measures and accountability measures for when the annual catch limit is exceeded. These accountability measures are not mutually exclusive and should be used together where appropriate. With post-season accountability measures, there can also be an overage adjustment if the annual catch limit is exceeded. A flowchart of how accountability measures can be applied to stocks is shown in Figure 2.8.1.

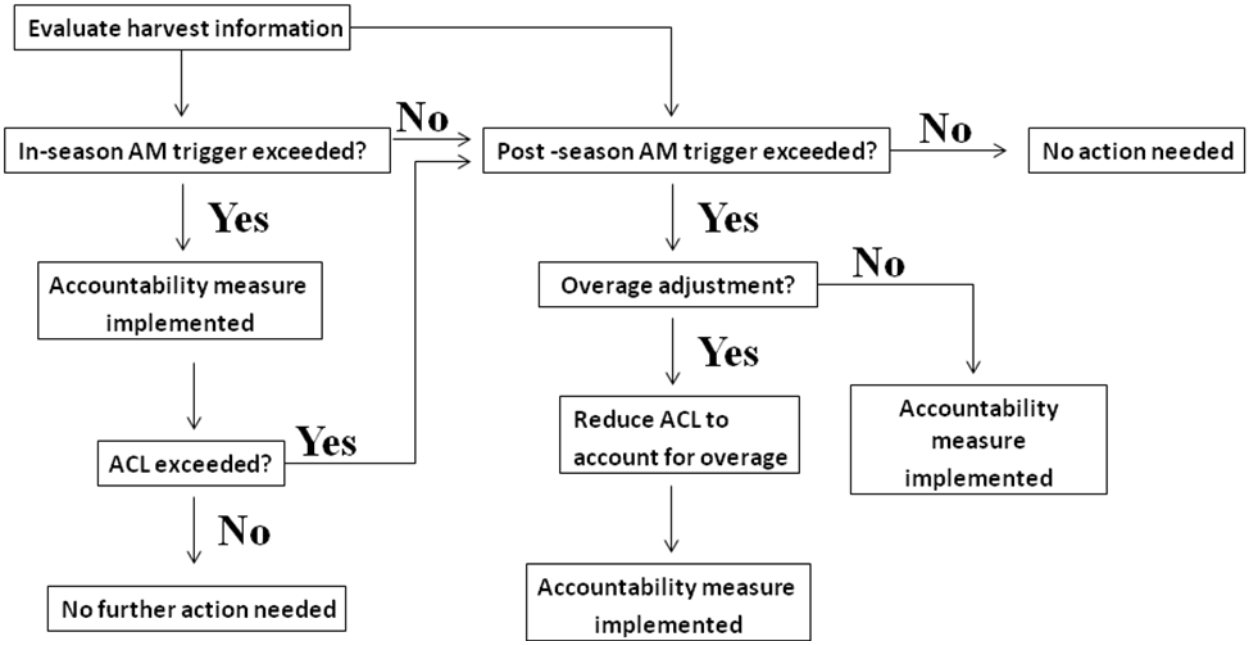


Figure 2.8.1. Flowchart of how in-season and post-season accountability measures can be applied to stocks. AM stands for accountability measures and ACL stands for annual catch limit.

Several managed species already have accountability measures and so are not addressed in this amendment (Table 2.8.1). These include species where harvest is prohibited in federal waters or where species are managed under commercial sector individual fishing quota programs. For other species, accountability measures have been put in place through past amendments such as Reef Fish Amendments 30A and 30B. These past amendments have set some or all of the following for the respective stocks: catch targets, quotas, annual catch limits, and overage adjustments. Therefore, these stocks will not be addressed in this amendment.

Table 2.8.1. Stocks and stock complexes that have accountability measures. Accountability measures put in place under previous amendments cover both the commercial and recreational sectors and are listed by number under that column heading.

Stocks and stock complexes	IFQ	Prohibited harvest	Previous amendments
Red snapper	X		Multiple
Red grouper	X		30B
Gag	X		30B
Shallow-water grouper	X		
Deep-water grouper	X		
Tilefish	X		
Goliath grouper		X	
Nassau grouper		X	
Red drum		X	
Gray triggerfish			30A
Greater Amberjack			30A
Octocorals			1

Some concern has been expressed from the public that species managed under individual fishing quota programs may need additional accountability measures. It is possible some fish (illegally landed fish) may not be counted against the fishery's overall annual catch limit and are vulnerable to overharvest. However, buffers exist in the current individual fishing quota programs that reduce the risk that an annual catch limit will be exceeded. Currently, the annual catch limits are greater than the target catches upon which the species quotas are based on. In fact, using annual catch targets can be considered a proactive accountability measure. For red snapper, red grouper, and gag, the respective quotas that the individual fishing quota shares are based on are the yields associated optimum yield (annual catch target level) and not the higher fishing mortality (F) yield streams used for determining the respective annual catch limits and overfishing limits (e.g., F_{MSY}). The tilefish and deep-water grouper individual fishing quota programs are based on pro-active quotas that were put in place through Secretarial Amendment 1 (NMFS 2004) and Amendment 30B (GMFMC 2008), respectively. These quotas were implemented to protect the stocks from effort shifting as a result of shallow-water grouper quota closures that were occurring because of reduced red grouper abundances. For shallow-water grouper, the current 0.41 million pounds for species other than gag and red grouper is based on 2001-04 average landings (Turner 2006) and was put in place through Amendment 30B. This quota is lower than the previous shallow-water grouper allowance (after subtracting out gag) put in place through Secretarial Amendment 1 (NMFS 2004). One final note with regard to buffers between the harvest and the annual catch limit is that the harvest of fish through all the programs has been less than the quota for the individual species and species complexes. Therefore, the targeted harvests, and consequently the annual catch limits, have not been exceeded.

Most of the stocks and stock complexes requiring accountability measures are in the reef fish fishery management unit. The exception is royal red shrimp that is managed under the Shrimp Fishery Management Plan. Octocorals and stone crab are likely not to need accountability measures. **Action 1.1** would remove ocotocorals from the Coral and Coral Reef Fishery

Management Plan and the Council has requested the Stone Crab Fishery Management Plan be repealed by the Secretary. For the reef fish species, mutton and yellowtail snapper, **Actions 1.4** and **1.5** propose removing these species from the Reef Fish Fishery Management Plan, but these actions are not preferred. In addition, **Action 2** would remove some stocks from the reef fish fishery management unit based on average annual landings not achieving a certain threshold or a species' geographic distribution, except for species that are likely to be mis-identified with species remaining in the management unit. The action also includes an alternative to remove sand perch and dwarf sand perch, which have historically been exempted from most reef fish regulations, from the reef fish fishery management.

The rest of the reef fish species requiring accountability measures fall into two categories. The first are reef fish stocks and stock complexes where the commercial sector is managed under an individual fishing quota program, but the recreational sector is not covered under any accountability measures. For these species, some of the annual catch limit has been apportioned to the commercial sector for individual fishing quota allocation. Thus, if the annual catch limit were exceeded, the reason for the overage would be due to high harvests from the recreational sector. It would be this sector that would be managed under the proposed accountability measures in this action. Stocks and stock complexes whose commercial sector is managed under an individual fishing quota program but whose recreational sector does not currently have accountability measures are:

- Tilefishes
    - Tilefish (Golden)
    - Blueline tilefish
    - Goldface tilefish
- Deep-water grouper
    - Yellowedge grouper
    - Warsaw grouper
    - Snowy grouper
    - Speckled hind
- Other Shallow-water grouper
    - Black grouper
    - Scamp
    - Yellowmouth grouper
    - Yellowfin grouper

These stock complexes are have not had accountability measures developed other than IFQs applied to the commercial harvest. These stocks and stock complexes also have not had their catch apportioned between sectors and so the annual catch limit is specific to the stock or stock complex as a whole. The exception to this generalization is royal red shrimp which is exclusively harvested by the commercial sector. Stocks and stock complexes falling into this category include:

- Vermilion snapper
- Lane snapper
- Mid -water snapper complex
    - Silk snapper
    - Wenchman
    - Blackfin snapper

    - Queen snapper
- Mutton snapper
- Yellowtail snapper
- Gray snapper
- Cubera snapper
- Hogfish
- Jacks
- Royal red shrimp

In addition, the following stocks are designated for removal in Actions 1 and 2, and do not have accountability measures.

- Anchor tilefish
- Blackline tilefish
- Red Hind
- Rock hind
- Misty grouper
- Schoolmaster
- Dog snapper
- Mahogany snapper
- Sand perch and dwarf sand perch
- Nassau grouper
- Allowable octocorals

Alternative 1: No action. Do not create new accountability measures for reef fish and royal red shrimp sectors and stocks.

Alternative 2: Implement only post-season accountability measures.
For stocks and sectors with ACLs that do not currently have accountability measures, if the ACL for a year is exceeded, the Assistant Administrator for Fisheries shall file a notification with the Office of the Federal Register to implement temporary regulations for the following year to close the stock or appropriate sector(s) at a date when the appropriate stock or sector(s) is projected to meet its ACT (or minimize exceeding the ACL if ACTs are not selected). The preferred post-season accountability measure triggers **Options a, b,** and **c** and preferred overage adjustments **Options d** and **e** would apply to this alternative. Stocks subject to this alternative are indicated in Table 2.8.2.

<u>Preferred Alternative 3</u> (apply to vermilion snapper): Implement in-season accountability measures.
For stocks and sectors with ACLs that do not currently have accountability measures, if the ACL is reached or projected to be reached within a fishing year, the Assistant Administrator for Fisheries shall file a notification with the Office of the Federal Register to close the appropriate sector(s) for the remainder of the fishing year. The preferred post-season accountability measure triggers **Options a, b,** and **c** and preferred overage adjustments **Options d** and **e** would apply to this alternative. Stocks subject to this alternative are indicated in Table 2.8.2.

<u>Preferred Alternative 4</u> (apply to other reef fish and royal red shrimp): Implement in-season accountability measures if the ACL is exceeded in the previous year.
For stocks and sectors with ACLs that do not currently have accountability measures, if the ACL for a given year is exceeded, implement in season accountability measures in the following year as described in Alternative 3. The preferred post-season accountability measure triggers **Options a, b,** and **c** and preferred overage adjustments **Options d** and **e** would apply to this alternative. Stocks subject to this alternative are indicated in Table 2.8.2.

Accountability measure options:
Post-season accountability measures would be triggered:
Preferred Option a: if the annual landings exceed the ACL
Option b: if the average landings for the past three years exceed the ACL.*
Option c: if after smoothing average landings over the past five-years, the average of three years of landings exceeds the ACL. Landings would be smoothed by removing the highest and lowest values from consideration.*

Overage adjustments:
Preferred Option d: Do not apply an overage adjustment to the following year's ACL.
Option e: If a stock is under a rebuilding plan, the overage adjustment incurred by the sector or stock exceeding its annual catch limit will be equal to the full amount of the overage, unless the best scientific information available shows a lesser overage adjustment is needed to mitigate the effects of exceeding the ACL.

***** Post-season accountability measures under **Option b** will be triggered if the 2011 landings exceed the annual catch limit, if the 2011-2012 two-year average landings exceed the annual catch limit, and if the 2011-2013 three-year average landings and thereafter (i.e., average of

2012-2014, 2013-2015, 2014-2016, etc.) exceed the annual catch limit. **Option c** will follow the **Option b** sequence for the first three years. For 2014, the post-season accountability measure will be triggered if the 2011-2014 four-year average landings exceed the annual catch limit. For 2015 and on, process described under **Option c** will be applied. For both **Options b** and **c**, in any year the annual catch limit is changed (reduced or increased), the sequence of future comparisons of landings to annual catch limits will begin again starting with a single year of landings compared to the annual catch limit for that year, followed by a 2-year average of landings compared to the annual catch limit in the next year, followed by a 3-year average of landings compared to the annual catch limit for the third year, and so on as described above.

Table 2.8.2. Preferred accountability measure alternatives for species requiring accountability measures.

Species/species complex	Alternative 2	Alternative 3	Alternative 4
Tilefishes			Preferred
Deep-water grouper			Preferred
Shallow-water grouper			Preferred
Vermilion snapper		Preferred	
Lane snapper			Preferred
Mid -water snapper			Preferred
Mutton snapper			Preferred
Yellowtail snapper			Preferred
Gray snapper			Preferred
Cubera snapper			Preferred
Hogfish			Preferred
Jacks			Preferred
Royal red shrimp			Preferred
Anchor tilefish**	Part of tilefish complex if retained		
Blackline tilefish**	Part of tilefish complex if retained		
Red hind**	Part of other shallow-water grouper complex if retained		
Rock hind**	Part of other shallow-water grouper complex if retained		
Misty grouper**	Part of deep-water grouper complex if retained		
Schoolmaster**	Would be combined with Cubera snapper in a shallow-water snapper complex if retained		Preferred
Dog snapper**			
Mahogany snapper**			
Sand perch and dwarf sand perch**			Preferred
Nassau grouper**			Preferred
Allowable octocorals**			Preferred

**May be removed from their respective fishery management plans and so not require accountability measures.

Table 2.8.2. Preferred accountability measure options for species requiring accountability measures.

Species/species complex	Post-season AM trigger			Overage adjustment	
	a	b	c	d	e
Tilefishes	Preferred			Preferred	
Deep-water grouper	Preferred			Preferred	
Shallow-water grouper	Preferred			Preferred	
Vermilion snapper	Preferred			Preferred	
Lane snapper	Preferred			Preferred	
Mid -water snapper	Preferred			Preferred	
Mutton snapper	Preferred			Preferred	
Yellowtail snapper	Preferred			Preferred	
Gray snapper	Preferred			Preferred	
Cubera snapper	Preferred			Preferred	
Hogfish	Preferred			Preferred	
Jacks	Preferred			Preferred	
Royal red shrimp	Preferred			Preferred	
Anchor tilefish**	Part of tilefish complex if retained				
Blackline tilefish**	Part of tilefish complex if retained				
Red hind**	Part of other shallow-water grouper complex if retained				
Rock hind**	Part of other shallow-water grouper complex if retained				
Misty grouper**	Part of deep-water grouper complex if retained				
Schoolmaster**	Would be combined with Cubera snapper in a shallow-water snapper complex if retained (with the same preferred options)				
Dog snapper**					
Mahogany snapper**					
Sand perch and dwarf sand perch**	Preferred			Preferred	
Nassau grouper**	Preferred			Preferred	
Allowable octocorals**	Preferred			Preferred	

**May be removed from their respective fishery management plans and so not require accountability measures.

Discussion:

Alternative 1, no action, would not establish accountability measures. The sectors, stocks, and stock complexes identified in the discussion preceding the alternatives currently do not have accountability measures. Therefore, this alternative is inconsistent with National Standard 1 guidance and would not provide protections if landings for these sectors, stocks, or stock complexes exceed their annual catch limit.

Alternatives 2-4 would set accountability measures for stocks and stock sectors affected by this generic amendment that require but do not currently have accountability measures. Although these measures are generic and would apply to all stocks and sectors that meet these criteria, it should be noted that these accountability measures can be changed in the future through framework or a plan amendment as necessary. These changes could be in response to a stock

assessment, changes in data reporting, or some other type of new information that would suggest accountability measure revisions are needed to better prevent annual catch limits from being exceeded.

Alternative 2 provides only a post-season accountability measure. If an accountability measure trigger (**Options a-c**) has been exceeded, then the season for the subsequent fishing year would be closed by the Assistant Administrator for Fisheries for the appropriate sector(s) on a date that minimizes the risk the harvest will exceed the annual catch limit. Because this alternative does not contain in-season accountability measures, guidance in the National Standard 1 guidelines (§ 600.310(g)(2)) indicate ''For fisheries without in-season management control to prevent the annual catch limit from being exceeded, accountability measures should utilize (annual catch targets) that are set below annual catch limits so that catches do not exceed the annual catch limit.'' Therefore, if the Council were to select this as the preferred alternative, they should establish annual catch targets for the stocks, stock complexes, or sectors to which this alternative is applied in **Action 7**.

Different accountability measures may be more suited to some stocks than others. Using post-season accountability measures (**Alternative 2**) would be applicable to any of the stocks listed in Tables 2.8.2 and 2.8.3. Problems associated with time lags in data reporting described above for in-season monitoring (described below) would not apply because the comparison of landings to the annual catch limit would occur after the season ended and final landings data are available. However, this type of accountability measure would be less suitable for stocks where there is a greater likelihood of exceeding the annual catch limit within a fishing year. None of the stocks listed in Table 2.8.2 are overfished, in a rebuilding plan, or undergoing overfishing. Unless landings data should indicate otherwise, the likelihood the annual catch limit would be exceeded is reduced, particularly if the stocks are managed for the annual catch target. For this reason, **Alternative 2** would be appropriate for these stocks.

Preferred Alternative 3 would apply in-season accountability measures only. Under this alternative, should landings projections within a fishing year indicate the annual catch limit is going to be exceeded, the Assistant Administrator for Fisheries would have the ability to close the appropriate sectors of the fishery for any stock or stock complex. This closure should occur at a time that minimizes the risk of exceeding the annual catch limit within the fishing year. However, if the annual catch limit has been projected to have been exceeded, the Assistant Administrator for Fisheries could close the appropriate sectors immediately to minimize any overages that might occur within that year.

One issue relative to the use of in-season accountability measures is the timeliness of data reporting. The time between when a fish is caught and when projections of the harvest can be made must be short enough so that fishery managers can put in place measures to prevent overages of the annual catch limit. Currently, there are lags between when fish are landed and when commercial and recreational landings data are available for use in tracking and projecting harvests.

Commercial landings data are collected through reports submitted by dealers in semi-monthly periods (twice a month) and reports are due to the Southeast Fisheries Science Center (SEFSC)

five days after the end of the period[2]. The states, working with the SEFSC, review and do quality control checks on the data for it to be finalized. These checks currently take months (usually 2-6 months) to complete. Therefore, under the proposed in-season accountability triggers, data used for monitoring landings relative to the annual catch limit would need to be based the preliminary submission of the data and not the final version. The preliminary data for a month takes between 2-4 weeks to compile. Compliance has been a problem with dealer reports. Late reporting causes the SEFSC to make assumptions about what dealers may be landing and adds uncertainty to landings projections. The SEFSC is working to improve the timeliness of dealer reporting through the use of electronic reporting forms. This would reduce the time needed to compile preliminary landings data. Quality control checks and finalizing the data would still be handled in cooperation with the states and take months to complete.

For the recreational sector, landings data are obtained from three sources: the Marine Recreational Information Program (MRIP), the Southeast Region Headboat Survey (SRHS), and surveys conducted by Texas Parks and Wildlife Department (TPWD). Each survey has a different reporting timeline. For MRIP, data are collected over two-month waves with data not being available for approximately 45 days after the wave has ended[3]. The 45 days is needed for contractors and NMFS to process and run quality control checks on the collected information. Data collected by the SRHS are reported annually, although in-season monthly data can be requested. TPWD splits their data collecting periods into two six-month waves with the data being available approximately three months after a wave is complete. In the Gulf, the bulk of the landings information comes from MRIP, so developing in-season landings projections would be based on inseason MRIP data with estimates of headboat and Texas landings based on the performance of previous years. Thus, for the recreational sector, projections of landings would be dated by nearly four months from the first fishing trips within a wave. These delays between fishing trips and when information is available have allowed overages to occur in some cases when inseason monitoring has been applied to Gulf stocks (e.g., greater amberjack). Scientists working in MRIP are looking for methods to improve data timeliness. These include moving from bimonthly to monthly reporting, using electronic logbooks, and reducing the time needed for quality control checks of the data.

Given the above information on the reporting of landings, commercial harvests are easier to follow within the fishing year compared to recreational harvests because the lag time for preliminary monthly landings is less than a month. The time differential between when commercial landings are first reported for a time period (the beginning of a month) and when landings information is available for review would be less than two months. However, because of this lag time and the fact that landings surveys do not include 100 percent of all dealers, commercial landings estimates are subject to a certain amount on inaccuracy. For the recreational sector, because landings are reported in two-month waves, the earliest landings information would be available from the beginning of a wave would be 3.5 months (two month wave plus 45-day data quality control process). For these stocks, projections of when the annual catch limit is reached would be dependent upon projections based on the landings patterns of prior years. For unallocated stocks, the determination of when the annual catch limit is reached would be based on a combination of commercial sector monitoring and recreational sector

[2] Steve Turner, personal communication, Southeast Fisheries Science Center, Miami, Florida

[3] Andy Strelcheck, personal communication, Southeast Regional Office, St. Petersburg, Florida

projections. In these mixed landings fisheries, stocks landed primarily by the commercial sector would be expected to have more accurate determinations over time of when the annual catch limit is reached. Stocks where the commercial sector is not managed by an individual fishing quota program and where the commercial sector lands most of the fish include vermilion snapper, mid-water snapper, yellowtail snapper, and royal red shrimp[4].

The Council determined that this alternative should be applied to vermilion snapper. Recent landings of vermilion snapper indicate this species could easily exceed its annual catch limit in 2012. Between 2006-2009, vermilion snapper commercial landings doubled so that in 2009, the proposed annual catch limit would have been exceeded by ~1 million pounds[5]. In 2010, landings dropped back to 2005-2006 levels, but the 2010 pre-Deepwater Horizon MC252 oil spill landings were tracking at a rate between 2008 and 2009 levels up until May. If 2012 landings track 2008 or 2009 landings, then there is a good chance the annual catch limit will be exceeded and would trigger accountability measures for the recreational and commercial sectors. A possible reason for these increased landings is fishermen who are unable to target red snapper because of low or zero red snapper individual fishing quota allocation, may be targeting vermilion snapper as an alternative species for harvest. Thus, given this potential for the annual catch limit to be exceeded, in-season accountability measures (**Preferred Alternative 3**) may be more appropriate for vermilion snapper then the other alternatives.

Preferred Alternative 4 is a combination of **Alternative 2** and **Preferred Alternative 3** by containing aspects of post- and in-season accountability measures. If the annual catch limit has been determined to be exceeded after a fishing year is complete; the stock would undergo in-season monitoring in the following year similar to **Preferred Alternative 3**. Should landings projections for this following year indicate the annual catch limit is going to be exceeded again; the Assistant Administrator for Fisheries would have the ability to close the appropriate sectors of the fishery for that stock or stock complex. This closure should occur at a time that minimizes the risk of exceeding the annual catch limit within the fishing year. If a closure is not deemed necessary in the year following the annual catch limit being exceeded, then the in-season monitoring would cease in subsequent years unless the annual catch limit was exceeded again. Under the National Standard 1 guidelines, if a stock or sector catch exceeds its annual catch limit more than once in a four year period, the system of annual catch limits and accountability measures should be re-evaluated, and modified if necessary, to improve its performance and effectiveness. The issues regarding time lags for data reporting described for **Preferred Alternative 3** would also apply here.

Like **Alternative 2**, **Preferred Alternative 4** is applicable to any of the stocks listed in Tables 2.8.2 and 2.8.3. If a stock or stock complex exceeds its annual catch limit, the stock or stock complex would be subject to in-season monitoring and the accuracy issues associated with monitoring the harvest as discussed above. However, the need for in-season monitoring would only be required for those stocks exceeding their annual catch limit and those stocks could be targeted in monitoring activities. This alternative is proposed as the preferred alternative for all stocks covered by this generic amendment except for vermilion snapper. None of these stocks are overfished, in a rebuilding plan, or undergoing overfishing. Therefore, the likelihood the

[4] Nick Farmer, personal communication, Southeast Regional Office, St. Petersburg, Florida

[5] Andy Strelcheck, personal communication, Southeast Regional Office, St. Petersburg, Florida

annual catch limit would be exceeded is reduced, particularly if the stocks are managed for the annual catch target. For this reason, post-season accountability measure **Preferred Alternative 4** would be appropriate for these stocks.

Triggers to determine if post-season accountability measures need to be invoked are needed for both **Alternative 2** and **Preferred Alternative 4**. Three different triggers are provided in **Options a-c**. **Preferred Option a** would simply invoke post-season accountability measures if the annual harvest exceeds the annual catch limit. However, some stocks have highly variable annual catches or a lack of reliable catch data to base accountability measure triggers on, particularly for the recreational sector which relies on surveys to estimate landings or for stocks with low landings. Thus, there is a good probability that landings will fluctuate around the target catch level and could exceed the annual catch limit in some years. However, on average the landings should approximate the target catch level if a sector, stock, or stock complex is well managed. National Standard 1 guidelines indicate that in circumstances where annual catch information is variable or there is a lack of reliable in-season or annual data, average landings can be compared to an average annual catch limit to account for this year-to-year variability in landings. The National Standard 1 guidelines suggest a three-year average. **Option b** is based on this guidance. For year 1 that the trigger is in place (2011), the harvest for the first year is compared to the annual catch limit for that year. For year two, the average landings of year 1 and year 2 (2011and 2012) are compared to the annual catch limit. For year three and beyond (i.e., 2011-2013, 2012-2014, 2013-2015, 2014-2016, etc.), a three-year average of harvests is compared to the annual catch limit. If the annual catch limit is changed for any reason, the sequence for years 1, 2, and 3 would start all over again. Reductions in harvest might be necessary because of a reevaluation of the stock status as a result from a stock assessment or a decline in the stock size from natural mortality events or from overfishing.

Option c is based on accountability measures developed by the South Atlantic Council to account for variability inherent to recreational survey data. The South Atlantic Council was concerned that while data spikes in recreational data can reflect changes in a stock's condition (e.g., good recruitment) or they can be due to artifacts from the MRIP sampling design. For example, if by chance sampling of several trips contained species that have a low encounter rate, this could lead to an overestimate of the number of fish caught. **Option c** would compare the ACL to average landings over a three year periods like **Option b**; however, they would smooth the data by throwing out the highest and lowest annual landings over a five-year period. The accountability measures would either be triggered by the three-year average exceeding the annual catch limit. As a result, anomalies such as spikes or sharp declines in recreational landings would be minimized in evaluating harvest information. As with **Option b**, if the annual catch limit is changed, the sequence of comparing landings for different years to the annual catch limit would restart.

Figures 2.8.2-2.8.4 illustrate how annual landings data using the **Option a-c** post-season accountability measure triggers would compare to the annual catch limits for vermilion snapper, gray snapper, and the jack complex. The years used are the same as those used by the SSC to establish annual biological catches by **Action 4** methods and assumes the annual biological catch equals the annual catch limit. For vermilion snapper (Figure 2.8.2), landings have been below the annual catch limit over the 1999-2008 time period and so none of the post-season accountability measure triggers exceeded the annual catch limit. Had post-season accountability measures been in place for this species over this time period, they would not have been invoked.

Figure 2.8.3 shows landings data for the jack complex (lesser amberjack, almaco jack, and banned rudderfish) from 2000-2008. This figure shows the advantage of using averages to mitigate overages that might occur due to variable landings. In 2007, landings were higher than the annual catch limit and so would have caused post-season accountability measures to be implemented under **Preferred Option a**. However, this one-time spike above the annual catch limit was mitigated for by using averages from **Options b** and **c**, and so the accountability measures would not be invoked. However, this figure also shows how average landings can lag behind annual landings once they exceed the annual catch limit. Even though landings from 2000 dropped below the annual catch limit by 2001, it took three years for the average landings under Options b and c to fall below the annual catch limit. Finally, Figure 2.8.3 shows landings for gray snapper from 1999-2008. Under the **Preferred Option a** scenario (annual landings comparison), the ACL would have been exceeded for three years in a row (2004-2006)[6]. Using the **Option b** trigger (three-year average), the overage would have been mitigated for until 2006 when the ACL would have been exceeded. Under the five-year smoothing option (**Option c**), the ACL would not have been exceeded.

Overage adjustments are not required for post-season accountability measures for stocks that are not in a rebuilding plan, but National Standard 1 Guidance (50 CFR 600.310(g)(3)) does indicate they can be included in accountability measures. National Standard 1 guidance does indicate for stocks in rebuilding plans, accountability measures should include overage adjustments that reduce the annual catch limit by the overage amount "unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overages." Currently four stocks are under a rebuilding plan and all have accountability measures. These are gag, gray triggerfish, greater amberjack, and red snapper. Gag accountability measures are being revisited in Amendment 32. Of these species, only red snapper does not have any form of overage adjustment if the annual catch limit is exceeded.

Preferred Option d would not apply an overage adjustment to any stocks. This alternative would not contradict National Standard 1 guidance because none of the stocks requiring accountability measures (listed in Tables 2.8.2 and 2.8.3) are considered overfished and under a rebuilding plan. However, should a stock be declared overfished and require a rebuilding plan, then an overage adjustment would need to be considered in the action that establishes the rebuilding plan for it to be consistent with National Standard 1 guidance.

Option e follows the National Standard 1 guidance and is more preemptive should a stock in the future be declared overfished. Once a rebuilding plan is established, this option would simply require any overage to be subtracted from the annual catch limit in the subsequent year if the annual catch limit were exceeded with the caveat that the annual catch limit reduction could be more or less if scientific information indicated otherwise. As an example of how this overage adjustment would work, if the annual catch limit were 500,000 pounds and the harvest for a year was 600,000 pounds, the annual catch limit for the next year would be 400,000 pounds (subtract the 100,000 pound overage from the 500,000 pound annual catch limit).

[6] If accountability measures had been in place during these years, presumably management measures would have kept the annual catch limit from being exceeded after 2004.

Figure 2.8.2. Annual catch limit, landings, three-year average landings, and 5-year smoothing of landings for Gulf of Mexico vermilion snapper from 1999-2008.

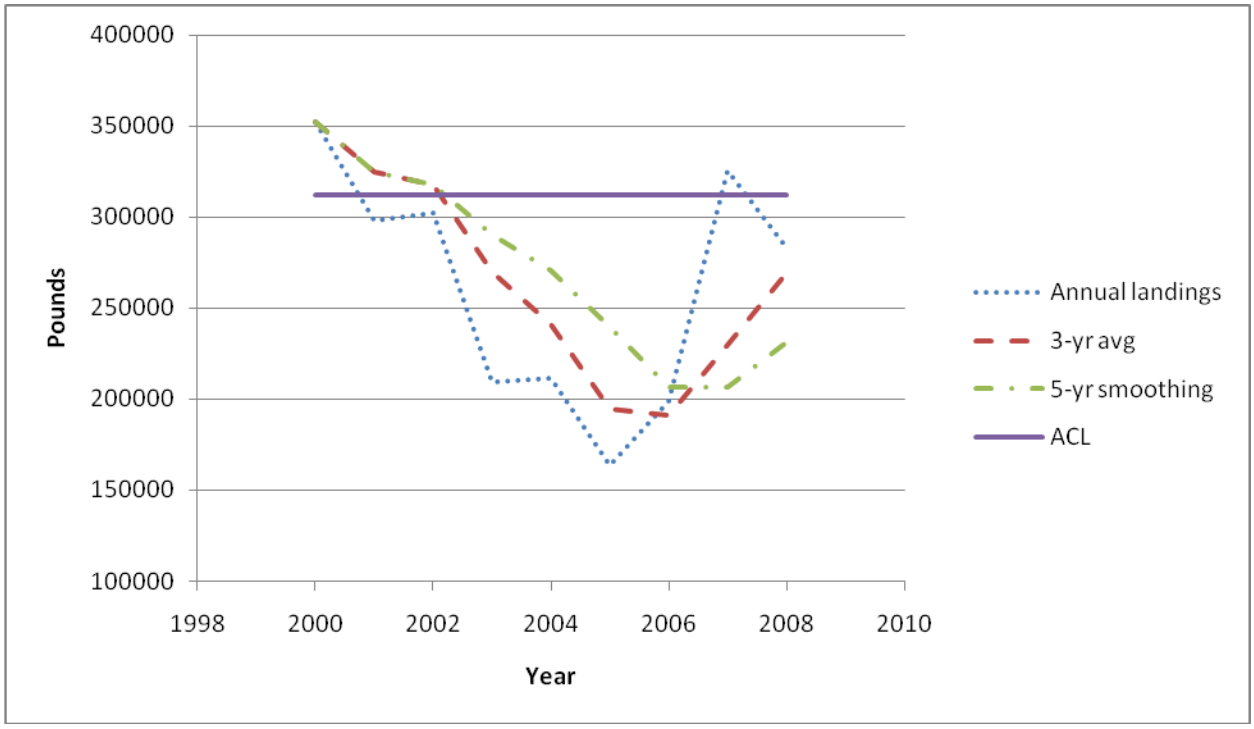


Figure 2.8.3. Annual catch limit, landings, three-year average landings, and 5-year smoothing of landings for Gulf of Mexico jack complex from 2000-2008.

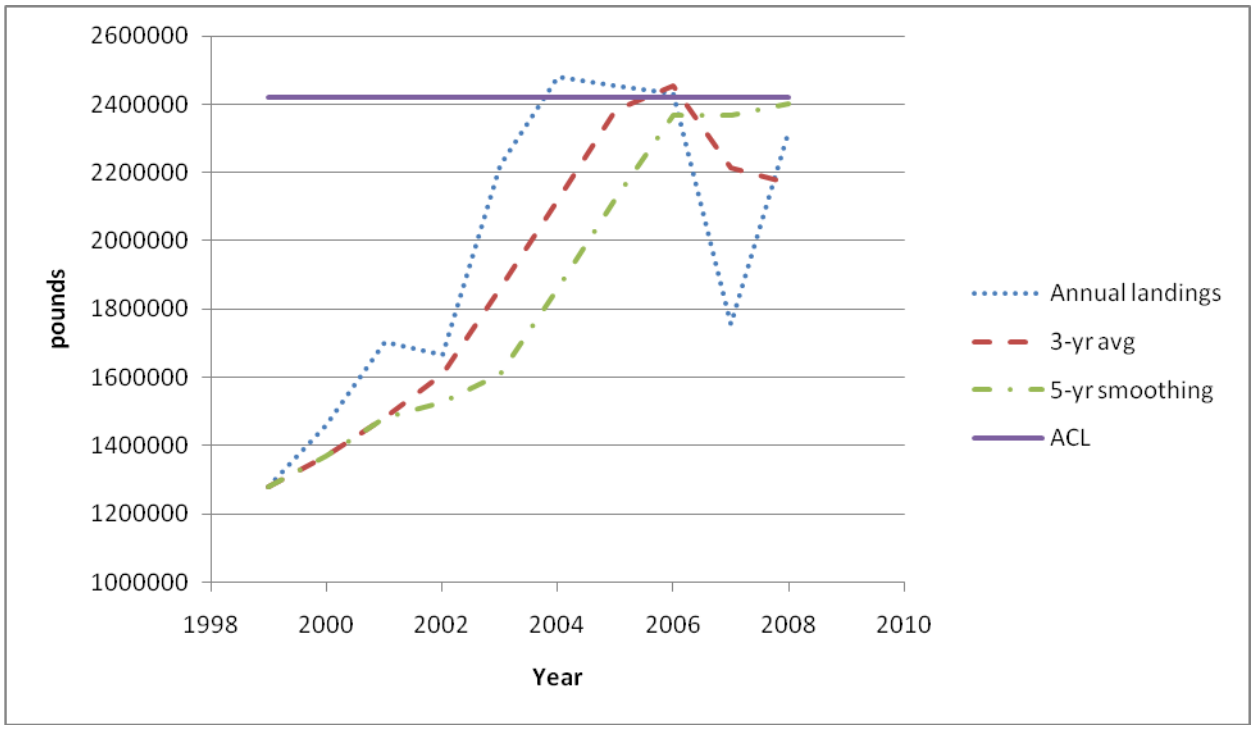


Figure 2.8.3. Annual catch limit, landings, three-year average landings, and 5-year smoothing of landings for Gulf of Mexico gray snapper from 1999-2008.

3. Affected Environment

3.1 Description of the Affected Physical Environment

The physical environment for reef fish has been described in detail in the Environmental Impact Statement for the Generic Essential Fish Habitat Amendment and is incorporated here by reference (GMFMC 2004). 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. Oceanic conditions are primarily affected by the Loop Current, the discharge of freshwater into the Northern Gulf, and a semi-permanent, anticyclonic gyre in the western Gulf. Gulf water temperatures range from 12º C to 29º C (54º F to 84º F) depending on time of year and depth of water. In the Gulf, adult red grouper are found over hard bottom (GMFMC 2004).

Environmental Sites of Special Interest Relevant to Reef Fish (Figure 3.1.1)

Longline/Buoy Gear Area Closure – Permanent closure to use of these gears for reef fish harvest inshore of 20 fathoms off the Florida shelf and inshore of 50 fathoms for the remainder of the Gulf (72,300 square nautical miles). During June-August, bottom longline is prohibited inshore of 35 fathoms in the eastern Gulf.

Madison/Swanson and Steamboat Lumps Marine Reserves – No-take marine reserves sited on gag spawning aggregation areas where all fishing except for surface trolling during May through October is prohibited (219 square nautical miles).

The Edges – No-take area closure from January 1 to April 30. All commercial and recreational fishing or possession of fish managed by the Council is prohibited. The intent of the closure is to protect gag and other groupers during their respective spawning seasons. Possession is allowed when transiting the area if gear is stowed in accordance with federal regulations. This area is not shown in Figure 3.1.1 due to its recent implementation. The boundaries of the closed area are: Northwest corner = 28º 51'N, 85º 16'W; Northeast corner = 28º 51'N, 85º 04'W; Southwest corner = 28º 14'N, 84º 54'W; Southeast corner = 28º 14'N, 84º 42'W.

Tortugas North and South Marine Reserves - No-take marine reserves cooperatively implemented by the state of Florida, National Ocean Service (NOS), the Council, and the National Park Service (see jurisdiction on chart) (185 square nautical miles). In addition, Generic Amendment 3 for addressing Essential Fish Habitat requirements, Habitat Areas of Particular Concern (HAPC), and adverse effects of fishing prohibited the use of anchors in these HAPCs in the following Fishery Management Plans (FMPs) of the Gulf: Shrimp, Red Drum, Reef Fish, Stone Crab, Coral and Coral Reefs in the Gulf; and Spiny Lobster and the Coastal Migratory Pelagic resources of the Gulf and South Atlantic (GMFMC 2005b).

Additionally, Generic Amendment 3 for addressing Essential Fish Habitat requirements (GMFMC 2005) establishes an education program on the protection of coral reefs when using various fishing gears in coral reef areas for recreational and commercial fishermen.

Individual reef areas and bank HAPCs of the northwestern Gulf including: East and West Flower Garden Banks, Stetson Bank, Sonnier Bank, MacNeil Bank, 29 Fathom, Rankin Bright Bank, Geyer Bank, McGrail Bank, Bouma Bank, Rezak Sidner Bank, Alderice Bank, and Jakkula Bank – Pristine coral areas protected by preventing use of some fishing gear that interacts with the bottom (263.2 square nautical miles). Subsequently, some of these areas were made a marine sanctuary by NOS and this marine sanctuary is currently being revised. Bottom anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots on coral reefs are prohibited in the East and West Flower Garden Banks, McGrail Bank, and on the significant coral resources on Stetson Bank.

Florida Middle Grounds HAPC – Pristine soft coral area protected from use of any fishing gear interfacing with bottom (348 square nautical miles).

Pulley Ridge HAPC – A portion of the HAPC where deep-water hermatypic coral reefs are found is closed to anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots (2,300 square nautical miles).

Stressed Areas for Reef Fish – Permanent closure Gulf-wide of the near shore waters to use of fish traps, power heads, and roller trawls (i.e., "rock hopper trawls") (48,400 square nautical miles).

Alabama Special Management Zone (SMZ) – In the Alabama SMZ, fishing by a vessel operating as a charter vessel or head boat, a vessel that does not have a commercial permit for Gulf reef fish, or a vessel with such a permit fishing for Gulf reef fish, is limited to hook-and-line gear with no more than three hooks. Nonconforming gear is restricted to bag limits, or for reef fish without a bag limit, to 5% by weight of all fish aboard.

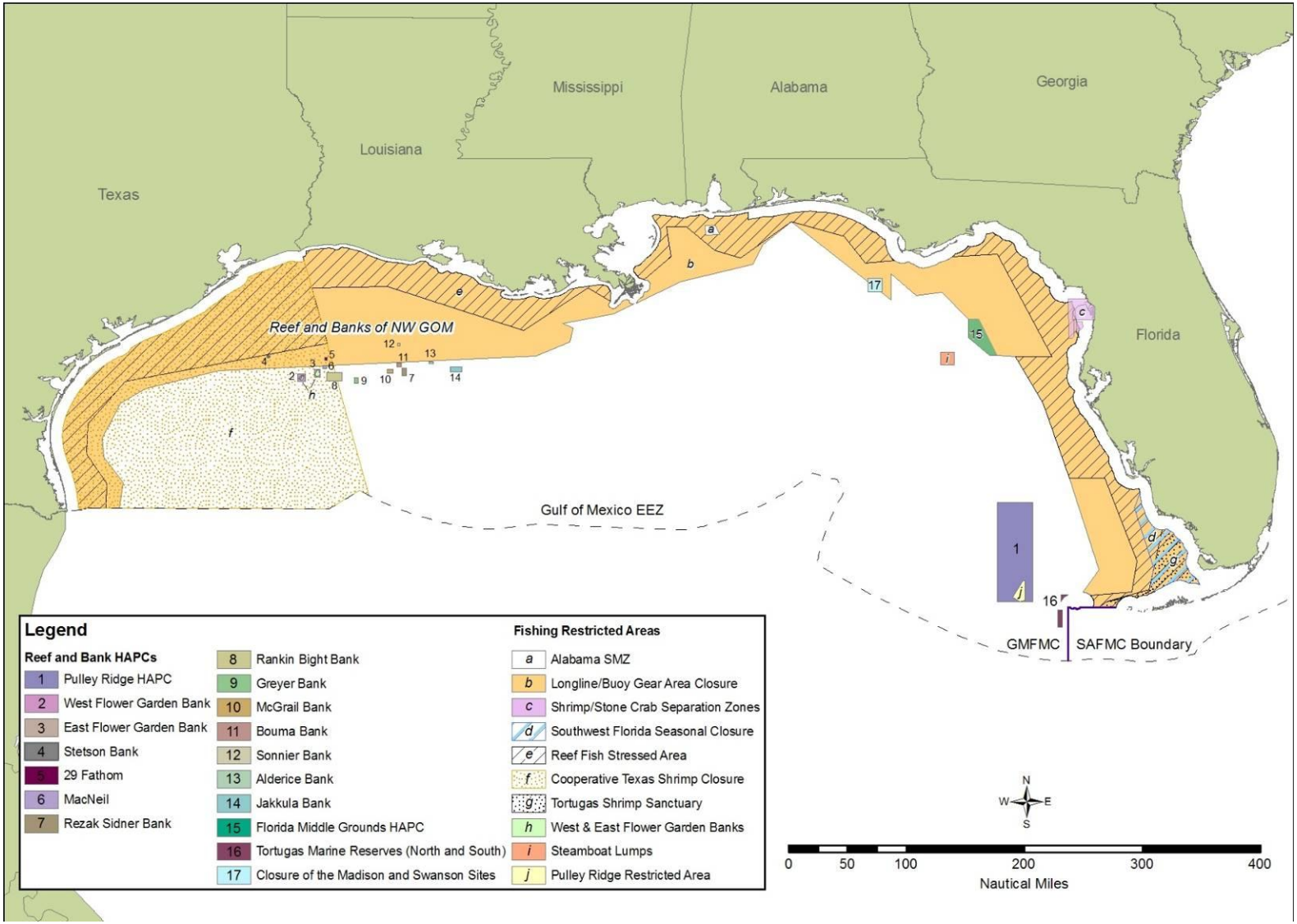


Figure 3.1.1 Map of most fishery management closed or gear restricted areas in the Gulf of Mexico

3.2 Description of the Affected Biological Environment

Essential fish habitat (EFH) is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish. "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities. This definition resulted from the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), which set forth a new mandate for NOAA's National Marine Fisheries Service (NMFS), regional fishery management councils, and other federal agencies to identify and protect important marine and anadromous fish habitat. The Essential fish habitat provisions of the Magnuson-Stevens Act support one of the nation's overall marine resource management goals - maintaining sustainable fisheries. Essential to achieving this goal is the maintenance of suitable marine fishery habitat quality and quantity.

According to the Magnuson-Stevens Act, essential fish habitat must be designated in a fishery management plan (FMP) for the fishery as a whole[7]. The Essential Fish Habitat Final Rule[8] clarifies that every fishery management plan must describe and identify essential fish habitat for each life stage of each managed species. The Magnuson-Stevens Act also directs NMFS and the Councils to identify actions to encourage the conservation and enhancement of essential fish habitat and identify measures to minimize to the extent practicable the adverse effects of fishing on essential fish habitat.

In the Gulf of Mexico, essential fish habitat was created through an amendment prepared in 1998 for fishery management plans for species managed by the Gulf of Mexico Fishery Management Council (GMFMC 1998). In 2004, the agency completed an updated analysis and in 2005 a second essential fish habitat fishery management plans amendment was approved (GMFMC 2005d). The analysis examined alternatives for essential fish habitat based on linkages between habitats and the individual species and life stages of the managed fishery stocks. This information was then aggregated into a single essential fish habitat designation for each of the seven fishery management plans for the Gulf of Mexico. A single map for each fishery management plan is used to describe and identify essential fish habitat for each fishery. Although essential fish habitat designations appear to be very expansive, encompassing most of the coastal waters and Exclusive Economic Zone, it is important to realize that the maps of all currently identified essential fish habitat in U.S. waters comprise the aggregate of separate essential fish habitat designations for many managed species, each with two to four distinct life stages as well as seasonal differences in habitat requirements. For example, essential fish habitat for some managed fish stocks is designated only for bottom habitats or surface waters. Careful and deliberate consideration by NMFS and the Gulf of Mexico Fishery Management Council was taken in designating the spatial extent of essential fish habitat. The effort to identify and delineate essential fish habitat was a rigorous process that involved advice and input by numerous state and federal agencies and the public at large. Relative species density was mapped for a limited number of federally managed species and life stages in the NOAA Atlas[9] NOAA 1985) but the Atlas does not provide density information for most species and life stages in the fishery management units of the Gulf of Mexico. By combining the density data available

[7] 16 U.S.C. §1853(a)(7)
[8] 50 C.R.F. Part 600
[9] The maps prepared for the NOAA Atlas can currently be found at the National Center for Coastal Monitorina and Assessment – Gulf of Mexico Essential Fish Habitat website: http://ccma.nos.noaa.gov/products/biogeography/gom-efh/

in the NOAA Atlas with density information derived from an analysis of functional relationships between fish and their habitats, the maximum amount of information available at the time regarding the relative density and distribution of managed species was used to distinguish essential fish habitat from all habitats potentially occupied by species and their life stages.

Although a comprehensive description of the affected biological environment in the Gulf of Mexico for the species included in this amendment exists as described above, the affected biological environment may have been modified in April 2010, when the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. As a result of the oil spill approximately one third of the Gulf of Mexico was closed to fishing and impacted important spawning areas during the spawning season for many species. This included the surface waters of the north central Gulf, an area where red snapper spawn in late spring and summer. Short and long term oil and dispersant effects on the environment and marine life are currently unknown; however, the oil and dispersant are likely to have had an immediate negative impacts on the eggs and larvae of numerous fish species. These effects may result in a reduction in the 2010 year-class but the full impact would not become apparent until fish spawned after the oil spill become large enough to enter the fishery in the next two to four years. Additional damage to fish stocks in the form of chronic effects caused by continuing oil and dispersants in the environment may not be fully documented for years; however, there are no current data available that the oil spill has affected current stock biomass levels.

3.2.1 Reef Fish

General Information on Reef Fish Species

Gulf of Mexico reef fish distributions were developed through a collaboration among NOS, NMFS, and the Gulf Council (SEA 1998). Distributions were determined by combining data from various databases including SEAMAP, state trawl surveys, and the Estuarine Living Marine Resources (ELMR) Program. SEAMAP and state trawl surveys provided fishery-independent data. The Estuarine Living Marine Resources (ELMR) Program characterized relative abundance of specific species ranked as highly abundant, abundant, common, rare, not found, and no data for various Gulf estuaries. Abundance was represented by life stage (adult, spawning, egg, larvae, and juvenile), month and five seasonal salinity zones (0-0.5, 0.5-5, 5-15, 15-25, and >25 parts per thousand (ppt)).

The 42 reef fishes included in this amendment occur extensively throughout the Gulf of Mexico, some inhabiting pelagic and benthic habitats during their life stages. The eggs and larvae of most of the reef fish species are planktonic without parental protection. Following yolk sac absorption, larvae feed on phytoplankton and zooplankton. There are some exceptions such as gray triggerfish that have demersal eggs laid in nests created in sandy substrate and gray snapper larvae that occur around submerged aquatic vegetation (SAV).

As juveniles and adults, many reef fishes are demersal, often associated with bottom topographies on the continental shelf (<100 m) in areas that incorporate high relief, such as ledges, limestone outcroppings, caves, coral reefs, artificial reefs, rocky hard-bottom substrates, and sloping soft-bottom areas. Other species occur over sand and soft-bottom substrates. Juvenile red snapper are often found on mud bottoms in the northern Gulf, particularly off Texas through Alabama (GMFMC 1998) and more recently off soft-bottom substrate off southwest Florida. Other juvenile snapper species including mutton, gray, red, dog, lane, and yellowtail snappers

occur in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems (GMFMC 1981). Goliath, red, gag, and yellowfin grouper juveniles have also been documented in inshore habitats such as coral reefs, jetties, seagrass beds, mangrove estuaries, lagoons, and larger bay systems (GMFMC 1981). Additional information on hard bottom substrate and coral is in the FMP for Corals and Coral Reefs (GMFMC and SAFMC 1982 and Final Report Gulf of Mexico Fishery Management Council 5-Year Review of the Final Generic Amendment Number 3. 2010).

Habitats utilized by life stage are summarized in Table 3.2.1.1. More detailed summaries of the reef fish essential fish habitat for species addressed in this amendment follow.

Additional information can be found in GMFMC (2004b).

Table. 3.2.1.1 Synopsis of habitat utilization by life stage for reef fish species included in this amendment. This table was adapted from Table 3.2.1. of Amendment 31. SAV = submerged aquatic vegetation.

Common name	Eggs	Larvae	Post-larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Red snapper	Pelagic	Pelagic		Hard bottoms, Sand/ shell bottoms, Soft	Hard bottoms, Sand/ shell bottoms, Soft bottoms	Hard bottoms, Reefs	Sand/ shell bottoms, Reefs
Queen snapper	Pelagic	Pelagic				Hard bottoms	
Mutton snapper	Reefs	Reefs	Reefs	Mangroves, Reefs, SAV, Emergent marshes	Mangroves, Reefs, SAV, Emergent marshes	Reefs, SAV	Shoals/ Banks, Shelf edge/slope
Schoolmaster	Pelagic	Pelagic		Mangroves, SAV	Hard bottoms, Mangroves, Reefs, SAV, Emergent marshes	Hard bottoms, Reefs, SAV	Reefs
Blackfin snapper	Pelagic			Hard bottoms	Hard bottoms	Hard bottoms, Shelf edge/slope	Hard bottoms, Shelf edge/slope
Cubera snapper	Pelagic			Mangroves, Emergent marshes, SAV	Mangroves, Emergent marshes, SAV	Mangroves, Reefs	Reefs
Gray (mangrove) snapper	Pelagic, Reefs	Pelagic, Reefs	SAV	Mangroves, Emergent marshes, Seagrasses	Mangroves, Emergent marshes, SAV	Emergent marshes, Hard bottoms, Reefs, Sand/ shell bottoms, Soft bottoms	
Dog snapper	Pelagic	Pelagic		SAV	Mangroves, SAV	Reefs, SAV	Reefs

Common name	Eggs	Larvae	Post-larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Mahogany snapper	Pelagic	Pelagic		Reefs, Sand/ shell bottoms	Reefs, Sand/ shell bottoms	Hard bottoms, Reefs, Sand/ shell bottoms, SAV	
Lane snapper	Pelagic		Reefs, SAV	Mangroves, Reefs, Sand/ shell bottoms, SAV, Soft bottoms	Mangroves, Reefs, Sand/ shell bottoms, SAV, Soft bottoms	Reefs, Sand/ shell bottoms, Shoals/ Banks	Shelf edge/slope
Silk snapper						Shelf edge	
Yellowtail snapper	Pelagic			Mangroves, SAV, Soft bottoms	Reefs	Hard bottoms, Reefs, Shoals/ Banks	
Wenchman	Pelagic	Pelagic				Hard bottoms, Shelf	Shelf edge/slope
Vermilion snapper	Pelagic			Hard bottoms, Reefs	Hard bottoms, Reefs	Hard bottoms, Reefs	
Gray triggerfish	Reefs	Drift algae	Drift algae	Drift algae	Drift algae, Reefs	Reefs, Sand/ shell bottoms	Reefs, Sand/ shell bottoms
Greater amberjack	Pelagic	Pelagic	Pelagic	Drift algae	Drift algae	Pelagic, Reefs	Pelagic
Lesser				Drift algae	Drift algae	Hard bottoms	Hard bottoms
Almaco jack	Pelagic			Drift algae	Drift algae	Pelagic	Pelagic
Banded rudderfish		Pelagic		Drift algae	Drift algae	Pelagic	Pelagic
Hogfish				SAV	SAV	Hard bottoms, Reefs	Reefs
Blueline tilefish	Pelagic	Pelagic				Hard bottoms, Sand/ shell bottoms, Shelf edge/slope, Soft bottoms	
Golden tilefish	Pelagic, Shelf edge/ slope	Pelagic		Hard bottoms, Shelf edge/slope, Soft	Hard bottoms, Shelf edge/slope, Soft bottoms	Hard bottoms, Shelf edge/slope, Soft bottoms	
Gold face tilefish						Clay and soft bottom Upper continental shelf	
Blackline tilefish							
Anchor tilefish							

Common name	Eggs	Larvae	Post-larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Dwarf sand perch					Hard bottoms	Hard bottoms, Soft bottoms	
Sand perch						Reefs, SAV, Shoals/ Banks, Soft bottoms	
Rock hind	Pelagic	Pelagic				Hard bottoms, Reefs	Hard bottoms, Reefs
Speckled hind	Pelagic	Pelagic				Hard bottoms, Reefs	Shelf edge/slope
Yellowedge grouper	Pelagic	Pelagic			Hard bottoms	Hard bottoms	
Red hind	Pelagic	Pelagic		Reefs	Reefs	Hard bottoms, Reefs, Sand/ shell bottoms	Hard bottoms
Goliath grouper	Pelagic	Pelagic	Man-groves	Mangroves, Reefs, SAV	Hard bottoms, Mangroves, Reefs, SAV	Hard bottoms, Shoals/ Banks, Reefs	Reefs, Hard bottoms
Red grouper	Pelagic	Pelagic		Hard bottoms, Reefs, SAV	Hard bottoms, Reefs	Hard bottoms, Reefs	
Misty grouper	Pelagic	Pelagic				Hard bottoms, Shelf	Hard bottoms
Warsaw grouper	Pelagic	Pelagic			Reefs	Hard bottoms, Shelf edge/slope	
Snowy grouper	Pelagic	Pelagic		Reefs	Reefs	Hard bottoms, Reefs, Shelf edge/slope	
Nassau grouper		Pelagic		Reefs, SAV		Hard bottoms, Reefs, Sand/ shell bottoms	Hard bottoms, Reefs, Sand/ shell bottoms
Black grouper	Pelagic	Pelagic		SAV	Hard bottoms, Reefs	Hard bottoms, Mangroves, Reefs	
Yellowmouth grouper	Pelagic	Pelagic		Mangroves	Mangroves, Reefs	Hard bottoms, Reefs	
Gag	Pelagic	Pelagic		SAV	Hard bottoms, Reefs, SAV	Hard bottoms, Reefs	
Scamp	Pelagic	Pelagic		Hard bottoms, Mangroves, Reefs	Hard bottoms, Mangroves, Reefs	Hard bottoms, Reefs	Reefs, Shelf edge/slope
Yellowfin grouper				SAV	Hard bottoms, SAV	Hard bottoms, Reefs	Hard bottoms

In 2004, the Gulf of Mexico Reef Fish fishery management unit (FMU) was comprised of 43 species resulting in essential fish habitat being identified and described as: All Gulf of Mexico estuaries; Gulf of Mexico waters and substrates extending from the US/Mexico border to the boundary between the areas covered by the Gulf of Mexico Fishery Management Council and the South Atlantic Fishery Management Council from estuarine waters out to depths of 100

fathoms. In Action 2, the proposed action will remove the following ten species from the fishery management unit: anchor tilefish, blackline tilefish, red hind, rock hind, misty grouper, schoolmaster, dog snapper, mahogany snapper, sand perch, and dwarf sand perch. Essential fish habitat for each of these species is described as follows:

Anchor Tilefish: Essential fish habitat for the identified life-stage is the following waters and substrates between Pensacola Bay and the U.S./Mexico border:

Eggs & Larvae: Offshore pelagic waters 60-183 meters deep
Adults: Offshore hard bottom, sand/shell, and soft bottoms 60-183 meters deep

Blackline Tilefish: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and Tarpon Springs, Florida:

Eggs & Larvae: Offshore pelagic waters 60-183 meters deep
Adults: Offshore hard bottom, sand/shell, and soft bottoms 60-183 meters deep

Dog Snapper: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and the U.S./Mexico border:

Eggs & Larvae: Nearshore water column
Early Juvenile: Estuarine submerged aquatic vegetation and marshes; Nearshore water column
Late Juvenile: Estuarine and nearshore submerged aquatic vegetation and mangroves
Adults: Estuarine and nearshore submerged aquatic vegetation and nearshore and offshore reefs in 9-151 meters depth.
Spawning Adults: Offshore reefs in 15-30 meters depth.

Dwarf Sand Perch: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and the U.S./Mexico border:

Late Juvenile: Nearshore hard bottoms
Adult: Nearshore hard bottom and offshore soft bottom 1-100 meters deep

Misty Grouper: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and Tarpon Springs, Florida:

Eggs & Larvae: Water column 150-183 meters deep
Adults & Spawning Adults: Offshore hard bottoms and shelf habitat 150-183 meters deep

Red Hind: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and Pensacola Bay, Florida:

Eggs & Larvae: Water column 18-110 meters deep
Early Juvenile: Nearshore reefs 2-10 meters deep
Late Juvenile: Nearshore reefs 18-110 meters deep

Adults: Nearshore reefs and sand/shell bottoms; offshore reefs, sand/shell bottoms, and hard bottoms 18-110 meters deep
Spawning Adults: Offshore hard bottoms 18-27 meters deep

Rock Hind: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and Pensacola Bay, Florida:

Eggs & Larvae: Water column 2-100 meters deep
Early Juvenile: Nearshore reefs 2-100 meters deep
Adults: Nearshore and offshore reefs and hard bottoms 2-100 meters deep
Spawning Adults: Offshore reefs and hard bottoms 2-100 meters deep

Sand Perch: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and Pensacola Bay, Florida:

Adults: Nearshore soft bottom, submerged aquatic vegetation, shoals, banks and reefs 1-80 meters deep

Schoolmaster: Essential fish habitat for the identified life-stage is the following waters and substrates between the Florida Keys and Pensacola Bay, Florida:

Eggs & Larvae: Offshore water column 0-90 meters.
Early Juvenile: Estuarine and nearshore submerged aquatic vegetation and mangroves
Late Juvenile: Estuarine marsh, estuarine and nearshore submerged aquatic vegetation and mangroves, nearshore and offshore reefs and hardbottoms 0-90 meters deep
Adults: Estuarine and nearshore submerged aquatic vegetation, nearshore and offshore reefs and hard bottoms 0-90 meters deep
Spawning Adults: Offshore reefs 0-90 meters deep

Mahogany Snapper: The relative density of mahogany snapper throughout the Gulf of Mexico did not exceed the threshold for identification of essential fish habitat. Although it is considered to occur throughout the Gulf of Mexico Exclusive Economic Zone (EEZ) no essential fish habitat was identified and described for any life-stages of this species.

If the species in the preferred alternatives are removed from the fishery management unit the essential fish habitat identifications and descriptions for those species would not be incorporated in the description of essential fish habitat for the Reef Fish fishery in the Gulf of Mexico. However, taking into account the considerable overlap of the distribution and life history habitat requirements of the remaining species in the Reef Fish fishery management unit, and other fisheries managed by the Gulf of Mexico Fishery Management Council, no individual habitat type or geographic area previously identified as essential fish habitat would lose that designation.

NMFS and the fishery management councils must also consider a second, more limited habitat designation for each species in addition to essential fish habitat. Habitat Areas of Particular Concern (HAPC) are described as subsets of essential fish habitat which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an

environmentally stressed area. Examples of Habitat Areas of Particular Concern include coral communities, areas where spawning aggregations are known to occur, and topographic features of special value.

Habitat Areas of Particular Concern are not afforded any additional regulatory protection under the Magnuson-Stevens Act; however, federal actions with potentially adverse impacts to Habitat Areas of Particular Concern will be more carefully scrutinized during the consultation process and will be subject to more stringent essential fish habitat conservation recommendations. An adverse effect on essential fish habitat is defined as any impact that reduces the quality and/or quantity of essential fish habitat to include direct or indirect physical, chemical, or biological alterations of waters and substrates. Federal action agencies which fund, permit, or carry out activities that may adversely affect essential fish habitat are required to consult with NMFS regarding the potential impacts of their actions on essential fish habitat and respond in writing to NMFS or council recommendations. Measures recommended by NMFS or a council to protect essential fish habitat are advisory, not prescriptive. In addition, NMFS and councils may comment on and make recommendations to any state agency on their activities that may adversely affect essential fish habitat. The Magnuson-Stevens Act does not require non-government organizations, local, or state agencies to consult with the NMFS regarding effects of their actions on essential fish habitat.

The proposed actions in this amendment are not considered to have an adverse impact on essential fish habitat requiring consultation. Further, the proposed removal of species from the Reef Fish Fishery Management Unit will not result in any individual habitat type or geographic area previously identified as essential fish habitat to lose that designation thereby affecting NMFS's ability to protect and conserve through the essential fish habitat consultation process.

Reef Fish Stock Status

Species in this amendment include 42 reef fish species (Table 3.2.1.1). In the Gulf of Mexico, stock assessments have been conducted on 12 species: red snapper (SEDAR 7 2005; SEDAR update 2009), vermilion snapper (Porch and Cass-Calay 2001; SEDAR 9 2006a), yellowtail snapper (Muller et al. 2003; SEDAR 3 2003), gray triggerfish (Valle et al. 2001; SEDAR 9 2006b), greater amberjack (Turner et al. 2000; SEDAR 9 2006c), hogfish (Ault et al. 2003; SEDAR 6 2004a), red grouper (NMFS, 2002; SEDAR 12 2007), gag (Turner et al. 2001; SEDAR 10 2006), yellowedge grouper (Cass-Calay and Bahnick 2002; SEDAR 22 2010), goliath grouper (Porch et al. 2003; SEDAR 6 2004b) and black grouper (SEDAR 19 2009). Eklund (1994) conducted a stock assessment on Nassau grouper in 1994 and updated estimates of generation times were developed by Legault and Eklund in1998.

Of the 12 species for which stock assessments have been conducted, the second quarter report of the 2007 Status of U.S. Fisheries (NMFS 2007) classified two of these species (greater amberjack and red snapper) as overfished, and four species (red snapper, gag, gray triggerfish and greater amberjack) as undergoing overfishing. Results of the 2006 vermilion snapper assessment (SEDAR 9 2006a) determined vermilion snapper was not overfished or undergoing overfishing. The 2006 assessments for gray triggerfish and gag (SEDAR 9 2006b and SEDAR

10 2006, respectively) determined that these two species were experiencing overfishing. The 2006 amberjack stock assessment ascertained that stock recovery was progressing slower than expected. The results of many stock assessments and stock assessment reviews are available to the public and are located on the Gulf Council (www.gulfcouncil.org) and SEDAR (www.sefsc.noaa.gov/sedar) Websites.

3.2.2 Red Drum

Newly hatched red drum spend about 20 days in the water column before becoming demersal (Rooker et al. 1999). Small juvenile red drum seek out and inhabit rivers, bays, canals, tidal creeks, boat basins, and passes within estuaries (Peters and McMichael 1987). Subadults are found in these habitats and in large aggregations on seagrass beds and over oyster bars, mud flats, or sand bottoms. Juvenile red drum feed primarily on copepods, mysid shrimp, and amphipods (Peters and McMichael 1987). Menhaden and anchovies were the most important prey for adult red drum in the winter and spring; crabs and shrimp were the most important prey in the summer and fall (Boothby and Avault 1971). Adult red drum are generally found along coastal beaches and in nearshore waters along coastlines. There are exceptions to this where adult red drum occur in the deeper parts and toward the mouths of estuaries during the fall spawning season.

The actions in this amendment are expected to have a positive effect the biological environment of red drum. This is an administrative action governing the harvest levels of federally managed fish. As such it would not have any effect on the environment, but would have, and is intended to improve and maintain healthy stocks.

3.2.3 Coral and Coral Reefs

Octocoral has life stages throughout the Gulf of Mexico including: Coral reefs in the North and South Tortugas Ecological Reserves, East and West Flower Garden Banks, McGrail Bank, and the southern portion of Pulley Ridge; hard bottom areas scattered along the pinnacles and banks from Texas to Mississippi, at the shelf edge and at the Florida Middle Grounds, the southwest tip of the Florida reef tract, and predominant patchy hard bottom offshore of Florida from approximately Crystal River south to the Florida Keys (GMFMC, 2005 Generic Amendment 3 for EFH). There are no biological impacts expected by removing Octocorals from the Coral and Coral Reefs FMP. The majority of landings are harvested in the state of Florida waters. The state of Florida will continue managing octocorals harvest.

3.2.4 Royal red Shrimp

Royal red shrimp are a deep-water shrimp occurring primarily in depths of 140 to 300 fathoms.
No biological impacts are expected in the actions to establish ACLs and AMs for royal red shrimp. The action is administrative in nature and as such would have no impact on the environment in which royal red shrimp occupy, but should have positive effects on the stock of royal red shrimp by maintaining a healthy stock size.

3.3 Description of the Affected Economic Environment

3.3.1 Commercial Sector

Harvest
Commercial harvest information is provided in Section 2.

Permits
The number of commercial reef fish permits on December 29, 2010, was 946 valid (non-expired) or renewable permits, of which 854 were valid. A renewable permit is an expired permit that may be renewed within one year of expiration. Among these totals were 62 permits with the longline endorsement, all of which were valid. Also on this date, there were 273 Gulf of Mexico shrimp permits with the royal red shrimp endorsement required to harvest royal red shrimp.

Ex-vessel Value and Economic Activity

Estimates of the average annual economic activity (impacts) associated with the commercial fisheries for the species addressed in the amendment were derived using the model developed for and applied in NMFS (2009c) and are provided in Table 3.3.1.1. Business activity for the commercial sector is characterized in the form of full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors).

Table 3.3.1.1 Average annual ex-vessel value and average annual economic activity associated with the commercial fisheries, 2004-2008.

Species	Average Ex-vessel Value[1] (millions)	Total Jobs	Harvester Jobs	Output (Sales) Impacts (millions)	Income Impacts (millions)
All Reef Fish	$44.0	8,296	1,083	$579.6	$247.0
Grouper & Tilefish (IFQ)	$24.6	4,640	605	$324.2	$138.2
Red Snapper	$10.9	2,058	269	$143.8	$61.3
Royal Red Shrimp	$0.8	186	17	$13.1	$5.5

[1]2008 dollars.

3.3.2 Economic Description of the Recreational Fishery

The recreational fishery is comprised of the private sector and for-hire sector. The private sector includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire sector is composed of the charterboat and headboat (also called partyboat) sectors. Charterboats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person.

Harvest

Recreational harvest information is provided in Section 2.

Effort

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

1. Target effort - The number of individual angler trips, regardless of trip duration, where the intercepted angler indicated that the species was targeted as either the first or the second primary target for the trip. The species did not have to be caught.
2. Catch effort - The number of individual angler trips, regardless of trip duration and target intent, where the individual species was caught. The fish caught did not have to be kept.
3. All recreational trips - The total estimated number of recreational trips taken, regardless of target intent or catch success.

Estimates of average annual recreational effort, 2004-2008, for the reef fish species addressed in this amendment and red drum are provided in Tables 3.3.2.1-9. In each table, where appropriate, the “total” refers to the total number of target or catch trips, as appropriate, while “all trips” refers to the total number of trips across all species regardless of target intent of catch success.

As might be expected, Florida dominates the other Gulf states in terms of the average annual number of target or catch trips for all of the individual or group species evaluations, with the number of target or catch trips for the species examined with the exception of catch trips for red drum, where Louisiana dominates (Tables 3.3.2.1 and 3.3.2.2). The private mode is generally the dominant fishing mode, with a few exceptions, such as mixed tilefish, scamp, mixed jacks, and vermilion snapper, where the charter mode reports more catch trips than the private mode (Tables 3.3.2.3 and 3.3.2.4). For individual reef fish species, gag has been subject to the greatest amount of average annual target effort, followed by gray snapper and red snapper, while gray snapper has been subject to the greatest amount of catch effort, followed by gag and red snapper (Table 3.3.2.4). Red drum, however, is subject to over three times more target effort per year than all of the reef fish species combined (Table 3.3.2.1) and only approximately 17 percent fewer catch trips (Table 3.3.2.2).

Tables 3.3.2.5-9 contain estimates of the average annual (2004-2008) target trips and catch trips, by species, for each state and mode.

Table 3.3.2.1. Average annual recreational target effort in the Gulf of Mexico, across all modes, 2004-2008.

	State					
Species*	**Alabama**	**Florida**	**Louisiana**	**Mississippi**	**Total**	**All Trips**
All Reef Fish	126,462	1,092,384	87,277	12,991	1,319,114	23,700,189
Golden Tilefish	0	0	0	0	0	
Mixed Tilefish	0	692	0	0	692	
Goliath Grouper	0	3,361	0	0	3,361	
Nassau Grouper	0	250	0	0	250	
Gag	9,385	505,756	276	0	515,418	
Red Grouper	583	161,426	0	0	162,008	
Black Grouper	0	6,386	0	0	6,386	
Scamp	110	300	0	0	410	
Mixed SWG	0	268	0	0	268	
Yellowedge Grouper	0	0	0	0	0	
Mixed DWG	0	1,059	0	0	1,059	
Hogfish	0	22,634	0	0	22,634	
Gray Snapper	697	344,824	27,671	934	374,126	
Yellowtail Snapper	0	42,209	0	0	42,209	
Mutton Snapper	0	4,611	0	0	4,611	
Mixed SWS	0	767	21	0	788	
Greater Amberjack	11,917	32,145	9,674	0	53,736	
Mixed Jacks	0	0	0	0	0	
Red Snapper	111,158	186,732	59,574	12,057	369,521	
Gray Triggerfish	8,559	9,906	448	0	18,913	
Vermilion Snapper	941	3,986	113	0	5,040	
Lane Snapper	573	5,091	272	0	5,937	
Mixed MWS	0	173	0	0	173	
Red Drum	261,520	2,187,751	1,850,685	97,528	4,397,485	

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.2. Average annual recreational catch effort in the Gulf of Mexico, across all modes, 2004-2008.

	State					
Species*	**Alabama**	**Florida**	**Louisiana**	**Mississippi**	**Total**	**All Trips**
All Reef Fish	218,712	3,033,514	161,402	16,350	3,429,979	23,700,189
Golden Tilefish	142	63	15	0	220	
Mixed Tilefish	19	2,405	21	0	2,446	
Goliath Grouper	117	50,072	0	0	50,188	
Nassau Grouper	0	1,452	0	0	1,452	
Gag	25,954	1,107,349	10,473	429	1,144,204	
Red Grouper	6,598	536,553	0	182	543,334	
Black Grouper	0	24,637	0	0	24,637	
Scamp	4,160	52,587	2,858	0	59,605	
Mixed SWG	109	4,799	480	0	5,388	
Yellowedge Grouper	850	192	124	0	1,166	
Mixed DWG	1,023	6,171	955	182	8,332	
Hogfish	0	46,760	0	0	46,760	
Gray Snapper	40,590	1,395,712	85,781	4,667	1,526,750	
Yellowtail Snapper	24	156,705	190	0	156,920	
Mutton Snapper	0	36,238	88	0	36,326	
Mixed SWS	0	4,307	374	0	4,681	
Greater Amberjack	17,763	101,719	18,709	112	138,303	
Mixed Jacks	1,714	34,504	5,569	0	41,788	
Red Snapper	161,508	481,612	94,385	12,259	749,764	
Gray Triggerfish	41,729	169,928	17,360	1,218	230,236	
Vermilion Snapper	35,358	159,461	7,216	1,233	203,268	
Lane Snapper	11,530	123,363	8,841	591	144,325	
Mixed MWS	0	1,781	59	0	1,840	
Red Drum	125,528	1,069,738	1,558,973	89,227	2,843,465	

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.3. Average annual recreational target effort in the Gulf of Mexico, across all states, 2004-2008.

	Mode				
Species*	**Shore**	**Charter**	**Private**	**Total**	**All Trips**
All Reef Fish	189,016	141,715	988,382	1,319,114	23,700,189
Golden Tilefish	0	0	0	0	
Mixed Tilefish	0	38	654	692	
Goliath Grouper	1,653	68	1,640	3,361	
Nassau Grouper	0	0	250	250	
Gag	41,526	23,194	450,698	515,418	
Red Grouper	1,339	12,037	148,632	162,008	
Black Grouper	0	407	5,979	6,386	
Scamp	0	410	0	410	
Mixed SWG	0	0	268	268	
Yellowedge Grouper	0	0	0	0	
Mixed DWG	0	37	1,023	1,059	
Hogfish	244	145	22,244	22,634	
Gray Snapper	146,292	8,008	219,826	374,126	
Yellowtail Snapper	1,364	11,257	29,588	42,209	
Mutton Snapper	840	984	2,787	4,611	
Mixed SWS	224	21	543	788	
Greater Amberjack	0	15,982	37,754	53,736	
Mixed Jacks	0	0	0	0	
Red Snapper	2,230	90,098	277,192	369,521	
Gray Triggerfish	0	5,556	13,357	18,913	
Vermilion Snapper	0	1,016	4,023	5,040	
Lane Snapper	0	1,344	4,593	5,937	
Mixed MWS	0	0	173	173	
Red Drum	689,488	84,348	3,623,648	4,397,485	

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.4. Average annual recreational catch effort in the Gulf of Mexico, across all states, 2004-2008.

	Mode				
Species*	**Shore**	**Charter**	**Private**	**Total**	**All Trips**
All Reef Fish	665,430	487,027	2,277,522	3,429,979	23,700,189
Golden Tilefish	0	79	142	220	
Mixed Tilefish	0	1,384	1,062	2,446	
Goliath Grouper	8,099	2,790	39,299	50,188	
Nassau Grouper	0	261	1,191	1,452	
Gag	123,580	134,081	886,544	1,144,204	
Red Grouper	10,052	99,931	433,351	543,334	
Black Grouper	1,302	8,083	15,251	24,637	
Scamp	0	31,239	28,366	59,605	
Mixed SWG	224	1,617	3,547	5,388	
Yellowedge Grouper	0	316	850	1,166	
Mixed DWG	0	3,310	5,021	8,332	
Hogfish	3,352	1,098	42,310	46,760	
Gray Snapper	518,512	71,992	936,247	1,526,750	
Yellowtail Snapper	23,837	40,876	92,207	156,920	
Mutton Snapper	7,139	10,216	18,971	36,326	
Mixed SWS	495	398	3,788	4,681	
Greater Amberjack	2,819	67,251	68,233	138,303	
Mixed Jacks	2,554	33,052	6,182	41,788	
Red Snapper	2,744	329,344	417,676	749,764	
Gray Triggerfish	3,099	105,933	121,203	230,236	
Vermilion Snapper	438	132,087	70,743	203,268	
Lane Snapper	21,402	25,901	97,023	144,325	
Mixed MWS	416	1,146	277	1,840	
Red Drum	376,736	99,048	2,367,681	2,843,465	

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.5. Average annual recreational effort, Alabama, 2004-2008.

	Shore		Charter		Private		Total	
Species*	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**
All Reef Fish	1,340	24,183	23,660	59,131	101,463	135,398	126,462	218,712
Golden Tilefish	0	0	0	0	0	142	0	142
Mixed Tilefish	0	0	0	19	0	0	0	19
Goliath Grouper	0	0	0	0	0	117	0	117
Nassau Grouper	0	0	0	0	0	0	0	0
Gag	849	2,249	706	6,256	7,831	17,449	9,385	25,954
Red Grouper	0	0	18	3,919	565	2,679	583	6,598
Black Grouper	0	0	0	0	0	0	0	0
Scamp	0	0	110	2,611	0	1,549	110	4,160
Mixed SWG	0	0	0	109	0	0	0	109
Yellowedge Grouper	0	0	0	0	0	850	0	850
Mixed DWG	0	0	0	78	0	945	0	1,023
Hogfish	0	0	0	0	0	0	0	0
Gray Snapper	263	20,899	155	3,289	280	16,402	697	40,590
Yellowtail Snapper	0	0	0	24	0	0	0	24
Mutton Snapper	0	0	0	0	0	0	0	0
Mixed SWS	0	0	0	0	0	0	0	0
Greater Amberjack	0	0	1,546	5,571	10,371	12,192	11,917	17,763
Mixed Jacks	0	0	0	1,565	0	150	0	1,714
Red Snapper	228	1,198	22,083	55,219	88,846	105,091	111,158	161,508
Gray Triggerfish	0	206	3,061	21,261	5,498	20,262	8,559	41,729
Vermilion Snapper	0	438	95	20,998	846	13,922	941	35,358
Lane Snapper	0	1,159	98	3,357	475	7,014	573	11,530
Mixed MWS	0	0	0	0	0	0	0	0
Red Drum	105,836	28,414	2,012	2,472	153,672	94,642	261,520	125,528

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.6. Average annual recreational effort, Florida, 2004-2008.

	Shore		Charter		Private		Total	
Species*	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**
All Reef Fish	186,620	632,469	92,847	374,751	812,917	2,026,294	1,092,384	3,033,514
Golden Tilefish	0	0	0	63	0	0	0	63
Mixed Tilefish	0	0	38	1,344	654	1,062	692	2,405
Goliath Grouper	1,653	8,099	68	2,790	1,640	39,183	3,361	50,072
Nassau Grouper	0	0	0	261	250	1,191	250	1,452
Gag	40,678	121,331	22,488	124,609	442,591	861,409	505,756	1,107,349
Red Grouper	1,339	10,052	12,020	96,012	148,067	430,489	161,426	536,553
Black Grouper	0	1,302	407	8,083	5,979	15,251	6,386	24,637
Scamp	0	0	300	26,790	0	25,798	300	52,587
Mixed SWG	0	224	0	1,124	268	3,450	268	4,799
Yellowedge Grouper	0	0	0	192	0	0	0	192
Mixed DWG	0	0	37	2,705	1,023	3,466	1,059	6,171
Hogfish	244	3,352	145	1,098	22,244	42,310	22,634	46,760
Gray Snapper	145,323	488,835	4,342	48,272	195,159	858,604	344,824	1,395,712
Yellowtail Snapper	1,364	23,837	11,257	40,662	29,588	92,207	42,209	156,705
Mutton Snapper	840	7,139	984	10,128	2,787	18,971	4,611	36,238
Mixed SWS	224	495	0	318	543	3,495	767	4,307
Greater Amberjack	0	2,819	10,228	49,733	21,917	49,167	32,145	101,719
Mixed Jacks	0	2,554	0	27,519	0	4,431	0	34,504
Red Snapper	1,652	1,546	47,133	230,560	137,947	249,506	186,732	481,612
Gray Triggerfish	0	2,893	2,495	78,939	7,411	88,096	9,906	169,928
Vermilion Snapper	0	0	808	106,067	3,178	53,394	3,986	159,461
Lane Snapper	0	19,653	973	18,844	4,118	84,866	5,091	123,363
Mixed MWS	0	416	0	1,087	173	277	173	1,781
Red Drum	282,051	119,657	21,713	25,076	1,883,986	925,005	2,187,751	1,069,738

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.7. Average annual recreational effort, Louisiana, 2004-2008.

	Shore		Charter		Private		Total	
Species*	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**
All Reef Fish	350	7,849	25,176	52,828	61,751	100,725	87,277	161,402
Golden Tilefish	0	0	0	15	0	0	0	15
Mixed Tilefish	0	0	0	21	0	0	0	21
Goliath Grouper	0	0	0	0	0	0	0	0
Nassau Grouper	0	0	0	0	0	0	0	0
Gag	0	0	0	3,175	276	7,298	276	10,473
Red Grouper	0	0	0	0	0	0	0	0
Black Grouper	0	0	0	0	0	0	0	0
Scamp	0	0	0	1,839	0	1,019	0	2,858
Mixed SWG	0	0	0	384	0	96	0	480
Yellowedge Grouper	0	0	0	124	0	0	0	124
Mixed DWG	0	0	0	528	0	428	0	955
Hogfish	0	0	0	0	0	0	0	0
Gray Snapper	0	7,849	3,511	20,314	24,160	57,618	27,671	85,781
Yellowtail Snapper	0	0	0	190	0	0	0	190
Mutton Snapper	0	0	0	88	0	0	0	88
Mixed SWS	0	0	21	80	0	294	21	374
Greater Amberjack	0	0	4,207	11,947	5,467	6,762	9,674	18,709
Mixed Jacks	0	0	0	3,969	0	1,601	0	5,569
Red Snapper	350	0	20,849	43,362	38,375	51,022	59,574	94,385
Gray Triggerfish	0	0	0	5,720	448	11,640	448	17,360
Vermilion Snapper	0	0	113	5,022	0	2,194	113	7,216
Lane Snapper	0	590	272	3,699	0	4,552	272	8,841
Mixed MWS	0	0	0	59	0	0	0	59
Red Drum	279,598	217,943	59,377	66,613	1,511,710	1,274,417	1,850,685	1,558,973

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Table 3.3.2.8. Average annual recreational effort, Mississippi, 2004-2008.

	Shore		Charter		Private		Total	
Species*	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**	**Target**	**Catch**
All Reef Fish	706	928	33	317	12,251	15,105	12,991	16,350
Golden Tilefish	0	0	0	0	0	0	0	0
Mixed Tilefish	0	0	0	0	0	0	0	0
Goliath Grouper	0	0	0	0	0	0	0	0
Nassau Grouper	0	0	0	0	0	0	0	0
Gag	0	0	0	40	0	388	0	429
Red Grouper	0	0	0	0	0	182	0	182
Black Grouper	0	0	0	0	0	0	0	0
Scamp	0	0	0	0	0	0	0	0
Mixed SWG	0	0	0	0	0	0	0	0
Yellowedge Grouper	0	0	0	0	0	0	0	0
Mixed DWG	0	0	0	0	0	182	0	182
Hogfish	0	0	0	0	0	0	0	0
Gray Snapper	706	928	0	116	227	3,622	934	4,667
Yellowtail Snapper	0	0	0	0	0	0	0	0
Mutton Snapper	0	0	0	0	0	0	0	0
Mixed SWS	0	0	0	0	0	0	0	0
Greater Amberjack	0	0	0	0	0	112	0	112
Mixed Jacks	0	0	0	0	0	0	0	0
Red Snapper	0	0	33	203	12,024	12,056	12,057	12,259
Gray Triggerfish	0	0	0	13	0	1,206	0	1,218
Vermilion Snapper	0	0	0	0	0	1,233	0	1,233
Lane Snapper	0	0	0	0	0	591	0	591
Mixed MWS	0	0	0	0	0	0	0	0
Red Drum	22,002	10,723	1,246	4,887	74,280	73,617	97,528	89,227

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

*All Reef Fish = all species in the reef fish management unit; Mixed Tilefish = blueline tilefish, anchor tilefish, goldface tilefish, and blackline tilefish; Mixed SWG = red hind, rock hind, yellowfin grouper, and yellowmouth grouper; Mixed DWG = Warsaw grouper, snowy grouper, misty grouper, and speckled hind; Mixed SWS = schoolmaster, dog snapper, mahogany snapper, and cubera snapper; Mixed Jacks = lesser amberjack, almaco jack, and banded rudderfish; Mixed MWS = blackfin snapper, silk snapper, queen snapper, and wenchman.

Similar analysis of recreational effort is not possible for the headboat sector because the headboat data are not collected at the angler level. Estimates of effort in the headboat sector 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 average annual (2004-2008) number of headboat angler days is presented in Table 3.3.9. Alabama is combined with Florida in the data program.

Table 3.3.2.9. Gulf of Mexico headboat angler days, 2004-2008.

	Gulf of Mexico			
	Louisiana*	Texas	WFlorida/ Alabama	Total*
2004	0	64,990	158,430	226,911
2005	0	59,857	130,233	193,581
2006	5,005	70,789	124,049	199,843
2007	2,522	63,764	136,880	203,166
2008	2,945	41,188	130,176	174,309
Average*	3,491	60,118	135,954	199,562

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab.
*Headboat data were not collected in Louisiana in 2004 and 2005. Rather than use "0" for these years, the period average for Louisiana is the average for 2006-2008 and the Gulf-wide totals for 2004 and 2005 assume that the number of angler days in Louisiana for these years equaled the 2006-2008 average. If this assumption is not made, i.e., the number of angler days in Louisiana in 2004 and 2005 are treated as zero, the 2004 and 2005 Gulf-wide totals reduce to 223,420 and 190,090 angler days, respectively, and the average annual Gulf-wide total for 2004-2008 reduces to 198,166 trips.

Permits

The number of reef fish for-hire permits on December 29, 2010, is provided in Table 3.3.10. There are no specific permitting requirements for recreational anglers to harvest reef fish. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions.

Table 3.3.10 Number of reef fish for-hire permits.

	Valid[1]	Valid or Renewable
Reef Fish For-hire	1,253	1,355
Historic Captain	36	43

[1]Non-expired. Expired permits may be renewed within one year of expiration.

Economic Value, Expenditures, and Economic Activity

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus. The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips.

Estimates of the consumer surplus per fish, based on the estimated willingness-to-pay for one additional fish caught and kept, are reported in Haab *et al.* (2009). Based on the authors recommendations that "the recreational value per catch should be conducted with the best estimate available," the consumer surplus (2008 dollars) for the key species or species groups addressed by this proposed amendment are estimated to be: red drum - $16-$28; red snapper - $128-$154; mixed groupers - $94-$123; and, mixed snappers - $$28-$31. It should be noted that these ranges represent the point estimates derived from alternative estimation models and are not statistical confidence intervals. The appropriate confidence intervals, however, are provided in Haab et al. (2009). Estimates of the consumer surplus for per fish for the other species or species groups addressed by this proposed amendment are not available.

While anglers receive economic value as measured by the consumer surplus associated with fishing, for-hire businesses receive value from the services they provide. Producer surplus is the measure of the economic value these operations receive. Producer surplus is the difference between the revenue a business receives for a good or service, such as a charter or headboat trip, and the cost the business incurs to provide that good or service. Estimates of the producer surplus associated with for-hire trips are not available. However, proxy values in the form of net operating revenues are available (David Carter, NMFS SEFSC, personal communication, September 2010). These estimates were culled from several studies – Liese et al. (2009), Holland et al. (1999), and Sutton et al. (1999). Estimates of net operating revenue per angler trip (2008 dollars) on representative charter trips (average charter trip regardless of area fished) are $148 for Louisiana through east Florida. Comparable estimates are not available for Texas.

Net operating revenues per angler trip are lower for headboats than for charterboats. Net operating revenue estimates for a representative headboat trip are $49 (2008 dollars) in the Gulf of Mexico (all states).

These value estimates should not be confused with angler expenditures or the economic activity (impacts) associated with these expenditures. While expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

Estimates of the economic activity (impacts) associated with the recreational fishery for all reef fish and select individual species (gag, gray snapper, red snapper, and red drum) were derived using average coefficients for recreational angling across all fisheries (species), as derived by an economic add-on to the MRFSS, and described and utilized in NMFS (2009c). Business activity is characterized in the form of FTE jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts

are equivalent metrics across both the commercial and recreational sectors. Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. Job and output (sales) impacts, however, may be added across sectors.

Estimates of the average expenditures by recreational anglers are provided in NMFS (2009c) and are incorporated herein by reference. Estimates of the average recreational effort (2004-2008) and associated economic impacts (2008 dollars) are provided in Tables 3.3.12-16. Target trips were used as the measure of recreational effort. As previously discussed, more trips may catch a species than target the species. Where such occurs, estimates of the economic activity associated with the average number of catch trips can be calculated based on the ratio of catch trips to target trips because the average output impact and jobs per trip cannot be differentiated by trip intent. For example, if the number of catch trips is three times the number of target trips for a particular state and mode, the estimate of the associated business activity would equal three times the estimate associated with target trips. Tables 3.3.2.5-8 contain estimates of the average annual (2004-2008) target trips and catch trips, by species or species group, for each state and mode.

It should be noted that output impacts and value added impacts are not additive and the impacts for individual species should not be added because of possible duplication (some trips may target multiple species). Also, the estimates of economic activity should not be added across states to generate a regional total because state-level impacts reflect the economic activity expected to occur within the state before the revenues or expenditures "leak" outside the state, possibly to another state within the region. Under a regional model, economic activity that "leaks" from, for example, Florida into Alabama, would still occur within the region and continue to be tabulated. As a result, regional totals would be expected to be greater than the sum of the individual state totals. Regional estimates of the economic activity associated with the fisheries for these species are unavailable at this time.

The distribution of the estimates of economic activity by state and mode are consistent with the effort distribution with the exception that charter anglers, on average, spend considerably more money per trip than anglers in other modes. As a result, the number of charter trips can be a fraction of the number of private trips, yet generate similar estimates of the amount of economic activity. For example, as derived from Table 3.3.2.11, the average number of charter snapper grouper target trips in Florida (92,847 trips) was only approximately 11 percent of the number of private trips (812,917), whereas the estimated output (sales) impacts by the charter anglers (approximately $29.2 million) was approximately 79 percent of the output impacts of the private trips (approximately $36.9 million).

Table 3.3.2.11. Summary of reef fish target trips (2004-2008 average) and associated economic activity (2008 dollars). Output and value added impacts are not additive.

	Alabama	Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	1,340	186,620	350	706	Unknown
Output Impact	$98,032	$12,647,062	$24,727	$9,503	
Value Added Impact	$52,736	$7,347,528	$12,482	$4,738	
Jobs	1	134	0	0	
	Private/Rental Mode				
Target Trips	101,463	812,917	61,751	12,251	Unknown
Output Impact	$5,903,260	$36,907,538	$5,035,707	$349,378	
Value Added Impact	$3,231,901	$21,946,607	$2,476,736	$167,447	
Jobs	62	368	47	3	
	Charter Mode				
Target Trips	23,660	92,847	25,176	33	Unknown
Output Impact	$12,318,610	$29,154,575	$11,985,080	$10,253	
Value Added Impact	$6,780,982	$17,285,661	$6,805,107	$5,778	
Jobs	165	300	126	0	
	All Modes				
Target Trips	126,463	1,092,384	87,277	12,990	Unknown
Output Impact	$18,319,903	$78,709,175	$17,045,514	$369,135	
Value Added Impact	$10,065,619	$46,579,796	$9,294,325	$177,962	
Jobs	228	802	174	3	

Source: effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009c).

Table 3.3.2.12. Summary of gag target trips (2005-2009 average) and associated economic activity (2008 dollars). Output and value added impacts are not additive.

	Alabama	Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	849	40,678	0	0	Unknown
Output Impact	$62,111	$2,756,710	$0	$0	
Value Added Impact	$33,412	$1,601,558	$0	$0	
Jobs	1	29	0	0	
	Private/Rental Mode				
Target Trips	7,831	442,591	276	0	Unknown
Output Impact	$455,619	$20,094,234	$22,507	$0	
Value Added Impact	$249,441	$11,948,785	$11,070	$0	
Jobs	5	201	0	0	
	Charter Mode				
Target Trips	706	22,488	0	0	Unknown
Output Impact	$367,580	$7,061,382	$0	$0	
Value Added Impact	$202,340	$4,186,672	$0	$0	
Jobs	5	73	0	0	
	All Modes				
Target Trips	9,386	505,757	276	0	Unknown
Output Impact	$885,310	$29,912,325	$22,507	$0	
Value Added Impact	$485,194	$17,737,015	$11,070	$0	
Jobs	10	302	0	0	

Source: effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009c).

Table 3.3.2.13 Summary of gray snapper target trips (2005-2009 average) and associated economic activity (2008 dollars). Output and value added impacts are not additive.

	Alabama	Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	263	145,323	0	706	Unknown
Output Impact	$19,241	$9,848,403	$0	$9,503	
Value Added Impact	$10,350	$5,721,599	$0	$4,738	
Jobs	0	104	0	0	
	Private/Rental Mode				
Target Trips	280	195,159	24,160	227	Unknown
Output Impact	$16,291	$8,860,484	$1,970,214	$6,474	
Value Added Impact	$8,919	$5,268,776	$969,020	$3,103	
Jobs	0	88	19	0	
	Charter Mode				
Target Trips	155	4,342	3,511	0	Unknown
Output Impact	$80,701	$1,363,417	$1,671,418	$0	
Value Added Impact	$44,423	$808,366	$949,028	$0	
Jobs	1	14	18	0	
	All Modes				
Target Trips	698	344,824	27,671	933	Unknown
Output Impact	$116,232	$20,072,304	$3,641,632	$15,977	
Value Added Impact	$63,692	$11,798,741	$1,918,048	$7,840	
Jobs	1	207	36	0	

Source: effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009c).

Table 3.3.2.14 Summary of red snapper target trips (2005-2009 average) and associated economic activity (2008 dollars). Output and value added impacts are not additive.

	Alabama	Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	228	1,652	350	0	Unknown
Output Impact	$16,680	$111,954	$24,727	$0	
Value Added Impact	$8,973	$65,042	$12,482	$0	
Jobs	0	1	0	0	
	Private/Rental Mode				
Target Trips	88,846	137,947	38,375	12,024	Unknown
Output Impact	$5,169,185	$6,262,981	$3,129,427	$342,905	
Value Added Impact	$2,830,012	$3,724,204	$1,539,161	$164,344	
Jobs	54	63	29	3	
	Charter Mode				
Target Trips	22,083	47,133	20,849	33	Unknown
Output Impact	$11,497,543	$14,800,075	$9,925,204	$10,253	
Value Added Impact	$6,329,013	$8,774,921	$5,635,513	$5,778	
Jobs	154	152	104	0	
	All Modes				
Target Trips	111,157	186,732	59,574	12,057	Unknown
Output Impact	$16,683,409	$21,175,011	$13,079,358	$353,158	
Value Added Impact	$9,167,997	$12,564,167	$7,187,157	$170,122	
Jobs	208	216	134	3	

Source: effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009c).

Table 3.3.2.15 Summary of red drum target trips (2005-2009 average) and associated economic activity (2008 dollars). Output and value added impacts are not additive.

	Alabama	Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	105,836	282,051	279,598	22,002	Unknown
Output Impact	$7,742,786	$19,114,331	$19,752,892	$296,165	
Value Added Impact	$4,165,170	$11,104,800	$9,971,281	$147,651	
Jobs	95	203	206	3	
	Private/Rental Mode				
Target Trips	153,672	1,883,986	1,511,710	74,280	Unknown
Output Impact	$8,940,853	$85,535,528	$123,277,824	$2,118,343	
Value Added Impact	$4,894,914	$50,862,634	$60,632,326	$1,015,260	
Jobs	94	854	1,159	18	
	Charter Mode				
Target Trips	2,012	21,713	59,377	1,246	Unknown
Output Impact	$1,047,550	$6,818,026	$28,266,528	$387,139	
Value Added Impact	$576,641	$4,042,388	$16,049,685	$218,150	
Jobs	14	70	297	4	
	All Modes				
Target Trips	261,520	2,187,750	1,850,685	97,528	Unknown
Output Impact	$17,731,190	$111,467,885	$171,297,244	$2,801,647	
Value Added Impact	$9,636,725	$66,009,821	$86,653,292	$1,381,061	
Jobs	203	1,127	1,663	26	

Source: effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009c).

As previously noted, the values provided in Tables 3.3.2.11-15 only reflect effort derived from the MRFSS. Because the headboat sector in the Southeast is not covered by the MRFSS, the results in Tables 3.3.2.11-15 do not include estimates of the economic activity associated with headboat anglers. While estimates of headboat effort are available (see Table 3.3.2.9), species target information is not collected in the Headboat Survey, which prevents the generation of estimates of the number of headboat target trips for individual species. Further, because the model developed for NMFS (2009c) was based on expenditure data collected through the MRFSS, expenditure data from headboat anglers was not available and appropriate economic expenditure coefficients have not been estimated. As a result, estimates of the economic activity associated with the headboat sector comparable to those of the other recreational sector modes cannot be provided.

3.4 Description of the Affected Social Environment

A portion of the demographic description of the social environment is presented at the county level and will include a brief discussion of the communities within each county that are most reliant upon the pertinent species, both commercially and recreationally. Utilizing demographic data at the county level will allow for updated statistics from the Census Bureau which produces estimates for geographies (counties; minor civil divisions; census designated places, etc.) that are larger than 20,000 prior to the decennial census.[10] Estimates for smaller geographies are not available at this time. Because employment opportunities often occur within a wider geographic boundary than just the community level, tables with the number of persons employed in marine related businesses will also be provided at the county level. A discussion of various demographics within the county will be used to address environmental justice concerns as there are no data available at the community level at this time. A more detailed description of environmental justice concerns will be included under Other Applicable Law Section 7.0, E.O. 12898.

The county-level description will focus primarily on the demographic character while fishing activity at the community level will be described where needed. Here a brief discussion of coastal growth and development that seems to affect many coastal communities, especially those with either or both commercial and recreational working waterfronts that might be reflected in those demographic statistics. This is especially true for places like Monroe County which has very limited land area and has seen a steady rise in land values. Recent research on the Florida Keys' communities (Shivalani 2009) has described the problem of increasing land values and disappearance of working waterfronts, especially for communities like Key West. The rapid disappearance of these types of waterfronts has important implications as the disruption of various types of fishing-related businesses and employment affect fisheries overall. The process of "gentrification," which tends to push those of a lower socio-economic class out of traditional communities as property values and taxes rise has become common along coastal areas of the U.S. and around the world. Working waterfronts tend to be displaced with development that is often stated as the "highest and best" use of waterfront property, but often is not associated with water-dependent occupations. However, with the continued removal of these types of businesses over time the local economy becomes less diverse and more reliant on the service sector and recreational tourism. As home values increase, people within lower socio-economic strata find it difficult to live within these communities and eventually must move. Consequently they spend more time and expense commuting to work, if jobs continue to be available. Newer residents often have no association with the water-dependent employment and may see that type of work and its associated infrastructure as unappealing. They often do not see the linkage between those occupations and the aesthetics of the community that produced the initial appeal for many migrants. The demographic trends within counties can provide some indication as to whether these types of coastal change may be occurring if an unusually high rate of growth or change in the demographic character of the population is present. A rise in education levels, property values, fewer owner occupied properties and an increase in the median age can at times indicate a growing process of gentrification.

[10] American Community Survey estimates are based on data collected over a three year time period. The estimates represent the average characteristics of population and housing between January 2006 and December 2008 and do not represent a single point in time. Because these data are collected over three years, they include estimates for geographic areas with populations of 20,000 or more.

Although the most recent estimates of census data have been used here, many of the statistics related to the economic condition of counties or communities do not capture the recent downturn in the economy which may have significant impacts on current employment opportunities and business operations. Therefore, in the demographic descriptions of both counties and communities, it should be understood that in terms of unemployment, the current conditions could be worse than indicated by the estimates used here. To be consistent, census data are used for the various demographic characteristics and as noted earlier are limited to the most recent estimates which are an average for 2006 - 2008. Other aspects of trade and market forces as a result of the economic downturn could also affect the business operations of vessels, dealers, wholesalers and retail seafood businesses for the commercial sector and charter services and other support services for the recreational fishery. These may not be reflected in the demographic profile provided here.

3.4.1 Fishing Communities

The following description of commercial fishing communities represents a categorization of communities based upon their overall value of local commercial landings divided by the overall value of commercial landings and is referred to as a "regional quotient." These data were assembled from the accumulated landings system which includes all species from both state and federal waters landed in 2008. All communities were ranked on this "regional quotient" and divided by those who were above the mean and those below. In the following maps, those above the mean were then divided into thirds with the top tier classified as Primarily Involved in fishing; the second tier classified as Secondarily Involved; and the third classified as being Tangentially Involved. The communities included within the maps below were only those communities that were categorized as primarily or secondarily involved. A similar process was completed with recreational fishing communities using permits and recreational fishing infrastructure and the top two tier communities were also included. This breakdown of fisheries involvement is similar to how communities were categorized in the community profiling of Gulf fishing communities (Impact Assessment, Inc. 2005). However, the categorization within the community profiles included other aspects associated with fishing such as infrastructure and other measures to determine a community's status with regard to reliance upon fishing. While these communities represent all fishing communities, those that are more involved in the relevant species for this amendment are represented in more depth within their respective county descriptions.

The following charts represent the top ten commercial fishing communities with landings and value for a particular species or species group with regard to the regional quotient. These communities will be described further under the discussion of regional maps depicting the social vulnerability of the county in which the community is located.

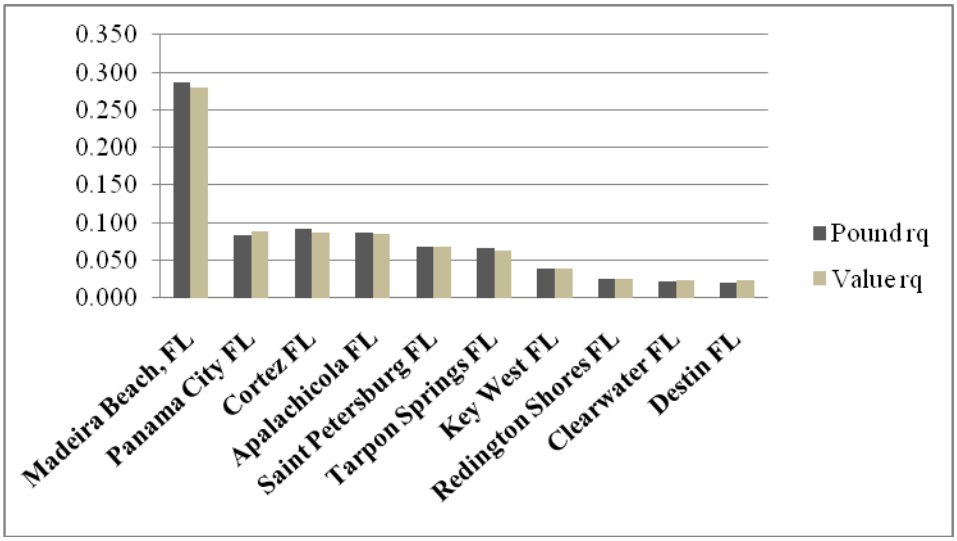


Figure 3.4.1.1. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Shallow-water Grouper. Source ALS 2008

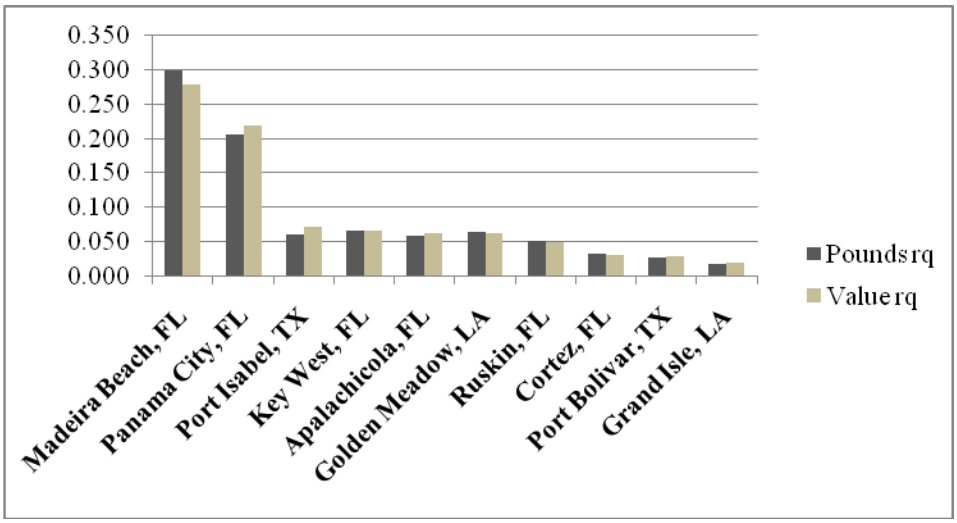


Figure 3.4.1.2. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Deep-water Grouper. Source ALS 2008

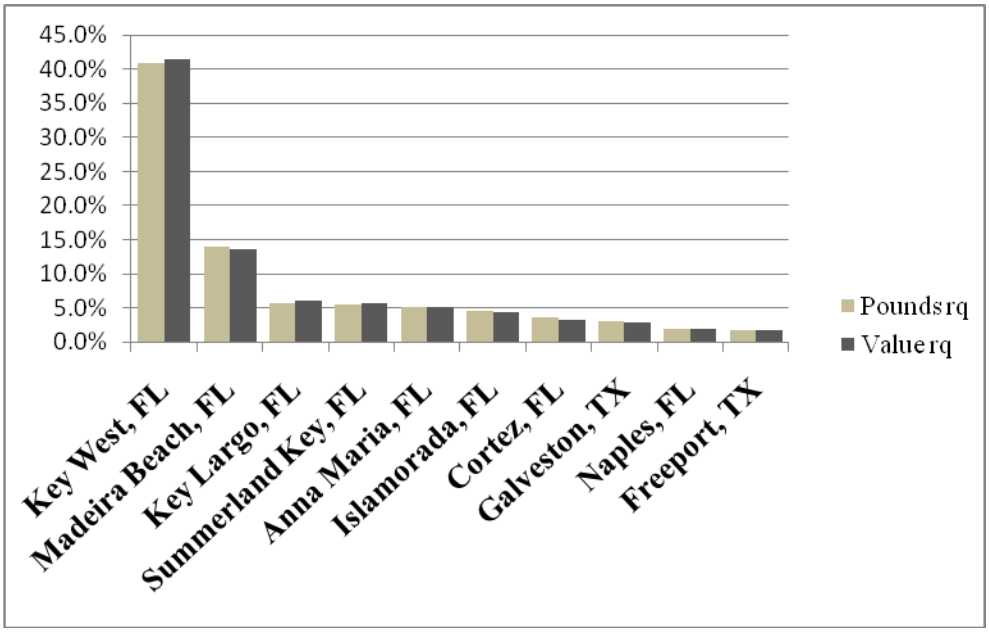


Figure 3.4.1.3. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Black Grouper. (see Action 7.3.1) Source ALS 2008

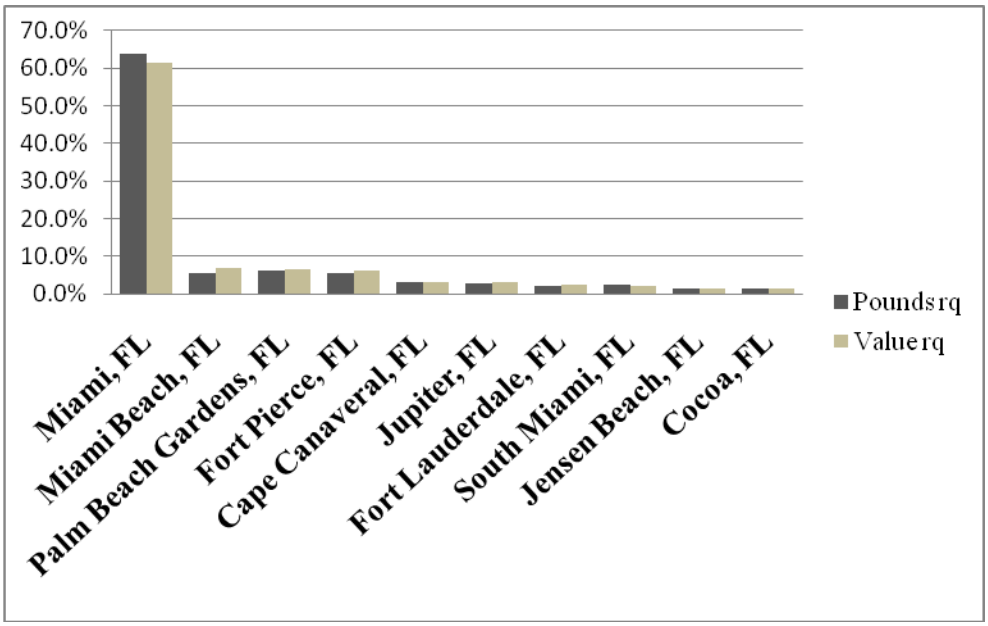


Figure 3.4.1.4. Top Ten South Atlantic Communities Ranked by Pounds and Value of Regional Quotient of Black Grouper. (see Action 7.3.1) Source ALS 2008

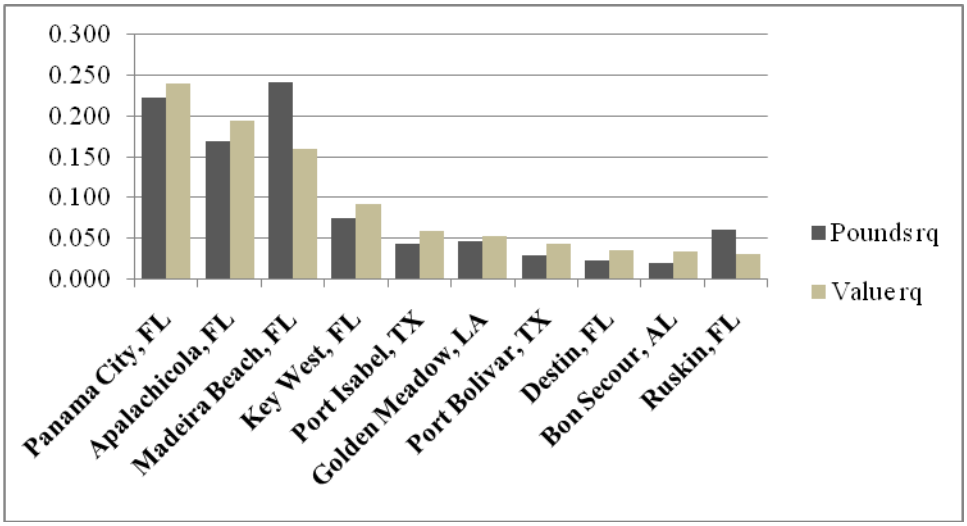


Figure 3.4.1.5. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Tilefish. Source ALS 2008

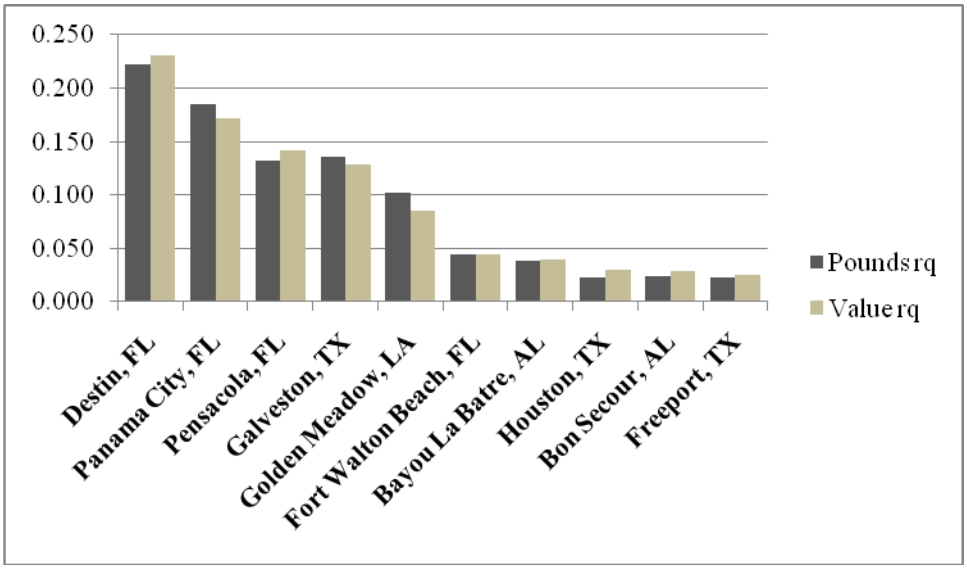


Figure 3.4.1.6. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Vermilion Snapper. Source ALS 2008

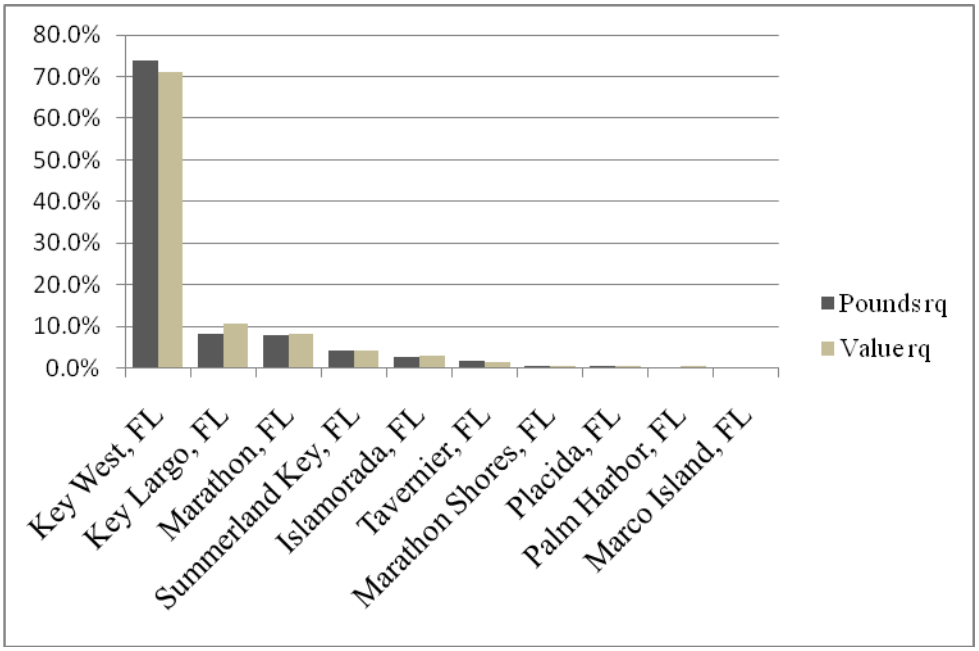


Figure 3.4.1.7. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Yellowtail Snapper. (see Action 7.3.2) Source ALS 2008

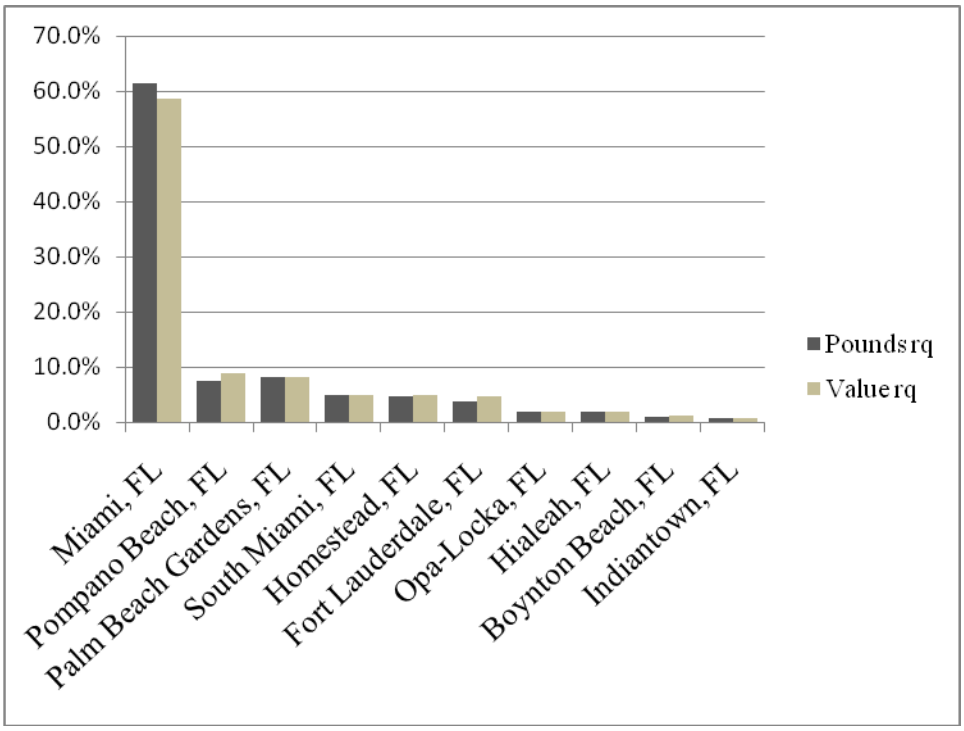


Figure 3.4.1.8. Top Ten South Atlantic Communities Ranked by Pounds and Value of Regional Quotient of Yellowtail Snapper. (see Action 7.3.2) Source ALS 2008

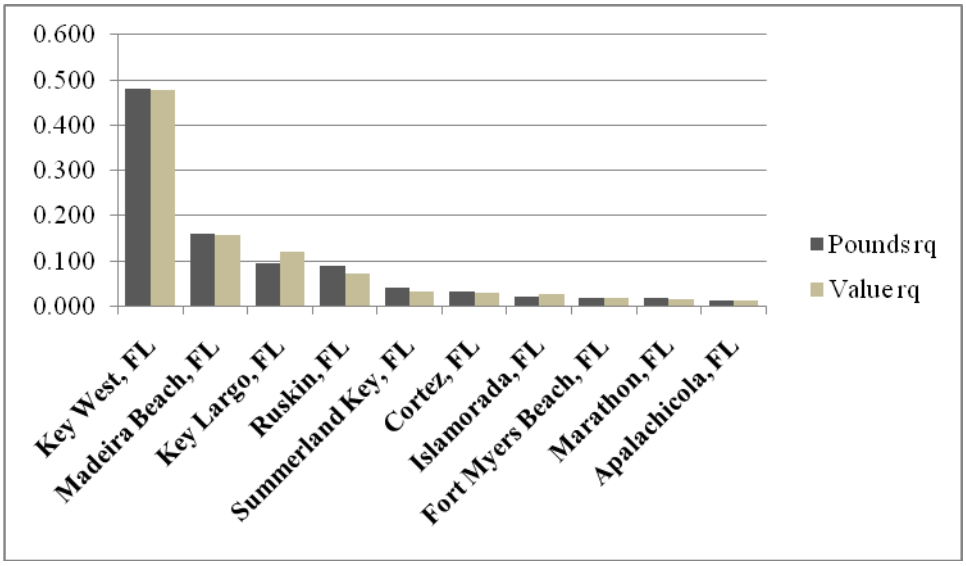


Figure 3.4.1.9. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Mutton Snapper. (see Action 7.3.3) Source ALS 2008

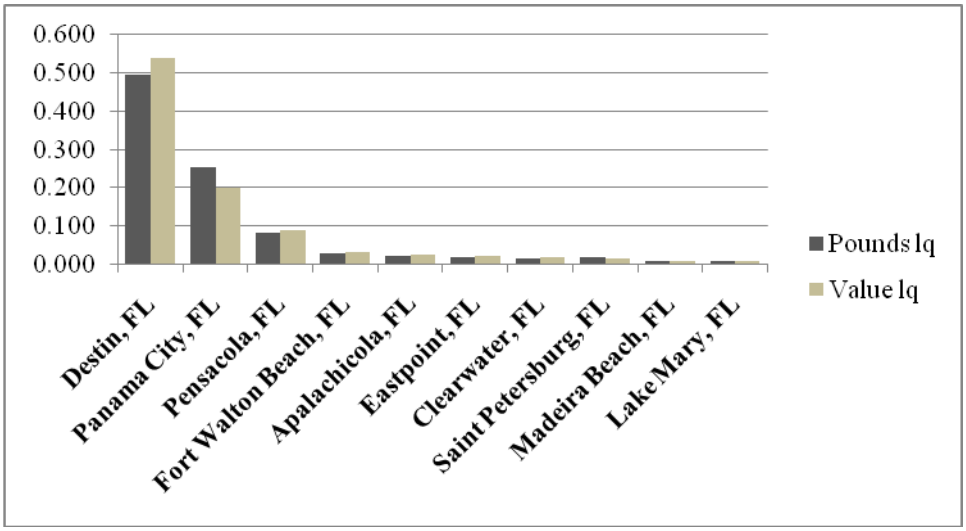


Figure 3.4.1.10. Top Ten Gulf Communities Ranked by Pounds and Value of Regional Quotient of Red Snapper. Source ALS 2008

<u>Reef Fish</u>
Commercial

Many of the species included in this amendment are reef fish species. Figure 3.4.1.11 exhibits the distribution of commercial reef fish permits throughout the five Gulf States. Permits are most heavily concentrated in Florida and specifically in three areas along the Florida coast: west central, central panhandle and the Florida Keys.

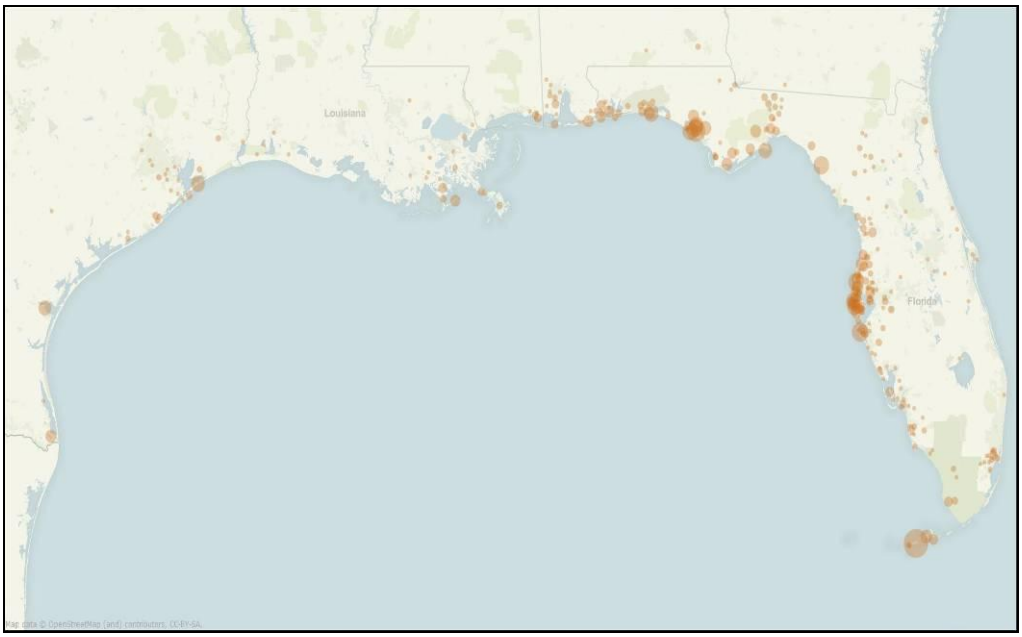


Figure 3.4.1.11. Reef Fish Permit Distribution by Owner Zip Code for the Gulf of Mexico (2009). Source: SERO

Recreational

The distribution of reef fish charter permits is provided in Fig. 3.4.1.12. Again permits are heavily concentrated along Florida's west coast, but there seems to be a greater concentration along Florida's western section of the panhandle and Alabama's coast in Baldwin County than with commercial permits. This is expected as there are large fleets of charter vessels in Destin, Florida and Orange Beach, Alabama.

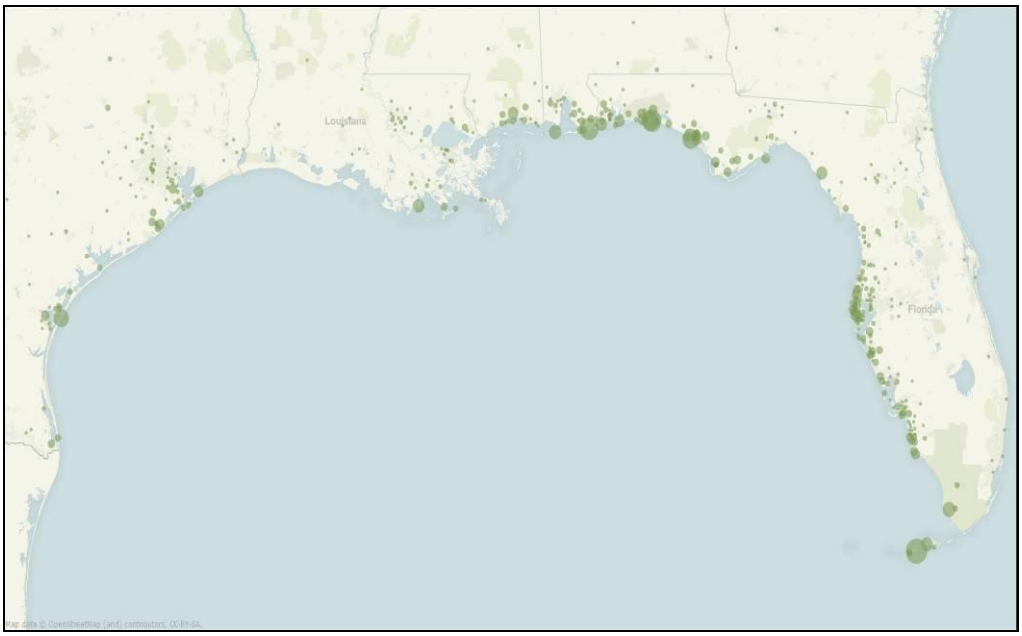


Figure 3.4.1.12. Reef Fish Charter Permit Distribution by Owner Zip Code for the Gulf of Mexico (2009). Source: SERO

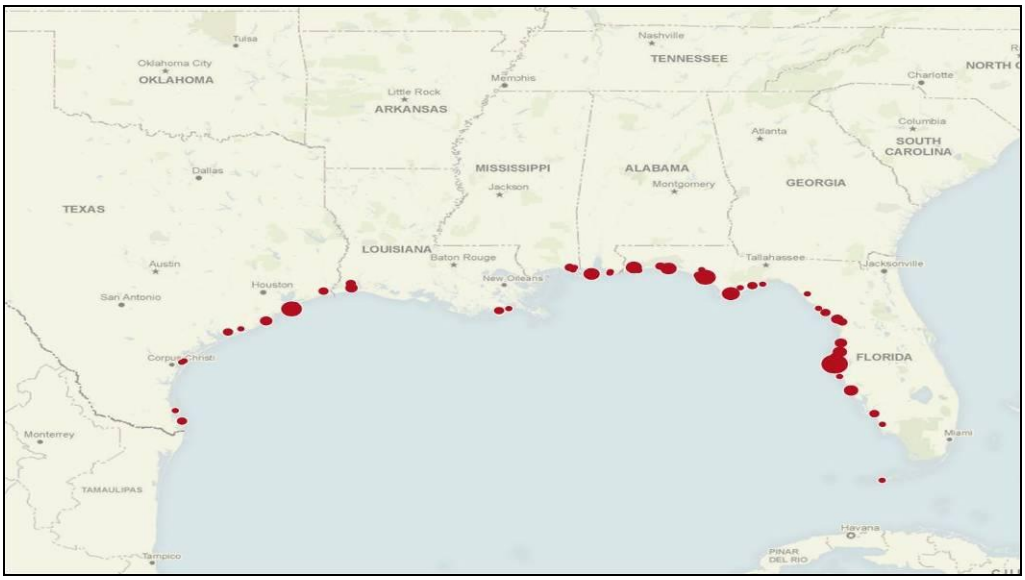


Figure 3.4.1.13. Red snapper IFQ landing sites by frequency of sites identified within a community (2009). Source: SERO

Catch Shares

The Gulf Council recently established two catch share programs within the reef fish fishery: the red snapper individual fishing quota (IFQ) program and the Grouper/Tilefish IFQ program. An IFQ program is one type of "catch shares" in which quota shares for different species or species groupings were allocated to commercial fishermen with historic landings and a reef fish permit. Figure 3.4.1.13 illustrates the distribution of IFQ dealers throughout the five Gulf States, showing where IFQ managed species may be landed. The figure does not represent the amount of landings. The following figures show the distribution of quota shareholders within the Gulf of Mexico for a particular component of the IFQ program.

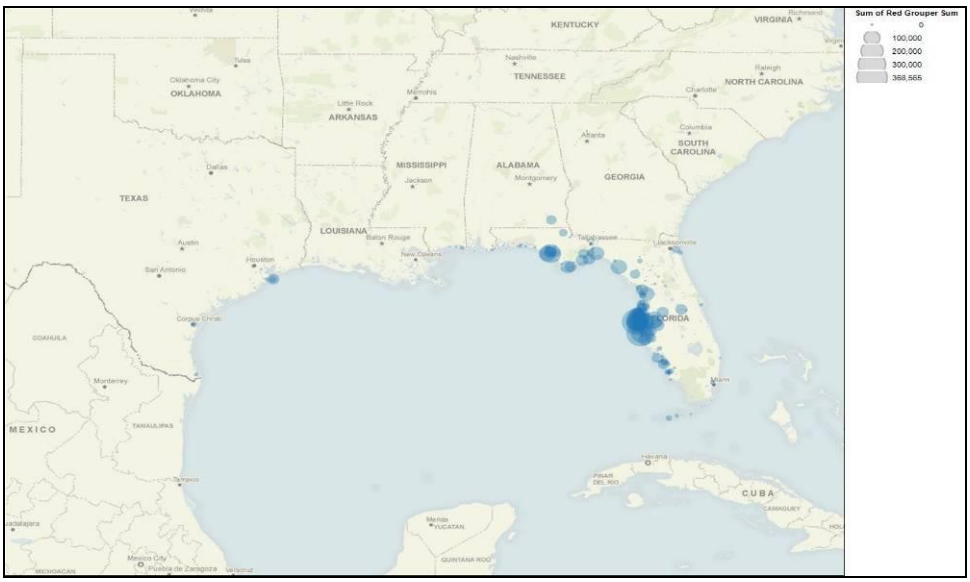


Figure 3.4.1.14. Red Grouper Shareholder Distribution by Owner Zip Code for the Gulf of Mexico. Source: SERO

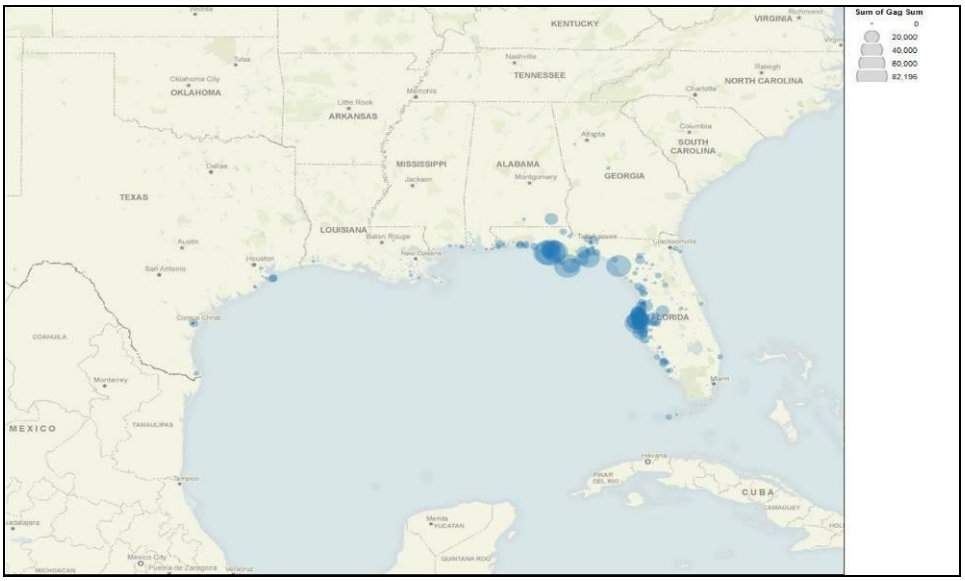


Figure 3.4.1.15. Gag Grouper Shareholder Distribution by Owner Zip Code for the Gulf of Mexico. Source: SERO

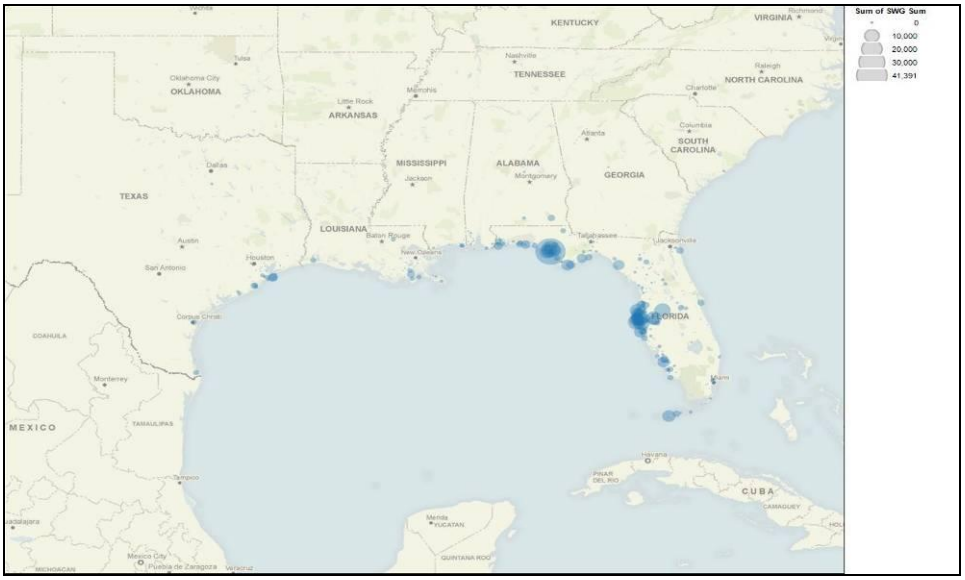


Figure 3.4.1.16. Shallow Water Grouper Shareholder Distribution by Owner Zip Code for the Gulf of Mexico. Source: SERO

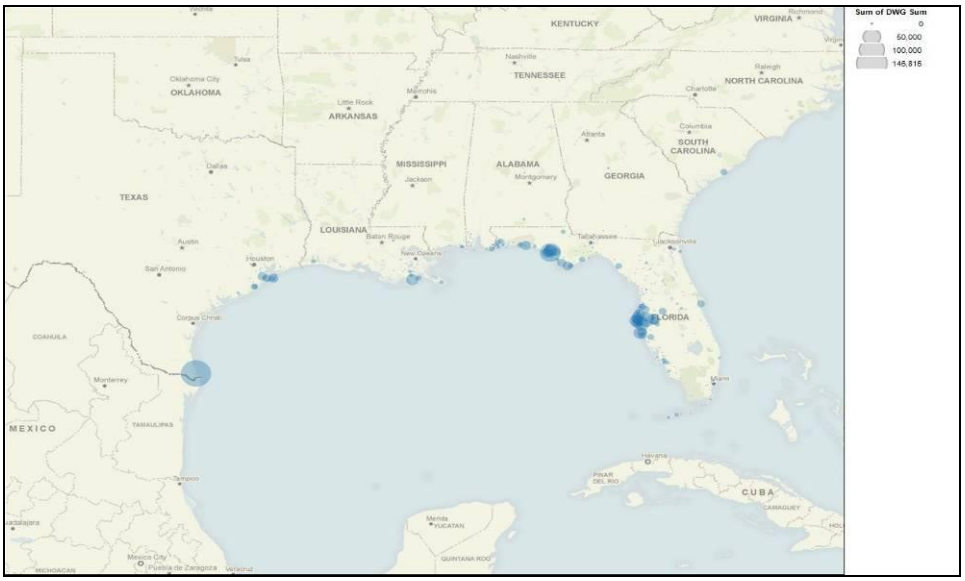


Figure 3.4.1.17. Deepwater Grouper Shareholder Distribution by Owner Zip Code for the Gulf of Mexico. Source: SERO

3.4.2 Social Vulnerability

In the following figures, the counties along the Gulf coast are shown with fishing communities identified in each. Each county has also been geocoded with regard to social vulnerability as measured by the Social Vulnerability Index (SoVI). Counties identified as more vulnerable are shaded with lighter and darker red tones while those least vulnerable are shaded in lighter and darker blue tones. The yellow shading represents medium vulnerability. The Index was created by the Hazards Research Lab at the University of South Carolina to understand how places that are susceptible to coastal hazards might also exhibit vulnerabilities to social change or disruptions (http://webra.cas.sc.edu/hvri/products/sovi.aspx#). These vulnerabilities may come in the form of high unemployment, high poverty rates, low education and other demographic characteristics. In fact, the SoVI is an index that consists of 32 different variables combined into one comprehensive index to measure social vulnerability. Although the SoVI was created to understand social vulnerability to coastal environmental hazards, it can also be interpreted as a general measure of vulnerability to other social disruptions, such as adverse regulatory change or manmade hazards. This does not mean that there will be adverse effects, only that there may be a potential (i.e., vulnerability) for adverse effects under certain circumstances. Fishing communities in these counties may have more difficulty adapting to regulatory changes if those impacts affect employment or other critical social capital. At present, a social vulnerability index is being created for fishing communities in the Southeast region with more timely data (the SoVI uses 2000 census data). Until that index is completed, the SoVI will substitute at the county level for a measure of vulnerability for those communities that are within the boundaries of a particular coastal county. This concept is closely tied to environmental justice and the thresholds that are addressed with regard to that concept.

The communities displayed in Figure 3.4.3.1 and other maps below are based upon the communities that were categorized as primarily or secondarily involved with fishing. This map provides an indication of those fishing communities that reside in counties that are considered vulnerable. This does not mean that these communities will be adversely affected; only that based upon the vulnerabilities that exist within the county there is the possibility that these communities could have difficulty recovering from social disruptions which may include regulatory change as a result of this amendment.

Figures are also provided for individual communities with significant commercial landings. For each of these communities, the figure identifies the most important species to the community based on the "local quotient." The local quotient (lq) is the proportion that each species contributes to total landings and value within the community. In Figure 3.4.3.2, approximately 40% of commercial landings in Pensacola, Florida consist of vermilion snapper, which makes up approximately 55% of the value of the total landings.

3.4.3 Marine Related Employment

Within each Gulf state's following description is a table that summarizes marine related employment within the coastal counties of each state. These summaries provide estimates for the number of sole proprietors (# Prop) and the number of employed persons (# Emp) for various sectors associated with employment in the marine environment. These categories were chosen because the occupations that are represented within each sector often include fishing related activities or fishing related support activities. For instance, the sector titled Scenic Water includes charter fishermen within its employment estimates. The sector Shipping includes various shipping containers that are used by fish houses and others to handle seafood. While these estimates do not encompass all employment related to fishing and its support activities, it does provide some approximation of the amount of activity associated with employment related to both recreational and commercial fishing.

Florida Panhandle Communities

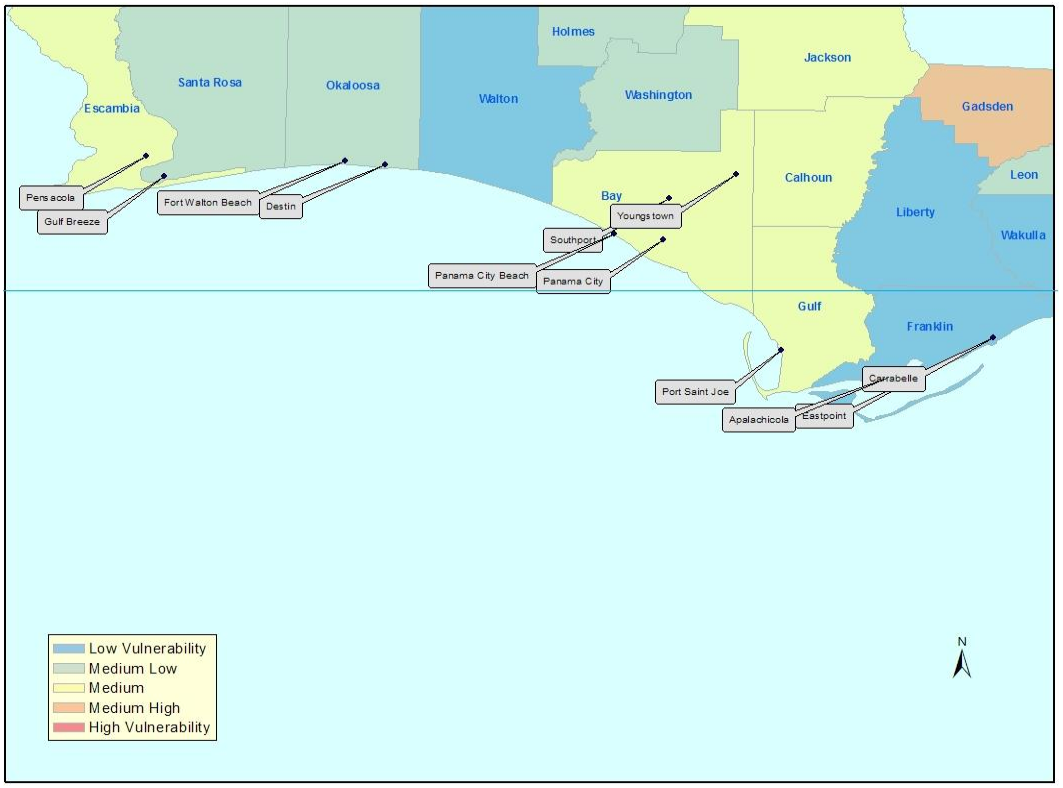


Figure 3.4.3.1. The Social Vulnerability Index applied to Florida Gulf Panhandle Coastal Counties.

In terms of vulnerability, no counties in the Florida Panhandle were categorized as being medium high or highly vulnerable. This does not mean that the communities are not susceptible to negative impacts from regulation or are highly resilient to social disruption. Rather, it may suggest that the communities included in Figure 3.4.3.1 may be able to withstand certain types of social disruption better than more vulnerable communities. The Panhandle coast is not as densely populated as other parts of Florida and many areas have natural resource amenities that may provide recreational or commercially viable employment. However, because of the low population density and lack of large population centers, employment opportunities may be limited and occupational choice may be restricted to those associated with natural resources which are often cyclical in nature.

Table 3.4.3.1. Marine Related Employment for 2007 in Florida Panhandle Coastal Counties (Census Bureau 2010)

Florida County	Escambia		Gulf		Santa Rosa		Bay		Gulf		Franklin	
Sector	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp
Boat Dealers	7				6		6					
Seafood Dealers		15						24				75
Seafood Harvesters	195		51		75		219		51		344	
Seafood Retail		16			4	5	9	55			6	5
Marinas		59		2				47		2		7
Processors							5				8	73
Scenic Water		4				4		70				
Ship/Boat Builders		60						927				
Shipping Support		122						25				
Shipping		2						165				

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

Escambia County

Escambia County had a total population of 294,410 in 2000 and is estimated to have grown to 304,280 by 2007. Population density was 448 persons per square mile in 2000 and has grown to 467 persons in 2007. In 2007, the majority of county residents identified themselves as White (73.4%, including 3.6% identifying as Hispanic) and 23% of the population self-identified as Black. Overall, 77.8% of Florida's population identified as White with 20.5% also identifying as Hispanic, and 16% identified as Black. The median age for the residents of Escambia County was estimated to have been 37.8, making Escambia County's median age slightly younger than the State's average of 40.1 years. Median household income for 2007 was estimated to be $43,311, lower than that for the state which was $48,637. There was an estimated 8.0 % of the population in the civilian force that was estimated to be unemployed in Escambia County, which was higher than the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 15.2% which was higher than the 12.6% for the state as a whole during 2007. Escambia County had a lower owner occupied housing rate than the state with 68.9% of owner occupied housing to the State's 70.3% estimated for 2007 (U.S. Census Bureau).

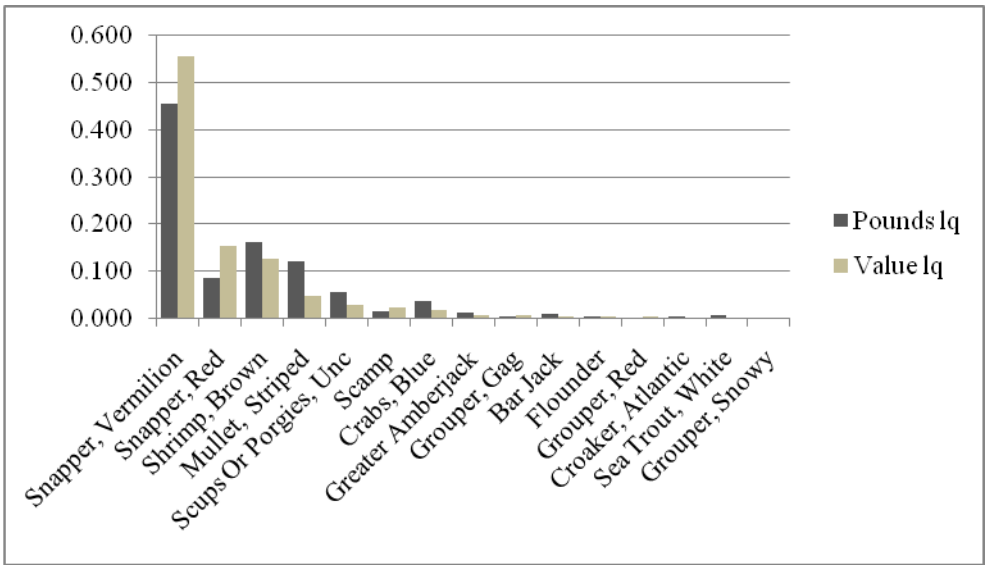


Figure 3.4.3.2. The top fifteen species in terms of proportion (lq) of total landings and value for Pensacola, Florida. Source: ALS 2008

Pensacola shows a high reliance upon snapper species with over 50% of its location quotient (lq) for value coming from vermilion snapper alone (Fig. 3.4.3.2). Red snapper is next with over 15% of value.

Okaloosa County

Okaloosa County had a total population of 170,497 in 2000 that is estimated to have grown to 181,205 by 2007. Population density was 163 persons per square mile in 2000 and has grown to 195 persons in 2007. Also in 2007, the majority of county residents self-identified as White (85.1%) while 10.8% self-identified as Black and 5.7% as Hispanic. Florida as a state had an estimated 77.8% White population; Hispanics made up 20.5% of its total population and 16% of the population identified as Black. The median age for residents of Okaloosa County was estimated to have been 39.0, so Okaloosa County's median age is slightly younger than the State's 40.1 as a whole. Median household income for 2007 was estimated to be $57,111, greater than that for the state ($48,637). There was an estimated 4.4% of the population in the civilian force that was estimated to be unemployed in Okaloosa County, which was lower than the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 8.9% which was also lower than the 12.6% for the state as a whole during 2007. Okaloosa County had a lower owner occupied housing rate than the state with 67.4% of owner occupied housing compared to the State's 70.3% estimated for 2007 (U.S. Census Bureau).

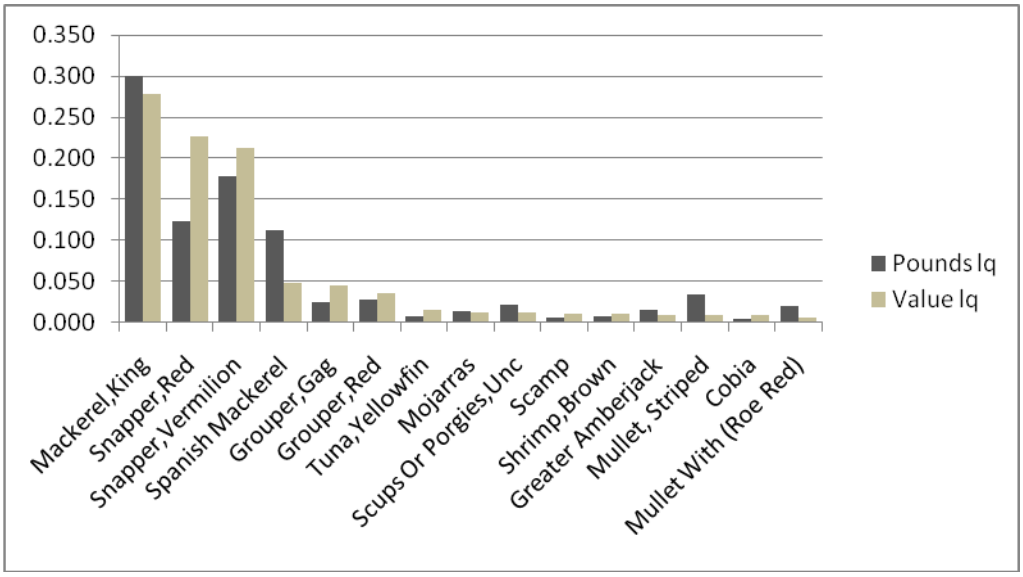


Figure 3.4.3.3. The top fifteen species in terms of proportion (lq) of total landings and value for Destin, Florida. Source: ALS 2008

In terms of weight and value, king mackerel is the most important commercial species to the community of Destin. The community also relies on landings and value of both red and vermilion snapper with both species contributing over 20% to the local quotient of total landings. Gag and red grouper follow the two snapper species with 4.5% and 3.6% of value respectively according to Figure 3.4.3.3.

Bay County

Bay County had a total population of 148,218 in 2000 that is estimated to have grown to 163,805 by 2007. Population density was 196 persons per square mile in 2000 and has grown to 216 persons in 2007. The majority of county residents were White (85.4%) and the Hispanic population was 3.5 % in 2007. The percent of population that identified themselves as White alone was 80.4% with 12% of the population Black. Florida as a state had an estimated 77.8% White population and Hispanics made up 20.5% of its total population and 16% of persons were Black. The White alone population for the state was estimated to be 60.7% in 2007. The median age for residents of Bay County was estimated to have been 39.4, so Bay County's median age is slightly younger than the State's 40.1 as a whole. Median household income for 2007 was estimated to be $48,516, almost equal to that for the state which was $48,637. There was an estimated 5.6 % of the population in the civilian force that was estimated to be unemployed in Bay County, which was lower than the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 11.7% which was lower than the 12.6% for the state as a whole during 2007. Bay County had a lower owner occupied housing rate than the state with 66.2% of owner occupied housing to the State's 70.3% estimated for 007 (U.S. Census Bureau).

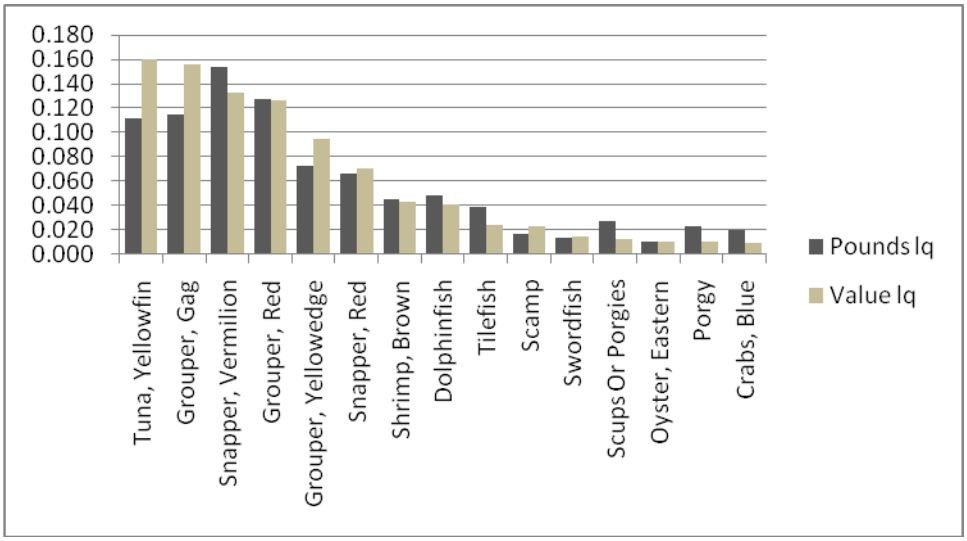


Figure 3.4.3.4. The top fifteen species in terms of proportion (lq) of total landings and value for Panama City, Florida.

Panama City landings and value are not dominated by any particular species as shown in Fig. 3.4.3.4 with several snappers and groupers contributing by far the most to total landings and value. Gag grouper contributes 15.6% toward total value and vermilion snapper close behind with 13.3%.

Franklin County

Franklin County has a smaller population base than the other coastal counties in Florida, which prevents the county from census estimated updates as only populations greater than 65,000 are updated at this time. Apalachicola and Eastpoint were ranked within the top ten in terms of landings and value for any reef fish in Franklin County.

Although both Apalachicola and Eastpoint are known for their oysters and they account for the majority of landed value in both communities, according to Figures 3.4.3.5 and 3.4.3.6 reef fish play an important role within the local quotient for both communities. Red grouper and gag both contribute over 10% of landed value within Apalachicola and red grouper does the same in Eastpoint. There are several other reef fish species within the top fifteen for each community.

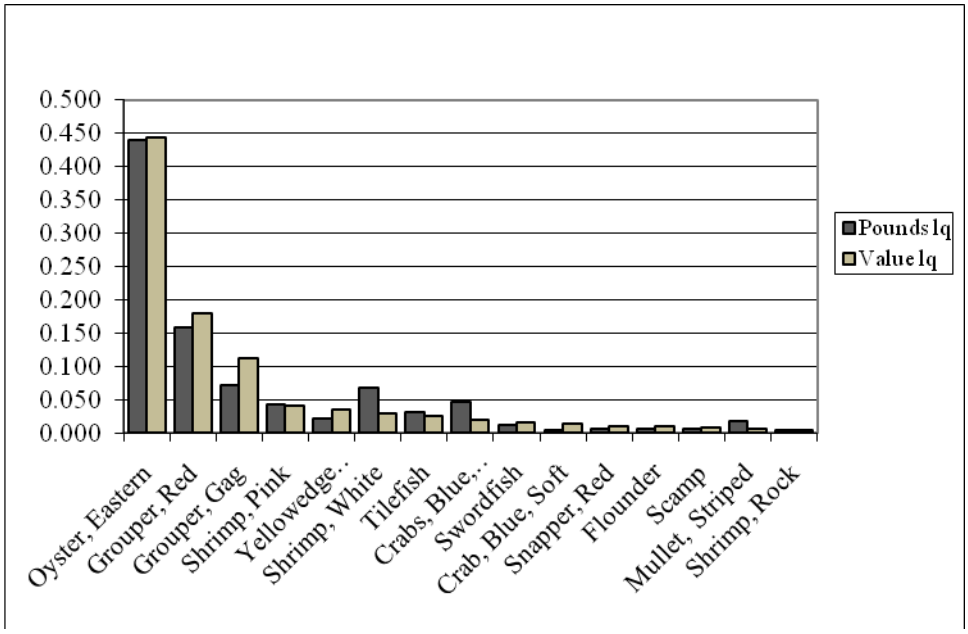


Figure 3.4.3.5. The top fifteen species in terms of proportion (lq) of total landings and value for Apalachicola, Florida.

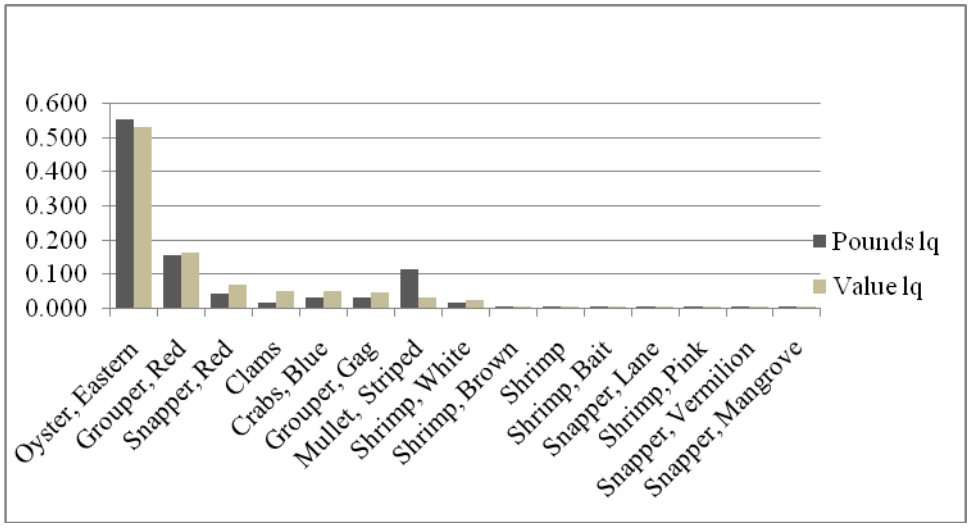


Figure 3.4.3.6. The top fifteen species in terms of proportion (lq) of total landings and value for Eastpoint, Florida.

Florida Big Bend Communities

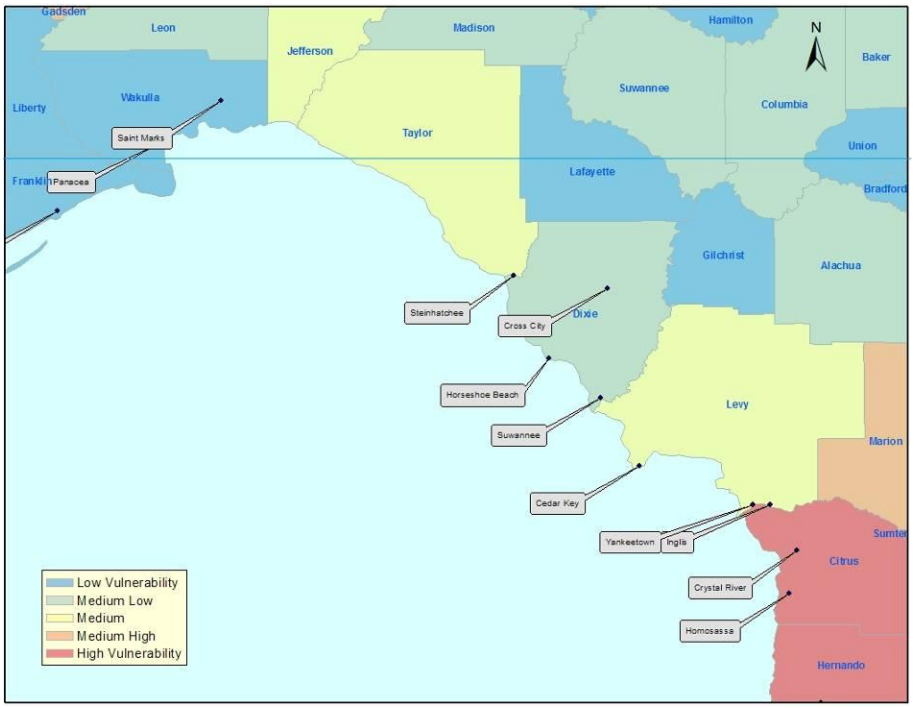


Figure 3.4.3.7. The Social Vulnerability Index applied to Florida Big Bend Coastal Counties.

Citrus County is the only Big Bend County that is categorized as having high social vulnerability. Like many of the locations in the Panhandle the counties in the Big Bend area are also more rural in nature with numerous natural resource amenities. The majority of communities are small with no large populated areas. Much of the economies are centered on natural resources and tourism.

Table 3.4.3.2. Marine Related Employment for 2007 in Florida Big Bend Coastal Counties (Census Bureau 2010)

Florida County	Wakulla County		Taylor County		Dixie County		Levy County		Citrus	
Sector	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp
Boat Dealers	.	.	.	.	.	.	.	.	.	.
Seafood Dealers	.	3	.	.	.	32	.	16	.	3
Seafood Harvesters	104	.	52	.	54	.	77	.	167	.
Seafood Retail	3	5	.	2	.	.	3	.	.	8
Marinas	.	31	.	14	.	6	.	5	.	39
Processors	6	.	.	.	.	.	.	.	.	.
Scenic Water	.	.	.	3	.	2	.	3	.	3
Ship/Boat Builders	.	.	.	71	.	5	.	545	.	2
Shipping Support	.	.	.	.	.	.	.	5	.	1
Shipping	.	.	.	.	.	.	.	.	.	.

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

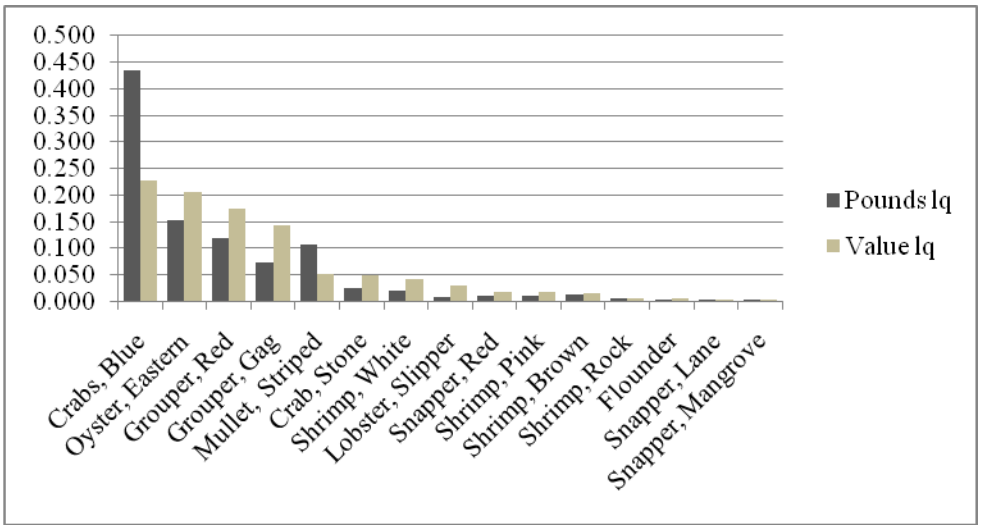


Figure 3.4.3.8. The top fifteen species in terms of proportion (lq) of total landings and value for Panacea, Florida.

The community of Panacea relies mostly on crustaceans and shellfish, but does gain about 30% of its local quotient of landed value from red and gag grouper. Several other reef fish species are also within the top fifteen species in terms of local quotient.

Florida West Central Coast Communities

The majority of Florida Gulf coast counties that are classified as being vulnerable in Fig. 3.4.3.1 are located along the Central West coast. The counties of Citrus, Pinellas, Hillsborough, Manatee, Sarasota, and Charlotte are all within either the medium high to high vulnerability categories. The fishing communities included within these counties are: Crystal River, Homosassa, Spring Hill, Hudson, Tarpon Springs, Indian Shores, Clearwater, Madeira Beach, Redington Shores, Tampa, Ruskin, Cortez, Englewood, Punta Gorda, Fort Myers, Fort Myers Beach and Saint James City.

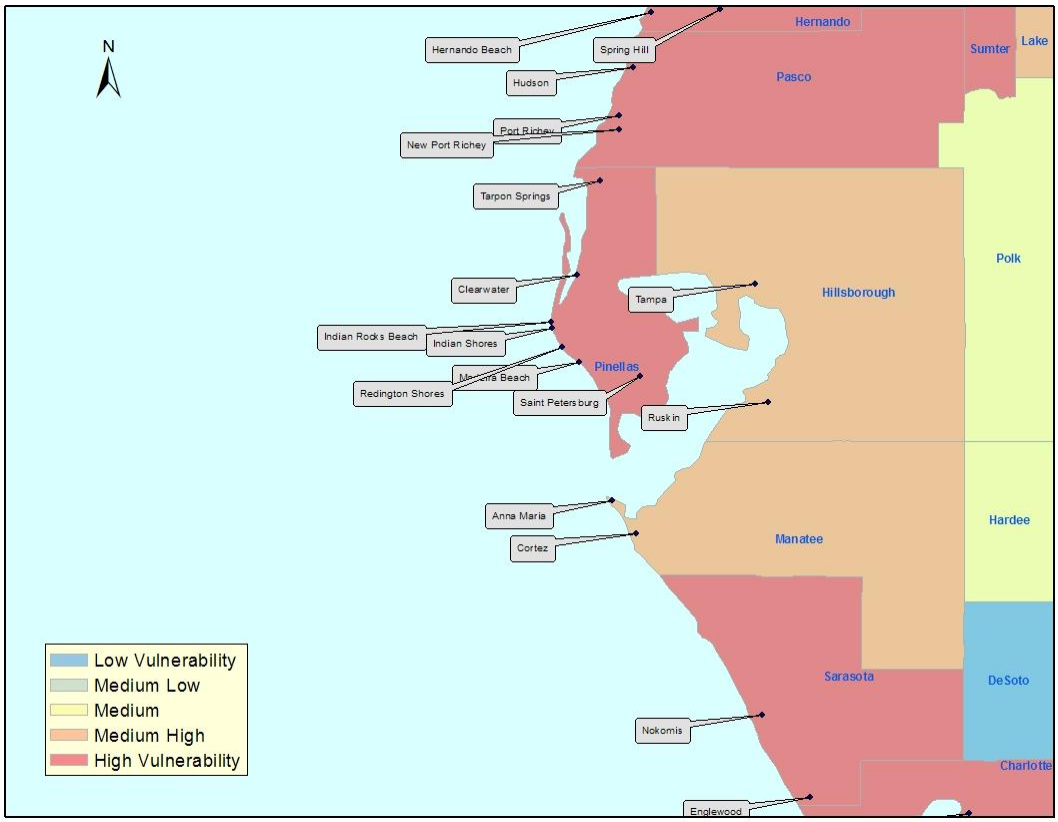


Figure 3.4.3.9. The Social Vulnerability Index applied to Florida West Central Coastal Counties.

Table 3.4.3.3. Marine Related Employment for 2007 in Florida West Central Coastal Counties (Census Bureau 2010)

Florida County	Hernando		Pasco		Pinellas		Hillsborough		Manatee		Sarasota	
Sector	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp
Boat Dealers	.	.	12	.	70	.	28	.	40	.	36	.
Seafood Dealers	.	2	.	36	.	246	.	31	.	27	.	.
Seafood Harvesters	60	.	148	.	316	.	139	.	103	.	103	.
Seafood Retail	.	7	9	.	15	31	10	24	.	5		.
Marinas	.	13	.	22	.	393	.	211	.	71	.	251
Processors	.	.	6	.	13	.	9	783	4	.	.	.
Scenic Water	.	.	.	5	.	169	.	67	.	2	.	48
Ship Boat Builders	.	.	.	5	.	1015	.	683	.	849	.	41
Shipping Support	.	.	.	2	.	694	.	749	.	252	.	4
Shipping	.	.	.	17	.	17	.	918	.	17	.	.

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

Hernando County

Hernando County had a total population of 130,802 in 2000 that is estimated to have grown to 167,905 by 2007. Population density was 276 persons per square mile in 2000 and has grown to 358 persons in 2007. The majority of county residents were White (92.2%) and the Hispanic population was 8.7 % in 2007. The percent of population that identified themselves as White alone was 83.8% with 5.4% of the population Black. Florida as a state had an estimated 77.8% White population and Hispanics made up 20.5% of its total population and 16% of persons were Black. The White alone population for the state was estimated to be 60.7% in 2007. The median age for residents of Hernando County was estimated to have been 44.8, so Hernando County's median age is older than the State's 40.1 as a whole. Median household income for 2007 was estimated to be $42,206, less than that for the state which was $48,637. There was an estimated 9.3% of the population in the civilian force that was estimated to be unemployed in Hernando County, which was higher than the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 11.1% which was lower than the 12.6% for the state as a whole during 2007. Hernando County had a higher owner occupied housing rate than the state with 84.9% compared to the State's 70.3% estimated for 2007 (U.S. Census Bureau).

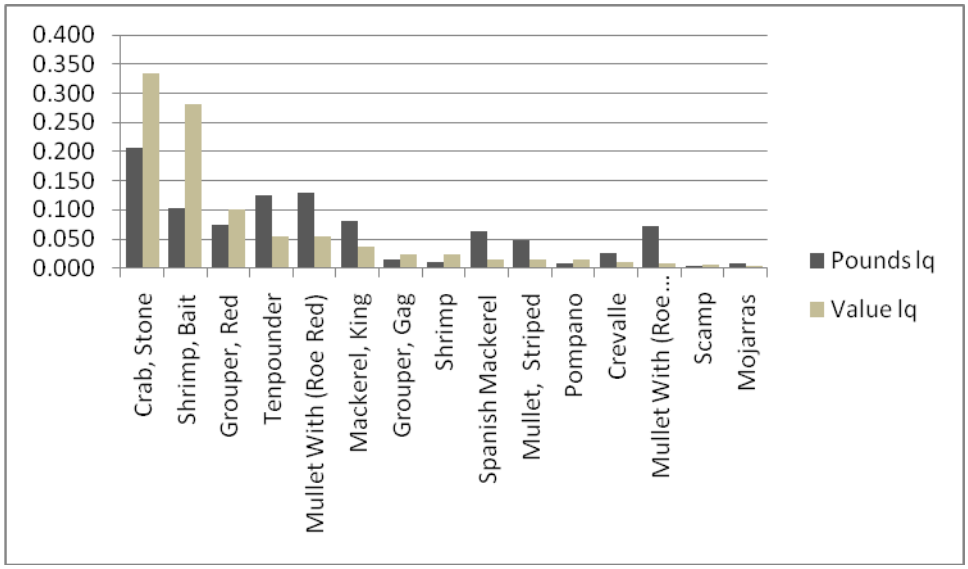


Figure 3.4.3.10. The top fifteen species in terms of proportion of total landings and value (lq) for Spring Hill, Florida. Source: ALS 2008

Within Hernando County, Spring Hill is the primary community with landings of reef fish that are greater than 5%. Red grouper landings are at 10% of total landed value for the community, with gag at 2.5% according to Fig. 3.4.3.10.

Pinellas County

Pinellas County had a total population of 921,495 in 2000 that is estimated to have contracted to 915,079 by 2007. Population density was 3363 persons per square mile in 2000 and has lessened to 3350 persons in 2007; still highest density in the state. The majority of county residents were White (85.5%) and the Hispanic population was 6.9 % in 2007. The percent of population that identified themselves as White alone was 78.7% with 10.7% of the population Black. Florida as a state had an estimated 77.8% White population and Hispanics made up 20.5% of its total

population and 16% of persons were Black. The White alone population for the state was estimated to be 60.7% in 2007. The median age for residents of Pinellas County was estimated to have been 45.2, so Pinellas County's median age is older than the State's 40.1 as a whole. Median household income for 2007 was estimated to be $45,650, less than that for the state which was $48,637. There was an estimated 5.4% of the population in the civilian force that was estimated to be unemployed in Pinellas County, which was lower than the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 11.2% which was lower than the 12.6% for the state as a whole during 2007. Pinellas County had a slightly higher owner occupied housing rate than the state with 71.0% compared to the State's 70.3% estimated for 2007 (U.S. Census Bureau).

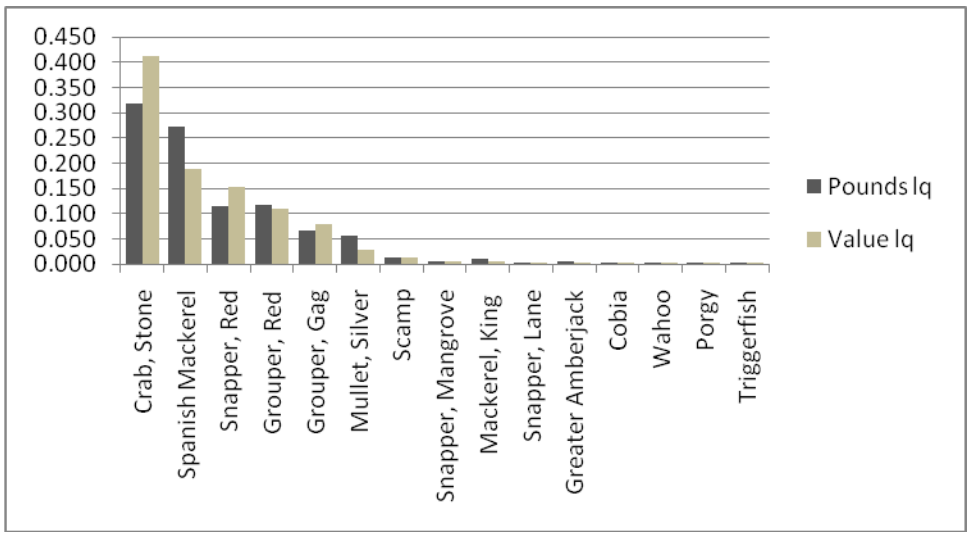


Figure 3.4.3.11. The top fifteen species in terms of proportion of total landings and value (lq) for Dunedin, Florida. Source: ALS 2008

Of the communities in Pinellas County with substantive landings of snapper grouper, Dunedin has a much lower percentage with just 15% of its total landings value coming from red snapper. Red grouper is at 10% and gag just above 5% out of all landings value in Fig. 3.4.3.11. St. Petersburg had landings and value of reef fish of over 25% for red grouper alone as seen in Fig. 3.4.3.12.

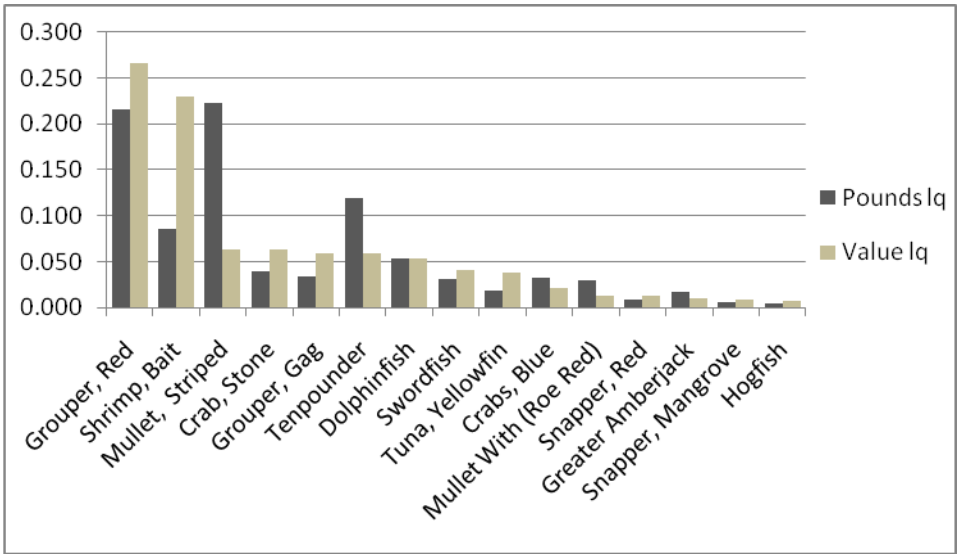


Figure 3.4.3.12. The top fifteen species in terms of proportion of total landings and value (lq) for St. Petersburg, Florida. Source: ALS 2008

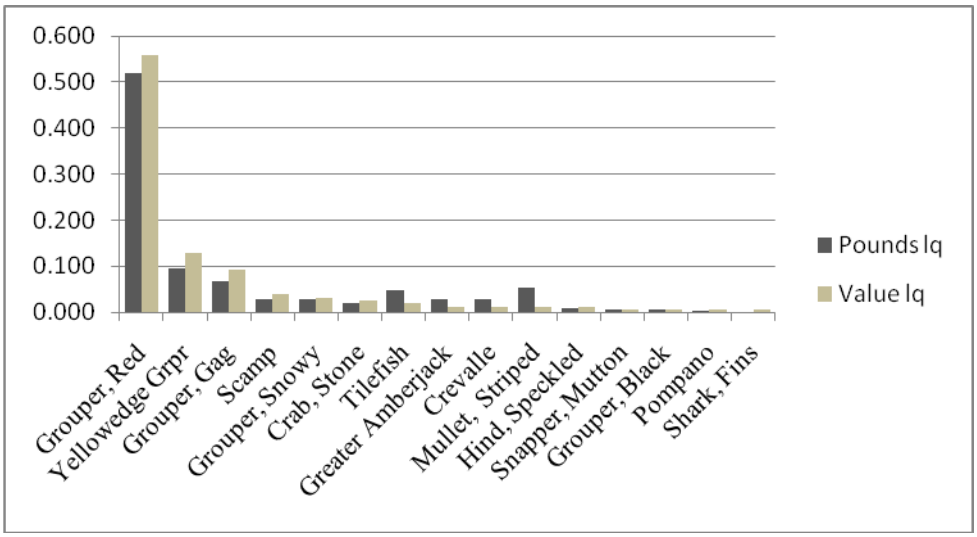


Figure 3.4.3.13. The top fifteen species in terms of proportion of total landings and value (lq) for Madeira Beach, Florida. Source: ALS 2008

Madeira Beach is by far the leader in terms of reliance upon reef fish with over 50% of its landed value local quotient coming from red grouper alone. The next four species are all reef fish with yellowedge grouper second with 13% and gag just below 10% of landed value. Several other reef fish species are included in the top fifteen in terms of landed value but are well below 10% each. The community also leads in terms of regional quotient for shallow and deepwater grouper.

Florida Southwest Coast Communities

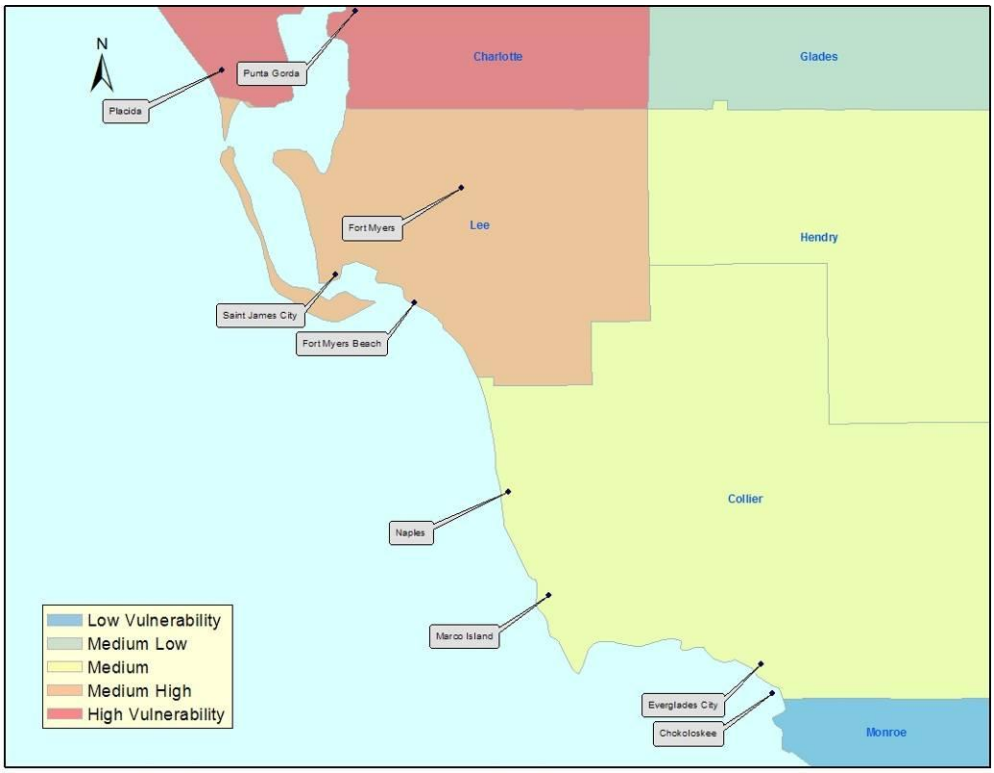


Figure 3.4.3.14. The Social Vulnerability Index applied to South Florida Gulf Coastal Counties.

Other Florida Gulf coast counties that are classified as being vulnerable in Fig. 3.4.3.14 are located along the Southwest coast. The counties of Charlotte and Lee are within either the medium high to high vulnerability categories. The fishing communities included within these counties are: Englewood, Placida Punta Gorda, Fort Myers, Fort Myers Beach and Saint James City.

Table 3.4.3.4. Marine Related Employment for 2007 in South Florida Gulf Coastal Counties (Census Bureau 2010)

Florida County	Charlotte		Lee		Collier		Monroe	
Sector	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp	# Prop	# Emp
Boat Dealers	25	.	62	.	26	.	23	.
Seafood Dealers	.	.	.	35	.	38	.	112
Seafood Harvesters	147	.	322	.	176	.	934	.
Seafood Retail	7	7	8	50	.	14	7	7
Marinas	.	117	.	291	.	204	.	191
Processors	.	.	.	7	.	.	.	.
Scenic Water	.	3	.	154	.	97	.	315
Ship Boat Builders	167	.	.	125	.	.	.	17
Shipping Support	.	8	.	33	.	7	.	67
Shipping	.	39	.	6	.	5	.	35

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

All of the listed counties in Table 3.4.3.4 have substantial employment in the seafood harvesters sector. Several also have numerous persons employed in the scenic water sector which includes charter fishing. Monroe County has the most in both categories with over 900 harvesters and over 300 in the scenic water sector. Lee County follows with over 300 harvesters and 154 in scenic water. All counties also have considerable employment in the marinas sector.

Lee County

Lee County had a total population of 440,888 in 2000 that is estimated to have grown to 583,184 by 2007. Population density for the county grew significantly over the past few decades with 127 persons per square mile in 1970 to just over 532 persons per square mile in 2000 (NOAA Spatial Patterns of Socioeconomic Data 1970 to 2000 and the U.S. Census Bureau). Lee County was in the top 60 fastest growing counties last year and has been ranked much higher in terms of growth in the past. The majority of residents were identified a White (91.4%) in 1990 and that percentage was estimated to have dropped to 85.7% in 2007. The Hispanic population has more than tripled from the 1990s with 16.8% of the population in 2007. The White alone population for the state was estimated to be 60.7% in 2007. The median age for residents of Lee County was estimated to have been 42.7, so Lee County's median age is slightly older than the state as a whole. Median household income for 2007 was estimated to be $49,742, higher than that for the state which was $48,637. There was an estimated 6.5 % of the population in the civilian force that was estimated to be unemployed in Lee County, which was almost equal to the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 9.6% which was below the 12.6% for the state as a whole during 2007. Lee County had a slightly higher owner occupied housing rate than the state with 74.9% of owner occupied housing to the State's 70.3% estimated for 2007 (U.S. Census Bureau).

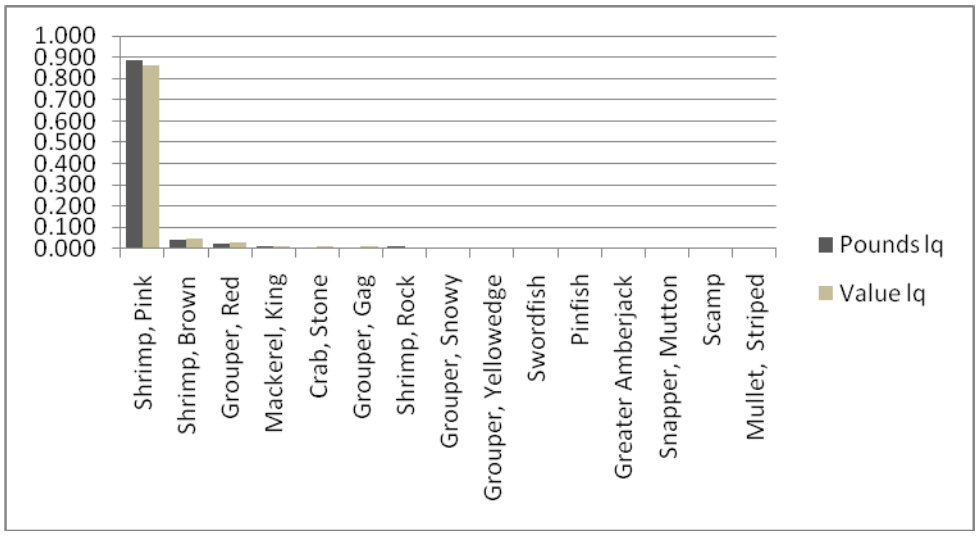


Figure 3.4.3.15. The top fifteen species in terms of proportion of total landings and value (lq) for Fort Myers Beach, Florida. Source: ALS 2008

While pink shrimp is by far the most important species landed in Fort Myers Beach several reef fish species are still important in terms of landed value although they rank much lower out of total landings for the community as shown in Fig. 3.4.3.15.

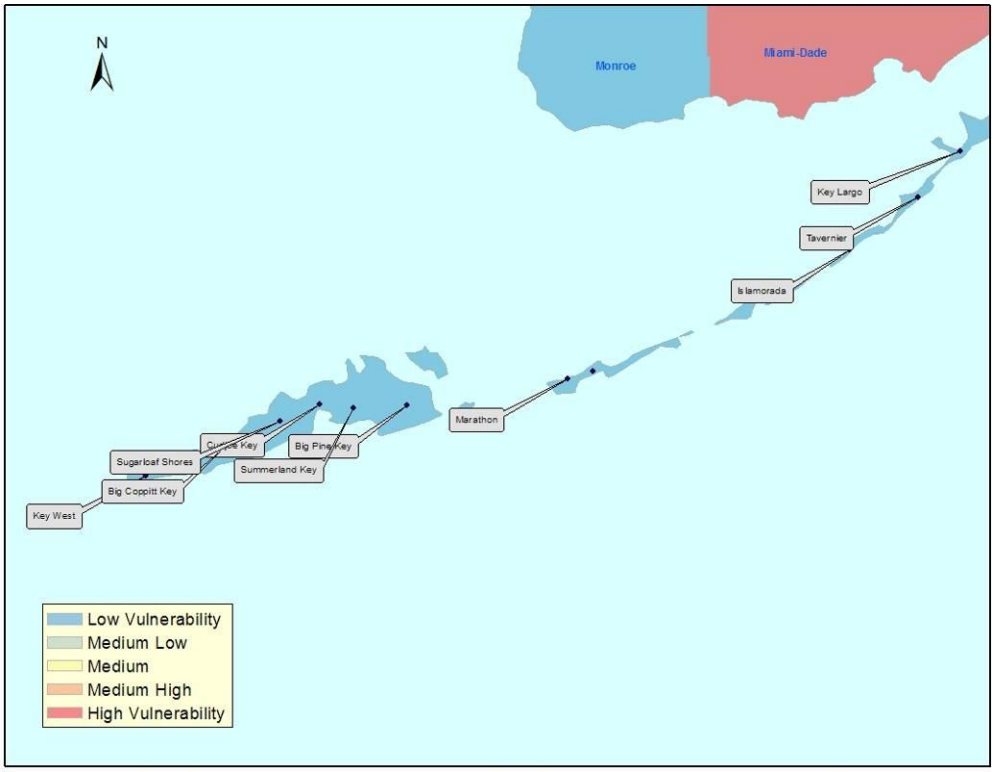


Figure 3.4.3.16. The Social Vulnerability Index applied to Florida Keys Coastal Counties.

Monroe County

Monroe County had a total population of 79,589 in 2000 that is estimated to have fallen to 74,397 by 2007. The majority of residents were identified a White (92.0%) in 2000 and was estimated to have dropped slightly to 90.4% in 2007. The Hispanic population has grown from 16.0 % in 2000 to 18.0% in 2007. Florida as a state had an estimated 77.8% White population and Hispanics made up 20.5% of its total population. The White alone population for the state was estimated to be 60.7% in 2007. The median age for residents of Monroe County was estimated to have been 47.2 which is slightly higher than it was in 2000 when it was 43.0. The median age for the State of Florida was 38.7 in 2000 and was estimated to have increased to 40.1 by 2007 so Monroe County's median age is considerably older than the state as a whole. There was an estimated 2.8 % of the population in the civilian force that was estimated to be unemployed in Monroe County, which was quite a bit lower than the State's unemployment rate of 6.4%. The percentage of persons below the poverty level was estimated at 10.1% which was below the 12.6% for the state as a whole during 2007. Monroe County had a slightly higher owner occupied housing rate than the state with slightly over 71.2% of owner occupied housing to the State's 70.3% estimated for 2007 (U.S. Census Bureau).

As discussed earlier, several Key's communities are under development pressure which tends to push occupations like fishing to other locations as waterfront property is transformed to other use. Shivlani (2009) has documented the effects of the many outside forces that have pushed commercial and recreational fishing infrastructure from Key West. Although Monroe County is not considered vulnerable according to the SoVI, the county is experiencing other impacts that affect the fishing components.

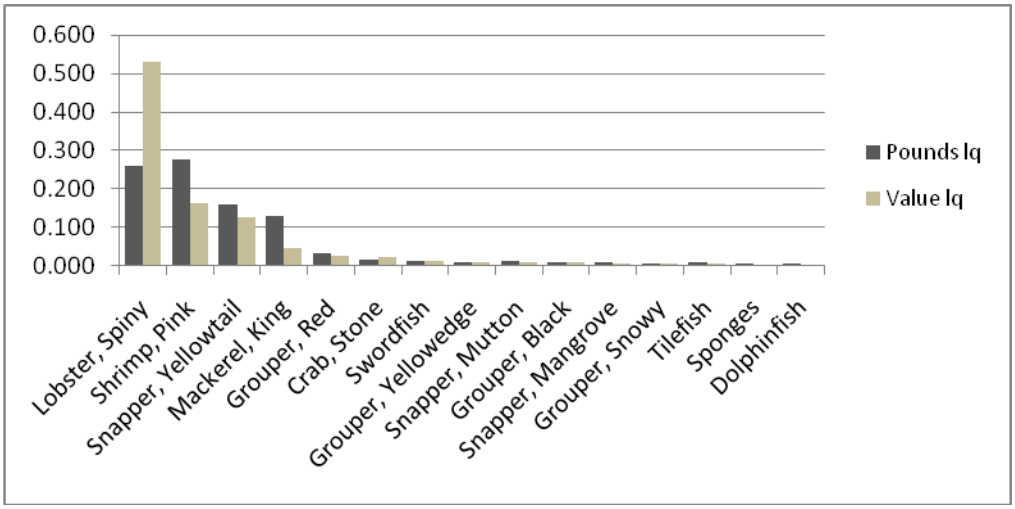


Figure 3.4.3.17. The top fifteen species in terms of proportion of total landings and value (lq) for Key West, Florida. Source: ALS 2008

Several communities in Monroe County had reef fish landings that made up more than 10% of total landings. While spiny lobster dominates much of the local quotient, Key West had yellowtail snapper landings of over 10% according to Fig. 3.4.3.17. Several other reef fish species are included in the top fifteen for the community. Islamorada had six reef fish species in the top fifteen with yellowtail having over 5% of landings for value in Fig. 3.4.3.18.

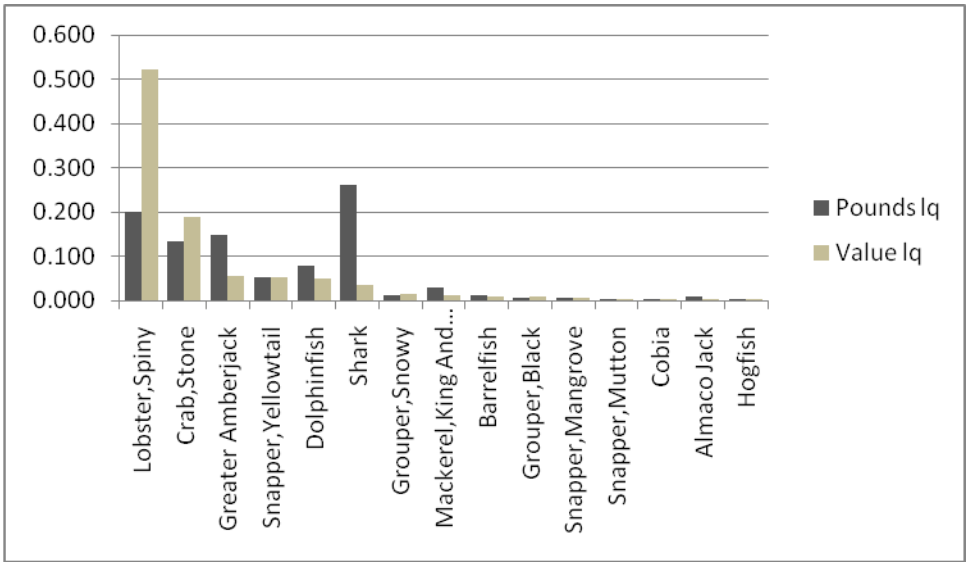


Figure 3.4.3.18. The top fifteen species in terms of proportion of total landings and value (lq) for Islamorada, Florida. Source: ALS 2008

Alabama Counties

Figure 3.4.3.19. The Social Vulnerability Index applied to Alabama Coastal Counties.

Mobile County in Alabama was rated as having medium high vulnerability (Fig. 3.4.3.19). There are several fishing communities located in the county including: Bayou LaBatre, Coden, Grand Bay, Irvington and Theodore. Dauphin Island is also located within the county but is more known for its recreational fishing as it holds a well-known recreational fishing tournament each year.

Table 3.4.3.5. Marine Related Employment for 2007 in Alabama Coastal Counties (Census Bureau 2010)

County	**Baldwin**		**Mobile**	
Sector	**# Prop**	**# Emp**	**# Prop**	**# Emp**
Boat Dealers	10	.	11	.
Seafood Dealers	.	5	.	338
Seafood Harvesters	.	.	500	.
Seafood Retail	.	32	.	58
Marinas	.	130	.	34
Processors	.	170	.	407
Scenic Water	.	42	.	5
Ship Boat Builders	.	15	.	3418
Shipping Support	.	16	.	1073
Shipping	.	3	.	98

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

Mobile has numerous seafood harvesters employed as sole proprietors with 500 listed in Table 3.4.5. Seafood dealers and processors also employ well over 700 within the county with boat building also a major activity. Baldwin County has more employed in Marinas with 130 persons, but does have 170 persons employed in processing of seafood. With a large charter fleet in Orange Beach is it expected that marina employment would be higher in Baldwin.

Mobile County

Mobile County had a total population of 399,848 in 2000 that is estimated to have grown to 404,012 by 2007. Population density was 325 persons per square mile in 2000 and has grown to 329 persons in 2007. The majority of county residents were White (62.8%) and the Hispanic population was 1.8% in 2007. The percent of population that identified themselves as White alone was 60.6% with 34.5% of the population Black. Alabama as a state had an estimated 71.4% White population and Hispanics made up 2.7% of its total population and 26.7% of persons were Black. The White alone population for the state was estimated to be 68.7% in 2007. The median age for residents of Mobile County was estimated to have been 36.0, so Mobile County's median age is younger than the State's 37.3. Median household income for 2007 was estimated to be $54,729, lower than that for the state which was $57,597. There was an estimated 4.4% of the population in the civilian force that was estimated to be unemployed in Mobile County, which was slightly higher than the State's unemployment rate of 4.1%. The percentage of persons below the poverty level was estimated at 19.4% which was higher than the 16.3% for the state as a whole during 2007. Mobile County had a lower owner occupied housing rate than the state with 68.9% compared to the State's 71.3% estimated for 2007 (U.S. Census Bureau).

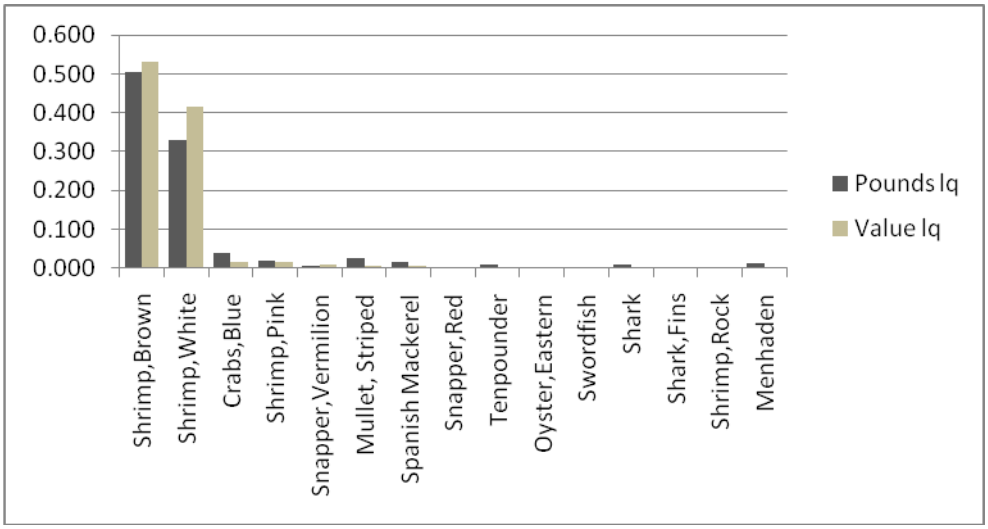


Figure 3.4.3.20. The top fifteen species in terms of proportion of total landings and value (lq) for Bayou LaBatre, Alabama. Source: ALS 2008

Shrimp dominate the landings for Bayou LaBatre as shown in Fig. 3.4.3.20, yet the community ranks in the top ten for regional quotient value of landings of vermilion snapper.

Mississippi Counties

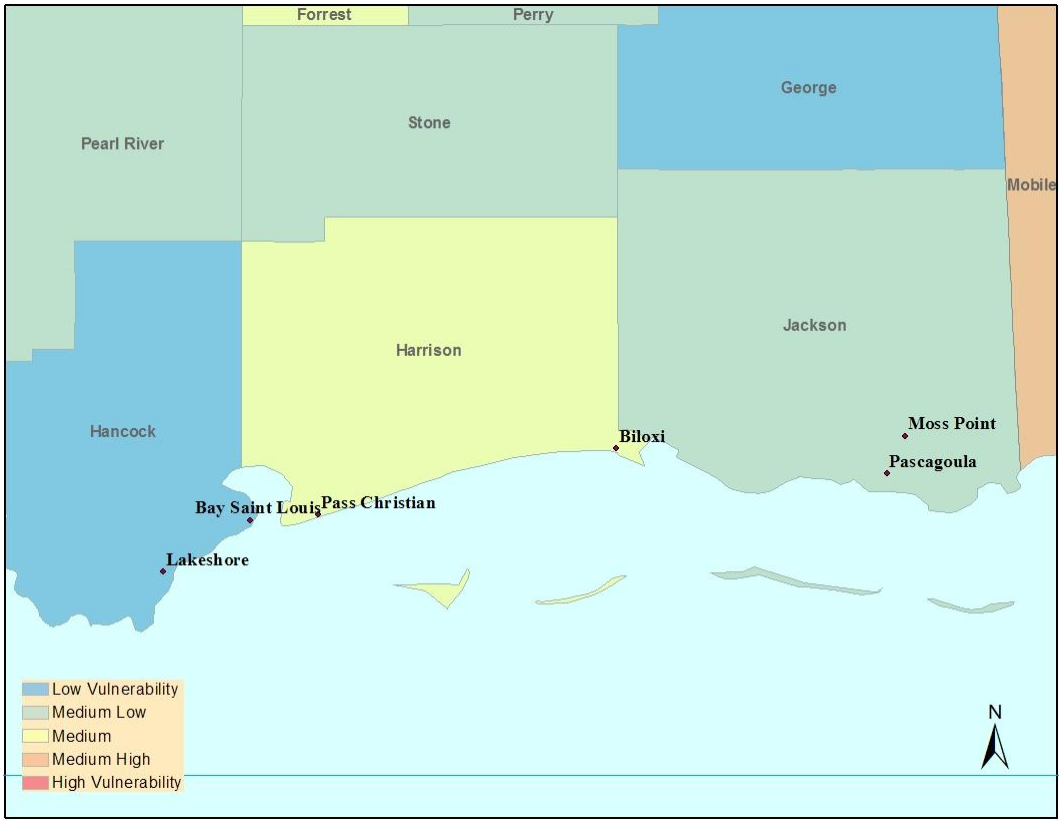


Figure 3.4.3.21. The Social Vulnerability Index applied to Mississippi Coastal Counties.

Table 3.4.3.6. Marine Related Employment for 2007 in Mississippi Coastal Counties (Census Bureau 2010)

County	**Hancock**		**Harrison**		**Jackson**	
Sector	**# Prop**	**# Emp**	**# Prop**	**# Emp**	**# Prop**	**# Emp**
Boat Dealers	.	.	.	.	.	.
Seafood Dealers	.	22	.	46	.	20
Seafood Harvesters	70	.	316	.	264	.
Seafood Retail	4	.	10	3	.	12
Marinas	.	2	.	31	.	17
Processors	.	.	.	212	.	3
Scenic Water	.	.	.	14	.	14
Ship Boat Builders	.	2	.	403	.	12815
Shipping Support	.	7	.	122	.	133
Shipping		7	.	45	.	78

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

Most coastal counties in Mississippi have substantial employment in the seafood harvesting sector and also seafood dealers. Harrison has a considerable amount of persons employed in the processing sector with over 200 persons. Boat building is also important in both Harrison and Jackson counties in Table 3.4.3.6.

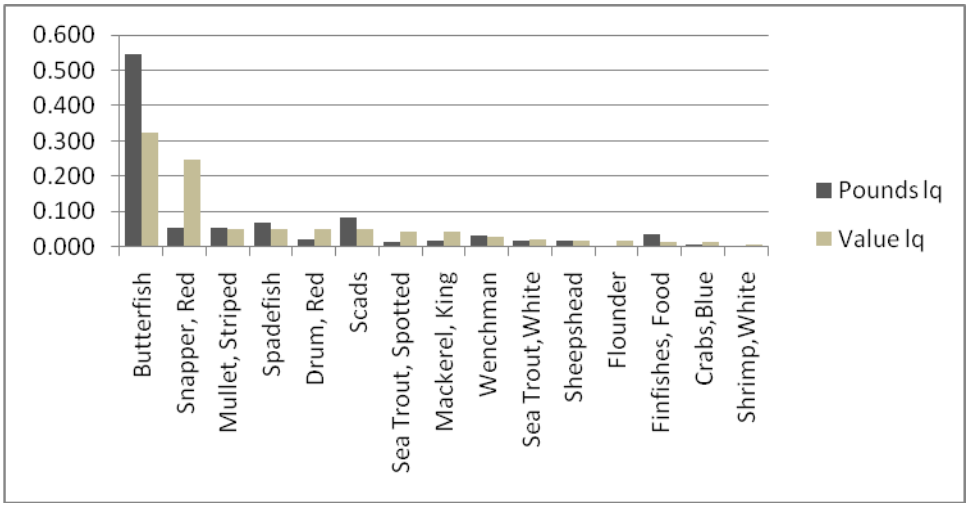


Figure 3.4.3.22. The top fifteen species in terms of proportion of total landings and value (lq) for Pascagoula, MS. Source: ALS 2008

Reef fish landings for Pascagoula were primarily red snapper, with a local value quotient of about 25%. Landings of wenchman were less than 3% for the community as seen in Fig. 3.4.3.22.

Louisiana Counties

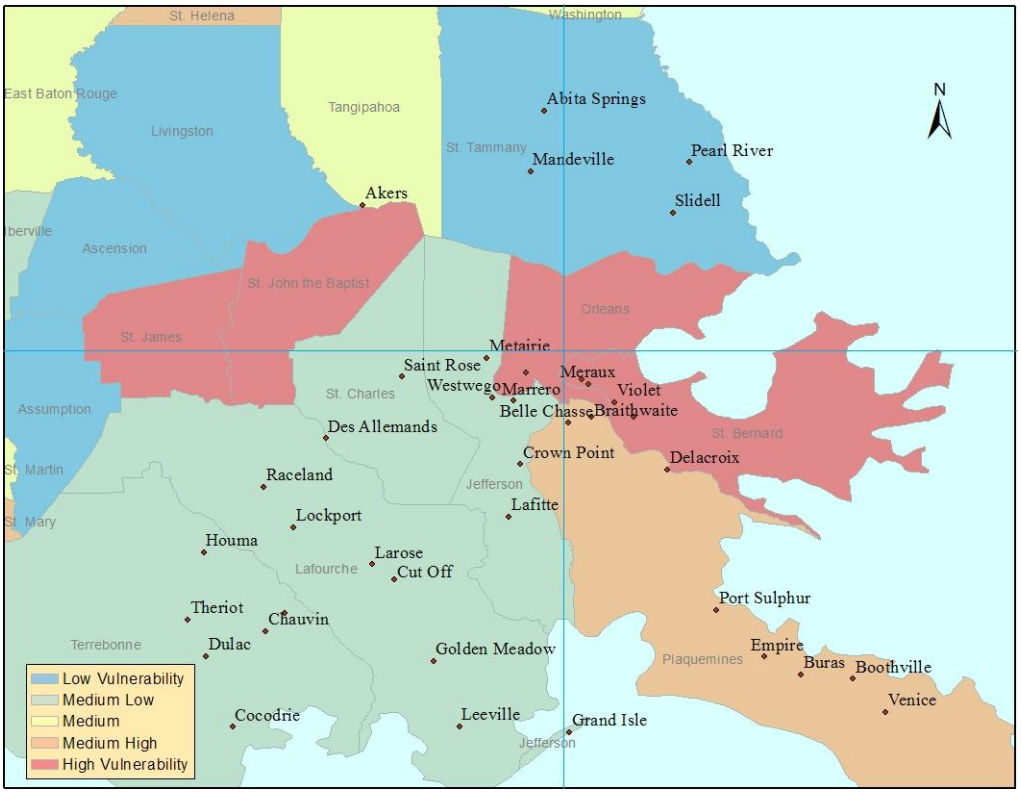


Figure 3.4.2.23. The Social Vulnerability Index applied to Eastern Louisiana Coastal Counties.

Several Parishes in Eastern Louisiana are categorized as medium high or high social vulnerability. Plaquemines is classified with medium high vulnerability. St. John the Baptist, St. James, Orleans and St. Bernard are classified as being highly vulnerable. There were only two communities within the top ten for landings and value of regional quota and they were Golden Meadow for both deepwater grouper and tilefish and Grand Isle for deepwater grouper.

Table 3.4.3.7. Marine Related Employment for 2007 in Louisiana Coastal Counties (Census Bureau 2010)

County	**Lafourche Parish**		**Jefferson Parish**	
Sector	**# Prop**	**# Emp**	**# Prop**	**# Emp**
Boat Dealers	.	.	.	175
Seafood Dealers	.	.	.	22
Seafood Harvesters	604	.	758	5
Seafood Retail	11	26	22	89
Marinas	.	52	.	60
Processors	5	14	.	60
Scenic Water	.	12	.	16
Ship Boat Builders	.	787	.	3750
Shipping Support	.	451	.	393
Shipping	.	2446	.	304

#Prop = Estimated number of sole proprietors.
#Emp = Estimated number of employed persons.

Both counties listed in Table 3.4.7 have substantial numbers of persons employed in harvesting of seafood. Plaquemines Parish has 556 persons as sole proprietors in seafood harvesting and Lafourche Parish has over 600. Boat building is important in Lafourche with close to 800 persons employed in that sector and Plaquemines has 167 employed in the processing sector.

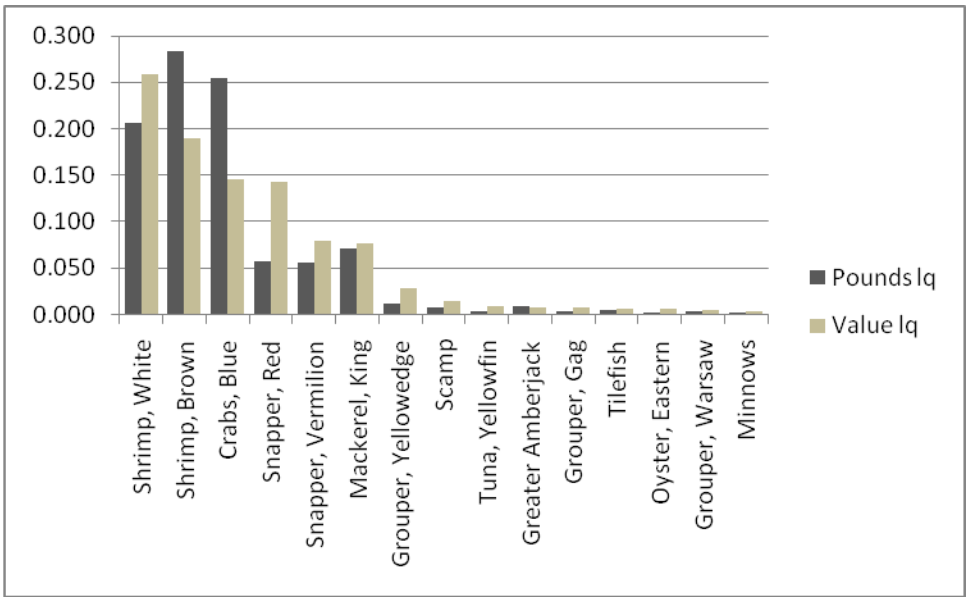


Figure 3.4.3.24. The top fifteen species in terms of proportion (lq) of total landings and value for Golden Meadow, Louisiana. Source: ALS 2008.

Golden Meadow has close to 15% of value in red snapper out of total landings for the community in Fig. 3.4.3.24. Four other reef fish species are also within the top fifteen species in terms of local quotient for value.

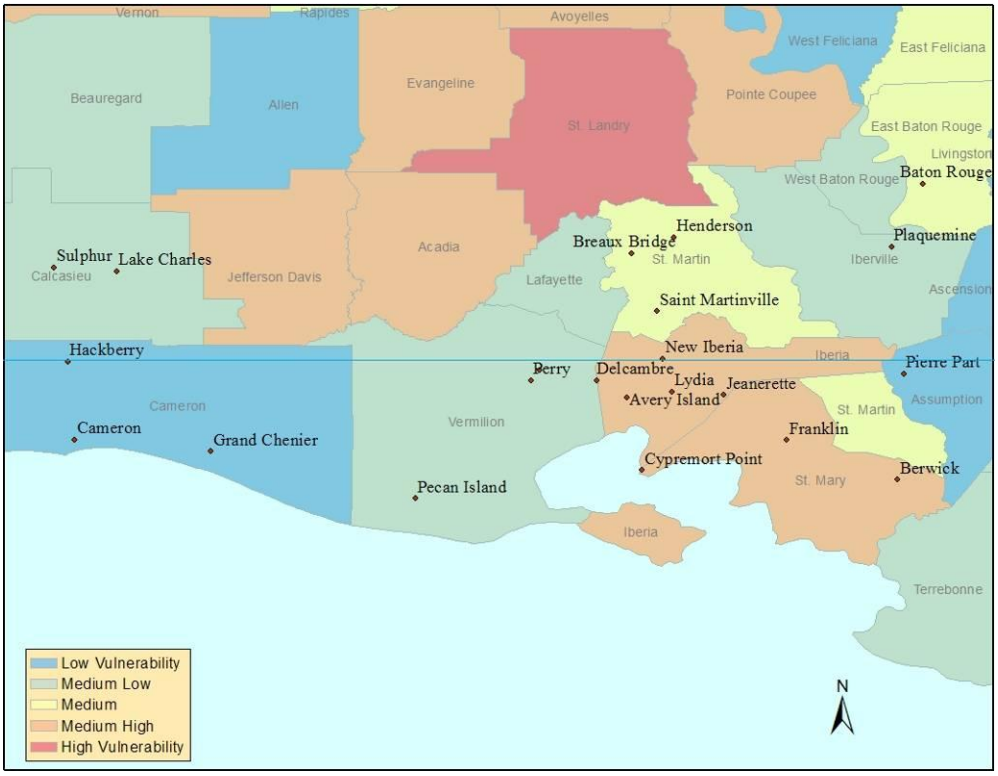


Figure 3.4.3.25. The Social Vulnerability Index applied to Western Louisiana Coastal Counties.

There are two coastal Parishes in Western Louisiana that are categorized as medium high social vulnerability: St. Mary and Iberia.

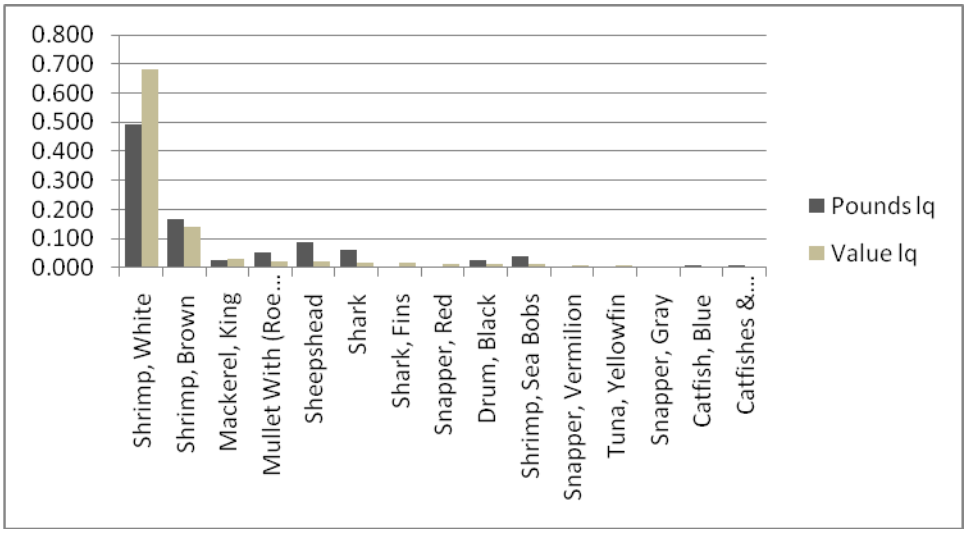


Figure 3.4.3.26. The top fifteen species in terms of proportion (lq) of total landings and value for Venice, Louisiana. Source: ALS 2008.

Texas Counties

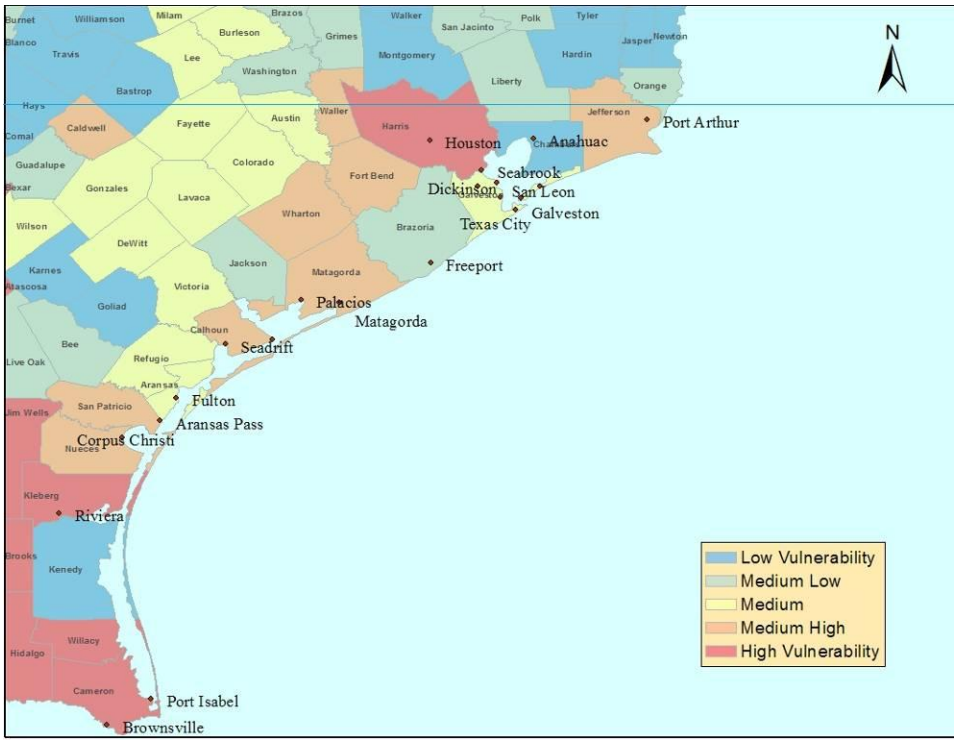


Figure 3.4.3.27. The Social Vulnerability Index applied to Texas Coastal Counties.

Those counties within Texas that are either medium high or high vulnerability cover a considerable part of the coast. Those counties that are highly vulnerable are: Harris, Kleberg, Willacy and Cameron. Those that are medium high for social vulnerability are: Jefferson, Matagorda, Calhoun, San Patricio and Nueces.

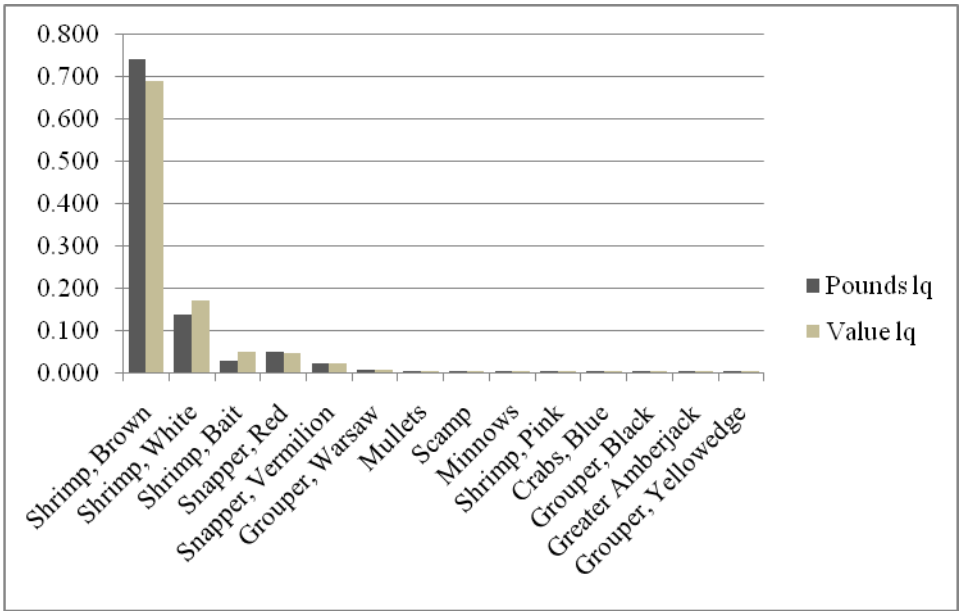


Figure 3.4.3.28. The top fifteen species in terms of proportion (lq) of total landings and value for Freeport, Texas. Source: ALS 2008.

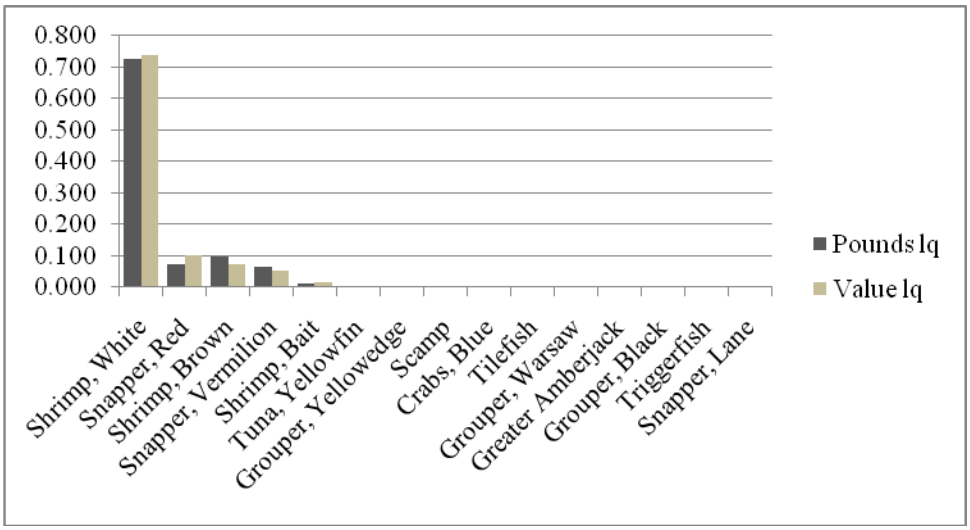


Figure 3.4.3.29. The top fifteen species in terms of proportion (lq) of total landings and value for Galveston, Texas. Source: ALS 2008.

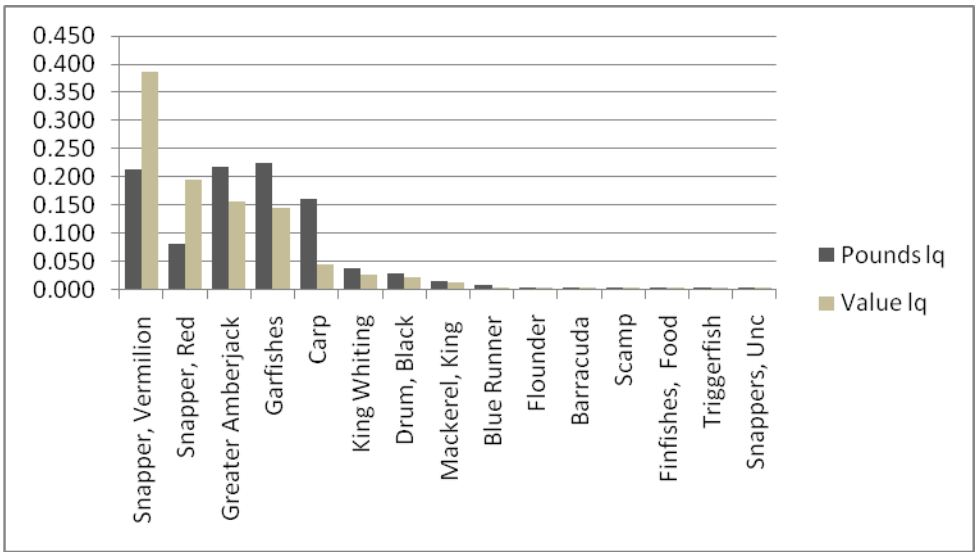


Figure 3.4.3.30. The top fifteen species in terms of proportion (lq) of total landings and value for Houston, Texas. Source: ALS 2008.

3.4.4 Environmental Justice

As mentioned, environmental justice is related to the idea of social vulnerability; however, there are no thresholds with regard to social vulnerability. Environmental Justice is addressed through Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations and 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. Impacts of commercial and recreational fishing on subsistence fishing are a concern

in fisheries management; however, there are no such implications from the action proposed in this amendment.

Although it is anticipated that the impacts of this amendment may affect communities with environmental justice concerns, because the impacts should not discriminate against any group, this action should not trigger any environmental justice concerns. In reviewing the thresholds for minorities among all coastal counties involved, Miami-Dade and Broward in Florida, Mobile County in Alabama; Orleans Parish in Louisiana; Harris, Nueces Kleberg, and Cameron in Texas all exceed the threshold for minorities. With regard to poverty, Escambia, Levy and Miami-Dade Counties in Florida; Orleans Parish in Louisiana; Matagorda, Aransas, Nueces, Willacy, Kleberg and Cameron Counties in Texas all exceed the poverty threshold. Again, as illustrated by the SoVI, environmental justice is closely tied to social vulnerability index as most of the counties that exceed these thresholds are also considered medium high or highly vulnerable. It is anticipated that the impacts from the following management actions may impact minorities and the poor, but not through discriminatory application of these regulations. However, it is also noted that while counties like Monroe County, Florida does not exceed any of the EJ thresholds, nor is it classified as being vulnerable in terms of social vulnerability, there are processes that affect working waterfronts and therefore commercial and charter fishermen through the process of gentrification. While the regulatory actions within this amendment in and of themselves may not precipitate social change or disruptions, in combination with these and other outside factors, working waterfronts may be negatively affected.

3.5 Description of the Affected Administrative Environment

Federal Fishery Management

Federal fishery management is conducted under the authority of the MSFCMA (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The MSFCMA claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, 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 EEZ.

Responsibility for federal fishery management decision-making is divided between 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 MSFCMA and with other applicable laws summarized in Section 10. 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 nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana. 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 publically open council meetings, with some exceptions for discussing internal administrative matters. The regulatory process is also in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

Regulations contained within FMPs are enforced through actions of the NOAA's Office of Law Enforcement, the USCG, and various state authorities. To better coordinate enforcement activities, federal and state enforcement agencies have developed cooperative agreements to enforce the MSFCMA. These activities are being coordinated by the Council's Law Enforcement Advisory Panel and the Gulf States Marine Fisheries Commission's Law Enforcement Committee have developed a five year "Gulf Cooperative Law Enforcement Strategic Plan - 2006-2011."

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 states' 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 in Amendment 22 (GMFMC 2004b).

4. Bycatch Practicability Analysis

Background/Overview

The Gulf Council is required by MSA §303(a)(11) to establish a standardized bycatch reporting methodology for federal fisheries and to identify and implement conservation and management measures that, to the extent practicable and in the following order, (A) minimize bycatch and (B) minimize the mortality of bycatch that cannot be avoided. The MSA defines bycatch as "fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch-and-release fishery management program" (MSA §3(2)). Economic discards are fish that are discarded because they are undesirable to the harvester. This category of discards generally includes certain species, sizes, and/or sexes with low or no market value. Regulatory discards are fish that are required by regulation to be discarded, but also include fish that may be retained but not sold. NMFS outlines at 50 CFR §600.350(d)(3)(i) ten factors that should be considered in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable.

Guidance provided at 50 CFR 600.350(d)(3) identifies ten factors to consider in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable. These are:

1. Population effects for the bycatch species.
2. Ecological effects due to changes in the bycatch of that species (effects on other species in the ecosystem).
3. Changes in the bycatch of other species of fish and the resulting population and ecosystem effects.
4. Effects on marine mammals and birds.
5. Changes in fishing, processing, disposal, and marketing costs.
6. Changes in fishing practices and behavior of fishermen.
7. Changes in research, administration, and enforcement costs and management effectiveness.
8. Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources.
9. Changes in the distribution of benefits and costs.
10. Social effects.

The Councils are encouraged to adhere to the precautionary approach outlined in Article 6.5 of the Food and Agriculture Organization of the United Nations Code of Conduct for Responsible Fisheries when uncertain about these factors.

Background

Bycatch practicability was first addressed in the Comprehensive SFA Amendment/Final EIS, which was approved by the agency on September 13, 2005 and the final rule published in the *Federal Register* on October 28, 2005, effective November 28, 2005 (70 FR 62073). The Comprehensive SFA Amendment contained a bycatch practicability analysis and evaluated the biological, ecological, social, economic, and administrative impacts associated with a wide range of alternatives including those required for achieving the bycatch mandates of the Magnuson-Stevens Fishery Conservation and Management Act. In summary, 4 alternatives including a "No

Action" alternative were presented and impacts were described regarding bycatch reporting and are included herein by reference.

Also, measures were included in the Comprehensive SFA Amendment to minimizing bycatch and bycatch mortality to the extent practicable. The analysis of the practicability of these measures is provided in Section 6.6.2 of that amendment and is herein included by reference.

Reef Fish: Vertical line (bandit rigs, manual hand lines), Longline and Buoy gear, spearfishing.

Shrimp: Trawls

Red Drum: Gill nets, Trammel nets, Haul seines, manual handlines

Coral and Coral Reefs: Placed Structure

Commercial Sector

During 2000 to 2009, approximately 120,789 trips were made by reef fish permitted vessels in the Gulf of Mexico. During that period an estimated 23,608 number of trips reported discards in their SEFSC Discard Data Logbook. For species in the Reef Fish FMP, the number of trips that reported discards was greatest for red snapper, red grouper, and gag (Table 4.1). The greatest average annual percentage of trips that reported discards was 26.9% for red snapper, 26.8% for red grouper, and 12.8% for gag. During 2000-2009, the average number of individuals discarded annually was greatest for red snapper (76,483), red grouper (54,262), and vermilion snapper (10,656).

Table 4.1 Estimated annual average of commercial discards based upon the August, 2010 SEFSC Discard Logbook Data from 2000-2009.

	Annual Average (2000-2009)		
Common Name	**Trips Reporting Discards**	**%Total Trips Reporting**	**Discards (N)**
almaco jack	4.7	0.2%	32.1
banded rudderfish	2.7	0.1%	36.5
black grouper	127.6	4.7%	2,474.2
blackfin snapper	2.0	0.1%	7.3
blueline tilefish	8.5	0.3%	891.5
dog snapper	2.0	0.1%	32.0
gag	329.6	12.8%	6,490.4
golden tilefish	20.3	0.7%	1,496.7
goliath grouper	22.3	0.9%	115.2
gray snapper	31.1	1.3%	1,335.0
gray triggerfish	21.2	0.9%	287.9
greater amberjack	71.9	2.9%	1,162.9
hogfish	9.7	0.3%	234.3
lane snapper	15.9	0.7%	852.6
lesser amberjack	5.0	0.2%	56.3
misty grouper	2.0	0.1%	6.0
mutton snapper	7.2	0.3%	28.6
Nassau grouper	1.0	0.0%	1.0
red grouper	693.0	26.8%	54,261.7
red hind	1.7	0.1%	2.3
red snapper	708.6	26.9%	76,842.6
scamp	75.2	2.8%	843.9
silk snapper	3.3	0.1%	158.3
snowy grouper	10.2	0.4%	111.9
speckled hind	5.0	0.2%	36.4
unc amberjack	129.9	4.6%	2,210.4
unc groupers	27.9	1.1%	2,909.8
unc jacks	5.8	0.2%	149.4
unc snappers	31.7	1.2%	2,763.3
unc tilefish	3.8	0.2%	156.0
unc triggerfish	32.4	1.3%	849.4
vermilion snapper	116.4	4.2%	10,656.1
warsaw grouper	25.7	6.5%	256.8
yellowedge grouper	21.9	7.0%	309.6
yellowfin grouper	2.2	0.1%	25.0
yellowtail snapper	84.7	3.0%	1,012.2

Recreational Sector

For the recreational fishery, estimates of the number of recreational discards are available from MRFSS and the NMFS headboat survey. The MRFSS system classifies recreational catch into three categories:

- Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers.
- Type B - Fishes that were caught but were either not kept or not available for identification:
    - Type B1 - Fishes that were caught and filleted, released dead, given away, or disposed of in some way other than Types A or B2.
    - Type B2 - Fishes that were caught and released alive.

For species in the Reef Fish FMP, the average annual number of recreational reported discards from 1986 to 2009 was greatest for gray snapper (2,931,437), red grouper (1,789,080), and gag (1,748,599), as described in Table 4.2.

Table 4.2 (1986-2009) recreational landings and discards, as reported to MRFSS.

	LANDINGS		**DISCARDS**		**DISCARDS/LANDINGS RATIO**	
Common Name	**Charter**	**Private**	**Charter**	**Private**	**Charter**	**Private**
almaco jack	5,964	18,600	835	1,196	14%	6%
banded rudderfish	11,584	3,569	449	13,209	4%	370%
black grouper	3,456	93,662	4,102	29,118	119%	31%
blackfin snapper	58	0	7	29	12%	0%
blackline tilefish	0	0	1	0	0%	0%
blueline tilefish	341	1,969	3	79	1%	4%
cubera snapper	268	15,947	13	1,470	5%	9%
dog snapper	87	2,396	0	238	0%	10%
dwarf sand perch	468	2,207	241	5,354	52%	243%
gag	89,808	2,160,972	163,849	1,584,750	182%	73%
golden tilefish	0	0	17	0	0%	0%
goldface tilefish	0	0	0	0	0%	0%
goliath grouper	133	6,925	2,332	21,286	1758%	307%
gray snapper	85,069	963,583	75,467	2,855,970	89%	296%
gray triggerfish	237,003	318,843	19,134	90,016	8%	28%
greater amberjack	82,804	693,381	44,720	92,935	54%	13%
hogfish	1,335	173,145	200	7,647	15%	4%
lane snapper	34,283	180,623	14,858	278,160	43%	154%

	LANDINGS		DISCARDS		DISCARDS/LANDINGS RATIO	
Common Name	**Charter**	**Private**	**Charter**	**Private**	**Charter**	**Private**
lesser amberjack	844	7,960	65	1,002	8%	13%
mahogany snapper	82	801	19	303	23%	38%
misty grouper	8	0	0	0	0%	0%
mutton snapper	7,436	114,845	2,725	36,541	37%	32%
Nassau grouper	178	36,938	360	13,292	202%	36%
queen snapper	81	1,564	3	162	4%	10%
red grouper	45,785	1,293,566	192,157	1,596,924	420%	123%
red hind	108	2,864	392	7,929	361%	277%
red snapper	458,119	1,713,891	471,840	844,295	103%	49%
rock hind	556	3,154	234	4,096	42%	130%
sand perch	6,763	117,475	15,222	811,851	225%	691%
scamp	10,476	19,231	4,039	17,573	39%	91%
schoolmaster	380	1,506	34	3,076	9%	204%
silk snapper	2,515	4,110	15	647	1%	16%
snowy grouper	634	2,823	90	265	14%	9%
speckled hind	290	1,951	157	3,477	54%	178%
vermilion snapper	294,450	132,577	30,506	60,515	10%	46%
warsaw grouper	890	50,274	54	453	6%	1%
wenchman	12	52	0	0	0%	0%
yellowedge grouper	204	2,985	23	692	11%	23%
yellowfin grouper	140	1,296	80	2,562	57%	198%
yellowmouth grouper	281	3,686	47	228	17%	6%
yellowtail snapper	76,136	339,481	38,657	523,207	51%	154%

Sea Turtles

The 2009 BiOp (NMFS 2009) stated that combining an immediate mortality of 43.5 percent with a 30 percent post-release morality on the remaining sea turtles yields a 60.5 percent overall estimated mortality for loggerhead sea turtles captured on reef fish bottom longlines (i.e., (100% - 43.5%)*0.30+43.5%). Therefore, of the estimated 519 loggerheads caught annually, 314 (519 takes x 0.605) resulted in mortality. Based on a summary of the types of interactions that result from bottom longline interactions, the BiOp conservatively estimated the 1 green, 1 hawksbill, 1 Kemp's ridley, and 1 leatherback sea turtle captures were all lethal.

Loggerhead sea turtle takes observed in the bottom longline component of the reef fish fishery included both later-stage sexually immature sea turtles and mature sea turtles. These life history stages are very important for population recovery because their reproductive value is high. Satellite telemetry studies of adult female loggerhead sea turtles indicate the importance of the west Florida shelf as benthic foraging habitat (Schroeder et al. manuscript in prep). For the past 20 years, FWRI has coordinated a detailed sea turtle nesting-trend monitoring program. Loggerhead sea turtle nests counted annually at core index nesting beaches in Florida from 1989

through 2008 indicate a declining trend in loggerhead sea turtle nesting (FWRI 2008; Witherington et al. 2009). Witherington et al. (2009) have argued the observed decline in the annual counts of loggerhead sea turtle nests on Index and Statewide beaches in peninsular Florida can best be explained by a decline in the number of adult female loggerhead sea turtles in the population.

Table 4.3 Anticipated Triennial Takes in the October 13, 2009 Biological Opinion

Species	Commercial Bottom Longline Takes (Mortalities)	Commercial Vertical Line Takes (Mortalities)	Recreational Vertical Line Takes (Mortalities)	Vessel Strike Takes- All Lethal	Entire Fishery Takes (Mortalities)
Loggerhead	732 (443)[A] 623 (378)[B]	76 (23)	254 (75)	90(90)	1152 (631)[A] 1043 (566)[B]
Kemp's ridley	3 (3)	23 (7)	74 (22)	9 (9)	88 (39)
Green	3 (3)	14 (4)	45 (14)	54 (54)	170 (75)
Leatherback	3 (3)	1 (1)	1 (1)	6 (6)	11 (11)
Hawksbill	3 (3)	1 (1)	1 (1)	3 (3)	8 (8)
Smalltooth sawfish	2 (0)	2 (0)	4 (0)	0 (0)	8 (0)

[A] =anticipated in 2009-2011; [B] =anticipated for all subsequent 3-year periods

Other Bycatch

Other species incidentally encountered by the reef fish fishery include mammals and sea birds. The Gulf commercial reef fish fishery is listed as a Category III fishery in NMFS' List of Fisheries (73 FR 73032, December 1, 2008). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any fishery is less than or equal to one percent of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock, while allowing that stock to reach or maintain its optimum sustainable population. The 2009 BiOp also estimated eight smalltooth sawfish to be captured by reef fish fishery during 2009-2011 (NMFS 2009).

Three primary orders of seabirds in the Gulf are Procellariiformes (petrels, albatrosses, and shearwaters), Pelecaniformes (pelicans, gannets and boobies, cormorants, tropic birds, and frigate birds), and Charadriiformes (phalaropes, gulls, terns, noddies, and skimmers) (Clapp et al. 1982; Harrison 1983). Several other species of seabirds also occur in the Gulf, and are listed as threatened or endangered by the U.S. Fish and Wildlife Service, including: piping plover, least tern, roseate tern, bald eagle, and brown pelican (the brown pelican is endangered in Mississippi and Louisiana and delisted in Florida and Alabama). Human disturbance of nesting colonies and mortalities from birds being caught on fishhooks and subsequently entangled in monofilament line are primary factors affecting sea birds. Oil or chemical spills, erosion, plant succession, hurricanes, storms, heavy tick infestations, and unpredictable food availability are other threats. No evidence exists that the directed reef fish fishery adversely affects seabirds.

The Council and NMFS took action in Amendment 18A to the Reef Fish FMP (effective September 8, 2006) to comply with the RPM that any sea turtle or smalltooth sawfish taken in the reef fish fishery is handled in such a way as to minimize stress to the animal and increase its survival rate. Regulations were implemented requiring sea turtle release gear be onboard reef fish-permitted vessels when fishing to facilitate the safe release of any incidentally caught sea turtles or smalltooth sawfish. In addition, vessels with commercial and for-hire reef fish vessel permits are required to possess specific documents providing instructions on the safe release of incidentally caught sea turtles or smalltooth sawfish. RPMs also required better data collection from the fishery on incidental takes of sea turtles.

One way effort has been made to reduce the chance of sea turtle interactions through Amendment 31 is the prohibition of longline gear in certain areas, depths, or months, or some combination of the three. The more abundant sea turtles are in a given area and the higher the fishing effort in that area, the greater the probability a sea turtle will be incidentally caught by the gear. For example, most observed sea turtle takes occurred on fishing trips west of the Tampa Bay area, all but one turtle take was on a set at 50 fathoms or less, and 76% of sea turtles takes occurred from June through August (NMFS-SEFSC 2009). Most of the longline fishing effort is conducted in these places and at these times. The ESA rule prohibited bottom longline fishing in the eastern Gulf for reef fish in waters shoreward of a line approximating the 35- fathom contour with a restriction of 1,000 hooks per vessel with no more than 750 hooks rigged at any given time.

SHRIMP

More than 450 taxa have been identified from shrimp trawls in the Gulf of Mexico, and the average catch is approximately 28 kg per hour (NMFS 1998). By weight, approximately 67 percent of the catch is finfish, 16 percent is commercial shrimp, and 17 percent is invertebrates. The fishery is also a substantial source of bycatch mortality on sea turtles. Although a diverse fauna is taken, the catch/bycatch is dominated by just a few species. According to NMFS (1997), the 10 most abundant species, including the shrimp species, comprise between 50 percent and 75 percent of the total catch by weight. The species composition changes somewhat depending on the area and depth fished, but for the Gulf overall, Atlantic croaker and longspine porgy are the two dominant finfish species taken in trawls, comprising approximately 25 percent of the total catch by weight. Other commonly occurring species include three species of portunid crabs, mantis shrimp, spot, inshore lizardfish, searobins, and Gulf butterfish. Red snapper represent less than 0.5 percent of the total catch either by weight or number (Branstetter 1997). Although red snapper comprise a very small percentage of overall bycatch, the mortality associated with this bycatch impacts the recruitment of older (age 2 and above) to the directed fishery, and ultimately the recovery of the red snapper stock.

To address finfish bycatch issues, especially bycatch of red snapper, the Council initially established regulations requiring bycatch reduction devices (BRDs), specifically to reduce the bycatch of juvenile red snapper. In 1998, all shrimp trawlers operating in the EEZ, inshore of the 100-fathom contour, west of Cape San Blas, Florida were required to use BRDs. To be certified for use in the fishery, a BRD had to demonstrate a 44 percent reduction in fishing mortality for age 0 and age 1 red snapper from the baseline years of 1984-1989. Subsequently, in 2004, BRDs were required in the eastern Gulf of Mexico (east of Cape San Blas, Florida). BRDs used in this area had to demonstrate a 30 percent reduction in the total finfish biomass, and this measure was

implemented to address bycatch reduction for all finfish species. Only two Gulf states (Florida and Texas) require the use of BRDs in state waters.

Even though the Council has moved away from a BRD criterion that achieves a specific reduction in red snapper (F), there is a general correlation between the reduction rate of red snapper and the reduction of total finfish as described in Figure 4.1 of Amendment 27/14. In general, a BRD that effectively reduces 30 percent of the finfish biomass also reduces the catch of juvenile red snapper so that F is reduced by about 20 to 25 percent.

To address sea turtle bycatch and associated mortality, NMFS implemented regulations requiring turtle excluder devices (TEDs) in 1987, which were phased in over 20 months. Originally, TEDs were required on a seasonal basis, and no TEDs were required if the fisherman followed restricted tow times. Subsequent rulemaking in 1992 required TEDs in all shrimp trawls from North Carolina to Texas, but phased in these requirements to the inshore fishery over a 2-year period. Over time, TED regulations have been modified to change the allowable configurations of TEDs with the intent of improving turtle exclusion. TEDs are required in both state and federal waters.

RED DRUM

Commercial Discard/Bycatch

There are no monitoring programs to determine the amounts of red drum discarded from commercial fishing gear. In the Florida Fish and Wildlife Conservation Commission report, An assessment of the status of red drum in Florida waters through 2007 (2009, M. Murphy and J. Munyandoreo) the assumption that commercial discard amounts were small enough, relative to the overall fisheries landings, to ignore them.

The age-specific release rates determined for the recreational fishery during 1982-1988 could be assumed to be similar for the commercial data and then used to inflate the commercial landings so that they would include the kill of released fish. However, because commercial fishers often modify their gears or fishing operations to avoid undersized fish, this assumed similarity to recreational fishers was not deemed valid. It seemed that the inadvertent commercial kill represented a small portion of the landings so, as mentioned, it was deemed insignificant in the 2009, M. Murphy and J. Munyandoreo Report.

Recreational Discard/Bycatch

The number of red drum captured and released alive by anglers is much higher in recent years than during the early to mid 1980's. Along the gulf coast, the average annual number of red drum that anglers released alive each year increased from about 1.4 million fish during 1982-1986 to 3.2 million fish during 1990-2007. Likewise, the numbers released alive on the Atlantic coast increased from about 81,000 red drum during 1982-1986 to 619,000 fish during 1990-2007. On both coasts, the absolute number of red drum released alive peaked during 2005 and has dropped since then, precipitously on the gulf coast during 2007 (2009, Murphy and Munyandoreo).

CORAL AND CORAL REEFS

The Coral and Coral Fishery is not monitored for Bycatch purposes. There should be minimal impacts from the harvest of coral colonies conducted by hand.

Practicability Analysis

Criterion 1: Population effects for the bycatch species

Management measures presented in this amendment may have an indirect but slight impact on minimizing bycatch. If measures redefining management reference points result in more conservative estimates of MSY and OY, conservative establishment of OFLs and ACLs, and with these measures there is a high compliance to regulations, fishing effort would be expected to be reduced in proportion to the more conservative catch allowances resulting in a reduction in bycatch and bycatch mortality. The establishment of ACLs and AMs may result in stock quotas being met. Once quotas are met and AMs are implemented fisherman may shift effort to a different geographic area to catch a stock that has a remaining quota thereby reducing the amount of bycatch associated with the species that has met their quota. However, many of the species are caught in same geographic area and if harvest continues in the same area bycatch will be increased.

Amendments 27/14 to the Reef Fish and Shrimp FMPs (GMFMC 2007) and Amendment 31 (GMFMC 2009) recently required fishermen to change their fishing practices. This includes using specific gear like circle hooks, dehooking devices, and venting s, to fishing in deeper waters where fewer undersized fish are found. These are all intended to reduce bycatch and release mortality. The benefits of such actions are discussed in detail in these amendments.

Criterion 2: Ecological effects due to changes in bycatch (effects on other species in the ecosystem)

If management develops conservative measures as cited in (1) above, slightly less bycatch and bycatch mortality would be expected, although natural variation may mask such a result. Theoretically, in response to such conservative management, the coral reef ecosystem would become better balanced as a result of more intact trophic and predatory interactions due fewer non-target individuals being extracted or dying from the impacts of capture and release to the natural system.

Criterion 3: Changes in the bycatch of other species of fish and invertebrates and the resulting population and ecosystem effects

Population and ecosystem effects resulting from changes in the bycatch of other species of fish and invertebrates are difficult to predict. Snappers, greater amberjack, gray triggerfish, and other reef fishes are commonly caught in association with SWG. Many of these species have been or are undergoing overfishing, as detailed previously in this document. Regulatory discards significantly contribute to fishing mortality for all reef fish species, except gray triggerfish and vermilion snapper. No measures are proposed in this amendment to directly reduce the bycatch of other reef fish species. However, any reduction in effort in the bottom longline component of the reef fish fishery could reduce regulatory discards of all species. The effects of shifting fishing efforts on the ecosystem is very difficult to predict. Fishing effort changes will result in changes

to the ecosystem and its species specific interactions. These predator–prey relationships and species specific interactions have been very difficult to analyze. As a population of one species increase it may have negative effects on prey species.

Criterion 4: Effects on marine mammals and birds

The effect of Actions in the Amendment on marine mammals is expected to be minimal. Establishing ACLs is not expected to change fishing gear, alter fishing methods, or increase interactions with marine mammals and birds. There is no information that indicates marine mammals and birds rely on reef fish as a food source.

Criterion 5: Changes in fishing, processing, disposal, and marketing costs

If management chooses the most conservative and restrictive proposals in this amendment one still would expect changes to fishing effort to shift when an ACL is met. Such a change may result in a proportionate change in bycatch or bycatch mortality. If this occurs, AMs would be triggered to reduce the length of the fishing season in subsequent fishing years, thereby minimizing bycatch. The only expected changes in processing, disposal, and marketing costs as a result of this amendment would be related to the duration of the fishing season. ACLs are expected to alter fishing seasons with all managed species now having harvest quotas that can be met and or exceeded. The resulting closures will shift fishing efforts to species with remaining quotas.

Criterion 6: Changes in fishing practices and behavior of fishermen

ACLs will lead to increased opportunity for derby fishing, thus closing fisheries early and resulting in bycatch once the fishery has met their ACL. Once the fishery is closed it is expected that fisherman will shift their effort toward a species with quota remaining. However, many of the species are caught in same geographic area and if harvest continues in the same area bycatch will be increased. This shift in effort may result in a geographical change to the area being fished which may change fishing practices.

Fish traps, hook-and-line, and spearfishing have been the most successful fishing practices and these practices are not expected to change without further regulations.

Criterion 7: Changes in research, administration, enforcement costs and management effectiveness

Research and monitoring is needed to understand the effectiveness of proposed management measure in reducing bycatch. Additional work is needed to determine the effectiveness of measures being developed in this amendment and by future actions being considered by the Council to reduce bycatch. Additional administrative and enforcement efforts will be needed to implement and enforce these regulations.

Criterion 8: Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources

Proposed management measures, including those that are likely to increase or decrease discards could result in social and/or economic impacts as discussed in Section 4. Fishermen may switch species if closures are imposed as part of the accountability measures. Switching behavior is common, but can lead to increased bycatch if species coexist within similar habitat. However, it is assumed that if annual catch limits are based upon species groupings that bycatch concerns will be reduced as closure for one species may encompass closely related species that may reside in similar habitats. It is unknown how this may affect species that are not covered in this amendment and may be subjected to increased fishing pressure as a result of closures or reduced ACLs.

Criterion 9: Changes in the distribution of benefits and costs

Attempts were made to ensure reductions provided by proposed management measures are equal in the commercial and recreational sectors. The extent to which these management measures will increase or decrease the magnitudes of discards is not clear. Potential increases in dead discards are taken into consideration in bag and size limits, setting commercial quotas, and determining the effectiveness of a seasonal closure. It is unlikely that the magnitude of discards will be the same in the commercial and recreational sectors. Commercial fishermen generally catch fewer small fish than recreational fishermen with the possible exception of spear gear where the size distribution of the catch is similar. The costs and benefits to these actions is addressed in Section 7 of this Amendment.

Criterion 10: Social effects

The social effects of all the management measure, including those most likely to reduce bycatch, are described in Section 3. It is likely that with the establishment of ACLs there will be closures to account for quotas being met. These closures will change fishing behavior as fishermen switch to other species or choose not to fish at all. While these closures will result in less bycatch for the targeted species, it could create situations where bycatch of non-targeted species occurs. It is anticipated that overall bycatch should be reduced as accountability measures are implemented. Once quotas are met and AMs are implemented fisherman may shift effort to a different geographic area to catch a stock that has a remaining quota thereby reducing the amount of bycatch associated with the species that has met their quota. However, many of the species are caught in same geographic area and if harvest continues in the same area bycatch will be increased. As mentioned previously, switching behavior as a result of closures or reduced ACLs could cause increased fishing pressure on species managed through other amendments.

CONCLUSIONS

The Council will need to weigh the benefits of reducing bycatch against the negative economic effects imposed on the various fisheries affected by this Generic Amendment. The Council will also need to consider the practicability of implementing the bycatch minimization measures discussed above with respect to the overall objectives of the Reef Fish FMP, Shrimp FMP, Stone Crab FMP, Red Drum FMP, Coral and Coral Reefs FMP, the MSFMCA, and the ESA.

Bycatch is currently considered to be reduced to the extent practicable in all fisheries subject to this amendment. However, placing additional limits on the harvest of these species will have

inevitable impacts on bycatch. The precise impacts of these limits are currently unknown, but any potential increase in bycatch in believed to be outweighed by the benefits associated with setting catch limits. Further, bycatch levels and associated implications will continued to be monitored in the future and issues will be addressed based on new information.

5. Environmental Consequences

Action 1. Management of Species by Other State or Federal Agencies

Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia)
Action 1.2 Formerly Stone Crab
Action 1.3 Nassau Grouper, *Epinephelus striatus*
Action 1.4 Yellowtail Snapper, *Ocyurus chrysurus*
Action 1.5 Mutton Snapper, *Lutjanus analis*

5.1.1 Direct and Indirect Effects on Physical Environment

The management of species by other state or federal agencies is not expected to have direct effects on the physical environment because the current management measures in place for these resources are not expected to change. The physical environment is impacted when changes in fishing effort and gear types occur. Based on the current management measures in places for octocorals, Nassau grouper, yellowtail snapper, and mutton snapper effort is not expected to change under this action.

Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia)

Preferred Alternative 2 would remove octocorals from the fishery management plan with the understanding that the State of Florida would assume management. Because Florida FWC has written a letter to both the South Atlantic and Gulf Councils stating their intent to management this resource in state waters of Florida as well as to develop federal regulations no direct or indirect effects on the physical environment are expected (Appendix 15.4). If effort shifted or was modified in some way under **Preferred Alternative 2** indirect and direct effects could occur on the physical environment; however, based on the information supplied by the Florida Commission these are not anticipated. Similarly, transferring management of allowable octocorals to the South Atlantic Council (**Alternative 3**) compared to **Alternative 1** is not expected to have any indirect or direct effects on the physical environment, because the current management measures in place for octocorals are not expected to change.

Action 1.2 Stone Crab Fishery Management Plan

Formerly Stone Crab

Action 1.3 Nassau Grouper, *Epinephelus striatus*

Action 1.3 is administrative in nature in that it only changes the entity responsible for management and is not expected to have impacts on the physical environment. The current management measures in place for this resource are not expected to change under **Preferred Alternative 3** compared **Alternatives 1** and **2**. Further harvest of this species is prohibited therefore any shifts in effort or use of gear types that would potentially impact this species and therefore the physical environment under the current management measures do not apply.

Action 1.4 Yellowtail Snapper, *Ocyurus chrysurus* and Action 1.5 Mutton snapper, *Lutjanus analis*

Preferred Alternative 1 for both yellowtail snapper and mutton snapper is not expected to impact the physical environment because the current management measures in place for these species would not change. Both the Gulf and South Atlantic Councils are reviewing whether federal management of these two species are necessary and the Florida FWC has written a letter stating their intent to look into management responsibility of these two species (Appendix 15.6). Based on letters received at the June 2011 Council meeting from Florida FWC they felt that federal management should remain involved for both species. Florida FWC voiced concerns about managing fishing effort particularly of out-of-state vessels and felt it was best for the resource if federal management remained involved (Appendices 15.7 and 15.8). Fishing effort can have a direct negative impact on the physical environment so it beneficial if the Florida FWC is uncertain about managing effort in federal waters that these species stay within the federal Fishery Management Plan. Based on these discussions the Gulf Council selected **Preferred Alternative 1** which would retain these two species within the Reef Fishery Management Plan and therefore provide the best protection to the physical environment. **Alternatives 3** and **4** under both actions would also keep federal management involved and would likely provide equal protection to the resources.

5.1.2 Direct and Indirect Effects on Biological /Ecological Environment

Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia)

Direct and indirect effects of management of species by other state or federal agencies are not expected under Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia). The joint quota for the allowable harvest of octocorals in federal waters of 50,000 colonies for both the Gulf and South Atlantic has never been reached from 1991 to 2008 nor have any of the species within the allowable harvest been identified as overfished or undergoing overfishing in federal waters by either the Gulf or South Atlantic Management Councils or Florida FWC. Due to the current healthy status of this small fishery off south Florida changes in management (**Alternatives 1-3**) are expected to have minimal direct or indirect effects on the biological or ecological environment. Octocorals are subclass of soft corals that grow faster than numerous other hard/stony corals under management by the Gulf Council and listed within the Coral and Coral Reefs FMP (Hudson 1982; Goffredo and Lasker 2006). **Alternative 1** is the status quo alternative, retain management of octocorals under the Coral and Coral Reefs Fishery Management Plan. Under this alternative the National Standard 1 guidelines would need to be met by the end of 2011 which would establish annual catch limits and accountability measures for octocorals jointly with the South Atlantic Council. **Alternative 1** would likely have positive impacts to the biological and ecological environments because the annual catch limits were exceeded one year accountability measures would be implemented.

Whereas**, Preferred Alternative 2** would remove octocorals from the Coral and Coral Reefs Fishery Management Plan with the assumption that Florida FWC would agree to accept the responsibility for octocoral management. Octocorals are a south Florida fishery with a majority (78%) of the landings coming from state waters off both coasts. Florida FWC has taken the lead in documenting commercial octocoral landings as well as implementing compatible regulations with NOAA Fisheries Service and the Gulf and South Atlantic Council's by closing state waters to harvest of octocorals when the exclusive economic zone quota is filled. Due to Florida FWC's active involvement with regulating and monitoring harvest of octocorals changing

management from the Gulf and South Atlantic Councils to Florida FWC is not expected to have any negative impacts to biological or ecological environments. In fact positive impacts to the resource are likely occur due to the State of Florida's involvement with both managing and assessing allowable octocorals has a harvestable resource.

During the April 2011 Council meeting the Gulf and South Atlantic Councils received a letter from Florida FWC, stating the Commission agreed to manage the allowable octocoral fishery in both Florida state waters and federal waters adjacent to the state (letter log file number 5914; (Appendix 15.4). The South Atlantic Council decided to retain allowable octocorals in their Coral FMP in federal waters off North Carolina, South Carolina, and Georgia and set the ACL at zero, but allow Florida FWC to assume management of octocorals off the State of Florida. In order for Florida FWC to take over management of this fishery, Florida octocoral regulations must be extended into federal waters and the regulations must be modified to establish an annual quota for allowable harvest in state and federal waters off Florida. This letter states that the current customary use of the resource will not change if the Gulf and South Atlantic Councils remove them from their fishery management plan with the understanding that the state of Florida would assume management. The Commission has clearly stated this is their intent and capability for management of the resource. Additionally, the Florida Commission staff will present a draft rule recommending extension of state regulations for octocorals into federal waters at the June 8-9, 2011 meeting. The Commission is committed to preserving the resource and is considering extension of state regulations into federal waters for allowable octocorals see the letter in (Appendix 15.4).

Fisheries for octocorals are unlikely to develop off other Gulf states because they do not currently exist. In addition, the habitat changes from a hardbottom off the State of Florida to sand mud bottom in the western Gulf off of the States of Alabama, Mississippi, Louisiana, and Texas. The habitat differences in the western Gulf do not support the growth of the numerous species of octocorals compared to the habitat off the state of Florida. There are some areas off Louisiana and Texas with deep salt domes that support the growth of octocorals, but it is unlikely a new fishery would develop for these species due to the depths and distance from shore where they are located. Also, many of the known areas with octocorals in the western Gulf such as the Flower Garden Banks are protected from harvest.

Alternative 3 would remove octocorals from the Coral and Coral Reef Fishery Management Plan and request that the Secretary of Commerce designate the South Atlantic Fishery Management Council (South Atlantic Council) manage octocorals throughout their range. If the South Atlantic Council agrees to take over the responsibility of management, the Secretary of Commerce designates this action under section 304(f) of the Magnuson-Stevens Act (50 CFR 600.320 (c)). This is also a reasonable alternative because a majority, 78% of the commercial octocoral landings occur in South Atlantic waters versus 22% in the Gulf of Mexico (Figure 2.1.1.1). In addition, the South Atlantic Council currently manages octocorals and shares the 50,000 colony per year quota with the Gulf Council. **Alternative 3** is not expected to have any negative impacts on the biological or ecological environment, because there would only be a shift in management to one federal agency versus two and the state of Florida would remain involved with management of octocorals on both coasts.

Action 1.2 Stone Crab Fishery Management Plan

Formerly Stone Crab

Action 1.3 Nassau Grouper, *Epinephelus striatus*

This action would primarily impact the administrative environment, but as a result **Preferred Alternative 3** is expected to have positive impacts on the biological and ecological environment, based on federal management remaining involved. Currently Nassau grouper are protected and can no longer be harvested, but annual catch limits and accountability measures would still need to be established and monitored by the South Atlantic Council if designated as the managing Council by the Secretary of Commerce (**Preferred Alternative 3**). The Gulf Council received a letter at their October 2010 meeting from the South Atlantic Council which stated their intent to accept this responsibility should the Secretary of Commerce designate them the responsible Council (Appendix 15.5). Due to harvest of this species being prohibited and low probability of harvest re-opening in the future it may be beneficial to the biological and ecological environment for federal management to remain involved.

Alternative 1 no action would retain management of Nassau grouper under the Reef Fish Fishery Management Plan. If this alternative were selected as preferred, annual catch limits and accountability measures would need to be established by 2011. The annual catch limit would equal zero based on the current prohibition of harvest, with the exception of Nassau grouper landed for research purposes. This alternative would provide positive benefits to the biological and ecological environment, but is not considered as ideal due to both the Gulf and South Atlantic management agencies remaining involved. **Alternative 1** would potentially result in more administrative burden for both Councils and the State of Florida with the same outcome for the resource.

Alternative 2 would remove Nassau grouper from the Reef Fish Fishery Management Plan, with the assumption that Florida FWC would agree to accept the responsibility of management. This is a viable alternative; however, there were some concerns about this species not remaining under federal management and therefore protection. If there are no longer federal regulations on a species, then Florida state regulations would extend into federal waters for vessels registered in Florida or returning to a Florida port. Under section 306 (3)(A) of the Magnuson-Stevens Act 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 regulation for the fishery in which the vessel is operating. Nassau grouper harvest is currently prohibited so vessels registered in other states fishing for this particular species could be an issue at this time, if the states did not prohibit harvest. If the harvest of Nassau grouper was re-opened **Preferred Alternative 3** is expected to be more beneficial to the biological and ecological environment than **Alternative 2**.

Action 1.4 Yellowtail Snapper, *Ocyurus chrysurus* and Action 1.5 Mutton snapper, *Lutjanus analis*

Actions 1.4 and **1.5** would primarily effect the administrative environment because they only change the entity responsible for management and not necessarily the underlying management measures. **Alternatives 1-4** under both actions would provide protection to the resources and therefore have positive benefits to the biological and ecological environment. However, under each alternative other than no action (**Preferred Alternative 1)** various administrative details would need to be addressed to provide the best protection for the resources. **Alternative 2** would remove yellowtail snapper and mutton snapper from the Reef Fish Fishery Management Plan, with the assumption that Florida FWC would agree to accept the responsibility for

management of these species. Yellowtail snapper is predominately landed in Florida (90%) with low landings in the other Gulf and South Atlantic states. However, since yellowtail snapper are landed off the state of Florida as far north as Steinhatchee and it is possible vessels registered outside of Florida may catch and land them. Though unlikely, if fisheries were to develop off northern Florida for vessels registered in other states **Alternative 2** may not provide as much protection to the resource compared to **Preferred Alternative 1,** or **Alternatives 3** or **4**. Under **Preferred Alternative 1**, the Gulf and South Atlantic Councils would need to apportion the acceptable biological catch and establish management measures for each species addressed in Action 7.3.2 and 7.3.3 providing positive benefits to the biological and ecological environments.

Alternative 3 has several administrative details that would need to be sorted out if selected as the preferred alternative. For example, the Gulf Council has different commercial and for-hire permit and aggregate bag limit requirements than the South Atlantic Council. As **Alternative 3** is developed working closely with the South Atlantic Council to determine if there are significant differences in management of the resources and the negative and/or positive impacts to the biological and ecological environment would be further analyzed at that time. **Alternative 4** may provide the best protection for the resources and therefore biological and ecological environment by creating a joint management plan that goes across jurisdictional boundaries with the Gulf and South Atlantic Councils. However, the development of this joint plan is timely and would probably need to be developed after this Generic Amendment is implemented. Thus, each Council would need to establish management measures for implementation.

5.1.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on Economic Environment

Action 1.1 Octocorals

Management alternatives considered under this action are primarilyadministrative in nature. **Preferred Alternative 2** and **Alternative 3** would remove octocorals from the Coral and Coral Reefs Fishery Management Plan, and, in the case of **Alternative 3**, request that the South Atlantic Council become the responsible Council. **Preferred Alternative** 2 is not expected to result in any economic effects due to the relatively low proportion of octocorals harvested in federal waters of the Gulf of Mexico and to the willingness of the state of Florida to take over the management of octocorals. Furthermore, for the management of octocorals, the state of Florida has already implemented compatible regulations with NOAA Fisheries service and the Gulf and South Atlantic Councils. The designation of the South Atlantic Council as the responsible Council for the management of octocorals considered under **Alternative 3** is not expected to affect the customary uses of the resource. In addition, more than three quarters of the octocorals are harvested in South Atlantic waters. Therefore, **Alternative 3** is also not anticipated to result in any economic effects.

Action 1.2 Stone Crab Fishery Management Plan

Formerly Stone Crab

Actions 1.3 – 1.5: Nassau Grouper, Yellowtail Snapper, and Mutton Snapper

The removal of Nassau grouper, yellowtail snapper, and mutton snapper from the Reef Fish Fishery Management Plan, the designation of the South Atlantic Council as the Council

responsible for the management of these species, and, the addition of yellowtail snapper and mutton snapper to a joint plan with the South Atlantic are administrative issues. None of the management alternatives considered under Actions 1.3 to 1.5 are expected to affect the harvest or other customary uses of these resources. Therefore, neither direct, nor indirect economic effects are anticipated to result from these actions.

Direct and Indirect Effects on Social Environment

Action 1.1 Octocorals

The social impacts from removal of species from any FMP may be beneficial as it may make management decisions timelier and more streamlined if fewer species are included in the management unit. For some species that are caught infrequently and in low numbers it may be more efficient to exclude those from management as the difficulty in tracking landings and monitoring could prove costly to implement by assigning ACLs to all species. This reduction in the number of species managed may become necessary with the present economic climate as state and federal budgets are reduced and management needs become more focused on species that are both more economically and socially important. With the no action **Alternative 1** ACLs would need to be implemented for all species within the FMP and could make management more cumbersome if octocorals remain within the FMP and continue to be co-managed by both Councils. **Preferred Alternative 2** would remove octocorals from the FMP and place the responsibility for management with the State of Florida. This alternative would extend state regulations into federal waters which may have beneficial effects since the majority of landings are in Florida state waters. This would simplify management and reduce the administrative burden on the councils. Fishermen would also benefit from having fewer agencies to interact with for management purposes. **Alternative 3** would make the South Atlantic Council responsible for management and therefore would lessen the administrative burden for the Gulf Council, so would likely have some beneficial social effects while still maintaining federal management of this species. It is likely that the social effects will be minimal, but can contribute to an overall impact of streamlining management which may lessen the burden on the public and therefore have beneficial impacts.

Action 1.2 Stone Crab Fishery Management Plan

Formerly Stone Crab

Action 1.3 Nassau Grouper, *Epinephelus striatus*

Because the harvest of Nassau grouper is currently prohibited, negative social impacts are not expected from either the removal or maintenance of the species in the Gulf Council's fishery management plan. If management of the species was to be maintained (**Alternative 1**), then the ACL would be set at zero and be equivalent to the current prohibition on harvest. Placing the species under management jurisdiction of the state of Florida (the default under **Alternative 2**) or the South Atlantic Council (**Preferred Alternative 3**), where the majority of landings originally occurred (84% from 1981-1992), is not expected to incur any negative social effects. Nassau grouper is presently managed under a no bag limit and no commercial take, and these restrictions will continue under the South Atlantic Snapper Grouper Plan. Rather, positive benefits might accrue to management and fishermen as in Action 1.1 above, because there would be fewer administrative steps to management for the Gulf Council.

Action 1.4 Yellowtail Snapper, *Ocyurus chrysurus* and Action 1.5 Mutton Snapper, *Lutjanus analis*

Due to the low level of landings within the Gulf Council's jurisdiction, the Council has considered removing yellowtail snapper and mutton snapper from the fishery management plan (**Alternative 2,** defaulting management to the State level), designating the South Atlantic Council as responsible for their management (**Alternative 3**), or creating a joint plan with the South Atlantic Council (**Alternative 4**) for these species. Positive benefits could accrue to management and fishermen because there would be fewer administrative steps to management for the Gulf Council under **Alternatives 2** and **3. Alternative 4** would create an additional joint fishery management plan with the South Atlantic, increasing the management burden by requiring agreement between the Councils on future management of the species. However, this alternative would allow these species to be managed as a joint stock and not require the Councils to apportion the stock between them. Regardless, negative social impacts are not expected from any change in management jurisdiction because of the relatively low landings of these species.

Under the **Preferred Alternative 1,** the Gulf Council would retain management jurisdiction of these species and require that each stock be apportioned between the Gulf and South Atlantic Councils and to set ACLs and AMs. Negative social effects are not expected to accrue directly from this alternative, but may be incurred indirectly depending on how the apportionment (Action 7.3.2 and 7.3.3), ACLs and AMs are set. These effects will be addressed in the related sections.

5.1.4 Direct and Indirect Effects on Administrative Environment

Alternative 1, under each sub-Action would not affect the administrative environment. The subsequent alternatives under the sub-Actions would have direct effects on the administrative environment. In **Alternative 2**, **3**, and **4** the process of removing species from the FMP, repealing the FMP, or transferring the FMP would add a burden to SERO staff requiring the development and implementation documentation for the appropriate regulatory process. The positive effects of the **Preferred Alternative 2** in Action 1.1 and **Preferred Alternative 3** in Action 1.3 would result in a single agency managing the stock and thus reducing the amount of multi-agency management. The burden of setting management measures for the SAFMC and GMFMC will be eliminated. However, **Preferred Alternative 1** under Actions 1.4 and 1.5 would keep both federal management Councils involved as well as Florida FWC. Each Council is responsible for establishing management measures and monitoring after agreement on jurisdictional apportionment of yellowtail snapper and mutton snapper.

5.2 Action 2. Removal of Stocks from Reef Fish Fishery Management Plan

5.2.1 Direct and Indirect Effects on Physical Environment

The removal of species from the Reef Fish Fishery Management Plan is not reasonably expected to have direct and indirect effects on the physical environment. Preferred Alternative 3 will be removing species that are harvested at less than 15,000 pounds annually. These species considered have lower catch rates compared to those that are generally targeted. Consequently, the small amount of effort involved in catching these species is not expected to impact the physical environment due to the fact that they are not targeted species. The methods of fishing will remain the same and thus no effects from gear type are anticipated.

5.2.2 Direct and Indirect Effects on Biological /Ecological Environment

Removal of species from management could potentially result in increased targeting. However, the species under consideration in this action have relative low levels of catch and are usually not found or caught in abundance. Thus the likelihood of this happening is low. Removal of species that are not in need of management would allow management efforts to be concentrated on the more heavily targeted and exploited stocks that are in need of management, which would provide beneficial results to the biological/ecological environment.

Alternative 1 will have no effect on the biological and ecological environment since it does not change the current status. **Alternative 2 and <u>Preferred Alternative 3</u>** remove or retain selected species from the Reef Fish Fishery Management Plan based on a set of criteria. **Alternative 2** would remove the most species (up to 18), **<u>Preferred Alternative 3</u>** less (up to 13). **Alternative 4** would remove up to 8 species. However, the number of species that be removed could be reduced by the inclusion of up to three optional criteria for retention. **Option a** is species that are long-lived (there is no precise definition of what long-lived means, but greater than 30 years is used in the option). Two species definitely meet this criterion, but the longevity of the three tilefish species is unknown and could possibly be included in this category. **Option b** is species that may be misidentified as another species in the reef fish fishery management plan. Six species meet this criterion under **Alternative 2** (cubera snapper with gray snapper, yellowmouth grouper with scamp, lesser amberjack with juvenile greater amberjack, blackfin snapper with red and silk snapper, yellowfin grouper with yellowedge grouper, queen snapper with gray snapper). Two species meet the criterion under **<u>Preferred Alternative 3</u>** (cubera snapper with gray snapper, yellowmouth grouper with scamp. **Option c** is species that have a discernable trend in landings that may indicate a change in status. Four species meet this criterion under **Alternative 2** (speckled hind, lesser amberjack, silk snapper and Wenchman). None meet the criterion under **<u>Preferred Alternative 3</u>**.

<u>Preferred Alternative 5</u> would remove sand perch and dwarf sand perch from the Reef Fish Fishery Management Plan. The Council currently feels federal management is not necessary for sand perches because they are not believed to be overfished or undergoing overfishing and are not targeted species. In many cases, sand perch that are caught are retained for bait, making it difficult to compile accurate catch statistics. Sand perch and dwarf sand perch were placed in the original fishery management plan for purposes of data collection (GMFMC 1981). If retained in the fishery management plan, it would be difficult to create and track annual catch limits for these species individually due to the identification problems but, annual catch limits could be developed for both species combined**.**

5.2.3 Direct and Indirect Effects on Economic/Social Environment

<u>Direct and Indirect Effects on Economic Environment</u>

The removal of selected species from the Reef Fish Fishery Management Plan is an administrative action that would not affect NOAA Fisheries services' data collection and monitoring of these species. None of the alternatives in this action are anticipated to result in economic effects because the removal of these species, which are not generally targeted and do not comprise a major part of the recreational or commercial sector, is not expected to affect the harvest or customary use of these resources.

Direct and Indirect Effects on Social Environment

As mentioned for the previous action, the social effects of removal of species that are caught infrequently can be beneficial as the management burden is lessened, thereby offering more streamlined management. Decision-making may become less cumbersome and the burdens on fishermen may lessen as they have to interrelate with fewer agencies. On the other hand, maintaining lesser caught species under federal management and setting ACLs for those species is not likely to accrue negative impacts for the same reason; they are not generally targeted and do not comprise a major part of the recreational or commercial fishery.

5.2.4 Direct and Indirect Effects on Administrative Environment

The action alternatives would have direct effects on the administrative environment. The process of removing species from the FMP, would in the short term add a burden to SERO staff requiring the development and implementation documentation for the appropriate regulatory process. However, in the long term this would result in fewer annual catch limits that need to be monitored and in fewer stocks subject to regulation, creating a simplified administrative environment.

5.3 Action 3. Species Groupings

5.3.1 Direct and Indirect Effects on Physical Environment

In this Action the Species Groupings Alternatives 1, 2, 3 and **Preferred Alternative 4** are very similar in nature and are not reasonably expected to have direct or indirect effects on the physical environment. While the development of species groupings is not reasonably expected to have effects on the physical environment, the resultant management strategies for these groups could affect the level of fishing effort which may have slight affects on the physical environment. The management strategies for these groups may alter the geographic area that the fishery is prosecuted, and thus effecting the physical environment with fishing gear and anchors. **Preferred Alternative 5** is a modifier to the other alternatives in that it determines if and how an indicator species is used in species groupings. The selection of **Preferred Option c** is not reasonably expected to have effects on the physical environment, but the resultant management strategies for these groups could affect the distribution of fishing effort which may have slight affects on the physical environment.

5.3.2 Direct and Indirect Effects on Biological /Ecological Environment

Action 3 is not expected to have direct and indirect positive or negative benefits to the biological and ecological environment. The current **Preferred Alternative 4** utilizes the most information available (i.e., landings and early life history) to create species groupings. In addition, **Preferred Alternative 5 Option c** uses specifies that no indicator species will be used in species groupings. The use of an indicator species in groupings that are also IFQ groupings would complicate the IFQ program. Furthermore, because these groupings have beed set up to accommodate the IFQ system, stocks in a group are not necessarily caught together. For example, in the Shallow-water Grouper complex, black grouper are more commonly caught off of southwest Florida while scamp are more commonly caught in more northern latitudes. Thus, the landings of an indicator species would not necessarily reflect fishing effort on the other species in the group. For this reason, use of an indicator species would have a negative impact on the stocks in the group, and the no indicator species option provides the greatest

biological/ecological benefits. **Alternative 1** is the no action alternative which would maintain the existing species groupings established by the Council primarily based on in the commercial sectors Individual Fishing Quota system. These groupings would be used to establish annual catch limits for each existing group. Biologically, many of these species may be caught at similar depths and habitats and is not expected to have negative impacts to the biological and ecological environment. The fishing gear and methods will not be changed in Alternative 1, and thus no changes to the biological and ecological environment are expected. **Alternative 2** is based on **Alternative 1**, but establishes additional species groupings. This alternative attempts to maintain species grouping that are compatible with the group IFQ system, but adds additional groupings when early life history and landings data may be too sparse to set individual catch limits. Under **Alternative 2**, group annual catch limits would be established and individual annual catch limits may be established for species within each group when possible. **Alternative 2** is not expected to have any additional impacts on the biological and ecological environment. The fishing gear and methods will not be changed in Alternative 2, and thus no changes to the biological and ecological environment are expected. However, **Alternative 3** uses groupings based on NMFS analysis which uses fishery-dependent data from multiple sectors over multiple years and life history data when available creating complexes and sub-complexes. There is also an additional level of complexity under **Alternative 3** because group annual catch limits and or individual annual catch limits can be established for single-species sub-groups or multi-species sub-groups within each upper level. **Alternative 3** is not expected to have any additional impacts on the biological and ecological environment. The fishing gear and methods will not be changed in Alternative 3, and thus no changes to the biological and ecological environment are expected. **Preferred Alternative 4** uses the same groupings established by NMFS but removes one level of species groupings reducing the number of annual catch limits necessary for each sector by 6. This also modifies the Tilefish, Shallow-water Grouper, and Deep-water Grouper groups to coincide with the respective IFQ groupings. Again this alternative is not expected to have any negative impacts to the biological or ecological environment.

5.3.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on Economic Environment

Rearranging species into species groupings is not expected to directly affect the economic environment because it would not directly change the current harvest or use of a resource. Direct effects result from management actions that change harvest or other uses of the resource. Species groupings considered under this action are not expected to alter the harvest or other normal and customary behaviors of the resource users. Compared to **Alternatives 2** and **3**, **Preferred Alternative 4** would result in the simplest species grouping alternative and would set groups consistent with existing IFQ programs. The combination of **Preferred Alternative 4** and **Preferred Alternative 5, Option c** would benefit stocks by relying on the most up to date scientific information and would not utilize an indicator species. The use of an indicator species in groups that are part of an IFQ program would complicate the administration of the IFQ program and may result in unwarranted harvest restrictions for IFQ participants. The preferred alternatives and option are anticipated to result in positive indirect economic effects. **Preferred Alternatives 4** and **5, option c,** are expected to improve the likelihood of setting ACLs that would afford adequate protection to stocks; potentially resulting in future indirect economic benefits.

Direct and Indirect Effects on Social Environment

It is difficult to determine what the social effects would be from species groupings as many of the impacts would come from the different thresholds that are determined for each species group as a result. While this solution helps resolve the problem of placing ACLs on individual species (especially those that do not have stock assessments), it may place some burden on respective fishing sectors according to their fishing practices for a particular species. The no action **Alternative 1** would likely result in some type of ACL being placed on every species, which could bring on a cumbersome management regime. By grouping species according to the methodology in **Alternative 2**, the burden of placing ACLs on all species is removed. Nevertheless, there will continue to be monitoring issues that arise from the monitoring of species groups. By adjusting the groupings based upon associations with harvesting behavior, these groupings should help account for different fishing behaviors and tie that behavior to more realistic fishing thresholds. However, it is not known how each grouping will be affected by fishing behaviors over time and whether or not harvest levels will change as a result and trigger accountability measures in response to ACL thresholds being met. The same is true for **Alternative 3** in that the triggers for the different levels could impose negative social impacts if some subgroups are closed prior to meeting catch limits. With **Preferred Alternative 4** there are similar components of other alternatives in that species groupings are used but this alternative does not establish the upper level for some species. Again, for all alternatives the majority of the social effects will depend upon the various thresholds that are chosen through other actions in this amendment.

Preferred Alternative 5 concerns the use of indicator species to determine how accountability measures are triggered for the species groups determined through this action. For this alternative, **option a** could incur the greatest negative social impacts should the indicator species of a group reach its annual catch limit. In that case, accountability measures would be triggered for the entire species group, effectively closing the landings of some species because the annual catch limit of another was met. Similar effects could be expected from **option b**, for the same reason; when the annual catch limit for the assessed species is met, accountability measures are triggered for the group, even if the group includes species whose annual catch limit has not been met. It is likely that a fishing closure for a group of species because one species' annual catch limit has been met will result in negative social effects. Directly, fishing behavior would be curtailed for species whose annual catch limit has not been met, while indirectly, such a closure could further damage the relationship between fishermen and managers by implementing fishing closures due to the annual catch limit of a single species being met. These potential social effects are not likely to occur under **Preferred Alternative 5, option c** because no indicator species will be used to trigger accountability measures for the entire group. By using the sum of the catch limits for all species in the group, accountability measures are least likely to be invoked before the maximum amount of fish are caught.

5.3.4 Direct and Indirect Effects on Administrative Environment

In Alternatives 1, 2, 3 and **Preferred Alternative 4** the establishment of species groupings will aid in the development of ACLs, ACTs, and AMs for species for which there is not a lot of information. The development of species groupings requires complex data analysis and manipulation which requires staff time. However, if the number of species in the FMP can be reduced by incorporating species complexes and groupings, the administrative impacts of establishing, monitoring and implementing ACLs, ACTs and AMs (through **Actions 7 & 8**) will be reduced. **Preferred Alternative 5, Option c** will simplify the administrative environment by not requiring the use of an indicator species for species groupings. Under **Options a and b**, indicator species would be required for some or all species groupings. Three of the species

grouping that would have required indicator species, Tilefish, Shallow-water Grouper, and Deep-water Grouper, are also IFQ groups. Modification of the IFQ system to accommodate indicator species would have required major changes to the IFQ system, and likely approval of fishermen in a referendum, which would have created major complications to the administrative environment. The **Preferred Option c** provides a much cleaner implementation of species groupings with respect to the IFQ program. For a further description of this Action, see section 2.3.

5.4 Action 4. Acceptable Biological Catch Control Rule

5.4.1 Direct and Indirect Effects on Physical Environment

Alternative 1 no action would not directly or indirectly affect the physical or ecological environment. **Alternative 1** would maintain the existing species ABCs and thus no effects would occur. **Preferred Alternative 2** adopts the ABC Control Rule and develops Tiers in order to set ABCs for species based upon a level of scientific uncertainty. By implementing the ABC Control Rule the harvest of individual species or groups will be set. Setting new ABCs for species may have a indirect or direct effect on the physical environment through the implementation of accountability measures to ensure these ABCs are not exceeded. Implementation of ABCs and ACLs may require inseason closures or a post season measures that will reduce the directed effort thereby reducing the potential effects on the physical and ecological environment. **Alternative 3** also will reduce the amount of potential effects on the physical and ecological environment from fishing as **Preferred Alternative 2** does. The difference is with the exception that it is prescribed at a 25 percent reduction in harvest. Which means that a 25 percent reduction in physical and ecological impacts would occur in **Alternative 3** compared to **Alternative 1**.

5.4.2 Direct and Indirect Effects on Biological/Ecological Environment

Action 3 Alternatives 2 and **3** are expected to provide direct and indirect beneficial effects to the biological and ecological environment compared to **Alternative 1**, no action. **Preferred Alternative 2** and **Alternative 3** create specific guidelines with consistency verses using an ad hoc basis with various participants. **Preferred Alternative 2** is a more complex alternative with numerous tiers for adopting and acceptable biological catch based on the information that is available such as data poor versus data adequate stocks. Whereas, **Alternative 3** is a much simpler control rule for establishing acceptable biological catch with **Option a** being equal to 75% of the overfishing limit and **Option b** being equal to 75% of F_{MSY}. Both options under **Alternative 3** set the acceptable biological catch at conservative level providing protection to the resource and therefore potentially providing positive effects to the biological and ecological environment. It is unknown at this time if **Preferred Alternative 2** versus **Alternative 3** would provide better direct and indirect effects on the biological and ecological environment, because it could likely differ on a stock by stock basis.

5.4.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on Economic Environment

The establishment of an ABC control rule, in and of itself, is not expected to directly affect the harvest or customary uses of the resources. As such, this management action is not expected to result in any direct effects on the economic environment. However, the subsequent use of the selected rule to determine ABCs is expected to result in indirect economic effects. The reliance of a consistent rule to determine ABC levels, as opposed to the traditional ad hoc approach, is expected to result in tangible biological benefits to the stocks in the future; potentially yielding indirect economic benefits. In addition, the use of the selected control rule, which would determine the maximum allowable harvest, may result in indirect adverse economic effects if resulting ABC levels are lower than ABCs determined without the use of a control rule[11]. It follows that indirect economic benefits would be expected if the ABCs based on the control rule are greater than the ones determined without the control rule. Net indirect economic effects expected from the selection of a control rule could be positive or negative, depending on the relative magnitude of economic benefits anticipated from the use of a consistent rule and economic effects resulting from the difference between ABCs determined with the control rule and those derived without. While the magnitude of these net economic effects cannot be quantified, it is expected that, compared to **Alternative 3** which determines ABCs using a predetermined buffer, **Preferred Alternative 2** would result in greater economic benefits (or lower adverse economic effects) because it relies on a control rule that accounts for stock specificity.

Direct and Indirect Effects on Social Environment

Setting of the biological parameters for harvest thresholds have few direct social effects as the impacts are more indirect from the implementation of the allowable biological catch and any subsequent reduction through ACLs and AMs. **Alternative 1** does not establish an ABC control rule and ABC would need to be set in some other manner. Certainly, the more risk averse a control rule or threshold is, the more chances of negative social effects accruing in the short term if harvest is reduced. **Preferred Alternative 2** uses a tiered approach that accounts for different levels of risk associated with the knowledge of a particular stock or complex. This method takes a more risk averse approach for those species that have less information and data available. Using this method should have positive social effects in the long term as this should allow for increased probability of meeting management goals of stock sustainability. However, for those stocks with less information, and therefore a more risk averse threshold, negative social effects will occur if harvest levels are reduced substantially and fall below recent harvest levels. **Alternative 3** uses a percentage reduction from the OFL with a threshold that moves depending upon whether it is a reduction from the OFL in **Sub-alternative 3a** or a reduction from the F_{MSY} in **Sub-alternative 3b**.

One of the difficulties in understanding what the social impacts would be is that the cumulative effect of reduced harvest from the combination of all these different species is difficult to ascertain. If a restrictive ABC level is chosen and harvests for all species are reduced either from establishing the ABC or another threshold, how those reductions will affect fishing behavior will depend upon individual fishing behaviors and sector makeup. These effects can differ dramatically from one region to another or from state to state depending upon the species that are predominant in that area and the composition of the respective fishing sector.

5.4.4 Direct and Indirect Effects on Administrative Environment

[11] It is assumed that a reduction in ABCs would result in a proportional reduction in ACLs and/or ACTs.

Alternative 1 would require the Gulf SSC to specify the ABC on an ad hoc basis requiring a comparable burden to the no action. **Preferred Alternative 2** and **Alternative 3** would have direct effects on the administrative environment adding a burden to staff. **Preferred Alternative 2** and **Alternative 3** would require additional calculations based on the available data as described in section 2.3. However, the administrative burden may return to the current level or decrease depending on the efficiency of the selected alternative.

5.5 Action 5. ACL/ACT Control Rule

5.5.1 Direct and Indirect Effects on Physical Environment

Alternative 1 no action would not directly or indirectly affect the physical or ecological environment. Alternative 1 would maintain the existing species ACLs and thus no effects would occur. **Preferred Alternative 2** adopts the ACL/ACT Control Rule and develops a buffer percentage between ACL and ACT using a spreadsheet system (Figure 2.5.1) that utilizes a point system and series of components that represent various aspects of management uncertainty for species based upon a level of scientific uncertainty. By implementing the ACL/ACT Control Rule the harvest of individual species or groups will be reduced by the selected percentage thus reducing any potential impacts to the physical and ecological environment by this selected percentage. **Alternative 3** is based upon a flow chart method (Figure 2.5.2) that reviews data availability, data timeliness, and data quality to develop the ACT buffer percentage. Thus, assuming that reductions in the ACL result in proportional reductions in effort **Alternative 3** would reduce any physical and ecological impacts by the selected buffer percentage. **Alternative 4** is the simplest of the alternatives and simply sets the ACT buffer percentage at a fixed percentage of 0-35%, 0-25%, or 0-15%. **Alternative 5** sets a percentage buffer between ACL and ACT somewhere between 0-25%. **Alternative 4** and **Alternative 5** would reduce the potential impacts physical and ecological impacts by the percentage of the buffer selected, again assuming that reductions in effort are proportional to reductions in the ACL.

5.5.2 Direct and Indirect Effects on Biological /Ecological Environment

The Annual Catch Limit/Annual Catch Target Control Rule in conjunction with accountability measures together form a system to account for management uncertainty when setting management actions to prevent overfishing. The Control Rule is itself an administrative process for determining an appropriate buffer between the allowable biological catch and the annual catch limit or between the annual catch limit and the annual catch target thus the Control Rule itself does not directly affect the biological /ecological environment but does have indirect impacts in preventing overfishing. Under **Alternative 1**, in the status quo alternative, there is no annual catch limit/ annual catch target control rule and annual catch limits would be set by the Council on an ad hoc basis as long as they do not exceed the acceptable biological catch and the system of annual catch limits and accountability measures are reviewed and modified if necessary if annual catch limits exceeded more than once in a four year period. The indirect biological/environmental effects of the alternative would vary on a case by case basis depending upon the decisions made by the Council, and cannot be projected in this discussion. **Preferred Alternative 2** calls for the initial estimate of annual catch limits/annual catch targets to be based on a spreadsheet based on components representing various aspects of management uncertainty to develop a percent buffer between annual catch limits and annual catch target (or between acceptable biological catch and annual catch limits). Since this alternative takes into account specific measures of uncertainty, it indirectly benefits the biological/ecological environment by

establishing a larger more conservative buffer between limits and targets when uncertainty is greater. **Alternative 3** sets the initial estimate of annual catch limit/annual catch target using a flowchart based system that evaluating the availability, timeliness and quality of data used to monitor catches. Other sources of management uncertainty are assumed to be implicitly incorporated into the timeliness and precision of the data being used. In a comparison of the results of setting targets based on **Alternative 3** vs. **Preferred Alternative 2**, the resulting buffer was similar in many cases, suggesting similar indirect benefits to the biological/ecological environment. However, when comparing stock complexes, or stocks with high dead discard levels, **Alternative 3** produced a smaller less conservative buffer than **Preferred Alternative 2.** This suggests that the indirect benefits will be less for **Alternative 3** than for **Preferred Alternative 2**. **Alternative 4** uses a fixed buffer level that considers only whether a stock is under an IFQ program or not. For stocks that are not in an IFQ program, this alternative uses a buffer that is similar to the average recommended buffer between annual catch limits and annual catch targets resulting from Tier 3a of the ABC control rule. This is also the default buffer level recommended between catch limit and target levels from the 1998 technical guidance on the use of precautionary approaches (Restrepo et al. 1998). In most cases, this produces a larger buffer than the prior alternatives, and thus provides the greatest indirect benefits. However, the 1998 guidance was intended to incorporate all sources of uncertainty rather than just management uncertainty, so this alternative may be more conservative than is appropriate.

5.5.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on Economic Environment

The decision to set ACL/ACT using a systematic method rather than an ad hoc method does not by itself directly impact the customary harvest and other uses of the fish stocks. Therefore, the establishment of a control rule to set ACL/ACT is not expected to result in direct economic effects. However, indirect economic effects are anticipated to result from this action. Compared to ACLs and ACTs derived without following a systematic approach, control rule-based ACLs and ACTs are anticipated to provide superior protection to fish stocks, and hence, biological benefits. In turn, these benefits are expected to result in indirect economic benefits. The use of a control rule to determine catch limits and targets could also result in indirect adverse economic effects (or economic benefits) if the catch limits and targets based on the control rule are lower than (or greater than) the ones derived without the control rule. Overall, the magnitude of the benefits stemming from the assumed added protection and the difference between the ACLs and ACTs based on the control rule selected and the ones derived without the use of a control rule would determine net economic effects. While these indirect economic effects cannot be quantified, it is expected that **Preferred Alternative 2** and **Alternative 3** would yield greater economic benefits (or lower adverse economic effects) then **Alternatives 4** and **5** because they would establish control rules that account for stock specificity.

Direct and Indirect Effects on Social Environment

The direct and indirect effects of setting ACLs or ACTs is tied to the harvest threshold in relation to recent harvest levels. As mentioned in prior actions when setting biological thresholds, if harvest levels are reduced substantially, then negative social impacts are more likely to occur in the short term. The difficulty is in understanding exactly what those effects will be as there are many different species involved in these actions. With so many thresholds being set, it would be nearly impossible to determine how each sector or vessels within those sectors will be impacted from a reduction in harvest. **Alternative 1** would not establish a control rule for ACL/ACT and a

harvest level would need to be determined for each species. A control rule makes the process of establishing these thresholds easier as it involves simply plugging in numbers that are the result of a checklist of information known about the stock. However, establishing an ACL/ACT sets a threshold target that is equated with optimum yield and which considers economic and social factors. **Preferred Alternative 2** provides a control rule that establishes a buffer between the ABC and the ACL or ACT by calculating a score based upon the information within the table with a review by the Socioeconomic Panel. With a review by the panel, economic or social information can be offered to adjust the buffer based upon known circumstances within the fishery that may dictate some deviation from the control rule and therefore be a better estimate of optimum yield. The same is true for **Alternative 3** in that a tiered flow chart would determine a buffer with a review by the Socioeconomic Panel. A fixed buffer is used in **Alternative 4** with subalternatives that vary from a straight 25% in **Sub-alternative a,** or 0% for IFQ stocks, and 25% for all others in **Sub-alternative b** or **Sub-alternative c** using a 2% buffer for IFQ stocks and 25% for all others. The use of an arbitrary buffer in this alternative would benefit from review by the Socioeconomic Panel as there may be circumstances where such a large buffer would be unwarranted. Management uncertainty can have many different sources and the uncertainty can develop in both directions, either overestimating or underestimating harvest effects. Therefore, the opportunity for review gives room for more information to be provided that may affect the determination of optimum yield. **Alternative 5** also outlines sub-alternatives that offer a range of arbitrary buffers from **Sub-alternative a** with 0% to **Sub-alternative d** with 25%. Again, with review by the Socioeconomic Panel, an opportunity is provided to adjust the buffer, either by increasing or decreasing, according to circumstances within a particular stock that may dictate an adjustment of optimum yield.

5.5.4 Direct and Indirect Effects on Administrative Environment

Alternative 1 would require the Gulf Council to specify the ACL for each fishery and sector requiring a comparable burden to the status quo. **Preferred Alternative 2, Alternatives 3, Alternative 4** and **5** would have direct effects on the administrative environment adding a burden to staff. **Preferred Alternative 2, Alternatives 3, Alternatives 4** and **5** would require additional calculations based on the available data as described in section 2.4. Additionally, the Socioeconomic Panel would be required to review the calculations possibly resulting in an increased burden.

5.6 Action 6. Generic Framework Procedure

5.6.1 Direct and Indirect Effects on Physical Environment

While modifying the Generic Framework Procedure is not reasonably expected to have direct effects, the resultant management strategies for these groups could affect the level of fishing effort which may have slight affects on the physical environment. The positive potential effects on the physical and ecological environment from **Preferred Alternative 2** would be to develop regulation changes in ACLs or ACTs in a more expeditious manner. This would result in less depletion to the stock and physical environment that is associated with stock harvest. **Alternative 1** no action would not modify the established framework and thus would not have any potential effects to the physical or ecological environment. **Alternatives 3** and **4** would alter the existing framework in a broader or narrower procedure, respectively. These alternatives may result in physical or ecological impacts as a result of the timeliness of implementing regulations.

5.6.2 Direct and Indirect Effects on Biological /Ecological Environment

The Generic Framework Procedure provides a method for implementing regulatory changes. This is primarily an administrative action. However, proposed changes to the framework procedure could result in a speedier implementation of management measures beneficial to the stocks thereby yielding biological benefits in the future.

5.6.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Modifications to the framework procedure proposed herein are administrative actions. These actions could expand the range of management measures that the Council can implement without a full plan amendment but are not expected to directly affect the harvest and other customary uses of the resource. Therefore, management measures considered under this action are not expected to result in direct effects on the economic environment. However, proposed changes to the framework procedure could result in a speedier implementation of management measures beneficial to the stocks thereby yielding biological benefits in the future. Framework changes may also result in a faster implementation of measures beneficial to fishery participants. Indirect positive economic effects are expected to result from these potential benefits to the stocks or to fishery participants. A quantitative evaluation of alternatives considered under this action would require additional information on the specific management measures to be implemented, expected changes to the stock(s) and/or participants in the fishery in question, and, anticipated time savings that would result from the use of the framework procedure. While unknown, the relative speed at which beneficial regulatory changes can be implemented under **Preferred Alternative 2** and **Alternatives 3** and **4** would determine the magnitude of the anticipated indirect economic benefits.

Direct and Indirect Effects on the Social Environment

The development of a framework procedure would have beneficial impacts on the social environment as management can react in a timelier manner to changes in the fishery or stock status. Yet, framework actions that are done rapidly do not always provide for as much public input and comment as other regulatory processes. In using the framework procedure, then, care must be taken so that the benefits of timely action outweigh the diminished time frame for public comment. **Alternative 1** would not allow for these types of changes and could, over time, have negative indirect effects. **Preferred Alternative 2** would be the base framework that incorporates the most options with an abbreviated open framework, but does require a completed framework document for standard framework processes. **Alternative 3** provides options for implementing a framework procedure that becomes more open in terms of timing and public input because any new information can be used in the framework action and offers all options for requesting action. It provides for limited public input with discussion required at only one council meeting. **Alternative 4** is the narrowest interpretation as it is only adopted when a new stock assessment has been accomplished and requires discussion during at least three council meetings. As mentioned earlier, timing and public input become the parameters that are constrained by these options. While public input and participation by advisory panels can be beneficial, it is time consuming and can slow the process. Yet, that participation can provide a more acceptable and effective regulation which may lead to better regulatory compliance.

5.6.4 Direct and Indirect Effects on Administrative Environment

Alternative 1 would have no effect on the administrative environment. **Alternative 2, 3, and 4** would have positive direct effects on the administrative environment by reducing the burden to staff. **Alternative 2, 3, and 4,** would require analyses from the SSC, public discussion, and action based on the requirements for each framework. Preferred **Alternative 2** allows the Council to convene the SSC, SEP, and AP as appropriate and may be implemented on the basis of a new stock assessment, new information, or legal changes. **Alternative 3** provides a flexible framework not requiring the convening of the SSC, SEP, or AP prior to final action, and may be implemented in response to new information or changing conditions. In turn, **Preferred Alternative 2 and Alternative 3,** would likely decrease the burden on Council staff. **Alternative 4** would require an increase in public discussion at Council meetings and the convening of the SSC, SEP, and AP which may greatly increase the burden on Council staff. For a further description of this Action, see section 2.6.

5.7 Action 7. Initial Specification of Annual Catch Limits

5.7.1 Annual Catch Limit for Commercial Stone Crab Species

Formerly Stone Crab

5.7.2 Annual Catch Limit for Royal Red Shrimp

5.7.2.1 Direct and Indirect Effects on Physical Environment

Alternative 1 no action would not establish an annual catch limit for the commercial royal red shrimp fishery and therefore could have negative impacts to the physical environment; however, this is unlikely because the fishery has maintained stability historically throughout its history.

Preferred Alternative 2, Preferred Option a establishes the ACL at 334,000 pounds of tails compared to **Alternative 3** that would set the ACL between 233,182 and 141,379 pounds of tails. The physical and ecological impacts are expected to be minimal for this action and would be reduced by the number of pounds of tails harvested.

5.7.2.2 Direct and Indirect Effects on Biological/Ecological Environment

Alternative 1 is the no action alternative. If this alternative was selected as the preferred alternative, there will be no annual catch limit set and no restrictions on harvest level, which could result in a negative impact to the biological and ecological environment.

Preferred Alternative 2 sets an annual catch limit based on some percentage of the acceptable biological catch. **Preferred Option a** set the limit at 100% of the acceptable biological catch. This is the least conservative of the options, but it still assures that accountability measures will be implemented if the annual catch limit is exceeded. **Option b**, at 75% of the acceptable biological catch, is the most conservative of the options. O**ption c** sets the annual catch limit at a level to be determined by the ACL/ACT control rule, which has typically been between 75% and 100%. Thus, effects of this option are intermediate between **Alternative 1** and Preferred **Alternative 2**.

Alternative 3 sets the annual catch limit based on some historical level of average landings. All of the options would set the annual catch limit lower than any of the option in **Preferred**

Alternative 2. Thus, they would all provide a greater benefit to the biological/ecological environment than **Preferred Alternative 2**. However, since the catch limit is not set relative to acceptable biological catch, this alternative does not inherently provide any benefits specific to preventing overfishing, and may set the annual catch limit at a level that is more conservative than needed.

5.7.2.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Based on the magnitude of the annual catch limit under consideration relative to royal red shrimp landings recorded to date, it is highly unlikely that the commercial harvest would exceed the annual catch limit under the preferred alternative selected by the Council. **Preferred Alternative 2 – Preferred Option a** would set the overfishing limit and annual catch limit for royal red shrimp at 392,000 lbs and 334,000 lbs of tails, respectively. In comparison, 138,116 lbs of tails were landed in 2008. Therefore, **Preferred Alternative 2 – Preferred Option a** is not expected to result in economic effects in the foreseeable future. However, annual catch limits that would be implemented under **Alternative 3** range from 141,379 lbs of tails (**Option a**) to 233,182 lbs of tails (**Option c**). It is therefore conceivable that, under **Alternative 3 – Option a**, the ACL could be exceeded, triggering accountability measures and resulting in adverse economic effects.

Direct and Indirect Effects on the Social Environment

In specifying an ACL for royal red shrimp, the no action **Alternative 1** would likely revert to some other threshold, like ABC as some level of harvest needs to be established and there may be few social effects from establishing an ACL. In **Preferred Alternative 2**, with **Preferred Sub-alternative a** and an ACL of 334,000 lbs which is equal to the ABC, there would be no negative social effects as this threshold is well above the average landings. With **Sub-alternative b** it is still unlikely that there would be any negative social effects since the threshold is still well above recent average landings levels. The last **Sub-alternative c** would impose an ACT control rule which could implement various buffers depending on the selection of other alternatives. This might lower catch limits to a point below current catch levels, but is unlikely. **Alternative 3** would set catch limits based on average landings with **Sub-alternative a** using the longest time period with the lowest level of landings. Thus, **sub-alternative a** would most likely incur negative social effects since it is lower than recent average landings. **Both Sub-alternative b** and **c** set catch limits using more recent landings' averages and would not likely incur direct negative impacts with **Sub-alternative c** allowing the greater level of catch.

5.7.2.4 Direct and Indirect Effects on Administrative Environment

Alternative 1 would not affect the administrative environment since it would leave the maximum catch for royal red shrimp as a range of values from 392,000 to 650,000 pounds of tails. However, the new National Standard 1 guidelines do not allow a range of values for a catch limit, only a single value. **Preferred Alternative 2 with Preferred Option a** modifies the Administrative Environment by setting an overfishing limit, and revising the acceptable biological catch to be a single value and the annual catch limit to be a single value where ABC = ACL. This simplifies the Administrative Environment by eliminating a potentially confusing range of maximum catch limits. **Options b and c** under **Preferred Alternative 2** have the same

administrative impacts as **Preferred Option a** except that the annual catch limit is set to a different value. **Alternative 3** does not specify an overfishing limit or an acceptable biological catch, only an annual catch limit. **Options a, b, and c** differ only in the value set for the annual catch limit. This is a simpler approach than **Preferred Alternative 2**, but without an overfishing limit, it leaves an incomplete administrative basis for determining if overfishing is occurring. Therefore, **Alternative 3** has negative impacts o the Administrative Environment relative to **Preferred Alternative 2**.

5.7.3 Jurisdictional Apportionment of Black Grouper

5.7.3.1 Direct and Indirect Effects on Physical Environment

Actions 7.3.1, 7.3.2, and 7.3.3 would establish jurisdictional apportionment between the Gulf of Mexico and South Atlantic Councils for black grouper, yellowtail snapper, and mutton snapper, respectively. The Gulf and South Atlantic Councils have only selected the same preferred alternatives for apportionment of black grouper, yellowtail snapper, and mutton snapper. **Action 7.4** would establish commercial and recreational sector allocations for black grouper in the Gulf of Mexico. Even though these actions are primarily administrative in nature direct and indirect effects to the physical environment could occur from **Actions 7.3.1, 7.3.2** and **7.3.3** and **Action 7.4**.

Direct impacts to the physical environment would result from changes in fishing effort and types of gears used to target black grouper, yellowtail snapper, mutton snapper, and other reef fish in the areas where they coexist. Based on analysis completed in the Gulf mutton snapper were caught with yellowtail snapper and hogfish. Major clusters were formed by 'shallow-water', 'mid-water', and 'deep-water' complexes. The most apparent cluster was formed by the four dominant 'shallow-water' grouper species (e.g., red and black grouper, gag, and scamp). The relative lack of separation between black and gag in this cluster originated from the adjustment of the landings data for misidentification, which inflated the co-occurrence of these species (Farmer et al. 2010).

The South Atlantic Council primarily has a recreational sector for black grouper; whereas, the Gulf Council's landings are primarily commercial. The South Atlantic Council primarily has a commercial sector for yellowtail snapper and the recreational sectorlandings are close to a 50:50 split. The Gulf Council primarily has a commercial longline component of the reef fish fishery that lands mutton and a small recreational sector. Whereas, the South Atlantic Council primarily has a commercial hook and line harvest and a large recreational sector (private and charterboat) compared to the Gulf as well as a headboat fishery that lands mutton snapper.

Various gear types can have direct impacts to the physical environment. Vertical line gear is less likely to contact the bottom than bottom longlines, but still has the potential to snag and entangle bottom structures and cause damage to the substrate (Barnette 2001). If any hook-and-line gear is lost or improperly disposed of, it can entangle marine life (Hamilton 2000; Barnette 2001). Mutton snapper and yellowtail snapper adults are often found on patch and coral reef habitats (SEDAR 3 2003; SEDAR 15A 2008). Black grouper, mutton snapper, yellowtail snapper are primarily found off the state of Florida, particularly in south Florida and the Florida Keys. Based on a study conducted in the Florida Keys on spatial distribution and impacts to coral reef benthos from hook-and-line fishing gear the study determined this gear caused partial mortality or complete mortality to 434 sessile invertebrates. Often if gear becomes entangled on hard and

soft corals, algae can eventually overgrow and kill the coral. Further this study determined that organisms with upright morphologies were the most frequently affected including gorgonians, sponges, and hydrocorals (Chiappone et al. 2005).

Currently, the effort by sector in the Gulf and South Atlantic Council jurisdictions is different because they have different permitting processes for the commercial sector, but both Councils have a moratorium on commercial permits. In the recreational sector the Gulf charterboat is under a moratorium but the South Atlantic charterboat operation is not so effort could increase for reef fish under the South Atlantic Council's jurisdiction. Both Councils have the same minimum size limits and bag limits for yellowtail and mutton snapper as part of a 10-snapper aggregate bag limit. However, black grouper is managed differently by each Council for instance the Gulf Council has a commercial IFQ program and the South Atlantic Council does not.

Alternative 1 is the no action alternative and would not establish jurisdictional apportionment of black grouper acceptable biological catch between the Gulf and South Atlantic Councils. The current rate of fishing effort would likely be maintained, resulting is no direct impacts to the physical environment. If a later stock assessment declared any of these species to be overfished or undergoing overfishing the Councils may need to reduce fishing mortality and address any in direct or indirect effects on the physical environment. **Preferred Alternative 2** would establish a jurisdictional apportionment of the black grouper ABC between the Gulf and South Atlantic Councils of 47% and 53%, respectively. There is little difference between **Preferred Alternative 2** and **Alternative 3** which would establish a 50:50 split. Therefore, it is unlikely impacts on the physical environment would differ between these three alternatives.

5.7.3.2 Direct and Indirect Effects on Biological/Ecological Environment

Preferred Alternative 2 compared to **Alternatives 1** and **3** are not expected to have impacts on the biological and ecological environments because they are primarily administrative in nature. The range of alternatives the Gulf and South Atlantic are considering and have selected a preferred from would apportion the acceptable biological catch for black grouper close to 50:50 split. Based on the minimal difference between these alternatives no impacts to the biological and ecological environment are expected.

5.7.3.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Economic effects expected to result from management alternatives considered in this section are evaluated based on changes in total economic value relative to the status quo. Changes in total economic values are determined by summing changes in consumer surplus in the recreational sector and in producer surplus in the commercial sector. Changes in consumer surplus are determined by multiplying anticipated recreational allocation changes by the consumer surplus per pound of black grouper to anglers. Consumer surpluses per pound of fish were determined by dividing recent estimates of willingness to pay (per fish) for grouper by the average weight of a black grouper. Low, medium, and high willingness to pay values (per fish) used in this evaluation were computed by Carter and Liese (2011), Gentner (2009), and Haab et al. (2009), respectively. Changes in producer surplus were obtained by multiplying expected commercial allocation changes by lease prices per pound of other shallow water grouper, which is the IFQ

share category within which black grouper are currently classified. High, Medium, and low lease price estimates were provided to the Science Center by Walter Keithly (pers. communication). Average annual landings between 2005 and 2008 were used as status quo. All surplus measures were computed by the Southeast Fisheries Science Center and are available in the January 18, 2011 response to the December 2010 analysis request for this amendment.

In addition to the status quo, two management alternatives are considered for the jurisdictional apportionment of black grouper between the Gulf and South Atlantic Councils. **Preferred Alternative 2** and **Alternative 3** would allocate 53% and 50% of the black grouper ACL to the Gulf, respectively. In the Gulf, greater increases in total surplus are logically anticipated to result from larger shares of the black grouper ACL. Table 5.7.3.3.1 provides Gulf shares of the black grouper ACL and changes in commercial producer surplus, recreational consumer surplus, and total surplus. All surplus estimates are expressed in 2010 dollars. Relative to the status quo, changes in total surplus under **Preferred Alternative 2** are expected to range from $156,940 to $419,483.

Table 5.7.3.3.1: Estimated changes in economic value in the Gulf of Mexico for the jurisdictional apportionment of black grouper between the Gulf and south Atlantic Councils

Measure	Preferred Alternative 2	Alternative 3
Gulf Share of ACL	53%	50%
Change in commercial producer surplus (High)	$112,794	$93,539
Change in commercial producer surplus (Medium)	$103,770	$86,056
Change in commercial producer surplus (Low)	$90,235	$74,831
Change in angler consumer surplus (High)	$306,690	$254,336
Change in angler consumer surplus (Medium)	$256,558	$212,761
Change in angler consumer surplus (Low)	$66,705	$55,318
Total change in surplus (High)	$419,483	$347,875
Total change in surplus (Medium)	$360,328	$298,818
Total change in surplus (Low)	$156,940	$130,149

Direct and Indirect Effects on the Social Environment

Under Action 7.3.1, **Alternative 1** (no action) would likely impose few if any direct social effects. However, without any apportionment indirect effects could result due to the Gulf's management of black grouper through an IFQ system while the South Atlantic does not have an equivalent program for commercial fishermen. If South Atlantic fishermen needed access to the IFQ program in the Gulf to land black grouper, this might impose some management burdens. **Preferred Alternative 2** would apportion black grouper based upon the Florida Keys jurisdictional boundary and allocate 47% to the South Atlantic and 53% to the Gulf. This alternative will likely have some management burdens associated with monitoring, but few direct social effects on fishermen as it approximates landings within each Council's jurisdiction. It is likely that potential social impacts from **Alternative 3** would be similar to the preferred alternative. Most black grouper are landed in Southeast Florida with Key West and Miami

leading all communities in terms of their regional quotient share of landings (see Figures 3.4.1.3 and 3.4.1.4).

5.7.3.4 Direct and Indirect Effects on Administrative Environment

Actions 7.3.1, 7.3.2., and 7.3.3 establish jurisdictional apportionment between the Gulf of Mexico and South Atlantic Councils for black grouper, yellowtail snapper, and mutton snapper, respectively. **Action 7.4** would establish recreational and commercial sector allocations for black grouper in the Gulf of Mexico.

These actions would have direct effects on the administrative environment. **Alternative 1** no action would have the greatest impact on the administrative environments because both Councils would need to agree on annual catch limits and other management actions such as bag limits, size limits, and closed seasons. Currently, none of the species considered for jurisdictional apportionment are overfished or undergoing overfishing so this may not be an immediate concern. However, if the no action alternative was selected as preferred the Councils may need to address changes in management criteria in the future potentially adding an additional burden to the Gulf and South Atlantic Councils as well as NOAA Fisheries Service administrative environment as well as the Gulf and South Atlantic states. In addition, differences in management particularly the charterboat industry which is not under a moratorium in the South Atlantic Council could add additional burden to the administrative environments if no action (**Alternative 1**) was selected as preferred.

All the other alternatives under each of the actions would have direct impacts to the administrative environment in the beginning, but after the jurisdictional apportionments were selected and approved the Councils could work independently to manage each of these species in each of their jurisdictions, creating less of an administrative burden on themselves and NOAA Fisheries Service later in the process. Similarly, once sector allocations under **Action 7.4** are selected for black grouper less of a burden is expected on the administrative environment, just routine maintenance of annual catch limits, annual catch targets, and accountability measures if established by sector. **Alternative 1**, no action, is not expected to have any additional impacts on the administrative environment.

5.7.4 and 5.7.5 Jurisdictional Apportionment of Yellowtail Snapper and Mutton Snapper

5.7.4.1 and 5.7.5.1 Direct and Indirect Effects on Physical Environment

Under these two actions the Gulf and South Atlantic Councils considered a range of alternatives to base apportionment of acceptable biological catch for both yellowtail and mutton snapper. Both Councils agreed to **Preferred Alternative 3** for yellowtail snapper and **Preferred Alternative 2** for mutton snapper which is consistent with the methodology used to apportion black grouper between the Councils. For yellowtail and mutton snapper they used the longest times series of catch histories and added additional weight to the more recent landings by included them again (see letter from South Atlantic Council Figure 2.7.3.1.1). The percent differences between the alternatives for **Action 7.3.2** range from 4% and for **Action 7.3.3** range from 3% difference between the acceptable biological catch each Council would receive and therefore are unlikely to be different enough to impact the physical environment in a different manner. Further, the suite of alternatives under each action when compared to the no action alternative (**Alternative 1)** are not expected to directly or indirectly impact the physical

environment because current management measures are not expected to change for yellowtail snapper and mutton snapper under each Councils management plans.

5.7.4.2 and 5.7.5.2 Direct and Indirect Effects on Biological/Ecological Environment

Currently, the range of alternatives under each action for yellowtail and mutton apportionment between the Gulf and South Atlantic Councils are not expected to have impacts to the biological or ecological environments compared to the no action (**Alternative 1)**. Based on their current preferred alternatives for each species the current management measures are not expected to change. Based on the Preferred Alternative 3 for yellowtail snapper and Preferred Alternative 2 for mutton snapper both Councils are remaining involved and providing protection to these species at the federal level. The range of apportionment between the alternatives for yellowtail snapper is as great as 4% and as little as 2% between alternatives; whereas, the range of apportionment for mutton snapper is 3%, suggesting that there would be little to no difference in impacts on the ecological and biological environments between alternatives. The Scientific and Statistical Committee from both Councils have agreed to the acceptable biological catch recommendations and the Councils have agreed to the current preferred jurisdictional apportionment alternatives. Each Council is responsible for establishing and monitoring management measures for each of these species, unless the status of these species changes. Therefore, other than establishing management measures the current system in place for these two species is not expected to change.

5.7.4.3 and 5.7.5.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Using average ladings between 2006 and 2008 as the baseline period, the Gulf and South Atlantic Councils respectively account for 24% and 76% of the yellowtail snapper harvests under **Alternative 1**. **Alternative 2** would apportion 27% and 73% of yellowtail snapper to the Gulf and South Atlantic Councils, respectively. The apportionment under **Preferred Alternative 3** would grant 25% and 75% to the Gulf and the South Atlantic Councils respectively. **Alternative 4** would apportion 23% and 77% of yellowtail snapper to the Gulf and South Atlantic Councils, respectively. While it follows that a greater allocation to the Gulf Council (South Atlantic Council) is expected to result in greater economic benefits to the Gulf Council (South Atlantic Council), the magnitude of the difference between the alternatives is negligible. For the Gulf and South Atlantic, management alternatives considered for the jurisdictional apportionment of yellowtail snapper are within 3 percentage points of one another; representing about 60,000 lbs of yellowtail snapper. Overall, the Gulf would enjoy greater economic benefits under **Alternative 2**. For the South Atlantic Council, greater benefits are expected from **Alternative 4**.

Under **Alternative 1**, using average mutton snapper landings between 2004 and 2008 as a baseline, the South Atlantic and the Gulf Councils account for 76% and 24% of mutton snapper landings, respectively. **Preferred Alternative 2** would apportion 82% and 18% of mutton snapper to the Gulf and South Atlantic Councils, respectively. **Alternative 3** would apportion 21% and 79% of mutton snapper to the Gulf and South Atlantic Councils, respectively. For each Council, economic benefits that would result from the jurisdictional apportionment of mutton snapper are expected to be greater the greater its share of the resource. However, the magnitude of the difference between the alternatives is negligible. For mutton snapper, alternative apportionments between the Councils considered are within 3 percentage points of one another;

representing less than 25,000 lbs of mutton snapper. Overall, the Gulf would enjoy greater economic benefits under **Alternative 1**. For the South Atlantic Council, greater benefits are expected from **Alternative 3**.

Direct and Indirect Effects on the Social Environment

For Action 7.3.2 (yellowtail snapper), the no action **Alternative 1** would not likely result in any direct social effects although, indirectly it could impose some management burdens that may have some social effects on fishermen if accountability measures are implemented and affect one jurisdiction more than the other. **Alternatives 2-4** vary based on using different years of catch history to determine the apportionment of the acceptable biological catch to each Council's jurisdiction. Social effects would occur based on the degree to which the selected alternative deviates from current fishing practices in the Gulf. Although the variation in apportionment to Gulf fishermen is minimal, it is likely that the greatest amount apportioned to Gulf jurisdiction would incur the least social impacts on Gulf fishermen. Thus, **Alternative 2** would incur the least social impacts by apportioning 27% of the catch to the Gulf, while **Alternative 4** could incur slightly more social effects by apportioning 23% of the allowable biological catch to Gulf fishermen. **Preferred Alternative 3** apportions the acceptable biological catch between the ratios specified in **Alternatives 2** and **4** and is the alternative selected as preferred by the South Atlantic Council. Again, the variation in social impacts across these alternatives would likely be minimal due to the slight variation in percentage apportioned. It is more likely that impacts would occur on Gulf fishermen who may currently be harvesting more than the allotted apportions within this alternative, owing to the years selected for determining the apportionment (see Figures 3.4.1.7 and 3.4.1.8).

Like the prior action, the no action **Alternative 1** (Action 7.3.3, mutton snapper) would not likely have any direct social effects. However, **Alternative 1** could incur some indirect social effects through management burdens that may affect fishermen if accountability measures are implemented and affect one jurisdiction more than the other. **Preferred Alternative 2** and **Alternative 3** would provide apportionment based upon recent landings with a small percentage difference between the two. Thus, the alternatives are likely to have few direct social effects if the landings reflect current patterns (see Figure 3.4.1.9). Although **Alternative 3** apportions 3% more of the allowable biological catch to the South Atlantic, **Preferred Alternative 2** uses a formula that includes a broader range of years and the most recent years which is more likely to accurately reflect fishing behavior.

Until the June 2011 Council meeting, the preferred alternative for Actions 7.3.2 and 7.3.3 would have removed the species from Gulf Council management jurisdiction due to their limited importance to Gulf region fishermen. It follows, then, that apportioning these species based on historical and recent landings is not likely to incur social impacts.

5.7.4.4 and 5.7.5.4 Direct and Indirect Effects on Administrative Environment

See section 5.7.3.4 for discussion of effects on the administrative environment.

5.7.6 Recreational and Commercial Sector Allocations for Black Grouper

5.7.6.1 Direct and Indirect Effects on Physical Environment

Preferred Alternative 4 would use the Gulf Council's allocated acceptable biological catch and divide the annual catch limit between the commercial and recreational sector using the most recent 5 years of landings. This would result in the recreational sector receiving 27% of the ACL and the commercial sector receiving 73% of the ACL. **Alternative 2** would use the Gulf Council's allocated acceptable biological catch and divide the annual catch limit between the commercial and recreational sector based on the longest time series of black grouper landings from both sectors and **Alternative 3** uses the last 10 years of landings.

Different gear types have been documented to impact the physical environment differently as discussed earlier under the set of actions leading to sector allocations. However, the minimal difference between the range of alternatives allocating the annual catch limit between commercial and recreational sector would result in a difference as great 9% or as little as 3% between alternatives. These minimal differences in the allocation alternatives are not expected to impact the physical environment to a different extent than **Preferred Alternative 4**.

5.7.6.2 Direct and Indirect Effects on Biological/Ecological Environment

Preferred Alternative 4 is not expected to impact the biological and ecological environment differently than **Alternative 1**, **2**, and **3.** This is an administrative action that establishes annual catch limits for each sector from the acceptable biological catch apportioned to the Gulf Council based on historical catches. The Scientific and Statistical Committee recommended an acceptable biological catch that the Council cannot exceed so as long as the resource is adequately protected this action is not expected to impact the biological and ecological environments.

5.7.6.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Alternative allocations of black grouper between the commercial and recreational sectors are evaluated based on changes in economic values. Methods used to compute changes in economic values are discussed in section 5.7.3.3. The no action alternative assumes that black grouper resources are apportioned between the South Atlantic and Gulf Councils based on **Preferred Alternative 2 (Action 7.3)**. **Alternative 1** would, using average annual landings between 2005 and 2008 as a baseline, assign 70% and 30% of black grouper to the commercial and recreational sectors, respectively.

Table 5.7.6.3.1 provides the shares of the black grouper ACL that commercial and recreational sectors would be entitled to and corresponding estimated changes in economic value (in 2010 dollars) relative to **Alternative 1**. Commercial shares of the black grouper ACL range from a low of 70% under **Alternative 1** to a maximum of 82% under **Alternative 2**. **Alternative 3** and **Preferred Alternative 4** would grant 76% and 73% of the black grouper to the commercial sector, respectively.

Table 5.7.6.3.1: Estimated changes in economic value (relative to Alternative 1) for the apportionment of the black grouper ACL between the recreational and the commercial sectors in the Gulf of Mexico

	Alternative 2	Alternative 3	Preferred Alternative 4
Commercial Share	82%	76%	73%
Recreational Share	18%	24%	27%
Change in commercial producer surplus (High)	$57,602	$28,497	$13,945
Change in commercial producer surplus (Medium)	$52,994	$26,217	$12,829
Change in commercial producer surplus (Low)	$46,082	$22,798	$11,156
Change in angler consumer surplus (High)	-$367,640	-$181,880	-$89,000
Change in angler consumer surplus (Medium)	-$307,545	-$152,150	-$74,452
Change in angler consumer surplus (Low)	-$79,962	-$39,559	-$19,358
Total change in surplus (High)	-$310,038	-$153,383	-$75,056
Total change in surplus (Medium)	-$254,551	-$125,932	-$61,623
Total change in surplus (Low)	-$33,880	-$16,761	-$8,202

Relative to the status quo alternative, all other alternatives would result in total decreases in economic value. While estimated changes in producer surplus to the commercial sector are all positive due to relative increases in the commercial share of the ACL under **Preferred Alternative 4 and Alternatives 2-3**, losses in consumer surplus to the recreational sector would more than offset gains to the commercial sector. For example, under **Preferred Alternative 4**, producer surplus gains are estimated to range between $11,156 and $13,945. Corresponding losses in consumer surplus to the recreational sector are estimated between $19,358 and $89,000; resulting in overall decreases in economic value estimated between $8,202 and $75,056. The Council selected **Preferred Alternative 4** because the apportionment between the recreational and commercial sector under this alternative would result in the smallest loss in economic value.

Direct and Indirect Effects on the Social Environment

There could likely be some negative social effects from the no action **Alternative 1** if black grouper harvest were closed early due to one sector's fishing activity while the other sector's harvest remained below recent landings. With **Alternatives 2-4** each sector would have its own allocation, and accountability measures would correspond to their respective harvests. In principal, this would eliminate cross-sector negative social impacts should one sector's harvest cause the early closure of the entire fishery. However, the issue of sector allocation is always socially contentious. Of the three alternatives, **Alternative 2** allocates the greatest share to the commercial sector (82%) using a longer time frame of landings (1986-2008). Some negative social effects could accrue to the recreational sector under this alternative because their share has increased in recent years. **Alternative 3** provides a small percentage increase in allocation to the recreational sector using a more recent timeframe, and **Preferred Alternative 4** provides the greatest respective allocation to the recreational sector (27%) using average landings from the most recent time series. Thus, there is an inverse relationship between the potential social impacts incurred under this action by the commercial and recreational sectors: the greater the allocation granted to one sector correlates with greater social impacts incurred by the other sector.

5.7.6.4 Direct and Indirect Effects on Administrative Environment

See section 5.7.3.4 for discussion of effects on the administrative environment.

5.7.7 Specify ACL and ACT for Reef Fish Stocks and Stock Groupings

5.7.7.1 Direct and Indirect Effects on Physical Environment

The initial specification of ACLs should not cause indirect or direct effects; however, the subsequent management actions developed to adhere to the ACL could vary the fishing effort. A decrease or increase in fishing effort may have slight affects on the physical environment.

Alternative 2 and **3** and all the other alternatives under each sub-action by species have various percent appropriation of the ABC. Simply comparing the percentage of the ABC each Council would be apportioned and using that as a basis for effort indicates that under various alternatives by species either the South Atlantic Council or Gulf Council may have greater fishing pressure and gear usage to target these species based on the percent apportionment of the ABC. However, the percent difference between all alternatives besides the no action alternative is not expected to any substantial impacts to the physical environment.

5.7.7.2 Direct and Indirect Effects on Biological/Ecological Environment

This section specifies the annual catch limit (or the annual catch target when the limit is set equal to acceptable biological catch) for all remaining stocks and stock complexes subject to this amendment. **Alternative 1**, no action, does not set any catch limits or targets. This is inconsistent with the National Standard guidelines, and does not implement mandatory elements of the FMP. While this would result in the same biological/ecological effects that are currently resulting from management, this lack of control is less beneficial to the biological/ecological environment than the remaining alternatives. **Preferred Alternative 2** sets the annual catch limit (or the annual catch target when the limit is set equal to acceptable biological catch) based on a buffer determined by an ACL/ACT control rule. This tailor's the buffer on a stock by stock basis to provide the optimum benefits to both the biological/ecological environment and the fishermen. **Alternative 3** sets the annual catch limit (or the annual catch target when the limit is set equal to acceptable biological catch) to a fixed 10 percent buffer (or other percentage). While this may provide average benefits to the biological/ecological environment, the buffer may be excessive for some stocks, and insufficient for others. Because it may be insufficient for some stocks, this alternative is less beneficial overall than **Preferred Alternative 2**.

5.7.7.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Potential economic effects anticipated from the implementation of annual catch limits and/or annual catch targets for reef fish stocks and stock groupings would depend on the extent to which ACLs and ACTs under consideration would affect the harvest or other customary uses of the resource. While this action does not set any reef fish species and stock groupings ACL or ACT for the recreational sector, aggregate catch limits and targets and ACLs and ACTs specified for the commercial sector under **Preferred Alternative 2–Preferred Option a** would allow for increased harvest levels for both sectors. Therefore, positive economic benefits are expected to result from the implementation of ACLs and ACTs using the control rule included in **Preferred**

Alternative 2–Preferred Option a. **Alternative 3**, which would set ACLs and/or ACTs using a fixed buffer, is expected to result in lesser economic benefits than **Preferred Alternative 2** because it does not account for changes in the condition of the stocks. In the event that ACLs and/or ACTs become binding constraints in the future, the magnitude of adverse economic effects is expected to be proportional to the severity of the constraint imposed on fishery participants i.e., the nature of corrective measures implemented in response to the overage.

Direct and Indirect Effects on the Social Environment

As discussed earlier the direct and indirect effects of setting ACLs or ACTs is tied to the harvest threshold in relation to recent harvest levels. As mentioned in prior actions when setting biological thresholds, if harvest levels are reduced substantially, then the more likely there will be short term negative social effects. **Alternative 1** would not establish a control rule for ACL/ACT and some harvest level would need to be determined for each species. The **Preferred Alternative 2** provides a control rule that establishes a buffer between the ABC and the ACL or ACT by calculating a score based upon the information within the as discussed in the earlier **Action 5** and the social effects would be the same as before with **Preferred Option a**. Under **Preferred Alternative 2** with **Option b** the threshold would be the ACL which would trigger accountability measures if exceeded. The same is true for **Alternative 3** which uses a fixed buffer of 10% which under **Option a** it would become the buffer between the ACL and the ACT while under **Option b** it would become the buffer between ABC and the ACL. In either case if the ACL is exceeded, then the accountability measures would be implemented. It is unclear whether there would be any review by the council's socioeconomic panel under this option. Again, the direct social effects would come from harvest thresholds that are set lower than current harvest patterns. For many species in this amendment, with the harvest levels specified in Table 2.7.5.1.1 would not be reductions and in many cases would be increases. However, as discussed earlier, the setting of these thresholds may have the unintended consequence of changing fishing behaviors if harvest levels begin to exceed these threshold and accountability measures are implemented. Because many species have previously not been monitored to the extent required in this amendment with limits placed on their catch, it is unknown what types of social effects might accrue as closures occur or other accountability measures are implemented.

5.7.7.4 Direct and Indirect Effects on Administrative Environment

Alternatives under the sub-Actions would have direct effects on the administrative environment. The initial specification of ACL puts a burden on the Gulf SSC to develop the appropriate ABCs. While several species already have set ACLs, the Gulf SSC would need to complete the ABCs for additional stocks and stock groupings. For a further description of this Action, see section 2.7.

5.8 Action 8. Accountability Measures

5.8.1 Direct and Indirect Effects on Physical Environment

Action 8 has no direct affect on the physical environment. To the extent that **Alternatives 2-4** could shorten commercial and recreational fishing seasons if an annual catch limit is approached or exceeded, small indirect benefits to the physical environment may result from reduced effort. These benefits should be similar between alternatives and options.

5.8.2 Direct and Indirect Effects on Biological /Ecological Environment

The purpose of accountability measures is to prevent annual catch limits from being exceeded. Or to take corrective action if annual catch limits are exceeded. There are two types of accountability measures specified by the National Standard 1 guidelines, in-season accountability measures and accountability measures when the annual catch limit has been exceeded after the fishing season has closed (referred to as post-season in this amendment). The accountability measures are not mutually exclusive and can be used together if necessary.

Alternative 1 is the no action alternative and in their entirety would not establish accountability measures. These alternatives are is not in compliance with the requirement that all stocks managed by the Council are required to have accountability measures, with the exception of those with a life cycle of approximately 1 year or otherwise provided for under an international agreement. This alternative across all actions would have potential negative direct and indirect effects on the biological/ecological environment because there would be no harvest limits to prevent overfishing for many species.

Alternative 2 would apply post-season accountability measures. Post-season accountability measures adjust the fishing regulations or season length in the subsequent year if annual catch limits are exceeded in the current year. This provides positive benefits to the biological/environmental environment compared to not having accountability measures (**Alternative 1**) by creating a process for taking corrective action to restore catches to their appropriate limits. However, **Alternative 2** would allow annual catch limits to be exceeded before action could be taken because of its lack of in-season measures. **Options b** and **c** for both these alternatives use moving averages of recent landings to compare against annual catch limits to determine if the accountability measures have been triggered. While this has the benefit of reducing the imposition of accountability measures due to short-term fluctuations, it can also delay implementation of accountability measures in cases where catches rise only slightly above the annual catch limit, but on a persistent basis. **Option a** would require action the following year if the harvest exceeded the ACL.

Preferred Alternatives 3 (preferred for vermilion snapper) and **4** (preferred for other species in this action) provide an in-season accountability measure which is designed to prevent overages from occurring before an annual catch limit can be exceeded. For this reason, in-season accountability measures provide greater benefits to the biological/ecological environment than post-season accountability measures. However, **Preferred Alternative 4** would implement in-season measures only if the annual catch limit was exceeded in the previous year, which could negatively affect a stock. In-

season triggers require in-season monitoring of landings to make projections on harvest levels which require timely data reporting.

Option e provides a mechanism to adjust harvest in a subsequent year for stocks undergoing rebuilding and provides a positive biological effect because it allows a stock that has had an overage to be put back on track for its projected recovery. However, management measures to implement the reduced catch limit could result in increased regulatory discards and increased bycatch mortality, which would create negative biological impacts. **Option d** would not provide an overage adjustment. For stocks in a rebuilding plan, not accounting for overages could jeopardize the success of the rebuilding plan, and could result in more severe adjustments to rebuilding yield streams in a subsequent stock assessment. For stocks that are not in a rebuilding plan, a one-time overage is unlikely to result in the stock becoming overfished unless the overage is extreme or the stock is close to its minimum stock size threshold. All that is generally needed are adjustments to keep the catches within the annual catch limit in the following year. However, repeated overages could lead to overfishing and an overfished status.

Alternative 2 and **Preferred Alternative 4** are suitable for all stocks. However, in situations where there is reason to expect a likelihood that a stock would exceed its annual catch limit, selective application of the alternatives may be more desirable. Because of attributes of the harvest of vermilion snapper described in Section 2.8, in-season measures (**Preferred Alternative 3**) were deemed to provide more protection to the stock from overharvest.

The greatest benefit of these actions comes from combining in-season accountability measures with post-season accountability measures (**Preferred Alternative 4**). Should an annual catch limit be exceeded, this alternative invokes in-season measures to slow or halt harvest in the subsequent year if it appears that the annual catch limit would be reached, and then closed if it is actually reached. This in-season monitoring should mitigate any adverse effects to stocks caused by the overage. As discussed above, this alternative is suitable for all stocks

5.8.3 Direct and Indirect Effects on Economic/Social Environment

Direct and Indirect Effects on the Economic Environment

Alternative 1, the no-action alternative, would not result in direct economic effects because it does not trigger changes in management measures that would result in changes in the harvest or other customary uses of the resource. **Alternative 1**, which is not in compliance with regulatory mandates, is however expected to result in indirect economic effects. Indirect economic effects are anticipated to result from restrictive measures that could be required in the future should harvests above acceptable biological levels occur. All other alternatives are expected to result in direct economic effects on fishing participants. The timing and extent to which recreational and commercial quotas are reduced and/or seasons are shortened will determined the magnitude of these economic effects.

Alternative 2, which would remedy potential harvest overages after the fact by implementing post-season accountability measures, is expected to result in lower short term adverse economic effects compared to **Preferred Alternative 3**. The negative economic effects are anticipated to be smaller in the short term due to the delay in the implementation of corrective measures; fishery participants can actually continue to harvest the resource above prescribed levels throughout the predetermined season before any corrective measure is considered. However, in

the longer term, **Alternative 2** is expected to result in greater adverse economic effects because more stringent corrective actions are expected to be required to remedy overages.

Preferred Alternative 4 would attempt to prevent overages by implementing a combination of in-season and post-season accountability measures. Therefore, management measures that would restrict fishery participants' opportunities to harvest the resource would be implemented sooner than under **Alternative 2**, resulting in greater expected adverse economic effects in the short term. **Preferred Alternative 3**, which only applies to vermillion snapper, would trigger accountability measures sooner than **Preferred Alternative 4**. The speedier implementation of accountability measures under **Preferred Alternative 3** is expected to result in increased economic benefits in the long run due to the added protection afforded to vermillion snapper.

Direct and Indirect Effects on the Social Environment

The setting of accountability measures can have significant direct and indirect effects on the social environment as they usually impose some restriction on harvest, either during the current season (in-season) or the next (post-season). The long term social effects should be beneficial as they provide protection from further negative biological impacts on the stock, which could restrict fishing. While the negative effects of in-season accountability measures are usually short term, they may at times lead to indirect, unintended consequences through changes in fishing behavior, such as if fishermen effort shift and put more pressure on other species, or business operations that could involve long term social effects. This could lead to serial closures if switching to another species then creates an early closure for that stock. However, without an in-season mechanism to close the fishery once catch limits are met, there could be negative social effects in the long-term that stem from post-season accountability measures that could impose stricter harvest restrictions on the next year's catch limits to make up for over-harvest the previous year. Having in-season accountability may lessen the impacts of decreased harvests the next year if that is one of the chosen accountability measures.

Alternative 1 would not create new accountability measures for reef fish and royal red shrimp sectors and stocks and would not incur any short term negative social effects. However, this action is not in compliance with National Standard 1 and if landings exceed annual catch limits, long term negative social effects may be incurred if a stock is later determined to be overfished or undergoing overfishing.

Because the post-season accountability measures of **Alternative 2** would not enact in-season closures, social impacts are not expected to accrue in the short term as fishermen are able to fish throughout the predetermined season. However, negative social impacts would accrue in the following season as fishing is curtailed as a result of exceeding the annual catch limit. **Preferred Alternative 3** (vermilion snapper only) would implement in-season accountability measures, accruing short-term negative impacts in the event of an early season closure. However, these short-term impacts could help mitigate long-term social impacts by avoiding post-season measures that would restrict fishing in the following year. Nevertheless, post-season accountability measures may seem punitive, especially if fishermen believe stocks are improving and do not see a decline in stocks that would warrant a reduction to future harvests. This is the only alternative under this action that would enact in-season accountability measures with the resulting short-term impacts described above and is intended to provide protection to vermilion snapper based on predictions of effort shift toward this species. **Preferred Alternative 4** includes both in-season and post-season triggers for accountability measures for royal red shrimp and all reef fish species other than vermilion snapper. However, for this alternative, the in-

season accountability measure will be implemented the following year, thereby avoiding the short-term impacts typical of in-season accountability measures described above.

5.8.4 Direct and Indirect Effects on Administrative Environment

Alternative 1, no action, would have no immediate direct or indirect affect on the administrative environment; however, by not imposing AMs, the administrative environment may be negatively affected if harvest is not sufficiently constrained and overfishing occurs. This could increase the burden on Council staff and NMFS to develop amendments in the future to address overfishing and constrain harvest. The remaining alternatives would likely have direct and indirect effects on the administrative environment. To determine that the AM should be activated would require monitoring landings on a monthly or seasonal basis similar to how quotas are managed. This would put a significant burden on NMFS Enforcement, SERO, and SEFSC staff to collate and verify landings information, file a notification of a closure, and enforce closures or quota reductions. Currently, *Federal Register* rules and Fishery Bulletins are published by the AA to inform commercial fishermen of quota closures. Filing AM notifications is expected to increase the burden on the AA and Southeast Regional Office. For a further description of this Action, see section 2.8.

5.9 Cumulative Effects Analysis (CEA)

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. The 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 CFR 1508.7). Cumulative effects can either be 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 based upon guidance offered by the CEQ publication "Considering Cumulative Effects" (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 5.1-5.8);
II. Which resources, ecosystems, and human communities are affected (Section 3); and
III. Which effects are important from a cumulative effects perspective (information revealed in this CEA)

Valued ecosystem components (VECs) is "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" (CEAA 1999). The important VECs for this analysis are as follows:

1. Managed Resource
2. Habitat
3. Protected Resources
4. Human Communities

2. Establish the geographic scope of the analysis.

The immediate areas affected by this action and analyzed in this CEA are the state and federal waters of the Gulf of Mexico. These waters include the state waters of Texas, Louisiana, Mississippi, Alabama, and Florida as well as the federal waters extending to 200 miles beyond the three-mile or nine-mile state water boundaries. The states sometimes set different regulations then the federal regulations for their own territorial waters. Other affected VECs including non-target species, habitat, and protected species are also within this geographic scope. The human community includes the fishing communities which coincide with the managed species geographic range, as well as the areas where processing, importing, and shipping of related products takes place.

3. Establish the timeframe for the analysis

The temporal scope of impacts of past and present actions for managed resources, non-target species, habitat, and human communities is primarily focused on actions that have occurred after FMP implementation (1981) and before 2011. There are selected individual stock assessments completed for some species managed in the FMP on an annual basis with emphasis on stocks that have a larger economic value or have shown a fluctuation in recent harvest numbers. In addition there are update assessments conducted on previously assessed species on a regular basis.

A future action to be addressed is to review species that are harvested in numbers greater than the 15,000 pound species removal threshold that was developed by the Council. The Council will be reviewing landings data to determine if any species warrants incorporation into an existing FMP.

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

a. Fishery related actions affecting the Reef Fish Resources, Coral and Coral Reefs, Red Drum, and Shrimp Fishery Management Plans are summarized below.

History of Management

The following summary describes management actions that affect the reef fish fishery in the Gulf. In addition to the listed federal actions the five gulf states may also set fishery regulations that affect the current stocks.

Original Reef Fish Fishery Management Plan (1984)

The **Reef Fish Fishery Management Plan** was implemented in November 1984. The regulations, designed to rebuild declining reef fish stocks, included: (1) prohibitions on the use of fish traps, roller trawls, and powerhead-equipped spear guns within an inshore stressed area; (2) a minimum size limit of 13 inches total length (TL) for red snapper with the exceptions that for-hire boats were exempted until 1987 and each angler could keep 5 undersize fish; and, (3) data reporting requirements. The FMP estimated a combined maximum sustainable yield (MSY) for all snapper and grouper in aggregate of 51 million pounds (mp), and set the optimum yield (OY) equal to 45 mp, which represented the approximate catch level at the time.

Amendment 1 implemented in 1990, set objectives to stabilize long-term population levels of all reef fish species by establishing a survival rate of biomass into the stock of spawning age fish to achieve at least 20% spawning stock biomass per recruit (SSBR) by January 1, 2000. Among the grouper management measures implemented were:

- Set a 20-inch total length (TL) minimum size limit on red grouper, Nassau grouper, yellowfin grouper, black grouper, and gag;
- Set a 50-inch TL minimum size limit on goliath grouper (jewfish);
- Set a five-grouper recreational daily bag limit;
- Set an 11.0 mp commercial quota for grouper, with the commercial quota divided into a 9.2 mp SWG quota and a 1.8 mp DWG quota. SWG were defined as black grouper, gag, red grouper, Nassau grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, speckled hind, and scamp. Scamp would be applied to the DWG quota once the SWG quota was filled. DWG were defined as misty grouper, snowy grouper, yellowedge grouper, warsaw grouper, and scamp once the SWG quota was filled. Goliath grouper were not included in the quotas;
- Allowed a two-day possession limit for charter vessels and headboats on trips that extend beyond 24 hours, provided the vessel has two licensed operators aboard as required by the U.S. Coast Guard (USCS), and each passenger can provide a receipt to verify the length of the trip. All other fishermen fishing under a bag limit were limited to a single day possession limit;
- Established a framework procedure for specification of TAC to allow for annual management changes;
- Established a longline and buoy gear boundary at approximately the 50-fathom depth contour west of Cape San Blas, Florida, and the 20-fathom depth contour east of Cape San Blas, inshore of which the directed harvest of reef fish with longlines and buoy gear was prohibited, and the retention of reef fish captured incidentally in other longline operations (e.g., sharks) was limited to the recreational daily bag limit. Subsequent changes to the longline/buoy boundary could be made through the framework procedure for specification of TAC;

- Limited trawl vessels (other than vessels operating in the unsorted groundfish fishery) to the recreational size and daily bag limits of reef fish;
- Established fish trap permits, allowing up to a maximum of 100 fish traps per permit holder;
- Prohibited the use of entangling nets for directed harvest of reef fish. Retention of reef fish caught in entangling nets for other fisheries was limited to the recreational daily bag limit;
- Established the fishing year to be January 1 through December 31;
-
- Extended the stressed area to the entire Gulf coast; and
-
- Established a commercial reef fish vessel permit.

Amendment 2 implemented in 1990, prohibited the harvest of goliath grouper to provide complete protection for this species in federal waters in response to indications that the population abundance throughout its range was greatly depressed. This amendment was initially implemented by emergency rule.

Amendment 16B implemented in November 1999 set a recreational daily bag limit of one speckled hind and one warsaw grouper per vessel, with the prohibition on the sale of these species when caught under the bag limit.

Amendment 18A was implemented on September 8, 2006, except for VMS requirements which were implemented May 6, 2007. Amendment 18A addresses the following: (1) prohibits vessels from retaining reef fish caught under recreational bag/possession limits when commercial quantities of Gulf reef fish are aboard, (2) adjusts the maximum crew size on charter vessels that also have a commercial reef fish permit and a USCG certificate of inspection (COI) to allow the minimum crew size specified by the COI when the vessel is fishing commercially for more than 12 hours, (3) prohibits the use of reef fish for bait except for sand perch or dwarf sand perch, (4) requires devices and protocols for the safe release in incidentally caught endangered sea turtles and smalltooth sawfish, (5) updates the TAC procedure to incorporate the Southeast Data Assessment and Review (SEDAR) assessment methodology, (6) changes the permit application process to an annual procedure and simplifies income qualification documentation requirements, and (7) requires electronic VMS aboard vessels with federal reef fish permits, including vessels with both commercial and charter vessel permits.

Amendment 19 also known as the Generic Amendment Addressing the Establishment of the Tortugas Marine Reserves, or Generic Essential Fish Habitat (EFH) Amendment 2, was implemented on August 19, 2002. This amendment establishes two marine reserves off the Dry Tortugas where fishing for any species and anchoring by fishing vessels is prohibited.

Amendment 27, implemented February 28, 2008, except for reef fish bycatch reduction measures that became effective on June 1, 2008. This amendment addressed overfishing and stock rebuilding for red snapper. It also required the use of non-stainless steel circle hooks when using natural baits to fish for Gulf reef fish effective June 1, 2008, and required the use of venting tools and dehooking devices when participating in the commercial or recreational reef fish fisheries effective June 1, 2008.

Amendment 29, submitted to NMFS in February 2009, proposes to rationalize effort and reduce overcapacity in the commercial grouper and tilefish fisheries in order to achieve and maintain

OY in these multi-species fisheries. Bycatch in the tilefish and grouper fisheries should be reduced, and a flexible and effective integrated management approach for tilefish and the grouper complex and tilefish should follow. Reef Fish Amendment 29 evaluates several management alternatives, including an Individual Fishing Quota (IFQ) program, the preferred alternative that could be capable of achieving objectives specified above. A referendum by commercial reef fish fishermen eligible to vote was in favor an IFQ. At the January 2009 meeting, the Council deemed Amendment 29 and the proposed rule to be necessary and appropriate and to be forwarded to the Secretary of Commerce for approval and implementation.

Amendment 30A, implemented in August 2008, was developed to stop overfishing of gray triggerfish and greater amberjack. The amendment established ACLs and accountability measures (AMs) for greater amberjack and gray triggerfish. For greater amberjack, it modified the rebuilding plan, increased the recreational minimum size limit, set a zero bag limit for captain and crew of for-hire vessels, and set commercial and recreational quotas. For gray triggerfish, it increased the commercial and recreational minimum size limit and set a commercial quota.

Amendment 30B, submitted in August 2008, proposes to end overfishing of gag, revise red grouper management measures as a result of changes in the stock condition, establish ACLs and AMs for gag and red grouper, manage SWG to achieve OY, and improve the effectiveness of federal management measures. The amendment (1) defines the gag MSST and OY; (2) set interim allocations of gag and red grouper between recreational and commercial fisheries; (3) makes adjustments to the gag and red grouper TACs to reflect the current status of these stocks; (4) establishes ACLs and AMs for the commercial and recreational red grouper fisheries, commercial and recreational gag fisheries, and commercial aggregate SWG fishery; (5) adjusts recreational grouper bag limits and seasons; (6) adjusts commercial grouper quotas; (7) reduces the red grouper commercial minimum size limit; (8) replaces the one month commercial grouper closed season with a six month seasonal area closure at the Edges, a 390 square nautical mile area in the dominant gag spawning grounds; (9) eliminates the end date for the Madison-Swanson and Steamboat Lumps marine reserves; and (10) requires that vessels with federal commercial or charter reef fish permits comply with the more restrictive of state or federal reef fish regulations when fishing in state waters.

Amendment 31, implemented May 26, 2010, establishes additional restrictions on the use of bottom longline gear in the eastern Gulf of Mexico in order to reduce bycatch of endangered sea turtles, particularly loggerhead sea turtles. The amendment (1) prohibits the use of bottom longline gear shoreward of a line approximating the 35-fathom contour from June through August; (2) reduces the number of longline vessels operating in the fishery through an endorsement provided only to vessel permits with a demonstrated history of landings, on average, of at least 40,000 pounds of reef fish annually with fish traps or longline gear during 1999-2007; and (3) restricts the total number of hooks that may be possessed onboard each reef fish bottom longline vessel to 1,000, only 750 of which may be rigged for fishing. The boundary line was initially moved from 20 to 50 fathoms by emergency rule effective May 18, 2009. That rule was replaced on October 16, 2009 by a rule under the Endangered Species Act moving the boundary to 35 fathoms and implementing the maximum hook provisions.

Regulatory Amendments, Emergency and Interim Rules

An August 1999 regulatory amendment, implemented June 19, 2000, increased the commercial size limit for gag and black grouper from 20 to 24 inches TL, increased the recreational size limit

for gag from 20 to 22 inches TL, prohibited commercial sale of gag, black, and red grouper each year from February 15 to March 15 (during the peak of gag spawning season), and established two marine reserves (Steamboat Lumps and Madison-Swanson) that are closed year-round to fishing for all species under the Council's jurisdiction [65 FR 31827].

An emergency rule, published February 15, 2005, established a series of trip limits for the commercial grouper fishery in order to extend the commercial fishing season. The trip limit was initially set at 10,000 pounds gutted-weight (GW). If on or before August 1 the fishery is estimated to have landed more than 50% of either the SWG or the red grouper quota, then a 7,500 pound GW trip limit takes effect; and if on or before October 1 the fishery is estimated to have landed more than 75% of either the SWG or the red grouper quota, then a 5,500 pound GW trip limit takes effect [70 FR 8037].

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

An October 2005 regulatory amendment, implemented January 1, 2006, established a 6,000 pound GW aggregate DWG and SWG trip limit for the commercial grouper fishery, replacing the 10,000/7,500/5,500 step-down trip limit that had been implemented by emergency rule for 2005 [70 FR 77057].

A March 2006 regulatory amendment, implemented July 15, 2006, established a recreational red grouper bag limit of one fish per person per day as part of the five grouper per person aggregate bag limit, and prohibited for-hire vessel captains and crews from retaining bag limits of any grouper while under charter [71 FR 34534]. An additional provision established a recreational closed season for red grouper, gag and black grouper from February 15 to March 15 each year (matching a previously established commercial closed season) beginning with the 2007 season.
An interim rule was implemented on January 1, 2009, at the request of the Council because rulemaking from Amendment 30B will likely be implemented later in 2009. Measures in the temporary rule: (1) established a two-fish gag recreational bag limit (recreational grouper aggregate bag limit remained at five fish); (2) adjusted the recreational closed season for gag to February 1 through March 31 (the recreational closed season for red and black groupers remained February 15 to March 15); (3) established a 1.32 mp commercial quota for gag; and (4) required operators of federally permitted Gulf commercial and for-hire reef fish vessels to comply with the more restrictive of federal or state reef fish regulations when fishing in state waters for red snapper, greater amberjack, gray triggerfish, and gag [71 FR 66878].

Secretarial Amendments

Secretarial Amendment 1, implemented July 15, 2004, established a rebuilding plan, a 5.31 mp GW commercial quota, and a 1.25 mp GW recreational target catch level for red grouper. The amendment also reduced the commercial quota for SWG from 9.35 to 8.8 mp GW and reduced the commercial quota for DWG from 1.35 to 1.02 mp GW. The recreational bag limit for red grouper was reduced to two fish per person per day. In this amendment bottom longlines were considered for movement out to 50 fathoms which had also been considered under Reef Fish Amendment 18 [54 FR 214].

Secretarial Amendment 2, implemented in July, 2003 for greater amberjack, specified MSY as the yield associated with $F_{30\%\ SPR}$ (proxy for F_{MSY}) when the stock is at equilibrium, OY as the yield associated with an $F_{40\%\ SPR}$ when the stock is at equilibrium, MFMT equal to $F_{30\%SPR}$, and MSST equal to (1-M)*BMSY or 75% of BMSY. It also set a rebuilding plan limiting the harvest to 2.9 mp for 2003-2005, 5.2 mp for 2006-2008, 7.0 mp for 2009-2011, and 7.9 mp for 2012. This was expected to rebuild the stock in seven years. Regulations implemented in 1997 and 1998 (Amendments 12 and 15) were deemed sufficient to comply with the rebuilding plan so no new regulations were implemented [68 FR 39898].

Control Date Notices

Control date notices are used to inform fishermen that a license limitation system or other method of limiting access to a particular fishery or fishing method is under consideration. If a program to limit access is established, anyone not participating in the fishery or using the fishing method by the published control date may be ineligible for initial access to participate in the fishery or to use that fishing method. However, a person who does not receive an initial eligibility may be able to enter the fishery or fishing method after the limited access system is established by transfer of the eligibility from a current participant, provided the limited access system allows such transfer. Publication of a control date does not obligate the Council to use that date as an initial eligibility criteria. A different date could be used, and additional qualification criteria could be established. The announcement of a control date is primarily intended to discourage entry into the fishery or use of a particular gear based on economic speculation during the Council's deliberation on the issues. The following summarizes control dates that have been established for the Reef Fish FMP. A reference to the full *Federal Register* notice is included with each summary.

November 1, 1989 - Anyone entering the commercial reef fish fishery in the Gulf and South Atlantic after November 1, 1989, may not be assured of future access to the reef fish resource if a management regime is developed and implemented that limits the number of participants in the fishery [54 FR 46755].

November 18, 1998 - The Council is considering whether there is a need to impose additional management measures limiting entry into the recreational-for-hire (i.e., charter vessel and headboat) fisheries for reef fish and coastal migratory pelagic fish in the EEZ of the Gulf and, if there is a need, what management measures should be imposed. Possible measures include the establishment of a limited entry program to control participation or effort in the recreational-for-hire fisheries for reef fish and coastal migratory pelagic [63 FR 64031] (In Amendment 20 to the Reef Fish FMP, a qualifying date of March 29, 2001, was adopted).

July 12, 2000 - The Council is considering whether there is a need to limit participation by gear type in the commercial reef fish fisheries in the EEZ of the Gulf and, if there is a need, what management measures should be imposed to accomplish this. Possible measures include modifications to the existing limited entry program to control fishery participation, or effort, based on gear type, such as a requirement for a gear endorsement on the commercial reef fish vessel permit for the appropriate gear. Gear types which may be included are longlines, buoy gear, handlines, rod-and-reel, bandit gear, spear fishing gear, and powerheads used with spears [65 FR 42978].

October 15, 2004 – the Council is considering the establishment of an IFQ program to control participation or effort in the commercial grouper fisheries of the Gulf. If an IFQ program is established, the Council is considering October 15, 2004, as a possible control date regarding the eligibility of catch histories in the commercial grouper fishery [69 FR 67106].

December 31, 2008 – the Council voted to establish a control date for all Gulf commercial reef fish vessel permits. The control date will allow the Council to evaluate fishery participation and address any level of overcapacity. The establishment of this control date does not commit the Council or NOAA Fisheries Service to any particular management regime or criteria for entry into this fishery. Fishermen would not be guaranteed future participation in the fishery regardless of their entry date or intensity of participation in the fishery before or after the control date under consideration. Comments are requested by close of business April 17, 2009 [74 FR 11517].

b. Fishery related actions affecting the Red Drum fishery are summarized below

Original Red Drum Fishery Management Plan (1987)

The Red Drum FMP prohibited directed commercial harvest from the EEZ for 1987. The FMP provided for a recreational bag limit of one fish per person per trip, and an incidental catch allowance for commercial net and shrimp fishermen. Total harvest was estimated at 625,000 pounds; 300,000 by the commercial sector, and 325,000 by the recreational sector. The stock assessment sections of the FMP documented high inshore (state waters) fishing mortality on juvenile and sub-adult red drum and provided analysis that indicated significant long-term risks to the spawning stock biomass (SSB) associated with reduced juvenile recruitment to the adult population and with continued exploitation of adults.

Amendment 1

The Gulf of Mexico Fishery Management Council (Council) prepared Amendment 1 to the FMP which was implemented on October 16, 1987. The amendment continued the prohibition of a directed commercial EEZ fishery, but converted the commercial and recreational estimated catch allowances into quotas that were restricted to EEZ waters off Louisiana, Mississippi, and Alabama (the primary area); harvest was prohibited from the EEZ off Florida and Texas (secondary areas). The Council also requested that all Gulf states implement rules within their jurisdictions that would provide for an escapement rate of juvenile fish to the SSB equivalent to 20 percent of those that would have escaped had there been no inshore fishery. Such an escapement rate was judged as necessary to maintain a SSB level that would prevent recruitment failure and collapse of the fishery.

Amendment 2

Amendment 2 implemented in 1988 prohibited retention and possession of red drum from the EEZ. This action was based on a Southeast Fisheries Center (SEFC) stock assessment (Goodyear, 1987) which concluded annual fishing mortality (F) for 1986 on the juvenile population was on the order of 2.0, and consequently escapement rates to the spawning stock biomass (SSB) were likely less than 2.0 percent which would not maintain the SSB at a 20 percent spawning stock biomass per recruit (SSBR) relative to the unfished stock. In addition, fishing mortality on the offshore stock was estimated to be about 0.25 (22 percent annually). The 1987 Stock Assessment Panel report recommended that acceptable biological catch (ABC) be set at zero for the EEZ and that the states increase the escapement rate from the estuaries to 30 percent.

The 1989 SEFC Stock Assessment report (Goodyear) indicated the SSBR would likely decline to 13 percent. The 1989 Stock Assessment Panel report recommended ABC for the EEZ be maintained at zero, and that the states increase escapement to 30 percent. During 1991, the Red Drum Stock Assessment Panel (panel) reviewed stock assessments prepared by NMFS (Goodyear, 1991), the Louisiana Department of Wildlife and Fisheries (1991), and the State of Florida (Murphy, et. al. 1990). The panel (Condrey, et. al, 1991) recommendation was that ABC be set at zero. The Council recommended to NMFS that total allowable catch (TAC) be zero for 1992, and that a more comprehensive assessment of a SSBR level be provided in 1992.

Amendment 3

Amendment 3 modified the framework procedure for specifying TAC by providing that NMFS would provide stock assessments biennially rather than annually.

c. Fishery related actions affecting the Coral and Coral Reefs are summarized below

Original Coral Fishery Management Plan (1982)

The FMP/DEIS, completed in 1982, described the coral communities throughout the jurisdictions of the Gulf and South Atlantic Councils (1). The FMP prohibited harvest of stony coral and seafans except by scientific permit. It established Habitat Areas of Particular Concern (HAPC) in the Gulf and Atlantic where the use of any fishing gear interfacing with the bottom was prohibited. It regulated the use of chemicals used by fish collectors near coral reefs. It established a data reporting system for permittees.

Amendment 1

Amendment 1, completed in 1990, established the total allowable harvest (TAC) for commercial harvesters of gorgonians (soft coral) at 50,000 colonies annually. It established permits and reporting requirements for persons landing gorgonians commercially. It established a permitting requirement and landing limit for non-commercial harvesters (i.e., 6 colonies).

Amendment 2

Amendment 2, implemented December 21, 1994, established area closures, vessel trip limits, gear restrictions, permits and reporting for live rock harvest and aquaculture, restricted access, a phase-out of harvest by 1997, and a redefinition of octocorals.

Amendment 3

Amendment 3 with supplementary documents was prepared by the Gulf of Mexico Fishery Management Council to provide additional management to the harvest of live rock in the Gulf of Mexico. Live rock is an assemblage of living marine organisms attached to a hard substrate such as dead coral or limestone. This amendment considers further live rock regulation including an annual quota during phase-out, revision of trip limits, closed area off Florida's Panhandle, redefinition of allowable octocorals, and limited personal use live rock harvest.

Essential Fish Habitat (EFH)

This amendment is to all 7 FMPs. It describes the habitat constituting that essential for each life history stage of 26 representative species, which result in most of the landings from the Gulf. It describes the habitat types and distribution, threats to these habitats, predator-prey relationships, factors resulting in EFH losses, conservation and enhancement measures for EFH, and recommendations to minimize impacts from non-fishing threats.

d. Fishery related actions affecting the Shrimp fishery are summarized below

Original Shrimp Fishery Management Plan (1981)

The **Shrimp Fishery Management Plan** was implemented as federal regulation May 20, 1981. The principal thrust of the plan was to enhance yield in volume and value by deferring harvest of small shrimp to provide for growth.

Principle action included:

1. establishing a cooperative Tortugas Shrimp Sanctuary with the state of Florida to close a shrimp trawling area where small pink shrimp comprise the majority of the population most of the time.
2. a cooperative 45-day seasonal closure with the state of Texas to protect small brown shrimp emigrating from bay nursery areas; and
3. seasonal zoning of an area of Florida Bay for either shrimp or stone crab fishing to avoid gear conflict.

The FMP also established reporting systems for vessels, dealers, and processors.

Amendment 1

Amendment 1, approved in 1981, provided the Regional Administrator of NMFS with the authority to adjust by regulatory amendment the size of the Tortugas Sanctuary or the extent of the Texas closure, or to eliminate either closure for one year. It updated and revised the text of the FMP.

Amendment 2

Amendment 2 (1981) updated catch and economic date in the FMP.

Amendment 3

Amendment 3 (1984) resolved another shrimp-stone crab gear conflict on the west central Florida coast.

Amendment 4

Amendment 4, partially approved in 1988 and finalized in 1989, identified problems that developed in the fishery and revised the objectives of the FMP accordingly. The annual review process for the Tortugas Sanctuary was simplified, and the GMFMC's and RA's review for the Texas closure was extended to February 1st. Disapproved was a provision that white shrimp taken in the EEZ be landed in accordance with a state's size/possession regulations to provide consistency and facilitate enforcement with the state of Louisiana. This latter action was to have been implemented at such time when Louisiana provided for an incidental catch of undersized white shrimp in the fishery for seabobs.

Amendment 5

In July 1989, NMFS published revised guidelines for FMPs that interpretatively addressed the Magnuson Act National Standards. These guidelines require each FMP to include a scientifically measurable definition of overfishing and an action plan to arrest overfishing should it occur. In 1990, Texas revised the period of its seasonal closure in Gulf waters from June 1 to July 15, to May 15 to July 15. The FMP did not have enough flexibility to adjust the cooperative closure of federal waters to accommodate this change, thus an amendment was required.
Amendment 5 also defined overfishing for Gulf brown, pink, and royal red shrimp and provided for measures to restore overfished stocks if overfishing should occur. Action on the definition of overfishing for white shrimp was deferred, and seabobs and rock shrimp were deleted from the management unit. This duration of the seasonal closure to shrimping off Texas was adjusted to conform with the changes in state regulations.

Amendment 6

Amendment 6 (1993) eliminated the annual reports and reviews of the Tortugas Shrimp Sanctuary in favor of monitoring and an annual stock assessment. Three seasonally opened areas within the sanctuary continued to open seasonally, without need for annual action. A proposed definition of overfishing of white shrimp was rejected by NMFS as not being based on the best available data.

Amendment 7

Amendment 7, finalized in 1994, defined overfishing for white shrimp and provided for future updating of overfishing indices for brown, white, and pink shrimp as new data become available. A total allowable level of foreign fishing (TALFF) for royal red shrimp was eliminated; however, a redefinition of overfishing for this species was disapproved.

Amendment 8

Amendment 8, submitted in 1995 and implemented in early 196, addressed management of royal red shrimp. It established a procedure that allows total allowable catch (TAC) for royal red shrimp to be set up to 30 percent above Maximum Sustainable Yield (MSY) for no more than two consecutive years so that a better estimate of MSY can be determined.

Amendment 9

Amendment 9 addresses the issue of reducing the bycatch of juvenile red snapper in the shrimp trawl fishery.

Amendment 10

Amendment 10 requires the installation of NMFS-certified BRDs that reduce the bycatch of finfish by at least 30% by weight in each net used aboard vessels trawling for shrimp in the Gulf of Mexico EEZ east of Cape San Blas, Florida (85° 30" W. Longitude). Excepted are vessels trawling for groundfish or butterfish. A single try net with a headrope length of 16 feet or less per vessel and no more than two rigid-frame roller trawls limited to 16 feet or less, such as those used in the Big Bend area of Florida are also exempted.

Amendment 11

Amendment 11, implemented December 5, 2002, requires all vessels harvesting shrimp from the EEZ to obtain a commercial shrimp vessel permit from NMFS; prohibits the use of traps to harvest of royal red shrimp from the EEZ; and prohibits the transfer or royal red shrimp at sea. Permits required 12/5/02.

Amendment 12

Amendment 12, implemented August 19, 2002, established two marine reserves in the EEZ in the vicinity of the Dry Tortugas, Florida known as Tortugas North and Tortugas south, in which fishing for coastal migratory pelagic species is prohibited. This action complements previous actions taken under the National Marine Sanctuaries Act.

Amendment 13

Amendment 13 establishes an endorsement to the existing federal shrimp vessel permit for vessels harvesting royal red shrimp; (2) Defines maximum sustainable yield (MSY), optimum yield (OY), the overfishing threshold, and the overfished condition for royal red and penaeid shrimp stocks in the Gulf for stocks that currently lack such definitions; (3) Establishes bycatch reporting methodologies and improve collection of shrimping effort data in the exclusive economic zone; (4) Requires completion of a Gulf Shrimp Vessel and Gear Characterization Form; (5) Establishes a moratorium on the issuance of commercial shrimp vessel permits; and (6) Requires reporting and certification of landings during a moratorium.
Action 10 would establishes a moratorium on the issuance of new commercial shrimp vessel permits, which would be a form of limited access.

Amendment 14

Amendment 14, part of Joint Reef Fish Amendment 27/Shrimp Amendment 14 was submitted to the NOAA Fisheries in June, 2007, and establishes a target reduction goal for juvenile red snapper mortality of 74% less than the benchmark years of 2001-2003, reducing that target goal to 67% beginning in 2011, eventually reducing the target to 60% by 2032. If necessary, a seasonal closure in the shrimp fishery will occur in conjunction with the annual Texas closure. The need for a closure will be determined by an annual evaluation by the NMFS Regional Administrator.

The joint amendment also addresses overfishing and bycatch issues in both the red snapper directed fishery and the shrimp fishery. The amendment sets TAC at 5.0 mp between 2008 and

1020. The commercial sector will receive a quota of 2.55 mp, with the remaining quota of 2.45 mp going to the recreational sector. The amendment also reduces the commercial size limit to 13", reduces the recreational bag limit to two fish, eliminates a bag limit for captain and crew aboard a for-hire vessel, and sets the recreational fishing season from June 1 – September 30 (which may be extended by approximately 30 days if the Council's presumed assumption of a 10% post-hurricane reduction in recreational fishing effort is realized). In addition, all commercial and recreational reef fish fisheries will be required to use non-stainless steel circle hooks when using natural baits, as well as venting tools and dehooking devices.

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

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, two types of information are needed: the socioeconomic driving variables identifying the types, distribution, and intensity of key social and economic activities within the region; and the indicators of stress on specific resources, ecosystems, and communities.

In terms of biophysical environment, the resources/ecosystems identified in earlier steps of the CEA are the fish populations directly or indirectly affected by the regulations. This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components. Information on the affects of this amendment are provided in the following:

A comprehensive description of the affected biological environment in the Gulf of Mexico for the species included in this amendment exists as the final EIS for the Generic EFH amendment, the EFH 5-Year Review and is integrated by reference (GMFMC 2004a and EFH 5-Year Review Final 10-10.doc). However, the affected biological environment may have been modified in April 2010, when the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. As a result of the oil spill approximately one third of the Gulf of Mexico was closed to fishing and impacted important spawning areas during the spawning season for many species. This included the surface waters of the northcentral Gulf, an area where red snapper spawn in late spring and summer. Short and long term oil and dispersant effects on the environment and marine life are currently unknown; however, the oil and dispersant are likely to have had an immediate negative impacts on the eggs and larvae of numerous fish species. These effects may result in a reduction in the 2010 year-class but the full impact would not become apparent until fish spawned after the oil spill become large enough to enter the fishery in the next two to four years. Additional damage to fish stocks in the form of chronic effects caused by continuing oil and dispersants in the environment may not be fully documented for years; however, there are no current data available that the oil spill has affected current stock biomass levels.

The change in harvest resulting from the actions in this Amendment is not expected to have an additive effect on the previously stressed biological and physical environments of the Gulf of Mexico. The ACLs and ACTs developed in the action establish scientific and management buffers to prevent overfishing in species that previously did not have any type of recreational harvest quotas and some species that were lacking commercial harvest quotas. These buffers are set to prevent the stocks from being over harvested while also attempting to maximize Optimum Yield (OY).

The key economic variables and trends pertinent to this Amendment are described in the Affected Economic Environment (Section 3.3). The key social variables and indicators, including vulnerability index, of various coastal communities are described in the Affected Social Environment.

In general, the actions in the Generic ACL and AM Amendment are expected to establish ACLs and AMs for species in FMPs that are not experiencing overfishing. Actions in the Generic ACL Amendment are expected to have different effects upon different sectors and upon different areas. At any rate, the actions contained in this document are expected to prevent overfishing from occurring and support the achievement of OY in the respective fisheries over time, which should result in social and economic gains.

Several actions within this amendment could streamline management which may have positive benefits for fishermen, support industries, and their communities. Some actions within this amendment, however, will set thresholds for harvest levels that could be lower than previous landing levels depending upon the threshold or buffers that are implemented. If future landings exceed these thresholds, then there could be negative social and economic effects that result from the actions that are implemented to address any overages. Changes in fishing behavior, such as, targeting other species or discontinuing to fish are two possible outcomes. With these changes in fishing behavior the impacts upon some fishing communities that rely upon that economic activity may also see changes in social and economic behavior. It is anticipated that any negative social and economic effects would be short term as these actions are to prevent overfishing and create a stable stock status, yet, short term events can have long term effects, especially if fishing infrastructure is affected. If fishing infrastructure is no longer utilized for fishing, the present use can quickly be converted to non-water related activities that would make it difficult or impossible to revert back to a fishing related business. Changes in fishing behavior, like switching to other species can quickly place additional fishing pressure on a stock which may then trigger AMs for that stock also forcing a premature closure. These impacts are possible as it is unknown how these regulations will coincide with environmental and other effects which may compound or mitigate the impacts.

Current and future amendments are expected to add to this cumulative effect. ACLs, AMs and management measures are being developed in Mackerel 10 and Spiny Lobster 10. Mackerel Amendment 10 is being developed by the South Atlantic Council and the Gulf Council to establish ACLs and AMs for species in the FMP for Coastal Migratory Pelagic Resources in the Atlantic and Gulf of Mexico. Spiny Lobster Amendment 10 is being developed by the South Atlantic Council and the Gulf Council to establish ACLs and AMs as well as management actions for spiny lobster including tailing permits, the use of undersized lobster as an attractant, and gear markings on trap lines.

The cumulative social and economic effects of past, present, and future amendments may be described as limiting fishing opportunities in the short-term. However, these amendments are expected to improve prospects for sustained participation in the respective fisheries over time which could have beneficial impacts for fishers, support industries, and fishing communities. It remains to be seen whether any short term negative social and economic impacts will be offset or mitigated through the long term benefits of management to stop overfishing.

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, two types of information are needed: the socioeconomic driving variables identifying the types,

distribution, and intensity of key social and economic activities within the region; and the indicators of stress on specific resources, ecosystems, and communities.

In terms of biophysical environment, the resources/ecosystems identified in earlier steps of the CEA are the fish populations directly or indirectly affected by the regulations. This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components.

A comprehensive description of the affected biological environment in the Gulf of Mexico for the species included in this amendment exists as the final EIS for the Generic EFH amendment, the EFH 5-Year Review and is integrated by reference (GMFMC 2004a and EFH 5-Year Review Final 10-10.doc). However, the affected biological environment may have been modified in April 2010, when the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. As a result of the oil spill approximately one third of the Gulf of Mexico was closed to fishing and impacted important spawning areas during the spawning season for many species. This included the surface waters of the northcentral Gulf, an area where red snapper spawn in late spring and summer. Short and long term oil and dispersant effects on the environment and marine life are currently unknown; however, the oil and dispersant are likely to have had an immediate negative impacts on the eggs and larvae of numerous fish species. These effects may result in a reduction in the 2010 year-class but the full impact would not become apparent until fish spawned after the oil spill become large enough to enter the fishery in the next two to four years. Additional damage to fish stocks in the form of chronic effects caused by continuing oil and dispersants in the environment may not be fully documented for years; however, there are no current data available that the oil spill has affected current stock biomass levels.

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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, which are levels of impact beyond which the resources cannot be sustained in a stable state, can be identified for some resources. 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 action to other cumulative activities affecting resources.

<u>Reef Fish Fisheries</u>

Data used to monitor commercial reef fish effort includes the number of vessels with landings, the number of trips taken, and trip duration. Note that data is not available yet to effectively determine the effects from the individual fishing quota program. Although landings in the reef

fish fishery have shown patterns of increases and decreases, the number of boats actively participating in the reef fish fishery (except for gag) show a pattern of decline over time. For example, shallow-water grouper and red grouper, the average number of boats with landings fell from 1,066 and 803, respectively for the time period 1993-98, to 712 and 609, respectively, for the time period 2005-08 (NMFS 2010). This same trend is reflected by the reef fish fishery as a whole. The number of permitted vessels, which has remained relatively constant, is greater than the number of vessels having landings. This suggests there are permits not actively employed in the fishery, but could be used in the event noticeable improvements in the fishery arise. This reduction in the numbers of vessels participating in the fishery also reflects a decline in the number trips taken and days away from port by the fishery as a whole. This decline is not reflected for gag where the average number of vessels in the fishery was 533 for 1993-98 and 536 for 2005-08.

There are several potential reasons for the decline in effort for reef fish and shallow-water grouper. These may include an increase in fishing costs, increases in harvesting efficiency, more restrictive regulations (particularly for the grouper fishery), and even improvements in the stock status of certain species (effort shifting). However, data currently is inadequate to determine which factors contribute the most to declines in fishing effort for reef fish and grouper, and what might be the causes for the apparent increase in fishing effort for gag.

Social and economic characteristics of recreational anglers are collected periodically as an add-on survey to the MRFSS. Data used to monitor recreational reef fish effort in the fishery primarily comes from MRFSS and includes the number of trips and number of catch trips. Declines in effort may be a signal of stress within the fishery. These trends are described in Section 3.3.2. The level and pattern of change in recreational effort has remained about flat from 1993 through 1996, fluctuated between 1997 and 1999, and then increased relatively fast because 2000. Private and charter fishing modes accounted for most of target trips, with the charter mode the most common mode for red grouper and private the most common for gag. For both species, Florida accounts for most landings; however, landings in Alabama have been increasing in recent years.

Summary characteristics of the for-hire fleet were analyzed as part of the analyses for the development of the current limited access system (GMFMC 2005c). These analyses indicated for-hire operations were generally profitable. Costs associated with these businesses include bookkeeping services, advertising and promotion, fuel and oil, bait expenses, docking fees, food/drink for customers and crew, ice expenses, insurance expenses, maintenance expenses, permits and licenses, and wage/salary expense. Most vessels carry per trip about half of the maximum passenger capacity. Therefore, substantial excess capacity exists in the sector. As with the commercial fishery, increases in fishing costs, increases in harvesting efficiency, more restrictive regulations (particularly for the grouper fishery), and changes in the stock status of certain species may affect effort in this sector.

Climate Change

Global climate changes could have significant effects on Gulf of Mexico fisheries. However, the extent of these effects is not known at this time. Possible impacts include temperature changes in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; changes in precipitation patterns and a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influencing the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs (IPCC 2007).

Actions from this amendment could decrease the carbon footprint from fishing if some fishermen stop or reduce their number and duration of trips due to the establishment of catch limits that could restrict fishing effort ensure overfishing does not occur. It is unclear how climate change would affect species in the Gulf of Mexico. Climate change can affect factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. In addition, 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. Climate change may significantly impact species in the future, but the level of impacts cannot be quantified at this time, nor is the timeframe known in which these impacts will occur. Actions in this document are expected to reduce or cap harvest of species managed by the Council.

On April 20, 2010, an explosion occurred on the Deepwater Horizon MC252 oil rig, resulting in the release of an estimated 4.9 million barrels of oil into the Gulf. In addition, 1.84 million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. The cumulative effects from the oil spill and response may not be known for several years.

The impacts of the oil spill on the physical environment are expected to be significant and may be long-term. Oil is dispersed on the surface, and because of the heavy use of dispersants, oil is also documented as being suspended within the water column, some even deeper than the location of the broken well head. Floating and suspended oil washed onto shore in several areas of the Gulf as well as non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are more persistent in the environment and can be transported hundreds of miles. Oil on the surface of the water could restrict the normal process of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column. In addition, microbes in the water that break down oil and dispersant also consume oxygen; this could lead to further oxygen depletion. Zooplankton that feed on algae could also be negatively impacted, thus allowing more of the hypoxia-fueling algae to grow.

Oil present in surface waters could affect the survival of eggs and larvae, affecting future recruitment. Effects on the physical environment, such as low oxygen, could lead to impacts on the ability of larvae and post-larvae to survive, even if they never encounter oil. In addition, effects of oil exposure may create sub-lethal effects on the eggs, larva, and early life stages. The stressors could potentially be additive, and each stressor may increase the susceptibility to the harmful effects of the other. If eggs and larvae are affected, impacts on harvestable-size fish and shrimp will begin to be seen when the 2010 year class becomes large enough to enter the fishery. The impacts would be felt as reduced fishing success and reduced spawning potential, and would need to be taken into consideration in the next stock assessments.

Indirect and inter-related effects on the biological and ecological environment of the fish stocks in concert with the Deepwater Horizon MC252 oil spill are not well understood. Changes in the population size structure could result from shifting fishing effort to specific geographic segments of stocks populations, combined with any anthropogenically-induced natural mortality that may occur from the impacts of the oil spill. The impacts on the food web from phytoplankton, to zooplankton, to molluscs, to top predators may be significant in the future.

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 action is to establish a point of reference for evaluating the extent and significance of

expected cumulative effects. SEDAR assessments show trends in biomass, fishing mortality, fish weight, and fish length going back to the earliest periods of data collection. SEDAR has conducted benchmark assessments on 10 of the 42 species of fish in the reef fish FMP. For a detailed discussion of the baseline conditions of species addressed and the ecosystem in this document the reader is referred to **Section 5.1.2**. None of the species in this action are currently undergoing overfishing or being overfished. For a detailed discussion on the baseline effects to the human communities the reader is referred to **Section 5.7.3.**

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 5.9.1.

Table 5.9.1 The cause and effect relationships of fishing and regulatory actions for reef fish within the time period of the CEA.

Time periods	Cause	Observed and/or expected effects
1986 -1989	Growth and recruitment overfishing	Declines in mean size and weight
1990	Minimum size limit of 20-inch; 5 aggregate grouper bag limit; 9.2 MP shallow-water grouper quota	Slight increase in commercial landings; decline in recreational landings
1999	22-inch recreational minimum size limit; 24-inch commercial minimum size limit; and 1 month commercial seasonal closure	Slight increase in both commercial and recreational landings
2005	Commercial trip limit and decrease in recreational aggregate bag limit	Slight decrease in commercial landings as quota filled and shallow-water grouper fishery closed; significant declines in recreational landings; overfishing occurring
2009	Gag overfishing and stock declared overfished	End overfishing; reduce harvest; provide harvest limits to achieve sustainability; IFQ to further control commercial fishery to prevent overages
2011	Overfishing continues; reduce quota and establish recreational fishing season	Reduce overfishing, prelude to a rebuilding plan

9. Determine the magnitude and significance of cumulative effects.

Managed Resources: The objectives of this amendment and associated EIS are to: remove species from the FMPs that were originally placed in the FMP for data monitoring purposes,

establish annual catch limits for those species that do not have existing catch quotas, and establish a framework to provide a more timely response to needed management regulations.

The past and present effects of different actions on managed resources is described in detail in the cumulative effects analysis of Amendment 30B (GMFMC 2008b) and is incorporated here by reference. In the past, the lack of management of reef fish has allowed many stocks to undergo both growth and recruitment overfishing. This has allowed some stocks to decline as indicated in numerous stock assessments. Present management measures work to limit the harvest to sustainable levels; however, these measures may have redirect fishing effort towards other reef fish species. Reasonably foreseeable future actions are expected to benefit managed species as described in steps 3 and 4 of this cumulative effects analysis. These measures are intended to prevent overfishing and allow for sustainable fisheries. Non-fishing activities are likely to adversely affect reef fish stocks. These include loss of larvae by LNG facilities and damage to habitat through the DeepwaterHorizon MC252 oil spill. To mitigate the effects of the LNG facilities, closed- rather than open-loop systems are being called for. Efforts to remove oil from areas affected by the DeepwaterHorizon MC252 oil spill.

Species for Removal from FMP based upon harvest location.

The species to be removed primarily due to the majority of the harvest being executed in Florida state waters are Octocorals, stone crabs, yellowtail snapper, and mutton snapper. The direct and indirect effects of each these actions are provided in Section 5.

Octocorals

Direct and indirect effects of management of species by other state or federal agencies are not expected under Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia). The joint quota for the allowable harvest of octocorals in federal waters of 50,000 colonies for both the Gulf and South Atlantic has never been reached from 1991 to 2008 nor have any of the species within the allowable harvest been identified as overfished or undergoing overfishing in federal waters by either the Gulf or South Atlantic Management Councils or Florida FWC. Due to the current healthy status of this small fishery off south Florida changes in management (Alternatives 1-3) are not expected to have direct or indirect effects on the biological or ecological environment. Management alternatives considered under this action are purely administrative in nature and the direct effects are expected to be minimal.

Stone Crabs

At the October 2010 meeting, the Council voted to repeal the Stone Crab Fishery Management Plan. The Environmental Assessment, Regulatory Impact Review, and Regulatory Flexibility Act Analysis to Repeal the Fishery Management Plan for the Stone Crab Fishery of the Gulf of Mexico will be available on the Southeast Regional Office website by fall 2011 (http://sero.nmfs.noaa.gov/).

Yellowtail Snapper, Mutton Snapper, and Nassau Grouper

The removal of these species from the FMP in Actions 1.3, 1.4 and 1.5 would primarily effect the administrative environment and Alternatives 1-4 under the three actions would provide protection to the resources and therefore have positive benefits to the biological and ecological environment.

Species for removal based upon harvest of Less Than 15,000 pounds per year

The 14 species that qualify for removal based upon average harvest of less than 15,000 pounds per year (from 2000-2009) in Action 2 of the amendment are listed below. However, Yellowmouth grouper, Yellowfin grouper, Blackfin snapper, Queen snapper and Cubera snapper were selected by the Council to remain under management due to identification issues. The direct and indirect effects of this action is provided in Section 5 of the amendment.

Anchor Tilefish	Blackline Tilefish
Red Hind	Rock Hind
Yellowfin Grouper	*Yellowmouth Grouper*
Misty Grouper	Schoolmaster Snapper
Dog Snapper	Mahogany Snapper
Cubera Snapper	*Blackfin Snapper*
Queen Snapper	Dwarf Sand Perch

The removal of species from the Reef Fish Fishery Management Plan is not reasonably expected to have direct and indirect effects on the physical environment. This action is largely administrative in nature, and would not directly affect the physical or economic environment. The species considered have low catch rates and are not generally targeted. Consequently, the small amount of effort involved in catching these species is not expected to impact the physical environment.

Removal of species from management could potentially result in increased targeting. However, the species under consideration in this action have relative low levels of catch and are usually not found or caught in abundance. Thus the likelihood of this happening is low. Removal of species that are not in need of management would allow management efforts to be concentrated on the more heavily targeted and exploited stocks that are in need of management, which would provide beneficial results to the biological/ecological environment.

Sand Perch

Sand perch is being removed from the FMP due to being caught for baitfish purposes only and the direct and indirect effects of each this action is provided in Section 5.

Habitat: EFH is defined in the Gulf Council's Generic Essential Fish Habitat Amendment (GMFMC 2004). Sections 3.1 and 3.2 of this amendment describe the physical environment and biological habitat affected.

Protected Resources: The protected resources included in this CEA are Acropora, Sea Turtles and the Smalltooth Sawfish.

Acroporids

Listed Acroporid corals are considered to be environmentally sensitive requiring relatively clear, well circulated water; optimal water temperatures are 25°-29°C. The environmental conditions of most of the Gulf of Mexico EEZ are not suitable for Acroporid corals. Elkhorn coral and staghorn coral may both occur near the Florida Keys in waters less than 30 m. Only approximately 645 km^2 (249 mi^2) of Gulf of Mexico EEZ waters in this area are within the potential depth range of these species. Outside of this small area, only a single colony of elkhorn coral has been observed in the Flower Garden Banks in the northwestern Gulf of Mexico and this area is protected (NMFS 2009, Biological opinion). Given the rarity of listed *Acropora spp*. in

the proposed action area and the protective regulations in place where *Acropora* are most likely to occur, adverse effects are extremely unlikely and discountable.

Sea Turtles and Smalltooth Sawfish

The past and present impacts of these fisheries have been discussed in the Environmental Baseline section of the NMFS 2009, Biological Opinion and is incorporated by reference. NMFS is not aware of any proposed or anticipated changes in these fisheries that would substantially change the impacts each fishery has on the sea turtles and smalltooth sawfish covered by the NMFS 2009, Biological Opinion.

In addition to fisheries, NMFS is not aware of any proposed or anticipated changes in other human-related actions (e.g., poaching, habitat degradation) or natural conditions (e.g., over-abundance of land or sea predators, changes in oceanic conditions, etc.) that would substantially change the impacts that each threat has on the sea turtles and smalltooth sawfish covered by the 2009 Biological Opinion. Therefore, NMFS expects that the levels of take of sea turtles and smalltooth sawfish described for each of the fisheries and non-fisheries will continue at similar levels into the foreseeable future.

Human Communities:

Adverse or beneficial effects of actions to vessel owners, captains, crew, and associated shoreside businesses are tied to the ability of individuals to earn income and pursue traditional and culturally significant livelihoods. In commercial fisheries, income benefits are usually derived in terms of shares awarded after fishing expenses are accounted for. The greater the difference between expenses and payment for caught fish, the more revenue is generated by the fishing vessel. For the for-hire sector, revenues are generated by the number of trips sold for charter businesses, and by the number of paying passengers for headboat businesses.

Fishing communities include the infrastructure, which 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 and present actions on communities should reflect the future responses by fisheries in these management actions.

Non-management stressors can have large effects on fishing communities. Although the Deepwater Horizon MC252 oil spill did not directly impact all of the Gulf of Mexico communities, fishermen and dealers may have experienced hardship from reduced consumer confidence in seafood from the region. Because of the continuing rise in the cost of fishing, including increases in the cost of fuel and insurance, many fishermen are having a more difficult time making a living fishing. Accountability measures could result in shorter seasons for the recreational and/or commercial sectors. This may also impact the businesses that are dependent on the commercial and recreational fishery in that they will have fewer days to sell charter services, ice, fuel, tackle, hotel rooms, and other services to people participating in the fishery.

10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

The cumulative effects of the actions in this amendment on the biological/ecological, physical and social and economic environments are positive because they will ultimately maintain the

stocks at a level that will protect the resource and allow the maximum benefits in yield and fishing opportunities to be achieved. However, short-term negative impacts on the social and economic environment may occur to the fishery if accountability measure is triggered. The chance of triggering these measures is minimized by the size limits, season closures, and effort control programs that are already in use. Further, modification of the framework procedure (Action 6) will allow more timely response if those management measures need to be changed. If significant effects are identified after this document is completed, an additional amendment could be developed under this framework procedure to achieve the goals in the purpose and need if they are not achieved through this amendment, or as new information becomes available.

11. Monitor the cumulative effects of the selected alternatives and modify management as necessary.

The effects of the proposed actions are, and will continue to be, monitored through stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations.
NOAA Fisheries Service will need to develop programs to monitor recreational and commercial landings to determine if landings are approaching, meeting, or exceeding specified ACLs. Currently, commercial landings are monitored through state trip tickets, which may take up to six months to be complete and available. If in-season accountability measures is chosen by the Councils, a more timely system would be needed. Recreational landings are estimated through a MRFSS and MRIP. For the Southeast region, the number of ACLs is still to be determined based on actions from the Councils; current amendments addressing ACLs contain 18 ACLs for the Gulf Council, 42 ACLs for the South Atlantic Council, and 17 ACLs for the Caribbean Council. Some of these species may additionally have separate ACLs for the commercial and recreational sectors. The monitoring all these ACLs will be borne by NOAA Fisheries Service. Although a monitoring plan is being planned while the associated FMP amendments are being developed, limited resources could strain NOAA Fisheries Service's ability to implement the program.

Monitoring and tracking the level of take of protected species by the reef fish, red drum, shrimp, coral and corals reefs, and stone crab fishery is imperative. NOAA Fisheries Service must ensure that measures to monitor and report any sea turtle or smalltooth sawfish encounters, marine mammals, or any *Acropora* interactions: 1) detect any adverse effects resulting from the fisheries; 2) assess the actual level of incidental take in comparison with the anticipated incidental take; and 3) detect when the level of anticipated take is exceeded.

5.10 Unavoidable Adverse Effects

There are several unavoidable adverse effects on the socioeconomic environment that may result from the implementation of the Generic ACL/AM Amendment. A brief summary of those effects follows.

5.11 Relationship between Short-term Uses and Long-term Productivity

The relationship between short-term uses and long-term productivity will be affected by the Generic ACL/AM Amendment. The proposed actions could reduce the harvest of species in Reef Fish Resources, Shrimp, and Coral and Coral Reefs FMPs. The Generic ACL/AM Amendment would establish annual catch levels (ACLs) and accountability measures (AMs) for federally managed species as required by the Reauthorized Magnuson-Stevens Fishery

Conservation and Management Act. The ACLs are set at levels that prevent overfishing, and the AMs are management controls established to ensure that ACLs are not exceeded, or they may correct for overages if ACLs are exceeded during a fishing season.

The Generic ACL/AM Amendment would also remove species which have small landings or are predominately taken in state waters. Rare species, which are being considered for removal, currently constitute a minor portion of the overall landings. Species, which are predominantly taken in state waters can be more appropriately managed by the states. Therefore, removal of species from the Reef Fish Resources FMP is likely to cause changes in the short-term with respect to who manages some species. Actions in this Generic ACL/AM Amendment are expected to benefit the long-term productivity of these species.

Mitigation, monitoring and enforcement measures are described in detail in the cumulative effects analysis of Amendment 30B (GMFMC 2008b) and is incorporated here by reference. The process of establishing ACLs and AMs are expected to have a negative short-term effect on the social and economic environment, and will create a burden on the administrative environment. No alternatives are being considered that would avoid these negative effects because they are a necessary cost associated with setting ACLs to protect these stocks in the FMPs. The range of alternatives has varying degrees of economic costs and administrative burdens. Some alternatives have relatively small short-term economic costs and administrative burdens, but would also provide smaller and more delayed long-term benefits. Other alternatives have greater short-term costs, but provide larger and more immediate long-term benefits. Therefore, it is difficult to mitigate these measures and managers must balance the costs and benefits when choosing management alternatives for the reef fish fishery.

5.12 Mitigation, Monitoring, and Enforcement Measures

To ensure overfishing of species does not exceed OY, 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 OY 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 2008b). 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.
Management measures include a number of area-specific regulations where 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. Vessel monitoring systems allows NMFS enforcement personnel to monitor compliance with these area-specific regulations, and track and prosecute violations.

5.13 Irreversible and Irretrievable Commitments of Resources

There are no irreversible or irretrievable commitments of agency resources proposed herein. There may be some loss of immediate income (irretrievable in the context of an individual not being able to benefit from compounded value over time) to some sectors from the restricted fishing seasons caused by quota closures. In essence the harvest closures that may result from

the implementation of ACLs would have an impact on those that traditionally continue utilizing the resources throughout the entire year.

5.14 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 action 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, d, e, f, and h are addressed in Sections 2, 3, 4, and 5.1-5.7. Items a, b, and d are directly discussed in Sections 2 and 5. Item e is discussed in economic analyses. Alternatives that encourage fewer fishing trips would result in energy conservation. 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. Mitigations measures are discussed in Section 5.12. Item h is discussed in sections 3 and 5.

The other elements are not applicable to the actions taken in this document. Because this amendment concerns the management of fish stocks, 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 will affect a marine stock and its fishery, and should not affect land-based, urban environments.

With regards to the Endangered Species Act, the most recent biological opinion for the Reef Fish Fishery Management Plan, completed on October 13, 2009, concluded authorization of the Gulf of Mexico reef fish fishery managed under this management plan is not likely to jeopardize the continued existence of sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback) or smalltooth sawfish. An incidental take statement was issued specifying the amount 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. Other listed species and designated critical habitat in the Gulf of Mexico were determined not likely to be adversely affected.

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. The proposed

actions are not expected to substantially change the way the fishery is currently prosecuted (e.g., types of methods, gear used, etc.). The reef fish fishery was classified in the 2011 List of Fisheries (75 FR 68468, November 8, 2010) as a Category III fishery because it is prosecuted primarily with longline and hook-and-line gear. This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any fishery is less than or equal to one percent of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock, while allowing that stock to reach or maintain its optimum sustainable population.

6. Regulatory Impact Review

6.1 Introduction

6.2 Problems and Issues in the Fisheries

6.3 Objectives

6.4 Description of the Fisheries

6.5 Impacts of Management Alternatives

6.6 Private and Public Costs

6.7 Determination of a Significant Regulatory Action

7.0 REGULATORY FLEXIBILITY ACT ANALYSIS

7.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of various alternatives contained in the FMP or amendment (including framework management measures and other regulatory actions) and to ensure the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

With certain exceptions, the RFA requires agencies to conduct an IRFA for each proposed rule. The IRFA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An IRFA is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." In addition to analyses conducted for the RIR, the IRFA provides: 1) A description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; and, 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule.

7.2 Statement of the need for, objective of, and legal basis for the rule

A discussion of the reasons why action by the agency is being considered is provided in Section 1.3. The purpose of this proposed rule is to implement the National Standard 1 guidelines to establish the methods for implementing ACLs, AMs and associated parameters for stocks managed solely by the Gulf Council, along with initial specifications of an ACL that may be changed under a framework procedure for specifying an ACL. The need for this rule is to improve management capability to prevent and end overfishing and to maintain stocks at healthy levels, and to do so in a consistent and structured manner across all FMPs. The Magnuson-Stevens Act provides the statutory basis for the proposed rule.

7.3 Description and estimate of the number of small entities to which the proposed action would apply

The Small Business Administration has established size criteria for all major industry sectors in the U.S. including fish harvesters and for-hire operations. A business involved in fish harvesting is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $4.0 million (NAICS code 114111, finfish fishing) for all its affiliated operations worldwide.

For for-hire vessels, all the above qualifiers apply except that the annual receipts threshold is $7.0 million (NAICS code 713990, recreational industries).

The proposed rule is expected to directly affect commercial harvesting and for-hire fishing vessels that harvest reef fish, royal red shrimp, spiny lobster, or octocorals in the Gulf of Mexico. In 2009, there were 999 vessels with Gulf commercial reef fish permits, 430 vessels with Gulf royal red shrimp permits, 258 vessels with spiny lobster permits, and 470 vessels with spiny lobster tailing permits. There is no federal permit required for harvesting octocorals in the Gulf. Based on reported homeport states, these vessels were distributed as follows: commercial reef fish permits – 37 vessels in Alabama, 814 vessels in Florida, 48 vessels in Louisiana, 15 vessels in Mississippi, 77 vessels in Texas, and 8 vessels in other states; royal red shrimp permits – 57 vessels in Alabama, 65 vessels in Florida, 88 vessels in Louisiana, 25 vessels in Mississippi, 152 vessels in Texas, and 43 vessels in other states; spiny lobster permits – 10 vessels in Alabama, 195 vessels in Florida, 1 vessel in Louisiana, 1 vessel in Mississippi, 2 vessels in Texas, and 49 vessels in other states; and spiny lobster tailing permits – 12 vessels in Alabama, 376 vessels in Florida, 1 vessel in Louisiana, 2 vessels in Mississippi, 2 vessels in Texas, and 77 vessels in other states. In 2008 and 2009, the maximum annual commercial fishing revenue by an individual vessel with a commercial Gulf reef fish permit was approximately $606,000 (2008 dollars). The maximum revenue by an individual vessel in the royal red shrimp, spiny lobster, or coral fisheries was far less than $606,000. Based on this figure, all commercial fishing vessels expected to be directly affected by this proposed rule are determined for the purpose of this analysis to be small business entities.

The for-hire fleet is comprised of charterboats, which charge a fee on a vessel basis, and headboats, which charge a fee on an individual angler (head) basis. In 2009, there were 1,419 for-hire vessels that were permitted to operate in the Gulf reef fish fishery. These vessels were distributed as follows: 141 vessels in Alabama, 876 vessels in Florida, 100 vessels in Louisiana, 52 vessels in Mississippi, 232 vessels in Texas, and 18 vessels in other states. The for-hire permit does not distinguish between headboats and charter boats, but in 2009 the headboat survey program included 79 headboats. The majority of headboats were located in Florida (43), followed by Texas (22), Alabama (10), and Louisiana (4). The average charterboat is estimated to earn approximately $88,000 (2008 dollars) in annual revenues, while the average headboat is estimated to earn approximately $461,000 (2008 dollars). Based on these figures, all for-hire vessels expected to be directly affected by this proposed rule are determined for the purpose of this analysis to be small business entities.

7.4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records

This proposed rule would not establish any new reporting, record-keeping, or other compliance requirements.

7.5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed rule

No duplicative, overlapping, or conflicting federal rules have been identified for this proposed action. The proposed rule has been developed in cooperation with the South Atlantic Fishery Management Council and the state of Florida.

7.6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

The proposed rule would be expected to directly affect all federally permitted commercial and for-hire vessels that operate in the Gulf reef fish, royal red shrimp, spiny lobster, and coral fisheries. All directly affected entities have been determined, for the purpose of this analysis, to be small entities. Therefore, it is determined that the proposed rule would affect a substantial number of small entities.

Significant economic impacts

The outcome of "significant economic impact" can be ascertained by examining two factors: disproportionality and profitability.

> Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities expected to be directly affected by the proposed rule are determined for the purpose of this analysis to be small business entities, so the issue of disproportionality does not arise in the present case.

> Profitability: Do the regulations significantly reduce profits for a substantial number of small entities?

[This section will be completed after the Council has finalized its choice of preferred alternatives]

7.7 Description of significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

[This section will be completed after the Council has finalized its choice of preferred alternatives]

7.8 Description of significant alternatives to the proposed rule and discussion of how the alternatives attempt to minimize economic impacts on small entities

[This section will be completed after the Council has finalized its choice of preferred alternatives]

8. Other Applicable Law

The MSFCMA (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the EEZ. 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 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, 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.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 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 Act directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1) ensure information quality and develop a pre-dissemination review process; (2) establish administrative mechanisms allowing affected persons

to seek and obtain correction of information; and (3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of FMPs and amendments and the use of best available information is the second national standard under the MSFCMA. 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.

Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended, (16 U.S.C. Section 1531 et seq.) requires federal agencies use their authorities to conserve endangered and threatened species. The ESA requires NMFS, when proposing a fishery action that "may affect" critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the U.S. Fish and Wildlife Service for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions may affect but are "not likely to adversely affect" endangered or threatened species or designated critical habitat. Formal consultations, including a biological opinion, are required when proposed actions may affect and are "likely to adversely affect" endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives. A summary of the most recent biological opinion for the reef fish fishery can be found in the Cumulative Effects Analysis (Section 5.9) . NOAA Fisheries Service, as part of the Secretarial review process, will make a determination regarding the potential impacts of the proposed actions.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NMFS) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs.

Part of the responsibility that NMFS has under the MMPA involves monitoring populations of marine mammals**Error! Bookmark not defined.** to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as "depleted," and a conservation plan is developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA, to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, development and

implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries, and studies of pinniped-fishery interactions.

Under section 118 of the MMPA, NMFS must publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery. The categorization of a fishery in the LOF determines whether participants in that fishery may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The conclusions of the most recent List of Fisheries for gear used by the reef fish fishery can be found in Amendment 31.

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 OMB before requesting most types of fishery information from the public. There are no alternatives in this amendment that would require additional information to be collected.

Executive Orders

E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 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. 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. NMFS has preliminarily determined that this action will not meet the economic significance threshold of any criteria.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

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 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. 13089: Coral Reef Protection

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

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, NMFS approved and implemented Generic Amendment 3 for EFH, which established additional HAPCs and gear restrictions to protect corals throughout the Gulf. There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

No Federalism issues have been identified relative to the action proposed in this amendment. Therefore, consultation with state officials under Executive Order 12612 is not necessary.

E.O. 13158: Marine Protected Areas

This Executive Order requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area. There are several MPAs, HAPCs, and gear-restricted areas in the eastern and northwestern Gulf.

Essential Fish Habitat

The amended MSFCMA included a new habitat conservation provision known as EFH that requires each existing and any new FMPs to describe and identify EFH for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements the Council has, under separate action, approved an EIS (GMFMC 2004a) to address the new EFH requirements contained within the MSFCMA. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH. An EFH consultation will be conducted for this action.

9. List of Preparers/Interdisciplinary Planning Team

Name	Expertise	Responsibility	Agency
Steven Atran	Biologist	Co-Team Lead/Purpose and need/All actions//Reviews	GMFMC
Rich Malinowski	Biologist	Co-Team Lead/Species groupings	SERO
Michael Jepson	Anthropologist	Social Analyses	SERO
Shepherd Grimes	Attorney	General framework procedure	SERO
Carrie Simmons	Biologist	Management of species by other state or federal agencies/Affected environment	GMFMC
Peter Hood	Biologist	Accountability measures/Affected environment	SERO
David Dale	Biologist	EFH review	SERO
Jennifer Lee	Biologist	ESA Review	SERO
Cynthia Meyer	Biologist	Scientific Analyses	SERO
Clay Porch	Biologist	Scientific Analyses	SEFSC
Andrew Strelcheck	Biologist	Scientific Analyses	SERO
Nick Farmer	Biologist	Scientific Analyses	SERO
Assane Diagne	Economist	Economic Analyses	GMFMC
Stephen Holiman	Economist	Economic Analyses	SERO
Tony Lamberte	Economist	Economic Analyses	SERO
David Keys	NEPA Specialist	NEPA Review	SERO
Noah Silverman	NEPA Specialist	NEPA Review	SERO

10. List of Agencies, Organizations, and Persons to Whom Copies of the Amendment/DSEIS are Sent

List of Agencies:

Federal Agencies

Gulf of Mexico Fishery Management Council's
- Scientific and Statistical Committee
- Socioeconomic Assessment Panel

National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office

U.S. Coast Guard
Environmental Protection Agency

State Agencies
- Texas Department of Wildlife and Fisheries
- Louisiana Department of Wildlife and Fisheries
- Mississippi Department of Marine Resources
- Alabama Department of Conservation and Natural Resources
- Florida Fish and Wildlife Conservation Commission

List of Organizations:
- Coastal Conservation Association
- Fishermen's Advocacy Organization
- Fishing Rights Alliance
- Gulf Fishermen's Association
- Recreational Fishing Alliance
- Southeast Fisheries Association
- Southern Offshore Fishing Association

Responsible Agencies:

Gulf of Mexico Fishery Management Council (Lead Agency for FMP)
2203 North Lois Avenue, Suite 1100
Tampa, Florida 33607
813-348-1630

NOAA Fisheries Service (Lead Agency for NEPA analyses)
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
727-824-5305

11. Public Hearing Locations and Dates

The following locations have been selected by the Council for public hearings. All hearings will begin at 6:00 pm local time and will conclude no later than 9:00 pm.

Monday, May 2, 2011
Hilton St. Petersburg Carillon Parkway
950 Lake Carillon Drive
St. Petersburg, FL

Clarion Hotel
12635 South Cleveland Ave
Fort Myers, FL

Thursday May 5, 2011
Banana Bay Resort
4590 Overseas Hwy
Marathon, FL

Monday May 9, 2011
ACLs/AMs and Reef Fish Amend. 32
Renaissance Riverview Plaza
64 South Water Street
Mobile, AL

Boardwalk - Royal American Beach Getaways
9400 S. Thomas Drive
Panama City Beach, FL

Tuesday May 10, 2011
ACLs/AMs and Reef Fish Amend. 32
Hilton
5400 Seawall Blvd
Galveston, TX

ACLs/AMs and Reef Fish Amend. 32
Four Points Sheraton
940 Beach Blvd.
Biloxi, MS

Wednesday May 11, 2011
ACLs/AMs and Reef Fish Amend. 32
Crowne Plaza NOLA Airport
2829 Williams Blvd.
Kenner, LA

Thursday, May 12, 2011
Plantation Suites & Conference Center
1909 Highway 361
Port Aransas, TX

Final testimony will be heard at the Gulf Council meeting on Thursday June 9, 2011 beginning at 8:30 am.

Thursday, June 9, 2011
Marriott Beachside
3841 N. Roosevelt Blvd
Key West, FL 33040

12. Scoping Hearing Summaries

Scoping meetings were held from 6:00 p.m. – 9:00 p.m. at the following dates and locations.

Monday, September 21, 2009		
Monroe County Harvey Govt. Center 1200 Truman Avenue Key West, FL 33040	LA Wildlife & Fisheries 195 Ludwig Annex Grand Isle, LA 70358	
Tuesday, September 22, 2009		
Banana Bay 4590 Overseas Highway Marathon, Florida 33050	Best Western 7921 Lamar Poole Rd Biloxi, MS 39532	Holiday Inn - Emerald Bch 1102 S. Shoreline Blvd. Corpus Christi, TX 78401
Wednesday, September 23, 2009		
City of Madeira Beach 300 Municipal Drive Madeira Beach, FL 33708	City of Orange Beach Community Center 27235 Canal Road Orange Beach, AL 36561	Springhill Suites 7922 Moley Road Houston, TX 77061
Thursday, September 24, 2009		
NMFS Laboratory 3500 Dellwood Beach Dr. Panama City, FL 32408		

SUMMARY MINUTES
PUBLIC HEARING – KEY WEST, FL
GENERIC ACL/AM AMENDMENT
GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

September 21, 2009

Attendance:

Bob Gill, Gulf Council
Dr. Gregg Waugh, SAFMC
Dr. Carrie Simmons, Gulf Council Staff
Phyllis Miranda, Gulf Council Staff

43 Members of the Public

The public hearing was convened by Chairman Bob Gill at 6:00 p.m. Dr. Carrie Simmons reviewed the PowerPoint presentation with the public. The public was then invited to provide their comments.

Rob Harris, Conchy Joe's Marine & Tackle. He felt that the recreational for-hire and commercial fishermen should remain as one group for the purpose of ACL/AM. He was concerned about the way the studies would be conducted. He added that, as smallest user group, the recreational for-hire fishermen would have the least amount of input.

Peter Bacle, Stock Island Lobster Co. He expressed confusion about the Generic ACL/AM Amendment and said it is not easily understandable for an average fisherman. He questioned how the catch limits would be set. He felt there should be an end point to stock management instead of continuing to be managed.

Lee Starling, commercial diver and spear fisherman. He felt that the problem was enforcement. He was concerned about an ACL for lobster because it won't be fair to the fishermen if the lobster fishery shuts down because allowable catch has been met somewhere further up the Keys. He added that they need better enforcement practices, not new rules.

George Niles, Florida Keys Commercial Fisherman's Assoc. He stated that the ACL should be set on the best available science, which would be the most recent SEDAR assessment.

Ron Meyers, commercial fisherman, Little Torch Key, FL. He felt that the Council should use the latest stock assessment, but that more current and accurate stock assessments were needed. He stated that a good decision cannot be made without having an accurate stock assessment.

Steven Lamp, Dream Catcher Charters. He agreed with Mr. Meyers' opinion regarding having a more accurate stock assessment. He questioned how the Council was making assessments for historical data and catches. He added that there are too many rules but no enforcement of those rules. He also questioned whether the Council had spoken to any 30-40 year fishermen and asked them how they thought the fishery was doing. He stated that the charter boat sector should not be included in the recreational numbers. He added that historical data needs to be looked at before any new rules are made.

Bobby Pillar, commercial fisherman, Summerland Key, FL and member of Florida Keys Commercial Fisherman's Assoc.. He stated that a lot of the data gotten from the divers and the trappers is false due to previous storms. He added that the fact that there is no stock assessment is also a problem. He believes that raising the ACL to 10 million pounds will enable the fishermen to stay in business.

Mimi Stafford, Florida Keys Commercial Fisherman's Assoc. She was concerned by the term maximum sustainable yield being changed to overfishing level. She stated that it sends the message that this was now philosophically being looked at differently. What used to be considered a maximum level of fishing is now called overfishing. She added that this was being done without good science. She stated that the analysis is from 2005 and is old data, that there have been many things that have changed between 2005 and now, and the regulations should be based on the best available science. She felt that the target level set would be ambiguous and based on ambiguous science.

Bill Wickers, charter boat captain, member of Key West Charter Boat Assoc. He felt that the process had almost become absurd because when the MSA first set up, the fisheries were supposed to be protected so that the fishing communities could continue to fish. He stated that the fishing communities are no longer taken into account and that they are being hurt because the fisheries and the fishermen are being left out of the equation. He said that the economic impact needs to be taken into account as part of the process. He added that fishermen in the Keys must be diversified in order to survive. He felt that the charter boat industry should be able to sell their catch and that they should remain part of the recreational quota.

<u>Additional attendees who chose not to speak on ACL/AM:</u>
Robert Nevius, charter boat captain
Gennifer Lamp, Key West, FL
David McKinney, Environmental Defense Fund
Michelle Owen, Environmental Defense Fund
Kari MacLauchlin, University of Florida
Marlin Scott, Keys Radio Group
Chuck Coleman, Key West, FL
Josh Nicklaus, Key West, FL
Juan Blanco, Key West, FL
John Coffin, Big Pine Key, FL
Jim Sharpe, Jr., Big Pine Key, FL
Brice Bar, Double Down Sportfishing
Craig Jiovani, Charter Boat Grand Slam
Daniel Padron, Key West, FL
Richard Gomez, Capt. Conch
Billy Wickers III, Big Coppit Key, FL

Summary of the Public Hearing for the Generic ACL/AM Amendment and the Scoping Document for Amendments 18 and 20 of the CMP FMP
Grand Isle, LA
September 21, 2009

Council and Staff:

Myron Fischer
Rick Leard
Karen Hoak

The meeting convened at 6:10 p.m. and the opening statement was read by Chairman Myron Fischer. There were 17 members of the public in attendance.

Dr. Leard gave his PowerPoint presentation and then the meeting was opened up for testimony.

For the administrative record, the participants were asked to comment on the scoping documents separately beginning with the Generic ACL/AM Amendment.

James Bruce from Cut-Off, LA read a prepared statement on behalf of the Gulf of Mexico Reef Fish Shareholders' Alliance regarding the Generic ACL/AM Amendment (attached to this report).

Mr. Fischer began reminding the participants that boundaries, seasons, and trip limits were just some of the topics that were discussed in the PowerPoint presentation that they may wish to comment on during their testimony and that the Council was interested in hearing their viewpoints on these issues.

Richard McKnight was a recently relocated Grand Isle commercial fisherman. He did not support any boundary line changes for king mackerel. Regarding start dates, he felt that July and August fishing on the east coast was killing the price in both the Atlantic and the Western Zone. Historically the east coast would stop catching by Sept. 6th or so until about Thanksgiving when they start catching again. He thought Sept 15th or Oct 1st would be the best start dates for beginning fishing for the western zone rather than July 1st. The proposal to reduce trip limits 1,250 lbs. was not a good idea because it would take 3x the amount of fuel to catch the quota and that would hurt their businesses. He had mixed feelings about whether IFQs would be good for king mackerel. Mr. Fisher asked if raising the trip limit seemed like a good idea to him, to which he answered yes, he had no problem with raising the trip limit to 4 or 5,000 lbs. He used to fish on the east coast. He felt that a 1,250 lb. trip limit would ease some of the pressure from east coast fishers coming over but it would reduce the likelihood of local fishing also because the financial incentive would be too small. He would favor higher rather than lower trip limits.

James Bruce from Cut-Off, LA read a prepared statement on behalf of the Gulf of Mexico Reef Fish Shareholders' Alliance regarding the scoping document for Amendments 18 & 20 (attached to this report).

Dean Blanchard stated that the king mackerel market was soft this year. Fishermen got very little for the catch ($.40 to $.50 per lb. underpaid). He felt they should wait till the fish quit on the east coast and fishing should not be open when they are bearing eggs. They would make a lot more money now. He felt the Council should use common sense. There are plenty of red

fish, red snapper and mackerel, contrary to what the scientists are saying; maybe even too many. Let them fish and provide food for people. He agreed with Mr. McKnight on the fishing dates. Regarding trip limits, he felt that the 3,000 lb. trip limit was appropriate. He did not support reducing the trip limit by making fishers go out for fish twice when they could have gotten them all in one trip.

Kelty Readenour, a long time mackerel fisherman wondered if it was true that there were two different mackerel stocks in the Gulf. Dr. Leard answered that in the early 80s, a guy named Gill Bane did some studies for LSU on a Mexican stock, but Mexico will not give us the data that we need. There were some tagging studies that indicated that stocks potentially migrate from the Yucatan to LA. Genetic tests were also done in Pensacola area. Mr. Readenour commented that he had filed a lawsuit years ago on grouper/mackerel based on tests done in Pensacola. When the management plan was first implemented, there was a fishermen's meeting where they voted on an opening date for mackerel. The opening date was left up to the fishers. Since the stock was so small in the western Gulf for mackerel and to keep shrimpers out, they decided to open in July. When the fish did show up on the Grand Isle, they could only fish for a few weeks before they were gone. He felt bad about how things went back then, but he felt things were done out of necessity, since they only get 31% of the quota. He felt there was a potentially large stock of fish in the western gulf and he wondered if they came to the mouth of the river to spawn. Dr. Leard responded that there was a theory that there was an over-wintering stock that did not migrate. Mr. Readenour did not support IFQs. Because they only get 31%, he wanted to find a practical way to protect the local fishery and fishermen from outsiders.

Steven Dunning, a retired seafood buyer from Jupiter, FL was mainly concerned with a steady supply. He reviewed the April-Sept east coast fishing practices and he spoke for east coast and west coast seasons. He felt that if everyone stopped fishing simultaneously in Sept., then the market will stop demanding king mackerel and they will go to some other fish like tilapia or pompano. Steady supply is the key. The fish are dying out in Sept. Fish houses want fish and they have to make an acceptable profit in order to stay afloat. Let the concern be not when the east coast opens, but rather when the fish actually show up. Year round fish for buyers would be ideal. Opening in Sept, there would be a better quality fish provided to the market year round.

Mr. Readenour asked what the ratios were for red snapper to which Mr. Fischer answered 51% commercial and 49% recreational based on historical catch.

Terry Pizani supported an opening of Sept. 15th and would like to see that done.

Closing statement was read and the meeting adjourned at 7:30 p.m.

ACL/AM

Gulf of Mexico Reef Fish
Shareholders' Alliance

Stewardship Through Leadership

#1

111 Gentian Road, St. Augustine, FL 32086
Phone: 904-669-8894 Website: www.shareholdersalliance.org

Statement of the Gulf of Mexico Reef Fish Shareholders' Alliance on:

Scoping Document for a Generic ACL/AM Amendment for the Gulf of Mexico Fishery Management Council's Reef Fish Fishery Management Plan (and other plans)

September 2009

The Gulf Council is working to bring its fishery management plans into compliance with the Magnuson-Stevens Act requirements to establish Annual Catch Limits (ACLs) and Accountability Measures (AMs). Setting safe catch limits and ensuring excellent accountability are critical for the success of managing all fisheries. The Gulf of Mexico Reef Fish Shareholders' Alliance provides the following comments and recommendations.

1. Establish safe Annual Catch Limits.
Many Gulf fisheries have scientific data to establish ACLs (many have been operating with Total Allowable Catches (TACs)). In cases where catch limits have not been set, the best science should be used. If the science is inadequate, ACLs should be based on recent landings, and data systems should be designed to gather needed information.

2. Establish and allocate distinct reef fish sector Annual Catch Limits to the commercial, for-hire, and private angler sectors.
For management to work, each sector must have a designated allocation to help it design specific management plans that meet its goals, and establish the monitoring, data collection and enforcement systems that work best and are most cost effective.

The method used to set allocations between sectors should be fair and consistent. When allocations are already established, they should be maintained. When they are not, we recommend they be based on the average catches for a 10-year time period, like from 1997-2007. In the future, if multiple sectors operate with transferable catch shares and high accountability, we support limited transferability between sectors.

3. Accountability Measures should hold each sector responsible for its performance, and they should be equally rigorous for each sector.
Each sector should benefit if it complies with ACLs and other conservation measures, and should bear the consequences if it does not. When scientific analyses determine that catch can be increased, or must be decreased, NMFS and the Council should provide clear documentation explaining how much of the change can be attributed to each sector, and sector ACLs should be adjusted according to each sector's performance.

AMs must be rigorous for each sector, and ACLs adjusted when they are not. The red snapper fishery is an example. IFQs are working well as an AM in the commercial fishery, including compliance with catch limits and reducing bycatch. But the recreational AMs of closures, bag

limits, and size limits are not working and the catch limit is usually exceeded and bycatch is high, so the ACL should have a buffer to stop overages.

4. Consider IFQs and catch shares as the preferred Accountability Measures, not closures. NMFS' guidance on AMs steers councils towards closures and short seasons to prevent exceeding catch limits. These are demonstrated to fail in the Gulf reef fishery because they case derbies in commercial and recreational fisheries that waste more fish than they save. They also reduce economic viability and put lives and property at-risk. The red snapper model has already demonstrated that IFQs are the best AM for Gulf reef fisheries.

Talking Points:

- The Council should set separate ACLs and AMs for each reef fish sector, commercial, for-hire, and private angler.

- When there are already allocations between commercial and for-hire, the Council should use those. When there are no allocations established between the sectors, they should be set based on an average of 10 years. Some people say this locks in allocations forever, but that's not true. We want to consider controlled trading between sectors after each sector operates with transferable catch shares and good accountability. Fishermen themselves can do the best job of allocating fish by trading between themselves.

- When a sector is exceeding its ACL most of the time, the Council should make sure there is a buffer to stop the sector from overfishing. Management of the red snapper recreational sector causes overages that hurt the commercial sector's chances of getting a higher ACL.

- When the stock assessment or some other science determines we can raise, or have to lower, the ACL, the analyses should clearly document each sector's contribution to the conservation success or to the problem. Then, each sector's ACL be adjusted according to its specific performance. This should start happening now when the red snapper stock assessment if finished and we hope the ACL can be raised.

- The Council should not use closures as an AM in the reef fish fishery. We know they don't work. They nearly wiped out the commercial fishery, and they aren't working in the recreational fishery. Why not stick with IFQs and other catch shares that we know work better?

James Bruce
P.O. Box 970
Cut Off LA.

SUMMARY MINUTES
PUBLIC HEARING – MARATHON, FL
GENERIC ACL/AM AMENDMENT
GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

September 22, 2009

Attendance:

Bob Gill, Gulf Council
Dr. Gregg Waugh, SAFMC
Dr. Carrie Simmons, Gulf Council Staff
Phyllis Miranda, Gulf Council Staff

36 Members of the Public

The public hearing was convened by Chairman Bob Gill at 6:00 p.m. Dr. Carrie Simmons reviewed the PowerPoint presentation with the public. The public was then invited to provide their comments. Although there were many members of the public present, only three chose to spoke on the Generic ACL/AM Amendment.

John Bartus, Marathon Chamber of Commerce. He stated that he was not allowed to take any action according to the Chamber of Commerce; however, he was there to speak on behalf of the fishermen. He added that they play such a huge part in the Keys economy and when they suffer every other segment of the economy suffers. He felt that the data needed was right there in the room that the fishermen know what is out there as far as quota and what the catch is.

Rick Turner, charter boat captain, Marathon, FL. He questioned who was going to enforce the ACLs/AMs and added that the enforcement was very poor. He stated that trap robbing was rampant and that nobody was putting a stop to it. He added that the fishermen were trying work together to stop it, but that there was a lot of illegal catching of shorts that was not reported. He felt these are being taken back to Miami. He also felt that those few honest fishermen will end up paying the price for the others who do not follow the rules and that more rules would put a hardship on the honest fishermen that are currently fishing. He was concerned about sector ACLs, for example commercial divers, and enforcement of those allocations on an annual basis. He commented that stock assessments are not going to reflect accurate numbers.

Don Moll, charter boat captain. He felt that if the natural predators, such as goliath grouper, were controlled that there would be a more accurate stock assessment. He added that these large predators were destroying the population of lobsters and other fishes on the reefs in the Keys, and that if this one problem was addressed, then perhaps other problems with the fisheries would not exist.

<u>Additional attendees who chose not to speak on ACLs/AMs</u>:
Hal Osburn, Florida Keys Commercial Fishermen's Association
Richard Stiglitz, commercial fisherman, Monroe County, FL
Tim Daniels, Marathon, FL
Karl Lessard, Florida Keys Commercial Fishermen's Association
Gary Nichols, Nichols Seafood, Islamorada, FL and Organized Fishermen of Florida
Jeff Cramer, Organized Fishermen of Florida
Chris Johnson, charter boat captain, Marathon, FL
Christy Johnson, Seasquared Charters

John Bartus, Marathon Chamber of Commerce
Michelle Owen, Environmental Defense Fund
David McKinney, Environmental Defense Fund
Elizabeth Prieto, Marathon, FL
Edwin Prieto, Marathon, FL
Barbara Maddox, Captain Pip's Marina & Hideaway, Marathon, FL
Leda Dunmire, Pew Environmental Group
Dawn Ward, University of Florida, Gainesville, FL
Toby Kight, Marathon, FL
John Harrison, Marathon, FL
Gigi Harrison, Marathon, FL
Donald Beechum, Marathon, FL
Paul Lebo, Marathon, FL
Gene Trag, Marathon, FL
Capt. Don Muller
Richard Turner, Marathon, FL

Summary of the Public Hearing for the Generic ACL/AM Amendment and the Scoping Document for Amendments 18 and 20 to the CMP FMP
Biloxi, MS
September 22, 2009

Council and Staff:
Tom McIlwain
Rick Leard
Karen Hoak

The meeting convened at 6:10 p.m. and the opening statement was read by Chairman Tom McIlwain. There were 2 members of the public in attendance.

Dr. Leard gave his PowerPoint presentation and then the meeting was opened up for testimony.

For the administrative record, the participants were asked to comment on the scoping documents separately beginning with the Generic ACL/AM Amendment.

Tom Becker of the Mississippi Charterboat Captain's Association spoke about catchability noting that the question always remained the same: How can the Council assign a specified catch level if the data are flawed. Regarding fishery catch data, he noted that when a fishery gets closed down, all data collection ceases. He supported implementation of electronic logbooks for the for-hire sector in order to provide more timely data collection. He also expressed concern about how long it currently takes for data to be compiled for fishery managers' use. He felt that asking for one red drum in federal waters was a reasonable request but that no data on that species would be available for a long time. He commented that the fishermen and the communities they operated out of were important, particularly in this steep economic downturn. Currently, he noted that in his area, king mackerel abundance was up while Spanish mackerel was down. Regarding ACLs and AMs, he could not support implementing accountability measures for a fishery with flawed data collection processes. The ACL/AM Amendment emphasized the need for better data collection. There was no logbook data for headboats, so he supposed that they would get more fish. He wondered why it was that everyone was seeing many more red snapper on the water, but the stock assessments kept indicating that the stocks abundance and catch limits were decreasing. He commented on some changes in fishing trends that he had seen recently. For example, there were fewer boats on the water, but the ones out there carried more people. He also noted that where there used to be many on the water during weekday trips, now fishing mostly occurred on weekends. He felt a primary concern of the Council should be to protect the people in the local communities and jobs.

Bill Blome with Ocean Conservancy stated that his organization would be providing their official comment in writing during the public hearing in Madeira Beach, FL.

The closing statement was read and the meeting adjourned at 6:55 p.m.

Scoping Meeting Summary
Generic ACL/AM Amendment
and
Amendments 18 and 20 to the CMP FMP

Corpus Christi, Texas
September 22, 2009

Attendees:

Council

Robin Riechers – Council Representative
Assane Diagne - Council Staff
Charlotte Schiaffo – Council Staff

Others

Pam Arrendo (Sea Academy)
David Bijnoch (Charterboat)
Page Campbell (TPWD)
Terry Cody (Charterboat)
Michael Miglini (Port Aransas Boatmen)
Ryan Ono (EDF)
Brandon Shuler (Outdoors Magazine)
Jim Smarr (RFA)
Matt Zuniga (Recreational)
1 member of public (did not sign in)

The meeting was called to order at 6 p.m. by Chair Robin Riechers, who read the chair statement.

Assane Diagne gave a PowerPoint presentation on the Generic Annual Catch Limit (ACL)/Accountability Measures (AM) Amendment and Amendments 18 and 20 to the Coastal Migratory Pelagics Fishery Management Plan (CMP FMP). He noted that ACLs and AMs were required for most federally managed stocks and explained the timelines for meeting those requirements: 2010 for overfished stocks and stocks subject to overfishing, 2011 for all other stocks; adding that annual stocks not subject to overfishing were exempt (e.g., most shrimp stocks). He also defined and reviewed the various acronyms and terms used in the amendments, and explained the relationship and relative magnitude of the overfishing limit (OFL), annual biological catch (ABC), annual catch limit (ACL), and annual catch target (ACT). He added that the difference between OFL and ABC accounted for scientific uncertainty, and that annual catch targets (ACTs) were recommended, emphasizing that they were optional and should account for management uncertainty.

Mr. Miglini expressed concern about the quality of the data used, stating that the best available data was not always really the best. He suggested having more outreach with the for-hire industry, possibly separating the sector from the recreational side. He proposed that this separation might be accomplished by using a database that included state registered guides, Texas license holders, and federal permit holders. He emphasized that people needed more notice for public hearings. He stated that a graph be created for presentations that showed the

effect of greater funding for law enforcement on illegal fishing. He felt that a substantial benefit to the fishery would be shown if illegal fishing were curtailed, and that it would also alleviate the strain on stakeholders.

Mr. Smarr read a statement from the Texas Recreational Fishing Alliance (RFA, attached). He emphasized that the amendment should be slowed down and reworked, since it did not appear to be designed for accurate modeling.

Mr. Ono submitted a written statement (attached) on behalf of the Environmental Defense Fund.

Mr. Riechers asked if there were questions on any other matters.

Mr. Smarr requested that the Council conduct a longline (LL) study inside the 50 fathom curve, stating that complete models could not be created from information only gotten form dockside surveys. He suggested that a LL study be done with an observer each year, and that such data would make models more accurate and stop more restrictive fishery plans from being enacted. He also advocated the Council loosening restrictions on artificial reefs and working with states on an expedited schedule on this issue. He indicated that this request had been made to the Council before, yet the Council had not cooperated. He explained that it was vital for other states to build artificial habitats because it would take pressure off the red snapper fishery in federal waters by bringing snapper closer to shore.

There being no further business the meeting was adjourned at 6:30 p.m.

Summary of the Public Hearing for the Generic ACL/AM Amendment and the Scoping Document for Amendments 18 and 20 of the CMP FMP
Orange Beach, AL
September 23, 2009

Council and Staff:

Bob Shipp
Rick Leard
Karen Hoak

The meeting convened at 6:10 p.m. and the opening statement was read by Chairman Bob Shipp. There were 11 members of the public in attendance.

Dr. Leard gave his PowerPoint presentation and then the meeting was opened up for testimony.

For the administrative record, the participants were asked to comment on the scoping documents separately beginning with the Generic ACL/AM Amendment.

Allen Kruse, owner of 2 charterboats and 24 years of experience emphasized the need for better data collection. He supported sector separation of the for-hire sector from truly recreational fishers. He also requested separate ACLs/AMs for each reef fish stock. He did not feel that closures in the recreational sector provided accountability. In the commercial fishery, derby style fishing almost wiped out the fishery and it will not work for the recreational businessmen either. He supported an IFQ program for the for-hire sector so that they can more efficiently manage their businesses. He supported the use VMS and electronic logbooks to get accurate data in a timely fashion. He wanted fishermen to work together with the NMFS. Regarding ecosystem management approaches, he expressed concerns about land-based pollutants such as by-products from water treatment plants being passed through to the environment and encouraged environmental groups to get involved in studying those types of problems with the environment.

Tracy Redding, owner of AAA Charters (charter booking service) understood that regarding ACLs and AMs, the time had come for accountability in the recreational sector and they were looking to be in a better position to be more responsible. She understood that recreational anglers consistently overshot their quota. They know who the for-hire fishers are and she felt that if they were treated as a separate sector with their own ACLs, they would be better able to account for what they land. She supported the use electronic logbooks. This way, they can compile real-time data on all species where there is very little data being collected currently; the possibilities of these new tools will be crucial in helping them set accurate limits on species. She also supported exploring the use of tags for the private recreational sector. With tag use, there may be more accuracy in accounting for catch and discards. Regarding mackerel, she hoped that they would consider catch limits or limited entry programs so that they could manage some other way than open/closed seasons. She thought IFQs might be worthwhile in this regard.

Ben Fairey, a charterboat owner in Orange Beach had been fishing professionally for 37 years, full-time charter for 22. He is the president of the Orange Beach Fishing Association. He expressed concern about how to maintain a sustainable fishery in the GOM. His association wanted to be part of the solution by coming up with common sense plans that protect the

fisheries and the fishermen as well. In these dire economic times, they need to do everything they can to extend fishing seasons. He supported IFQs and sector separation in the recreational fishery. Charterboats were already handled differently from truly recreational fishers. ACLs and AMS were truly needed. The recreational sector goes over quota every year and since their community is so dependent on the red snapper fishery, a closed snapper season would be devastating to their community. He wanted to prevent a repeat of the red snapper overfishing scenario with the king mackerel fishery. He supported ACLs and AMs in order to prevent an overfished situation. Since many have lost jobs recently and king mackerel permits are still obtainable, many have turned to fishing as a way to earn an income. They need to be proactive so that they don't end up like red snappers, for cobia and wahoo also. He spoke against recreationally fish being sold. He supported IFQs for coastal pelagic fisheries. It made good sense for both the stocks and the fishermen. Regarding the concept of tags, he felt that the recreational sector needed some type of accountability because right now, the fishery is open-ended and when ACLs and AMs come into being, their industry will be in trouble.

Bryan Watts, a charterboat operator, full-time for 14 years was totally against the long closed seasons. Even with the short season, the recreational fishery was overshooting its targets. He stated that recreational anglers either did not know or did not care about limits. He felt it was unfair to put for-hire folks in the same boat as recreational anglers since purely recreational fishers would not be financially hurt by shortened seasons or bag limits. Also, recreational fishers did not typically participate in the process of figuring out how to fix the problem so he supported sector separation. He wondered where the current charterboat data came from and he believed that electronic logbooks would work best. He stated that he would be willing to carry an observer maybe up to 10 times per year if that would help with data compilation. He thought other professionals would be willing to do the same. He thought that if observers personally witnessed the tremendous number of red snapper out there, that information would benefit data collection efforts. Charterboats help species abundance because they create artificial reefs. Fishermen have commented that they have seen larger fish in deeper water on natural bottom where they have rarely been seen in the past. He actually felt that some areas were overpopulated (i.e. 200 ft.+). When they try to catch other species such as beeliners or groupers, which they have to 9 months out of the year because of the snapper closed season, the number of snappers out there makes it virtually impossible. Of course, they kill snappers unnecessarily because of this also. He stated that because of the long closed season, especially during the tourist season, other species are hit harder which will ultimately lead to a reduction in the numbers of those fish. He thought spreading out the fishing seasons so that fishing for all species was open for 6 months or more, he felt that would help spread out and level the catch across all the stocks. Regarding king mackerel, he understood that AL was the only state that allowed gillnet fishing. He noticed that he might catch Spanish or king mackerel at the limit for a week or so until the season opens for the net boats, then the stocks were wiped out in a couple of days. He wondered how charterboats could be hurting the mackerel stocks when all the charterboats combined could not catch as many mackerel all season as net fishers do in just a few days.

The closing statement was made and the meeting was adjourned at 7:00 p.m.

Scoping Meeting Summary
Generic ACL/AM Amendment
and
Amendments 18 and 20 to the CMP FMP

Houston, Texas
September 23, 2009

Attendees
Council

Assane Diagne – Council Staff
Joseph Hendrix – Council Representative
Charlotte Schiaffo – Council Staff

Others

Brian Bremser (Recreational)
Kenneth Doxey (Charterboat)
Jesse Glover (Recreational)
Keith Guindon (Seafood Processor)
Tom Hilton (Recreational)
John Huddleston (Recreational)
Ryan Ono (EDF)
Bob Palmer (Charterboat)
Ellis Pickett (GRN)
Rory Starling (Recreational)
Monty Weeks (RSAP)
John Williams (Charterboat)

The meeting was called to order at 6 p.m. by Chair Robin Riechers, who read the chair statement.

Assane Diagne gave a PowerPoint presentation on the Generic Annual Catch Limit (ACL)/Accountability Measures (AM) Amendment and Amendments 18 and 20 to the Coastal Migratory Pelagics Fishery Management Plan (CMPFMP).

Mr. Weeks read a statement (attached) expressing his concern that there was not enough data to implement ACLs and AMs.

Mr. Hilton read a statement (attached) voicing reservations about enacting ACLs and AMs for the recreational sector.

Mr. Hendrix assured the attendees that the Council was taking their concerns seriously and would take them into consideration when considering ACLs and AMs.

Mr. Guindon read a statement (attached) urging the Council to act quickly to get better data, since shorter fishing seasons and current management decisions were destroying the recreational fishery. He advocated separating the recreational sector since for-hire vessels and private boaters

have very different needs. He stated that the Council should not use closures in the amendment and proposed that recreational fishers have electronic logbooks.

Mr. Williams stated that he understood that the Council's hands were tied on some matters and suggested that the sectors try to work with the Council's restrictions. He agreed that the for-hire sector needed to be separated from the private recreational fishery. He expressed consternation over captain and crew limits and requirements for permits that were enforced on for-hire vessels and not on others in the fishery. He advocated implementing individual fishing quotas (IFQs) in the for-hire industry, stating they would allow the industry to better regulate itself, like it had for the commercial sector.

Mr. Ono read a statement (attached) urging the Council to set appropriate ACLs and account for overall fishing mortality. He stated that discard and bycatch numbers were obscured in the scoping document, and that the council should expand its views of AMs. He suggested implementing IFQ programs with data monitoring and noted potential benefits of separating the recreational sectors.

Mr. Doxey voiced his opposition to IFQs. He stated he might support ACLs and AMs at a later date, however much more information was needed before any current implementation.

Mr. Pickett commented that more fish were being caught then could reproduce. He disagreed with assertions that more fish were being caught because there were now more fish. He noted that technology had outpaced the ability of fish to rebound, and that the Magnuson Stevens Act (MSA) required that hard choices be made. He pointed out that steps had to be taken to ensure a resilient fishery, and that tough measures now would ensure fish for all later.

Mr. Palmer read a statement (attached) and questioned how total allowable catch (TAC) numbers were decided upon. He added that in the last season there were only 72 days of fishing (10 weekends), which did not allow for as much TAC as had been stated, since most people were working and could not fish at the times fish were supposedly being caught. He questioned the accuracy of how the numbers were extrapolated, adding that there just were not that many people fishing to justify the numbers presented. He stated that shrimp boat bycatch was another issue that needed to be addressed.

Mr. Starling read a statement (attached) and voiced concerns on data collection methods. He noted that fishing was a way of life for thousands of people and had a major economic impact on the Gulf Coast. He stated that bad weather days were not taken into account in figuring data, and that the average fisher went out 6-8 times per year which would give much lower numbers than those shown in the charts. He emphasized his 30 year of fishing experience and noted that he had seen the fishery recover with many more fish than in previous years. He commented that the two fish limit had not created more fish, and that a usable biomass of fish was needed. He urged that better data be used or else more fish would be taken away from the fishery. He pointed out that hurricanes had knocked out much of the fishing season in the previous year. He also voiced his support for aquaculture and added that other factors needed to be taken into account in determining TAC, such as how many fish were eaten by other fish and not caught by anglers. He noted that he had driven over 2 1/2 hours to attend the meeting.

Mr. Hendrix explained where information could be found on how data was obtained, referring people to the Gulf Council website.

Mr. Huddleston agreed with most of the statements made. He noted that the fishery in Texas was different from the Florida fishery and that the eastern and western Gulf had different levels of snapper, so different regulations were needed for each area. He stated that longliners were responsible for much of the snapper bycatch, and that he had serious issues with the Council limiting catch for the recreational sector because of longliners decimating the fishery. He added that many snapper did not survive when released and that this added to the mortality rate. He asked how many biologists actually fished, because their data was incorrect, adding that if they were out on the water more often they would see the increase in fish and come up with correct data. He noted that more sampling was needed from Texas waters and that he was constantly catching large fish in those waters.

Mr. Bremser suggested calling and asking him about the numbers of fish he had seen. He volunteered to host observers, and agreed that the Texas and Florida fisheries were different and needed different regulations. He explained that snapper in Texas were usually more than 40 miles offshore, while Florida snapper were commonly right off shore.

Mr. Wilson stated that the Council was not abiding by section 109-479 of the MSA which required it to have data collection procedures in place.

Mr. Hendrix interjected that the restructuring process of the Magnuson Stevens reauthorization Act (MSRA) would take two years and that Congress demanded implementation of ACLs and AMs by 2011, so the Council had no choice in the matter. He added that most recent amendments had already implemented ACLs and AMs. He noted that the National Oceanographic and Atmospheric Administration (NOAA) had their own sampling program from which data was extrapolated.

Mr. Starling expressed concern that numbers were extrapolated from certain areas to the entire Gulf, stating that there were too many variables to make such a system accurate, and that if only limited areas were sampled the results would be skewed.

Mr. Hendrix reminded the audience that they were not there to discuss sampling methods, suggesting that any such comments be directed to the Council by email or letter before the next Council meeting.

There being no further business the meeting was adjourned at 7 p.m.

Scoping Meeting Summary
for
Generic ACL/AM Amendment
Coastal Migratory Pelagics Amendment 18/20
Madeira Beach, Florida
September 23, 2009

In attendance:	Julie Morris	Steve Bortone
	Steven Atran	Charlene Ponce
	Phyllis Miranda	16 members of the public

Steven Atran gave a PowerPoint presentation summarizing the Generic ACL/AM Amendment and Coastal Migratory Pelagics Amendment 18/20. Spiny Lobster Amendment 10 was not reviewed, but attendees were informed that the amendment was on the CDs on the handout table or could be downloaded from the Council website.

Dennis O'Hern, Executive Director, Fishing Rights Alliance (will also submit written comments) – noted that we are still two years away from having a universal angler registration which will allow a statistically representative sampling of fishermen, and expressed concern that ACLs will have to be based on uncertain MRFSS data. He felt that NMFS was shutting down the fisheries and that it was damaging to the economy and heritage of Florida's fishing and to the quality of life. He suggested taking a look at how FWC successfully manages fisheries.

Joe Murphy, Florida Program Director, Gulf Restoration Network (will also submit written comments – GRN supports a successful implementation of the Magnuson-Stevens Act and feels that the Council is moving in the right direction. He stated that healthy sustainable fisheries are important to Florida's economy, but the goal should be not just a healthy fisheries but a healthy Gulf of Mexico.

Frank Jackalone, Senior Regional Representative, Sierra Club – agreed that it's important to protect the Gulf of Mexico and its fisheries. The Sierra Club is also interested in protecting biodiversity, including mammals and sea turtles. In 2005, the Sierra Club established the Gulf of Mexico Sustainable Fisheries Campaign to end overfishing including bycatch, educate the public, and work in cooperation with other organizations to protect the resource. Sierra Club's position is that:

- ACLs should be based on best available scientific information
- AMs should stop overfishing or take overages out of next year's catch
- Unintended catch and mortality should be reduced

On a personal note, Mr. Jackalone felt that shifting control of management by removing a stock from a Council FMP would politicize the process.

T.J. Marshall, Gulf of Mexico Outreach Director, Ocean Conservancy (will also submit written comments) – Ocean Conservancy's position consists of nine points:

1. ABCs should be based on scientific uncertainty, status of the stock, and a measure of vulnerability such as PSA.
2. ACLs should include both landings and discards.
3. Include the use of ACTs that account for management uncertainty.

4. Include management uncertainty in the control rules.
5. If sector ACLs are used, they should be used for all stocks. This will promote good stewardship by rewarding sectors that stay within limits and only applying AMs only to the sector that exceeds limits.
6. In-season AMs should be used wherever possible.
7. When in-season AMs are not possible or are ineffective, use management buffers to account for uncertainty.
8. Take care to assure that stock complexes are grouped appropriately.
9. The use of indicator species is discouraged, but where used, they should be the most vulnerable stocks in the complexes.

Rusty Hudson, Directed Sustainable Fisheries – On issues pertaining to the Mackerel scoping document, rolling over of unused catch to the next year would be useful. Mr. Hudson felt that poor estimates of private recreational landings would hurt the commercial fishermen if there is no overfishing when setting ACT.

Summary of the Public Hearing for the Generic ACL/AM Amendment and the Scoping Document for Amendments 18 and 20 of the CMP FMP
Panama City, FL
September 24, 2009

Council and Staff:

Bob Shipp
Rick Leard
Karen Hoak

The meeting convened at 6:10 p.m. and the opening statement was read by Chairman Bob Shipp. There were 21 members of the public in attendance.

Dr. Leard gave his PowerPoint presentation and then the meeting was opened up for testimony.

For the administrative record, the participants were asked to comment on the scoping documents separately beginning with the Generic ACL/AM Amendment.

Mr. Zales asked a question about the table on a slide in the presentation. The table indicated that the mackerel stock would go downhill and he wondered why they came up with that projection when mackerel has only been going up for the last 20 years. **Dr. Leard** answered that when they did the stock assessment, they primarily relied on fishery independent data. That data showed a very strong recruitment the year before the model runs and that strong recruitment was entering the fishery in the 2007-2009 time period. Since the recruitment level was higher than what is considered a long term average, the assumption was that it would eventually contract down to the average, so that would cause the drop shown. He noted that the current TAC was not being caught, thus recruitment in the future could stay high or even increase. He recommended not putting a lot of weight on information beyond 2011 or so.

Bart Niquet, a commercial and recreational fisherman stated that the snapper program was working very well and he hoped the same for grouper. Although there were not many gag grouper offshore, he felt there were plenty of 16" to 18" gag in the bay. He did not want recreational for-hire fishermen to be put out of business.

Jerry Anderson, a partyboat operator requested that they divide the recreational catch level by sector, private and for-hire. He supported electronic logbooks for real time data. For smaller operators, there could be some other method for reporting. He suggested using state law enforcement agencies for ground-truthing and he also suggested using catch shares for both groups.

Matt Andrews, a commercial king fisher for 25 years commented that king mackerel was one of the few open access managed fisheries left. He felt it was clear that the commercial fishery was becoming a derby-style fishery as other IFQs went into effect, which would cause this phenomenon in king mackerel to get worse. He figured once IFQ shareholders fished out their allocation, they would turn to the open fisheries for additional work. In 2009, his personal income had been reduced by 50% due to increased participation and next year looked even worse. Trip limits and quotas that cause fishermen to race each other for fish was completely unsound management. These caused increased fuel consumption, decreased profits for catch by causing too much production in too short a period of time, which increases effort to catch more

fish so that they can just stay in business. He hoped that for the industry to become environmentally and economically sound that all the fisheries went to IFQs.

David Krebs, a Gulf and east coast fishhouse operator spoke about how Ariel Seafood has accounted for about 40% of the annual king mackerel landings since 1992. He recalled the state of the fishery in 1995 and compared that world to what was happening today with red snapper. He stated that people that used to work in the construction industry have turned to fishing to earn a living and that was killing the existing fleet. He agreed with Mr. Andrews citing that last year the king mackerel season in the western Gulf did not close until February of this year. In the last 10 years, he had not frozen a single pound of king mackerel. This year, he froze 150,000 lbs. because the market could not handle the supply and the boats would not stop fishing because they knew that when the quota was closed, the fishery was closed. He felt that Mr. Andrews was a victim of circumstances. Catch shares is the only management scheme that will control effort. Give historical fishermen their just dues and let them catch fish when the market conditions are favorable. Glutting the market and selling king mackerel for $1.30 is ridiculous. Regarding boundaries, he felt that the boundary split should be done at the Keys. He did not support the mixing zone blending. The fact that the mackerel management has increased the stock is encouraging. He ended by stating that he supported the Shareholder's Alliance position on mackerel issues and submitted their official written statement for the record.

Mike Dates, a Destin charterboat captain expressed the need for the collection of better data to improve management of the for-hire sector. This will have to happen fast if they are to comply with ACLs and AMs. He stated that ACLs and AMs should be set for each reef fish sector. Seasonal closures did not work well and he supported the idea of IFQs, VMS, and electronic logbooks, even for smaller boats. He was thankful for the opportunity to participate in the creation of laws that would impact all their businesses in the future.

Bob Robinette, charter operator read a prepared statement from Pam Anderson of the Panama City Boatman's Association and owner of Anderson Marina (attached, item #1).

Bob Zales, II, president of Panama City Boatman's Association read their statement into the record on the Generic ACL/AM Amendment (attached, item #2). He commented that the NMFS constantly states that they are mandated to implement these measures by 2010/2011 but somehow, the implementation of a new data system by January 2009 just vanished. Congress understood that they need data first, then ACLs and AMs. The NMFS has it backwards in his opinion. He then read the statement on the scoping document on Amendments 18 and 20 of the CMP FMP (attached, item #3). As a personal comment on his own behalf only, he read a portion from an article by Holly Binns from the Pew Environmental group where she spoke positively about how fishery managers' past science-based decisions had reversed overfishing of a depleted stock. He suggested that the king mackerel management model be an example for all finfish management.

Chris Niquet, a member of the Gulf Reef Fish Alliance and red snapper IFQ shareholder thanked Dr. Shipp for the study he did on artificial reefs and the decline of the shrimping industry. He felt, like many, that there were plenty of red snapper and stated that there needed to be a program for the for-hire sector and the recreational sector that leads to more accountability. Better data leads to better management. He gave an example of where the data that managers' were using was incorrect. In south FL, they say the red snapper is still overfished versus the western Gulf where they say that overfishing is not occurring. He said they are basing their findings on a commercial logbook that states that in X days you can catch X pounds of red

snapper. So they go to south FL and go grouper fishing where they can have 6,000 lbs. They will throw red snapper back until the last 2 or 3 days because there are so many of them, they know they can get their fill of red snapper at will. The economics dictate that grouper is more valuable than red snapper so red snapper gets treated as bycatch.

Gary Jarvis, charterboat owner/operator and dual permit holder stated that the current system needed to be changed to a new management regime for the total reef fish complex for the GOM because of the new MSA mandates. In order to accomplish this, he recommended separate ACLs and AMs for each sector and he advocated separating the recreational sector into 2 user groups, for-hire and private recreational. Each of the 3 sectors needed to be managed according to their unique composition in order to prevent overfishing. He supported the use of electronic logbooks in the charter for-hire industry and the commercial fishery to reduce uncertainty rather than bag limits and closed seasons. Regarding pelagic fish discussions, he did not condone comparing management of pelagic species with management of reef fish species. Speaking on HMS species, he noted that pelagic management issues were first focused on, the mass fishing technology being used, where 100,000 lbs. per set was common was a major part of the problem, particularly when the fish came into the shallows. They also come and go (HMS). One day they are here, the next day they are gone. There is very little mortality associated with bycatch. Nowadays, king mackerel is no longer the prized fish that it once was. Reef fish are now considered the new prized fish and now that fishery is diminishing due to the increased pressure on them. So consequently, the harvest level on king mackerel is changing again. Since king mackerel is the only thing they are allowed to catch, pressure is once again increasing on them and amberjack. He believed that the harvest level has increased about 50% on king mackerel for both sectors. As a dual permit holder, he supported option 2, section 3.1.7 which calls for a joint LAPP management program for the commercial and charter for-hire sectors. LAPPs are proven to improve accountability to manage and rebuild stocks. He did not feel trip limits were effective.

Chad Hanson speaking on behalf of the Pew Environment Group, the conservation arm of Pew Charitable Trust commented that their mission was to apply rigorous analytical approaches to improving public policy, informing the public, and stimulating civic life. Ending overfishing means working with the NMFS and the Councils to set science based limits that end and prevent overfishing. He thanked the Council participants for making public comment access as easy as possible. He stated that overall, they were pleased with the approach that the Council was taking with the new MSA and National Standard guideline 1 requirements. These efforts will provide long-term benefit. They will submit detailed suggestions and comments prior to the closing date for comments, but in general they believe that the ACL amendment should broadly define the intent of an ACL system and detail the procedures for setting ACL. It should also address topics like control rules on setting ABCs, ACLs and ACTs. AMs should address chronic overages. It should also explain the process of how ACLs will be updated from stock assessments. Science-based catch limits that account for scientific and management uncertainty is critical to sustaining fish populations. Well designed systems and control rules will ensure regulatory compliance. He recommended managing to an ACT, leaving a margin of error. Timely and comprehensive data will provide adequate information for setting the ACT. If the rolling 3 year average is exceeded, he felt that a suite of predetermined AMs should be set for each fishery. The new mandates should be seen as an opportunity to steer our fisheries towards long term sustainability, providing food, jobs, and recreational opportunities for generations to come.

The closing statement was made and the meeting adjourned at 7:25 p.m.

Bob Zales

Item #2

PANAMA CITY BOATMEN ASSOCIATION

P.O. Box 4151
Panama City, Florida 32401

September 23, 2009

Gulf of Mexico Fishery Management Council
2203 N. Lois Avenue, Suite 1100
Tampa, FL 33607

Re: Comments for scoping meetings on ACLs/AMs and Coastal Migratory Pelagics Joint Amendments 18/20

Dear Council Members:

On behalf of the members of the PCBA I respectfully provide the following comments on the above.

Generic Amendment ACLs/AMs

The reauthorization of the Magnuson Stevens Fishery Conservation and Management Act in January 2007 required, among other things, that under 109-479 (D) DEADLINE.—The Secretary shall complete the program under this paragraph and implement the improved Marine Recreational Fishery Statistics Survey not later than January 1, 2009. The National Marine Fisheries Service failed to do this as required by Congress and there will not be an improved MRFSS within the near future. The NMFS historically selects which mandates to comply with and implement contrary to the will of Congress.

Congress also required the adoption of more restrictive management which resulted in the use by the NMFS of ACLs and AMs as levels of acceptable harvest to prevent overfishing and stocks becoming overfished. The requirement is to implement these ACLs and AMs by 2010 for fisheries undergoing overfishing and by 2011 for all other federally managed fisheries. It was clearly the intent of Congress to have an improved recreational data program in place and utilized a minimum of 1 year prior to implementation of ACLs and AMs. As stated above, the NMFS failed to implement an improved recreational data program which would provide the ability to properly apply ACLs and AMs to the recreational fishery.

Due to the fact that the NMFS knowingly selected to not comply with the congressional mandate to implement an improved recreational data program by January 2009 but using their historical cafeteria style of management and selectively choosing which action to implement or not, we respectfully recommend that until the NMFS has fully implemented a new and improved recreational data system that ACLs and AMs not be used to restrict recreational fisheries. Congress knew that the current recreational data system was not able to provide the data necessary to use ACLs and AMs which is why they required a new data system one year prior to implementation of ACLs and AMs. The use of estimates, and statistical extrapolations and a data system designed to track trends in recreational fisheries is known by congress and others to not be reliable in managing by ACLs and AMs.

In addition to our concerns, we stress that the use of estimates for determining recreational discards, B2 fish in the current data system, is certainly unreliable and provides an irresponsible set of data in attempting to determine discard mortality. Further complicating the data is the use of correction factors based on surveys where phone numbers are not identified, vessels enter and depart the selection frame, and the unknowns of state licensed vessels fishing on federally managed species. Our view is it is impossible to properly manage the recreational fishery by ACLs and AMs under the current recreational data system and any attempt to do so will only serve to further restrict recreational fisheries causing continued social and economic harm to anglers and the communities where they live and fish.

Item #3

Coastal Migratory Pelagics Joint Amendments 18/20

The Gulf King Mackerel Fishery and the history and style of its management is a true success story. We recommend all Gulf fin fish fisheries be managed in a similar manner. Our recommendations for proposed joint amendments 18/20 are as follows.

3.0 part 3.1, 3.1.1 and 3.1.2, appendix A should be considered separate as there are many issues that need options within appendix A and it is too complicated to be simply accepted or not.
3.1.3, we recommend option 5, status quo. The current requirements have served to sufficiently provide for good management of the sale of coastal migratory pelagics. As long as the fishermen are properly licensed, fishing according to requirements, proper record keeping exists, and all requirements for the commercial sale are complied with, we see no reason to alter the current requirements.
3.1.4, bycatch issues, we recommend a new alternative that utilizes the current commercial logbook requirements for reporting discards and the use of observers to provide data on the disposition of discards. We recommend a similar reporting requirement for the recreational fishery. We highly recommend that due to the status of the gulf king mackerel fishery and the recommended ABC by the SSC that the minimum size be eliminated and the harvest be constrained by the commercial quota and recreational bag limit. This elimination of the minimum size should then reduce the discard mortality to almost zero thus reducing the need for discard mortality estimates.
Part 3.1.4.2, we recommend option 2, no action.
Part 3.1.5, risk levels, option references attachment 4. We could find no attachment 4 in the online document so cannot speak to it. We recommend option 5, no action.
Part 3.1.6, we recommend no action, option 1.
Part 3.1.7, LAPP, we recommend that if the council and NMFS is to insist on a LAPP program that the next council LAPP program for all fin fish commercial fisheries be designed for all commercial fin fish fisheries at one time rather than the single species style management that the council has historically taken.
3.2 part 3.2.1, set ofl, etc, we recommend more detail to be considered with more discussion and rationale to be considered as there is not enough information presented to make a reasonable decision at this time.
Part 3.2.2, modifications to current commercial fishing zones, we recommend status quo at this time. The historical commercial fishery in the northern subzone (panhandle of FL) is prosecuted during the fall of the year (sept thru nov) and the western zone has historically taken their quota by sept. We need to further discuss these options prior to making any possible recommendation for change.
Part 3.2.3, change the opening date of the commercial fishery, we recommend option 4 to require a declaration of which zone you wish to fish prior to the opening day and be restricted to the zone declared.
Part 3.2.4, adding species to the cmp management unit, we recommend adding wahoo to the cmp as has been recommended by the mackerel advisory panel for many years. We also recommend adding blackfin tuna to the cmp management unit for the same purpose as wahoo.
3.3, parts 3.3.1 thru 3.3.9, South Atlantic management issues, we have no recommendations for the South Atlantic fisheries as they need to manage their own.

We wish to thank the council for the opportunity to comment on these issues and will provide future comments as the issues progress.

Thank you,

Capt. Bob Zales, II
President

Cc:file

13. Alternatives Considered but Rejected

Action 1. Management of Species by Other State or Federal Agencies

Action 1.1 Octocorals (Family Gorgoniidae, Class Anthozoa, Subclass Octocorallia)

Alternative 2: Delegate management of octocorals to Florida FWC

Action 1.3 Nassau Grouper, *Epinephelus striatus*

Alternative 2: Delegate management of Nassau grouper to Florida FWC

Action 1.4 Yellowtail Snapper, *Ocyurus chrysurus*

Alternative 2: Delegate management of yellowtail snapper to Florida FWC

Action 1.5 Mutton Snapper, *Lutjanus analis*

Alternative 2: Delegate management of mutton snapper to Florida FWC

The Council considered delegation of management to Florida FWC for several species that are primarily caught and landed in the State of Florida (i.e., Caribbean spiny lobster, octocorals, stone crab species, Nassau grouper, yellowtail snapper, and mutton snapper). A letter was sent to Florida FWC (Mr. Rodney Barreto) on February 17, 2010 requesting Florida FWC's assistance in determining whether these actions were appropriate. In the response letter to the Gulf Council (Dr. Robert Shipp) on March 24, 2010 the Commission welcomed the opportunity to work cooperatively with the Council and NOAA Fisheries Service for management of these species. Delegation to Florida FWC would require their agreement to accept the responsibility of management throughout their range. It would also require that annual catch limits and accountability measures be implemented. Florida FWC stated at the June 2010 Council meeting that the Florida Commission was not as interested in delegation of management, which would require them to meet the Magnuson-Stevens standards. However, they would be interested in the Council removing species from their Fishery Management Plan and allowing Florida FWC to manage them throughout their range.

Action 7.1. Specify Annual Catch Limit for Commercial Stone Crab Species (Menippe spp. and their hybrids)

Alternative 1. No action, do not set a commercial annual catch limit for stone crab species and their hybrids**.**

Alternative 2. The Scientific and Statistical Committee recommended an overfishing limit of 2.65 mp of stone crab claws and an acceptable biological catch of 2.6 mp of claws for the commercial sector for both state and federal waters of the Gulf of Mexico. Based on these recommendations the commercial stone crab Annual Catch Limit will be set at:

Option a. Set ACL = 2.6 mp (100% of the Acceptable Biological Catch)
Option b. Set ACL = 1.95 mp (75% of Acceptable Biological Catch)
Option c. Set an Annual Catch Limit corresponding to the Annual Catch Limit/Annual Catch Target control rule

Alternative 3. Set ACL based on average Gulf of Mexico commercial landings from state and federal waters

Option a: Set ACL = 2,387,791 pounds of claws (average landings from 2004-2008)

Option b: Set ACL = 2,442,723 pounds of claws (average landings from 1999-2008)

Option c: Set ACL = 2,603,274 pounds of claws (average landings from all available years 1991-2008)

At the October 2010 Council meeting, the Council voted to repeal the Stone Crab FMP. This action allows the states to extend their regulations into federal waters for vessels that have their home port in the state or that land in the state. Florida accounts for most of the stone crab harvest. In a letter to the Council dated August 13, 2010, the Florida Fish and Wildlife Conservation Commission stated that they were fully prepared to protect the resource and the interests of fishermen in state and federal waters through appropriate regulations. Louisiana and Texas also have small amounts of stone crab harvest.

Because of the decision to repeal the Stone Crab FMP and remove stone crab from federal management, the requirement to set an annual catch limit no longer applies. Therefore, the Council voted to move this section to considered but rejected.

Black Grouper Jurisdictional Allocation between the Gulf of Mexico and South Atlantic Councils

At the August 2010 Council meeting in Pensacola, Florida the following jurisdictional allocation alternatives for black grouper were moved to considered, but rejected from Tab B, No. 8. Alternative 2 was placed in this section due to the current commercial Individual Fishing Quota (IFQ) program. The Council was concerned if Alternative 2 was selected as preferred it may add an additional level of complexity instead of simplifying process. The Council felt this was also true of Alternative 3. The South Atlantic Council liaison, Mr. David Cupka also voiced that his Council would have the same problems with Alternative 3 and they did not think that these two alternatives needed to be further analyzed.

Alternative 2: Withdraw black grouper from the Gulf of Mexico Reef Fish Fishery Management Plan and request that the Secretary of Commerce designate the South Atlantic Council to manage black grouper throughout their range.

Alternative 3: Divide the acceptable biological catch (ABC) into commercial and recreational sector components based on criteria to be agreed upon by both Councils as outlined in one of the following options below: The South Atlantic Council will establish ACLs and AMs as well as other management criteria for the recreational sector throughout the range of the stock and the Gulf Council will establish ACLs and AMs as well as other management criteria for the commercial sector throughout the range of the stock.

> Option a: South Atlantic (recreational sector) = 38% of the ABC and Gulf (commercial sector) = 62% of the ABC (Established by using combined Council catch history for each sector from 1986-2008).
>
> Option b: South Atlantic (recreational sector) = 43% of the ABC and Gulf (commercial sector) = 57% of the ABC (Established by using combined Council catch history for each sector from 2001-2008).
>
> Option c: South Atlantic (recreational sector) = 45% of the ABC and Gulf (commercial sector) = 55% of the ABC (Established by using combined Council catch history for each sector from 1991-2008).

Yellowtail Snapper Jurisdictional Apportionment between the Gulf of Mexico and South Atlantic Councils

At the April 2011 Council meeting in Orange Beach, Alabama the following jurisdictional apportionment alternatives (Alternative 2 and Subalternatives 2a-2d) for yellowtail snapper were moved to considered, but rejected. The Gulf Council felt these were not viable alternatives because the stock assessment (SEDAR 3 2003) did not stratify the Florida Keys (Monroe County) landings. Analysis for Alternative 2 is based on the 2003 SEDAR stock assessment using the following methods: Regions 1 through 3 were combined to represent South Atlantic jurisdiction, while Region 4 was used to represent the Gulf of Mexico jurisdiction.

Regions: 1 - North of Palm Beach county; 2 - Palm Beach through Miami-Dade counties; 3 - Monroe county (Florida Keys); and 4 - Gulf of Mexico north or west of the Keys.

These alternatives were originally included because the South Atlantic Council had reviewed them at their March 2011 meeting. Due to the South Atlantic reviewing these alternatives at their March meeting they were included for the Gulf Council so they could agree to move them to considered, but rejected. The Gulf Council also moved Alternative 6 to considered, but rejected because it was the shortest time series of catch history (2005-2009) and generally speaking the Gulf Council has used the longest time series of landings to establish sector allocations and jurisdictional apportionment. For example, for the jurisdictional apportionment of black grouper both the South Atlantic and Gulf Council selected as their preferred uses 50% of the longest catch history (1986-2008) and 50% of the recent catch history 2006-2008 as their preferred.

Alternative 2. Establish a jurisdictional allocation for yellowtail snapper based on the most recent stock assessment for the South Atlantic and Gulf of Mexico (SEDAR 3 2003).

Subalternative 2a. South Atlantic = 98% of ABC and Gulf = 2% of ABC (Established by using catch history from 1987-2001).

IPT recommends Subalternative 2a be folded into the discussion, since the resulting percentages are identical to those in Subalternative 2b.

Subalternative 2b. South Atlantic = 98% of ABC and Gulf = 2% of ABC (Established by using 50% of catch history from 1987-2001 + 50% of catch history from 1999-2001).

Subalternative 2c. South Atlantic = 100% of ABC and Gulf = 0% of ABC (Established by using highest catch history from 1987-2001).

Subalternative 2d. South Atlantic = 95% of ABC and Gulf = 5% of ABC (Established by using lowest catch history from 1987-2001).

Alternative 6. Establish a jurisdictional apportionment based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils for yellowtail snapper acceptable biological catch (ABC) based on the following method: South Atlantic = 71% of ABC and Gulf = 29% of ABC (Established by using catch history from 2005-2009).

2.9 Action 9. Performance Standards and Review

2.9.1 Action 9.1. Performance Standards

Alternative 1. No action. Do not implement performance standards for annual catch limits and accountability measures

Alternative 2. For stocks not in a rebuilding plan, if catch exceeds the annual catch limit for a given stock or stock complex more than once in the last four years, the system of annual catch limits and accountability measures should be re-evaluated, and modified if necessary, to improve its performance and effectiveness. To accomplish this task, the Council shall convene an Ad Hoc Accountability Measures AP to review the system of annual catch limits and accountability measures, and recommend changes to the accountability measures or to the management measures to be implemented under the Generic Framework Procedure.

Alternative 3. For a stock in a rebuilding plan, if catch exceeds the annual catch limit for a given stock or stock complex more than once during the rebuilding plan, the system of annual catch limits and accountability measures should be re-evaluated, and modified if necessary, to improve its performance and effectiveness. To accomplish this task, the Council shall convene an Ad Hoc Accountability Measures AP to review the system of annual catch limits and accountability measures, and recommend changes to the accountability measures or to the management measures to be implemented under the Generic Framework Procedure

2.9.2 Action 9.2. Periodic Performance Reviews

Alternative 1. No action. Do not establish periodic reviews of the system of annual catch limits and accountability measures.

Alternative 2. At least every five (or other number) years, the Council shall convene its Scientific and Statistical Committee to review the system of annual catch limits and accountability measures for all stocks.

Discussion: Action 9.1 was intended to create a process for reviewing the system of annual catch limits and accountability measures if catch exceeds the annual catch limit for a given stock or stock complex more than once in the last four years. This review is recommended by Section 600.310 (g)(3) and 600.310 (g)(4) of the National Standard 1 guidelines, but no process for conducting the review is specified.. Action 9.2 was intended to assure that periodic reviews of annual catch limits are conducted for data poor species even if there is no stock assessment. However, neither of these actions is required under the Magnuson-Stevens Act or the National Standard 1 guidelines, and their inclusion in the amendment is unnecessary.

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15. Appendices

15.1 Terms and Definitions

Maximum Sustainable Yield (MSY) is the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological, environmental conditions and fishery technological characteristics (e.g., gear selectivity), and the distribution of catch among fleets.

MSY fishing mortality rate (F_{MSY}) is the fishing mortality rate that, if applied over the long term, would result in MSY.

MSY stock size (B_{MSY}) means the long-term average size of the stock or stock complex, measured in terms of spawning biomass or other appropriate measure of the stock's reproductive potential that would be achieved by fishing at F_{MSY}.

MSY for stock complexes. MSY should be estimated on a stock-by-stock basis whenever possible. However, when MSY cannot be estimated for each stock in a stock complex, then MSY may be estimated for one or more indicator stocks for the complex or for the complex as a whole. When indicator stocks are used, the stock complex's MSY could be listed as ''unknown,'' while noting that the complex is managed on the basis of one or more indicator stocks that do have known stock-specific MSYs, or suitable proxies, as described in paragraph (e)(1)(iv) of this section. When indicator stocks are not used, MSY, or a suitable proxy, should be calculated for the stock complex as a whole.

Status determination criteria (SDC) mean the quantifiable factors, MFMT, OFL, and MSST, or their proxies, that are used to determine if overfishing has occurred, or if the stock or stock complex is overfished. Magnuson-Stevens Act (section 3(34)) defines both ''overfishing'' and ''overfished'' to mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the MSY on a continuing basis. To avoid confusion, this section clarifies that ''overfished'' relates to biomass of a stock or stock complex, and ''overfishing'' pertains to a rate or level of removal of fish from a stock or stock complex.

Overfishing (to overfish) occurs whenever a stock or stock complex is subjected to a level of fishing mortality or annual total catch that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis.

- Exceeding the MFMT for a period of 1 year or more constitutes overfishing. (CFR 600.310(e)(2)(ii)(A)(1))
- Should the annual catch exceed the annual OFL for 1 year or more, the stock or stock complex is considered subject to overfishing. (CFR 600.310(e)(2)(ii)(A)(2))

Maximum fishing mortality threshold (MFMT) means the level of fishing mortality (F), on an annual basis, above which overfishing is occurring. The MFMT or reasonable proxy may be expressed either as a single number (a fishing mortality rate or F value), or as a function of spawning biomass or other measure of reproductive potential.

Overfishing limit (OFL) means the annual amount of catch that corresponds to the estimate of MFMT applied to a stock or stock complex's abundance and is expressed in terms of numbers or weight of fish. The OFL is an estimate of the catch level above which overfishing is occurring.

Overfished. A stock or stock complex is considered ''overfished'' when its biomass has declined below a level that jeopardizes the capacity of the stock or stock complex to produce MSY on a continuing basis.

Minimum stock size threshold (MSST) means the level of biomass below which the stock or stock complex is considered to be overfished.

- The MSST or reasonable proxy must be expressed in terms of spawning biomass or other measure of reproductive potential. (CFR 630.310(e)(2)(ii)(B))
- To the extent possible, the MSST should equal whichever of the following is greater: One-half the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years, if the stock or stock complex were exploited at the MFMT (CFR 630.310(e)(2)(ii)(B))

Approaching an overfished condition. A stock or stock complex is approaching an overfished condition when it is projected that there is more than a 50 percent chance that the biomass of the stock or stock complex will decline below the MSST within two years.

Optimum yield (OY). Magnuson- Stevens Act section (3)(33) defines ''optimum,'' with respect to the yield from a fishery, as the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems; that is prescribed on the basis of the MSY from the fishery, as reduced by any relevant economic, social, or ecological factor; and, in the case of an overfished fishery, that provides for rebuilding to a level consistent with producing the MSY in such fishery. OY may be established at the stock or stock complex level, or at the fishery level.

Catch is the total quantity of fish, measured in weight or numbers of fish, taken in commercial, recreational, subsistence, tribal, and other fisheries. Catch includes fish that are retained for any purpose, as well as mortality of fish that are discarded.

Acceptable biological catch (ABC) is a level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty, and should be specified based on the ABC control rule.

ABC control rule means a specified approach to setting the ABC for a stock or stock complex as a function of the scientific uncertainty in the estimate of OFL and any other scientific uncertainty.

Annual catch limit (ACL) is the level of annual catch of a stock or stock complex that serves as the basis for invoking AMs. ACL cannot exceed the ABC, but may be divided into sector-ACLs.

Annual catch target (ACT) is an amount of annual catch of a stock or stock complex that is the management target of the fishery, and accounts for management uncertainty in controlling the

actual catch at or below the ACL. ACTs are recommended in the system of accountability measures so that ACL is not exceeded.

ACT control rule means a specified approach to setting the ACT for a stock or stock complex such that the risk of exceeding the ACL due to management uncertainty is at an acceptably low level.

15.2 Overview

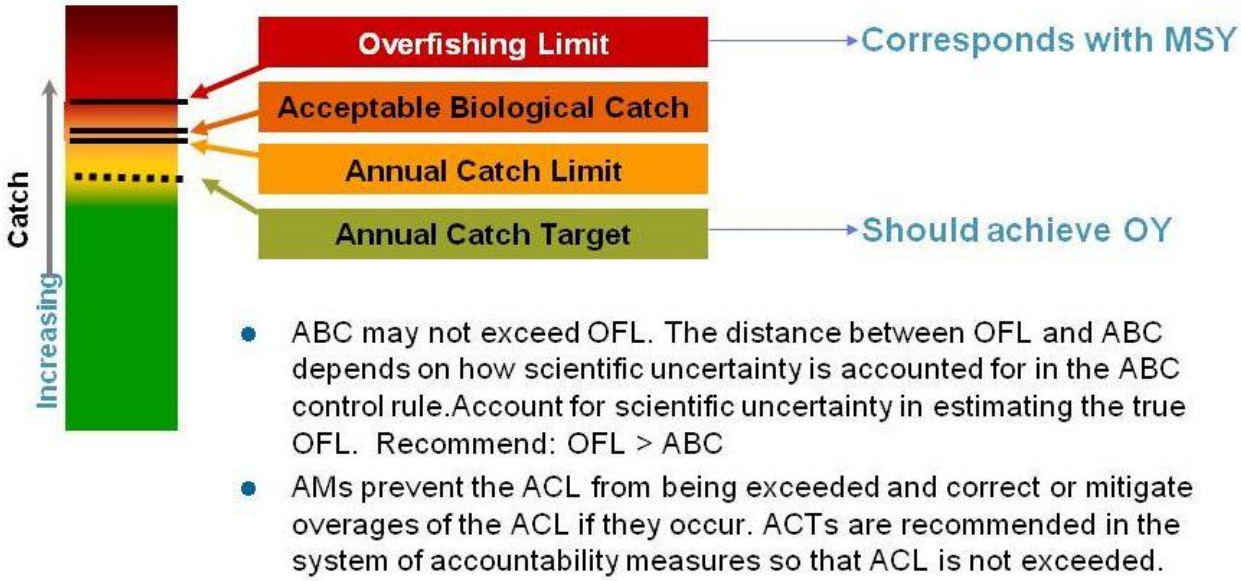

Figure 15.2.1

The setting of an ACL begins with specifying an OFL. This is the yield above which overfishing occurs. It corresponds to fishing at the MFMT which is usually the fishing mortality rate corresponding to MSY (F_{MSY}). When sufficient data exists to conduct an assessment the OFL is set based on a stock assessment. When there is insufficient data for an assessment the OFL is based on the Scientific and Statistical Committee's (SSC) best estimate of the catch level when fishing at MFMT. In the latter case, an OFL control rule may be developed as part of this amendment to guide the SSC in setting OFL. OFL is similar to MSY, except that OFL is the annual estimate of maximum yield which can fluctuate from year to year, whereas MSY is a long-term average.

Once an OFL is specified, an ABC level is recommended by the Council's SSC. The ABC is based on the OFL as reduced by scientific uncertainty.

OFL and ABC are set by scientists, whereas the next two reference points, ACL and, optionally, ACT, are set by managers.

The ACL is set by the Council at a level which cannot exceed the ABC. The purpose of an ACL is to set a catch level that triggers AMs to prevent the ABC from being exceeded or to correct for an overage in the prior year. While it is possible to set OFL, ABC and ACL all equal to each other, NMFS will assume that this will lead to overfishing unless justification can be provided why it won't.

ACT is optional, but if used, is analogous to the OY level in the same way that OFL is analogous to the MSY level. If an ACT is specified, it should be set at a level that takes into account management uncertainty and provides a low likelihood of the ACL being exceeded. If ACTs are not used, then management uncertainty must be incorporated into the AMs. However, ACTs can be integrated into AMs.

Scientific Uncertainty vs. Management Uncertainty

The NS1 Guidelines discuss two types of uncertainty that must be taken into consideration when setting catch levels, scientific uncertainty and management uncertainty. The two types of uncertainty are described, and are applied at different points in the process.

Scientific uncertainty includes uncertainty around the estimate of a stock's biomass and its MFMT. Stock assessment models have scientific uncertainty associated with the validity of assumptions used in the model, and with the accuracy and variability of the data used.

Management uncertainty occurs because of the lack of sufficient information about catch (e.g., late reporting, underreporting and misreporting of landings or bycatch). There are two sources of management uncertainty:

1. Uncertainty in the ability of managers to constrain catch so the ACL is not exceeded. This relates to the difference between the actual catch and the amount of catch that was expected to result from the management measures applied to a fishery.

2. Uncertainty in quantifying the true catch amounts (i.e., estimation errors). Errors can be caused by untimely catch data that prevents in-season management measures from being effective, from underreporting, late reporting and misreporting, or from inaccurate assumptions about discard mortality of a stock in commercial and recreational fisheries.

The basic relationship of these parameters can be shown as:

$$\text{OFL} \geq \text{ABC} \geq \text{ACL} \geq \text{ACT}$$

OFL and ABC are single values that apply to the entire stock. ACLs and ACTs can be divided into sector ACLs and ACTs as long as the sum of the ACLs does not exceed the ABC and the sum of the ACTs does not exceed the ACL. However, for some stocks the landings data is highly variable, which could make any division of ACL into sector-ACLs difficult and controversial.

AMs are pre-arranged actions triggered by the ACL to prevent the ACL from being exceeded, or to implement mitigating actions if ACLs are exceeded. AMs can be either in-season (such as monitoring and closing a fishery to prevent its ACL from being exceeded), or post-season (such as shortening a fishing season in the subsequent year if the ACL was exceeded in the current year).

This scoping document introduces and examines concepts involved in establishing ACLs, AMs and associated parameters.

15.3 Species Listed in Gulf Council FMPs

ACLs and AMs for species in joint FMPs will be set through separate joint amendments.

Coastal Migratory Pelagics FMP (Gulf and South Atlantic Councils joint plan)

Species in the Management Unit

king mackerel	*Scomberomorus cavalla*
Spanish mackerel	*Scomberomorus maculatus*
cobia	*Rachycentron canadum*

Species in the Fishery but Not in the Management Unit

cero	*Scomberomorus regalis*
little tunny	*Euthynnus alletteratus*
dolphin	*Coryphaena hippurus*
bluefish	*Pomatomus saltatrix* (Gulf of Mexico only)

Red Drum FMP

Species in the Management Unit

red drum	*Sciaenops ocellatus*

Reef Fish FMP

Species in the Management Unit

Snappers - Lutjanidae Family

queen snapper	*Etelis oculatus*
mutton snapper	*Lutjanus analis*
schoolmaster	*Lutjanus apodus*
blackfin snapper	*Lutjanus buccanella*
red snapper	*Lutjanus campechanus*
cubera snapper	*Lutjanus cyanopterus*
gray (mangrove) snapper	*Lutjanus griseus*
dog snapper	*Lutjanus jocu*
mahogany snapper	*Lutjanus mahogoni*
lane snapper	*Lutjanus synagris*
silk snapper	*Lutjanus vivanus*
yellowtail snapper	*Ocyurus chrysurus*
wenchman	*Pristipomoides aquilonaris*
vermilion snapper	*Rhomboplites aurorubens*

Groupers - Serranidae Family

rock hind	*Epinephelus adscensionis*	
speckled hind	*Epinephelus drummondhayi*	(deep-water grouper)
yellowedge grouper	*Epinephelus flavolimbatus*	(deep-water grouper)
red hind	*Epinephelus guttatus*	
goliath grouper	*Epinephelus itajara*	(protected species)
red grouper	*Epinephelus morio*	

misty grouper	*Epinephelus mystacinus*	(deep-water grouper)
warsaw grouper	*Epinephelus nigritus*	(deep-water grouper)
snowy grouper	*Epinephelus niveatus*	(deep-water grouper)
Nassau grouper	*Epinephelus striatus*	(protected species)
black grouper	*Mycteroperca bonaci*	
yellowmouth grouper	*Mycteroperca interstitialis*	
gag	*Mycteroperca microlepis*	
scamp	*Mycteroperca phenax*	
yellowfin grouper	*Mycteroperca venenosa*	

Marbled grouper (*Epinephelus inermis*) landings are included in NMFS landings, but are not listed in the regulations as a grouper (50 CFR Part 622, Appendix A, Table 3).

Tilefishes - Malacanthidae (Branchiostegidae) Family

goldface tilefish	*Caulolatilus crysops*
blackline tilefish	*Caulolatilus cyanops*
anchor tilefish	*Caulolatilus intermedius*
blueline tilefish	*Caulolatilus microps*
tilefish	*Lopholatilus chamaeleonticeps*

Jacks - Carangidae Family

greater amberjack	*Seriola dumerili*
lesser amberjack	*Seriola fasciata*
almaco jack	*Seriola rivoliana*
banded rudderfish	*Seriola zonata*

Triggerfishes - Balistidae Family

gray triggerfish	*Balistes capriscus*

Wrasses - Labridae Family

hogfish	*Lachnolaimus maximus*

Sand Perches - Serranidae Family**

dwarf sand perch	*Diplectrum bivittatum*
sand perch	*Diplectrum formosum*

** Sand perches are listed as groupers in 50 CFR Part 622, Appendix A, Table 3, but are excluded from regulations that prohibit the use of reef fish for bait, that prohibit harvest in the stressed area using a powerhead, and are excluded from bag limit regulations.

Shrimp FMP

Species in the Management Unit

***brown shrimp	*Penaeus aztecus*	(exempt from ACL/AM)
***white shrimp	*Penaeus setiferus*	(exempt from ACL/AM)
***pink shrimp	*Penaeus duorarum*	(exempt from ACL/AM)

royal red shrimp	*Hymenopenaeus robustus*

*** Species with a life cycle of approximately 1 year are exempt from ACL and AM requirements. This includes all species in the shrimp FMP except royal red shrimp.

Spiny Lobster FMP (Gulf and South Atlantic Councils joint plan)

Species in the Management Unit

spiny lobster	*Panulirus argus*
slipper lobster	*Scyllarides nodifer*

Species in the Fishery but Not in the Management Unit

spotted spiny lobster	*Panulirus argus*
smooth tail lobster	*Panulirus laevicauda*
Spanish slipper lobster	*Scyllarides aequinoctialis*

Stone Crab FMP

Species in the Management Unit

stone crab	*Menippe mercenaria*
stone crab (Cedar Key north)	*Menippe adina*

Coral and Coral Reefs FMP (Gulf and South Atlantic Councils joint Plan)

Species in the Management Unit

corals of the class Hydrozoa (stinging and hydrocorals)
corals of the class Anthozoa (sea fans, whips, precious coral, sea pen, stony corals)

Note: The FMP does not list individual coral species comprising the management unit. However, there are 318 species referred to in the FMP as occurring in Gulf of Mexico and/or South Atlantic waters. The list of coral species is available upon request.

15.4 Correspondence from Florida Fish and Wildlife Conservation Commission to Gulf of Mexico Fishery Management Council

Florida Fish and Wildlife Conservation Commission

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April 11, 2011

005914 APR 20 11

Dr. Robert L. Shipp
Gulf of Mexico Fishery Management Council
2203 N. Lois Avenue
Suite 1100
Tampa, FL 33604

RE: Extension of Florida Octocoral Regulations into Federal Waters

Dear Dr. Shipp:

Over the past year, the Florida Fish and Wildlife Conservation Commission (Commission) has been working with the South Atlantic Fishery Management Council (SAFMC) and the Gulf of Mexico Fishery Management Council (GMFMC) to coordinate future allowable octocoral (erect, nonencrusting species of the subclass Octocorallia, except sea fans *Gorgonia flabellum* and *Gorgonia ventalina*, plus the attached substrate within one inch of the holdfast) management. The GMFMC intends to transfer management octocorals to the SAFMC. In turn, the SAFMC is in the process of redefining the fishery management unit in their Coral, Coral Reef, and Live/Hardbottom Habitat Fishery Management Plan (FMP) to exclude allowable octocorals in federal waters off Florida. The Commission agreed to manage the allowable octocoral fishery in both Florida state waters and federal waters adjacent to the state. In order to take over the management of this fishery, Florida octocoral regulations must be extended into federal waters. Florida regulations would also be modified to establish an annual quota for allowable octocoral harvest in state and federal waters off Florida. Additionally, the Commission would prohibit all harvest of octocorals in Atlantic federal waters north of Cape Canaveral and in the Coral Habitat Areas of Particular Concern adjacent to Florida state waters (Stetson-Miami Terrace and Pourtales Terrace). These changes should occur prior to the removal of allowable octocorals in federal waters off Florida from the fishery management unit of the FMP to prevent loss of regulations in federal waters.

Florida's marine life fishery is highly regulated. The number of commercial fishery participants is capped by a tiered endorsement system. Many of these endorsements are non-transferable. Recreational harvesters are limited to six octocoral colonies per person per day.

According to the Magnuson Stevens Fishery Conservation and Management Act Title 16 U.S.C. Section 1856, a state has the ability to extend their regulations into federal waters if there is no federal FMP or if there are no regulations for federal waters.

Commission staff is currently working with the marine life industry to develop an annual quota for both state and federal waters. Commission staff will present a draft rule recommending extension of state regulations for octocorals into federal waters, including the modifications listed above, to the Commission at the June 8-9, 2011 Commission meeting in St. Augustine, Florida.

The Commission has been and continues to work with the GMFMC and SAFMC as allowable octocorals in federal waters off Florida are removed from the fishery management unit of the FMP. The Commission is committed to preserving this resource for the future and is considering extending its regulatory authority into federal waters.

Sincerely,

Mark Robson
Director
mr/cc/mc
cc: Roy Crabtree
David Cupka

15.5 Correspondence from South Atlantic Fishery Management Council to the Gulf of Mexico Fishery Management Council

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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David Cupka, Chairman
Brian Cheuvront, Vice Chairman

Robert K. Mahood, Executive Director
Gregg T. Waugh, Deputy Executive Director

October 20, 2010

Dr. Robert Shipp, Chairman
GMFMC
2203 N. Lois Avenue, Suite 1100
Tampa, Florida 33607

Dear Bob,

As you are aware, we discussed the August 13, 2010 letter from Mark Robson to you relative to management of spiny lobster, stone crab, octocoral and reef fish (yellowtail snapper, mutton snapper and Nassau grouper) during our September 2010 Council meeting. Mark Robson explained that the purpose of his letter was to get clarification relative to Florida's and the Councils' management of these resources. This letter specifically addresses the action taken by the South Atlantic Council relative to management of yellowtail snapper, mutton snapper and Nassau grouper.

Various potential management scenarios were discussed for these snapper grouper complex species during our joint Executive Finance Committee meeting. Subsequently, the Committee approved a motion, which was later approved by the full Council, to indicate to the Gulf Council our willingness to assume management responsibility for yellowtail snapper, mutton snapper and Nassau grouper throughout their range.

I believe the next step is for the Gulf Council to consider our proposal relative to management of these species. If you require any further information, please contact me or Bob Mahood. Also, I plan to attend your October 2010 meeting and will be available to answer any questions.

Sincerely,

David Cupka

David Cupka
Chairman

cc: Council Members and Staff
Steve Bortone

15.6 Correspondence from Florida Fish and Wildlife Conservation Commission to the Gulf of Mexico Fishery Management Council

(next page)

Florida Fish and Wildlife Conservation Commission

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August 13, 2010

Dr. Bob Shipp, Chairman
Gulf of Mexico Fishery Management Council
2203 N Lois Avenue, Suite 1100
Tampa, Florida 33607

RE: Repeal or delegation of federal management plans

Dear Dr. Shipp:

Thank you for your letter requesting that the State of Florida consider taking over the management of several co-managed marine species including spiny lobster, stone crab, yellowtail snapper, mutton snapper, Nassau grouper, and octocorals. The Florida Fish and Wildlife Conservation Commission (Commission) reviewed this issue and heard public testimony during its June, 2010 meeting. While there are varying levels of concern about state management of federal fisheries in Florida, stakeholder support has generally increased. At the June Commission meeting public support for state management of what are now federally managed species was strong. This is in part due to species such as lobster and stone crab being harvested almost exclusively in Florida. More importantly, changes to federal management subsequent to the reauthorization of the Magnuson Stevens Fishery Conservation and Management Act (Act) have weakened support for federal management of certain fisheries.

For all of these species, if a federal Fishery Management Plan (FMP) is repealed entirely, Florida regulations could apply in both state waters and in federal waters off of Florida's coastline. Blue crab, permit and snook are current examples of such an arrangement. However, we recognize that in such cases our regulations could only apply to vessels registered in Florida or to out-of-state vessels landing their catch in Florida. It would be possible for a vessel registered in another state to fish in federal waters off of Florida, return to its state of origin and land the catch without being subject to Florida regulations or enforcement. This could be an issue for harvest of finfish such as yellowtail and mutton snapper. However, we do not envision this being a management concern for the commercial trap fisheries because of the constraints on transporting traps over long distances. With regard to the specific fisheries being considered, we offer the following comments and recommendations:

SPINY LOBSTER

The spiny lobster fishery is jointly managed by the South Atlantic Fishery Management Council (SAFMC), the Gulf of Mexico Fishery Management Council (GMFMC), NOAA Fisheries Service (NOAA), and the State of Florida. Currently the federal FMP mirrors the regulations established by Florida, with minor exceptions. The FMP extends Florida's lobster regulations into federal waters throughout the range of the fishery, i.e., North Carolina to Texas. The Councils and NOAA originally considered repealing the federal FMP for spiny lobster. Such repeal would mean that Florida regulations could apply in state and federal waters off of Florida's coast. Management of the fishery would no longer be subject to the Act. However there is a minimum size limit restriction in the federal FMP that applies to the entire country and helps control the importation of undersized spiny lobster from the Caribbean. If the FMP was repealed federal managers

believe this restriction would no longer exist and Florida would not have the ability to enforce lobster minimum size limits in other states. Subsequently the proposal has been modified to consider delegating certain management aspects of the fishery to Florida without repealing the federal plan. These could include bag limits, size limits, closed areas, annual catch limits (ACL's), accountability measures (AM's), and gear restrictions. The proposal would maintain most of Florida's current regulatory role, but would potentially add new responsibilities and deadlines for adhering to management restrictions imposed by the Act.

At this time we are advised that the federal FMP for spiny lobster cannot be repealed without jeopardizing import controls. However if further evaluation by NOAA determines that import controls could be achieved without a federal FMP, the Commission recommends that Florida assume all management responsibility for spiny lobster. Commission staff does not recommend that Florida assume partial delegation of management. At the joint meeting of the GMFMC and SAFMC spiny lobster committees in Orlando on June 7, 2010, Commission staff requested that NOAA re-evaluate eliminating the federal FMP for lobster in the South Atlantic and Gulf of Mexico in a manner that might still afford protection against the import of undersized lobsters. We are advised that NOAA will explore any available options and report back to the SAFMC at the September meeting.

STONE CRAB

Currently there is a federal FMP for stone crab in the Gulf of Mexico only. The GMFMC has expressed interest in withdrawing its federal FMP. For the most part, federal management strategies mirror those already in place in Florida and most stone crabs are harvested from state waters. After considering staff information and public input during the June meeting, the Commission directed staff to support the repeal of the FMP for stone crab. The Commission is prepared to manage this fishery in state and federal waters and believes that it can fully protect the resource and the interests of fishermen through appropriate regulations.

OCTOCORAL

Presently both Councils include octocorals in their federal FMPs. Octocorals are carefully managed by the Commission under its Marine Life program. Species in this group are harvested for the aquarium trade. At the most recent SAFMC meeting there was considerable public support for withdrawing the federal plans, and allowing the State of Florida to manage the fishery in state and federal waters. The SAFMC delayed action to withdraw octocorals from its plan pending resolution of concerns about other forms of coral that might need continued protection under a federal FMP. Most of the octocoral harvest for the marine life trade is taken from state waters of Florida and is already subject to state regulations and enforcement protection. The Commission is prepared to manage this fishery in state and federal waters and believes that it can fully protect the resource and the interests of fishermen through appropriate regulations.

REEF FISH

The GMFMC has also expressed interest in repealing federal management plans for yellowtail and mutton snapper. Both species are also included in management plans of the SAFMC however that council has not yet established a position regarding whether to assume all federal responsibility on behalf of the GMFMC or to withdraw these species

from its own federal FMP. Harvest of yellowtail and mutton snapper occurs in both federal and state waters, almost exclusively around the southern tip of Florida. The same situation applies to Nassau grouper; however harvest of Nassau grouper in federal or state waters of the Gulf and Atlantic is currently prohibited. The Commission also supports careful evaluation of repealing federal FMPs for these three species. More analysis is needed to ensure adequate enforcement of state regulations in federal waters would be possible in the absence of a federal FMP. This would include a very necessary assurance that Nassau grouper would remain fully protected, as populations are still depleted throughout Florida state and federal waters.

The Commission welcomes the opportunity to work with the Gulf of Mexico Fishery Management Council, and also with our partners in the South Atlantic Fishery Management Council and NOAA Fisheries Service, to act on these important fishery management issues. Please feel free to contact me or Mr. William Teehan if you have any questions or concerns that we may address. I can be reached at 850-251-2970 or by email at Mark.Robson@myFWC.com.

Sincerely,

Mark Robson
Division Director

mr/jm/mc
cc: Jim Brown
Roy Crabtree
Commissioners
Duane Harris
Greg Holder
Robert Mahood
Gil McRae
Bill Teehan
Karen Ventimiglia
Nick Wiley

15.7 Correspondence from Florida Fish and Wildlife Conservation Commission to the Gulf of Mexico Fishery Management Council

Florida Fish and Wildlife Conservation Commission

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June 3, 2011

005915 June MAY 2011

Dr. Robert L. Shipp
Gulf of Mexico Fishery Management Council
2203 N. Lois Avenue
Suite 1100
Tampa, FL 33604

RE: Request to Continue Federal Management of Yellowtail Snapper

Dear Dr. Shipp:

Over the past year, the Florida Fish and Wildlife Conservation Commission (Commission) has been working with the Gulf of Mexico Fishery Management Council (GMFMC) to coordinate future yellowtail snapper (*Ocyrus chrysurus*) management. The GMFMC is considering removing yellowtail snapper from the fishery management unit of its Reef Fish Fishery Management Plan (FMP). In April, I wrote to you to state the Commission's interest in managing the yellowtail snapper fishery in both Florida state waters and Gulf of Mexico federal waters adjacent to the state. However, after further consideration, Commission staff is concerned that the State of Florida could not adequately manage fishing effort and harvest by out-of-state vessels if management of yellowtail snapper in federal waters is transferred to the State. At this time, the Commission requests that the GMFMC continue to manage the yellowtail snapper fishery in federal waters off Florida.

Currently, commercial and for-hire vessels fishing for yellowtail snapper in Gulf of Mexico federal waters off Florida are required to possess a valid federal reef fish permit. These permits are limited access and help control fishing effort for yellowtail snapper. If yellowtail snapper was removed from the federal FMPs, federal permits would no longer be required by NOAA Fisheries Service for the harvest of yellowtail snapper in federal waters. Commission staff expects that removing these permit requirements would result in an increase in yellowtail snapper fishing effort.

Commission staff is also concerned that the State of Florida may not be able to regulate harvest of yellowtail snapper by out-of-state vessels fishing in federal waters off Florida and landing in other states. Due to the relative ease in which yellowtail snapper could be harvested off Florida and

transported long distances while maintaining product quality, Commission staff believe that out-of-state fishing operations for yellowtail snapper could be economically viable and if unregulated, could significantly increase yellowtail snapper harvest.

As you know, the Commission is in the process of extending state regulations for stone crab into adjacent federal waters and has expressed interest in extending octocoral regulations into adjacent federal waters if octocorals in federal waters off Florida are removed from the SAFMC and GMFMC FMPs. These fisheries are highly regulated in state waters and require cumbersome gear and harvesting techniques that limit the viability of out-of-state fishing operations. The Commission believes that the extension of state stone crab and octocoral regulations into federal waters will not result in increases in fishing pressure for these species, and will continue to pursue management of these species in federal waters off Florida.

The Commission is committed to preserving this resource for the future and will continue to work with the GMFMC on yellowtail snapper management in federal waters. If I can be of any further assistance, please contact me at Mark.Robson@MyFWC.com or 850-487-0554.

Sincerely,

Mark Robson
Director
mr/mb/wt
cc: Roy Crabtree
David Cupka

15.8 Correspondence from Florida Fish and Wildlife Conservation Commission to the Gulf of Mexico Fishery Management Council

Florida Fish and Wildlife Conservation Commission

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June 3, 2011

005918 JUN 2011

Dr. Robert L. Shipp
Gulf of Mexico Fishery Management Council
2203 N. Lois Avenue
Suite 1100
Tampa, FL 33604

RE: Request to Continue Federal Management of Mutton Snapper

Dear Dr. Shipp:

Over the past year, the Florida Fish and Wildlife Conservation Commission (Commission) has been working with the South Atlantic Fishery Management Council (SAFMC) and the Gulf of Mexico Fishery Management Council (GMFMC) to coordinate future mutton snapper (*Lutjanus analis*) management. The GMFMC is considering removing mutton snapper from the fishery management unit of its Reef Fish Fishery Management Plan (FMP) and the SAFMC is considering removing mutton snapper from the fishery management unit in their FMP for the Snapper Grouper Fishery. In April, I wrote to you to state the Commission's interest in managing the mutton snapper fishery in both Florida state waters and federal waters adjacent to the state. However, after further consideration, Commission staff is concerned that the State of Florida could not adequately manage fishing effort and harvest by out-of-state vessels if management of mutton snapper in federal waters is transferred to the State. At this time, the Commission requests that the GMFMC and SAFMC continue to manage the mutton snapper fishery in federal waters off Florida.

Currently, commercial and for-hire vessels fishing for mutton snapper in federal waters off Florida are required to possess a valid federal reef fish permit in the Gulf of Mexico and a valid federal permit for South Atlantic snapper-grouper. Most of these permits are limited access and help control fishing effort for mutton snapper. If mutton snapper was removed from the federal FMPs, federal permits would no longer be required by NOAA Fisheries Service for the harvest of mutton snapper in federal waters. Commission staff expects that removing these permit requirements would result in an increase in mutton snapper fishing effort.

Commission staff is also concerned that the State of Florida may not be able to regulate harvest of mutton snapper by out-of-state vessels fishing in federal waters off Florida and landing in other states. Due to the relative ease in which mutton snapper could be harvested off Florida and transported long distances while maintaining product quality, Commission staff believe that out-of-state fishing operations for mutton snapper could be economically viable and if unregulated, could significantly increase mutton snapper harvest.

As you know, the Commission is in the process of extending state regulations for stone crab into adjacent federal waters and has expressed interest in extending octocoral regulations into adjacent federal waters if octocorals in federal waters off Florida are removed from the SAFMC and GMFMC FMPs. These fisheries are highly regulated in state waters and require cumbersome gear and harvesting techniques that limit the viability of out-of-state fishing operations. The Commission believes that the extension of state stone crab and octocoral regulations into federal waters will not result in increases in fishing pressure for these species, and will continue to pursue management of these species in federal waters off Florida.

The Commission is committed to preserving this resource for the future and will continue to work with the SAFMC and GMFMC on mutton snapper management in federal waters. If I can be of any further assistance, please contact me at Mark.Robson@MyFWC.com or 850-487-0554.

Sincerely,

Mark Robson
Director
mr/mb/wt
cc: Roy Crabtree
David Cupka

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