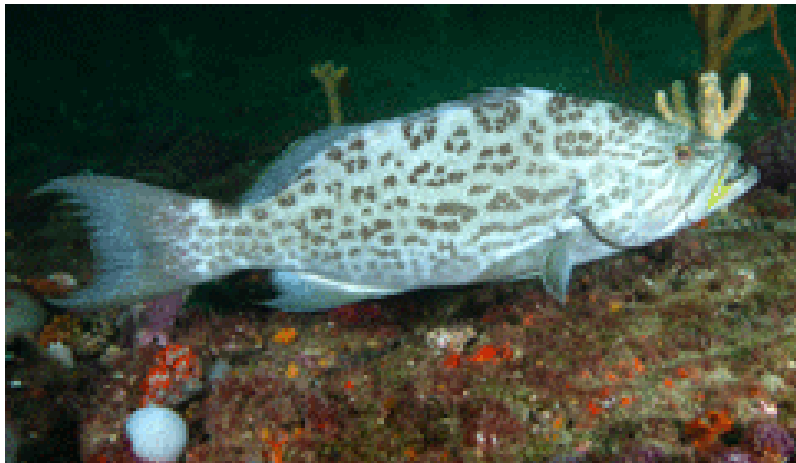


Modifications to Other Shallow Water Grouper Complex Management Measures



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

June 2025



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Type of Action

Administrative
 Draft

Legislative
 Final

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
AM	accountability measure
APAIS	Access Point Angler Intercept Survey
CFR	code of federal regulations
CHTS	Coastal Household Telephone Survey
Council	Gulf of Mexico Fishery Management Council
EA	environmental assessment
EEZ	exclusive economic zone
EIS	economic impact statement
EFH	essential fish habitat
FES	fishing effort survey
FMP	Fishery Management Plan
Gulf	Gulf of America (Mexico)
gw	gutted weight
IFQ	individual fishing quota
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
mp	million pounds
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSST	minimum stock size threshold
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OST	Office of Science and Technology
Reef Fish FMP	Fishery Management Plan for Reef Fish Resources in the Gulf
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future actions
RIR	regulatory impact review
RQ	regional quotient
SDC	status determination criteria
SEDAR	Southeast Data and Review
SEFSC	Southeast Fisheries Science Center
SEIS	Supplemental Environmental Impact Statement
SERO	Southeast Regional Office
SMZ	special management zone
SPR	spawning potential ratio
SRHS	Southeast Region Headboat Survey
SSC	Scientific and Statistical Committee
SWG	shallow water grouper
TL	total length
ww	whole weight
YMG	yellowmouth grouper

YFG

yellowfin grouper

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CHAPTER 1. INTRODUCTION

1.1 Background

Several species of grouper in the Gulf of America¹ (Gulf) are currently managed within the Other Shallow-water Grouper (SWG) complex. These species include scamp (*Mycteroperca phenax*), yellowmouth grouper (*Mycteroperca interstitialis*), black grouper (*Mycteroperca bonaci*), and yellowfin grouper (*Mycteroperca venenosa*). These species were assigned to this complex under the Generic Annual Catch Limits (ACL) and Accountability Measures (AM) Amendment to the Fishery Management Plans (FMP) of the Gulf (Generic ACL/AM Amendment; GMFMC 2011). Assignment of these species to the complex was based on where these species occurred, and whether it was common for these species to be caught on the same fishing trips. Until recently, no approved peer-reviewed stock assessment was available to inform stock status of any of these species². In 2022, a stock assessment of scamp and yellowmouth grouper was completed (SEDAR 68 2022), which assessed both species together, and passed a peer-review by the Gulf of Mexico Fishery Management Council's (Council)³ Scientific and Statistical Committee (SSC). The SSC recommended updated status determination criteria (SDC) and catch advice for these two species. To act on these recommendations, the Council initiated work on Reef Fish Amendment 58A to the FMP for the Reef Fish Resources in the Gulf (Reef Fish FMP) that considers changes to the Other SWG complex including species within the complex, changes to catch limits, modification of the commercial Individual Fishing Quota (IFQ) program, and other management measures. In recognition of the complexity of Reef Fish Amendment 58A, the Council is developing this framework action to consider changes in catch limits for the Other SWG complex that are consistent with the recommendations from the SSC based on its review of SEDAR 68. The modifications from this framework action are expected to reduce the likelihood of overfishing for scamp and yellowmouth grouper while a more holistic management response is developed in Reef Fish Amendment 58A.

The Other SWG complex is managed under a complex ACL that is set equal to the complex acceptable biological catch (ABC). However, in the Generic ACL/AM Amendment the commercial sector was apportioned a specified amount of the complex ACL based on historical harvest to allow the commercial sector to operate under the Grouper-Tilefish IFQ program (Amendment 29 to the Reef Fish FMP; GMFMC 2008). The associated catch limits are shown in

¹ The Gulf of Mexico was renamed the Gulf of America pursuant to Executive Order 14172, and Secretary of the Interior Order No. 3423. All geographical references to the Gulf of America or “the Gulf” in this Framework Action refer to the same body of water known as the Gulf of Mexico in the regulations at 50 CFR part 622.

² Black grouper was initially assessed in 2010 (SEDAR 19), but an assessment attempted in 2017 (SEDAR 48) had to be terminated due to irreconcilable data issues. In addition, yellowmouth grouper was included in the SEDAR 49 assessment, but was not further evaluated due to limited data and misidentification issues. Thus, no assessment for informing the stock status of black or yellowmouth grouper relative to its SDC exists.

³ This framework action retains the name of the Council as established by the Magnuson-Stevens Act. See 16 U.S.C. § 1852(a)(1)(E).

Table 1.1.1. Landings (2013 – 2023) by species for the Other SWG complex are shown in Table 1.1.2. The recreational landings data in Table 1.1.2 are based on estimates derived from the Marine Recreational Fisheries Statistics Survey (MRFSS). However, recreational landings are now estimated using the Marine Recreational Information Program (MRIP), which includes an Access Point Angler Intercept Survey (APAIS, estimates catch) and Fishing Effort Survey (FES, estimates effort), collectively referred to as MRIP-FES. MRFSS and MRIP-FES both generate estimates in pounds of fish, but those estimates are not directly comparable because they use different scales (See Federal Data Collection Programs section in this Chapter).

Table 1.1.1. Catch limits and buffers by sector for Other SWG, as established in the Generic ACL/AM Amendment. Values are in millions of pounds (mp) gutted weight (gw). OFL = overfishing limit. An OFL and a recreational ACL for Other SWG are presently undefined.

Complex	OFL	ABC (Total ACL)	Comm ACL	Comm Quota	Comm Buffer	Rec ACL
Other SWG	undefined	0.710	0.547	0.526	4%	undefined

Table 1.1.2. Landings for Other SWG by sector from 2013 – 2023. Landings are in pounds (lb) gw. Data for 2023 are preliminary. Black grouper and yellowfin grouper (YFG) are aggregated due to data confidentiality requirements. Scamp and yellowmouth grouper (YMG) are aggregated for both sectors because of data confidentiality requirements.

Year	Commercial			Recreational (MRFSS)			Total Landings
	Black + YFG	Scamp + YMG	Total Comm Landings	Black Grouper + YFG	Scamp + YMG	Total Rec Landings	
2013	57,606	243,129	300,735	3,198	153,090	156,288	457,023
2014	61,123	169,125	230,248	826	129,569	130,395	360,643
2015	55,273	183,154	238,427	1,563	178,960	180,523	418,950
2016	49,497	285,741	335,238	8,249	159,438	167,687	502,925
2017	37,184	162,825	200,009	1,706	112,388	114,094	314,103
2018	35,246	143,047	178,293	358	111,654	112,012	290,305
2019	26,011	114,072	140,083	356	201,089	201,445	341,528
2020	25,411	119,043	144,454	516	108,691	109,207	253,661
2021	25,946	129,982	155,928	199	148,441	148,640	304,568
2022	23,946	122,752	146,698	1,215	139,225	140,440	287,138
2023	39,875	109,137	149,012	2,398	133,752	136,150	285,162

Commercial Sector

Commercial harvest of Other SWG complex species has been managed under the Grouper-Tilefish IFQ program since 2010 (GMFMC 2008). Anyone commercially fishing for Other SWG complex species must possess a federal commercial reef fish permit and Other SWG complex allocation under the IFQ program. IFQ allocation is determined and distributed on January 1st of each calendar year by multiplying a shareholder's IFQ Other SWG shares, represented as a percentage of the total commercial quota, times the commercial quota for that complex. As IFQ allocation is often transferred between participants on or shortly after January 1, the allocation cannot be reclaimed by the agency after distribution. The current commercial ACT (quota) is 4% below the commercial ACL for the Other SWG complex (GMFMC 2011; Table 1.1.1). The difference between the commercial quota and the commercial ACL was put in place to account for uncertainty with discards from the implementation of the IFQ program, and it was noted that this buffer could be re-evaluated with time. The IFQ program acts as the AM for the commercial portion of the reef fish fishery for Other SWG complex, and the commercial quota has never been exceeded for this complex under the IFQ program.

Recreational Sector

Recreational fishing for the Other SWG complex species occurs primarily via hook-and-line. All species are caught throughout the Gulf except for black grouper, which is more common to the southeastern Gulf off Florida. Recreational landings comprise an increasing proportion of landings for this complex in the last several years (see Table 1.1.2).

Presently, there is no defined ACL for the recreational sector for the Other SWG complex. It is assumed that the difference between the sector apportionment for the commercial ACL from the Generic ACL/AM Amendment and the total complex ACL is for the recreational sector to harvest. The AM for the recreational sector is linked to the total complex ACL. This AM states that in the year following an overage of the complex ACL, recreational fishing will close when the complex ACL is projected to be reached. There is no payback of an overage of a complex ACL. Because total landings have not reached the complex ACL (Table 1.1.2) the recreational AM has never been invoked. However, because the AM is based on reaching the combined (commercial and recreational) ACL, it would allow for overfishing each year since the recreational (undefined) catch limit could be exceeded prior to the commercial fishery harvesting its IFQ quota. This scenario is especially more likely to occur given the vast reductions in catch limits being proposed in this document.

Recreational Data

Federal Data Collection Programs

The National Marine Fisheries Service (NMFS) created the Marine Recreational Fisheries Statistics Survey (MRFSS) in 1979. In the Gulf, MRFSS collected recreational catch and effort data, including for Other SWG species, since 1981. MRFSS included both the Coastal Household Telephone Survey (CHTS) and onsite interviews at marinas and other points where recreational anglers fish. In 2008, the Marine Recreational Information Program (MRIP)

replaced MRFSS to meet increasing demand for more precise, accurate, and timely recreational catch estimates. MRIP is a state-regional-federal partnership that utilizes large-scale surveys of the saltwater recreational fishing community to estimate recreational fishing catch and effort information used in stock assessments and fisheries management. MRIP utilizes separate surveys to measure catch rate and effort by mode (e.g., private angler vs for-hire) to estimate total recreational catch. For each mode the catch rate is multiplied by the effort to obtain an estimate of total catch.

The MRIP Access Point Angler Intercept Survey (APAIS) captures catch rate for both the private angler and for-hire modes. This new survey was designed in 2013 to address concerns of potential bias and better account for all types of completed trips by extending the time period dockside samplers stayed at an assigned location (Foster et al. 2018). The more complete temporal coverage with the new survey design provides for consistent increases or decreases in APAIS angler catch rate statistics, which are used in stock assessments and management, for at least some species (NOAA Fisheries 2019).

MRIP transitioned from the legacy CHTS to a new mail survey (FES) in 2015. The surveys were run side by side for three years, and in 2018, MRIP-FES replaced MRIP-CHTS. Both survey methods collect data needed to estimate marine recreational fishing effort (number of fishing trips) by shore and private/rental boat anglers on the Atlantic and Gulf coasts. MRIP-CHTS used random-digit dialing of homes in coastal counties to contact anglers. The new mail-based FES uses angler license and registration information as one way to identify and contact anglers (supplemented with data from the U.S. Postal Service, which includes virtually all U.S. households). Comparisons of the CHTS and FES surveys from the side-by-side years indicated that, in general, total recreational fishing effort estimates generated from the FES are higher — and in some cases substantially higher — than the CHTS estimates (NOAA Fisheries 2019). This is because the FES is designed to measure fishing activity more accurately than the CHTS, albeit while recognizing a greater degree of uncertainty in those landings estimates. This increase in estimated effort is not because there was a sudden rise in fishing effort, but rather because FES better targets actual fishery participants through the directed mail survey. Likewise, the increase in uncertainty about the effort estimates reflects uncertainty that was likely also present in CHTS but went unaccounted for due to biases that were identified as FES was developed. NMFS developed a calibration model to allow historic effort estimates using MRIP-CHTS to be compared to new estimates from MRIP-FES.

2023 MRIP-FES Pilot Study and 2024 Comprehensive Study

At the August 2023 Council meeting, the National Oceanic and Atmospheric Administration (NOAA) Office of Science and Technology (OST) discussed the release of a pilot study (NOAA 2023⁴), which evaluated potential respondents' bias as recall error in the mail portion of the recreational FES survey used to estimate effort. The 2023 pilot study evaluated this bias for a portion of the year across several states, and preliminary results suggest the order of the

⁴ <https://www.fisheries.noaa.gov/recreational-fishing-data/fishing-effort-survey-research-and-improvements>

questions in the survey has led to overestimation of fishing effort by MRIP-FES. A more comprehensive pilot study began in 2024 and is expected to end data collection in March, 2025. NOAA’s Office of Science and Technology (OST) plans to produce a public report with key findings and estimate comparisons in summer 2025 and determine if a new design will be implemented in 2026, pending study results and peer review. In mid-2026, OST is expecting to produce calibrated historical effort estimates to reflect the findings of the updated survey design for use in future stock assessments and fisheries management. Prior to when data calibration is finalized in 2026, any conclusions about the impact of observed bias would be speculative. After the updated survey data is finalized, it will then be available for evaluation by data users (e.g., the Southeast Fisheries Science Center [SEFSC], Southeast Regional Office [SERO], and the Council).

Recent Stock Assessments and Catch Projections

SEDAR 68 (2022)

SEDAR 68 was completed in 2022 using data through 2020 and assessed both scamp and yellowmouth grouper together as a complex. SEDAR 68 (2022) used updated recreational landings information informed by MRIP-FES, and thus the results are not directly comparable to current catch limits and would require extensive changes to integrate the updated catch advice into management. The SSC recommended catch limits (Table 1.1.3) that are a reduction from current landings, and the Council is developing this action to reduce the likelihood of overfishing scamp and yellowmouth grouper while Reef Fish Amendment 58A is developed and implemented.

Table 1.1.3. SSC recommended OFL and ABC values for scamp and yellowmouth grouper, based on the results of SEDAR 68 (2022) and using an MSY proxy of the yield when fishing at $F_{40\%SPR}$. Catch limits are in lb gw and the recreational data were informed by MRIP-FES. These catch recommendations are not directly comparable to current catch limits.

Year	OFL	ABC
2024	271,000	203,000
2025	263,000	203,000
2026+	257,000	203,000

1.2 Purpose and Need

The purpose of this amendment is to reduce SWG harvest consistent with findings of the SEDAR 68 stock assessment and recommendations from the SSC.

The need for these actions is to use the best scientific information available to implement measures to avoid future overfishing, and to achieve optimum yield for the Other SWG Complex, consistent with the authority under the Magnuson-Stevens Fishery Conservation and Management Act.

1.3 History of Management

Amendment 1 to the Reef Fish FMP, including an environmental assessment (EA), regulatory impact review (RIR), and regulatory flexibility analysis (RFA), 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 by January 1, 2000. It set a five-grouper recreational daily bag limit; allowed a 2-day possession limit for charter vessels and head boats on trips that extend beyond 24 hours, provided the vessel has two licensed operators aboard as required by the U.S. Coast Guard, and each passenger can provide a receipt to verify the length of the trip; set an 11.0 mp commercial quota for grouper, with the commercial quota divided into a 9.2 mp SWG (black grouper, gag, red grouper, Nassau grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, speckled hind, and scamp) quota and a 1.8 mp Deep-water Grouper (misty grouper, snowy grouper, yellowedge grouper, and warsaw grouper, and scamp once the SWG quota was filled); established a longline and buoy gear boundary at 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 longline gear 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; limited trawl vessels to the recreational size and daily bag limits of reef fish; established fish trap permits (up to 100 fish traps per permit holder); and established a commercial reef fish vessel permit.

A **July 1991 Regulatory Amendment**, including EA and effective November 1991, provided a one-time increase in the 1991 quota for SWG from 9.2 mp to 9.92 mp.

Amendment 3 to the Reef Fish FMP, including an EA, RIR, and RFA and implemented in July 1991, transferred speckled hind from the SWG quota category to the DWG quota category.

A **November 1991 Regulatory Amendment**, including EA, RIR and initial regulatory flexibility analysis (IRFA) and effective June 1992, raised the 1992 commercial quota for shallow-water groupers to 9.8 mp whole weight (ww).

Amendment 5 to the Reef Fish FMP, including an EA, RIR, and RFA and implemented in February 1994, established restrictions on the use of fish traps in the Gulf exclusive economic zone (EEZ); implemented a three-year moratorium on the use of fish traps by creating a fish trap endorsement for fishermen with historical landings; created a special management zone (SMZ) with gear restrictions off the Alabama coast; created a framework procedure for establishing future SMZ's; required that all finfish except for oceanic migratory species be landed with head and fins attached; and closed the region of Riley's Hump (near Dry Tortugas, Florida) to all fishing during May and June to protect mutton snapper spawning aggregations.

A **Framework Action**, including an EA, RIR, and RFA implemented in June 2000, increased the commercial size limit for black grouper from 20 to 24 inch total length (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.

Secretarial Amendment 1 to the Reef Fish FMP, including EIS, RIR, and IRFA (effective July 2004), revised the commercial trip limit to 5,200 lb gw to achieve a red grouper harvest reduction, a reduction in the SWG quota from 9.35 mp gw (9.8 mp ww) to 8.8 mp gw, and repealed the Feb. 15 – Mar. 15 closed season on commercial harvest of red grouper, black grouper and gag in the Gulf exclusive economic zone (EEZ). The DWG quota was reduced from 1.6 mp ww (equal to 1.35 mp landed weight) to 1.02 mp gw. NMFS rejected the proposed 5,200-pound SWG trip limit and the repeal of the February 15 – March 15 commercial closed season. The remaining proposed measures were approved, and NOAA added a commercial red grouper quota of 5.31 million pounds gutted weight with the stipulation that the commercial SWG fishery close when either the SWG quota or red grouper quota is reached, whichever occurs first.

An **October 2005 Regulatory Amendment**, including EA, RIR, IRFA and implemented in January 2006, established an aggregate DWG and SWG commercial trip limit of 6,000 lb gw.

Amendment 29 to the Reef Fish FMP, including an EA, RIR, and RFA, implemented January 2010, established an IFQ system for the commercial harvest of grouper and tilefish.

Amendment 30B to the Reef Fish FMP, including a final Supplemental Environmental Impact Statement (SEIS), RIR and IRFA, implemented May 2009, established ACLs and AMs for the commercial aggregate SWG fishery. For the commercial sector, the amendment for 2009 reduced the aggregate SWG quota from 8.80 mp gw to 7.8 mp gw. The gag and SWG quotas were scheduled to increase in subsequent years as the gag stock rebuilt. When 80 percent of a grouper species quota is reached, the allowable catch per trip for that species will be reduced to an incidental catch limit of 200 pounds until the species quota is filled, in order to reduce discard mortality of that species while fishermen target other species. The amendment repealed the commercial closed season of February 15 to March 15 on gag, black and red grouper, and replaced it with a January through April seasonal area closure to all fishing at the Edges 40-fathom contour, a 390-nautical square mile gag spawning region northwest of Steamboat Lumps. In addition, the Steamboat Lumps and Madison-Swanson fishing area restrictions were continued indefinitely. For the recreational sector, the amendment reduced the aggregate grouper bag limit from five fish to four. A recreational closed season on SWG was established from February 1 through March 31 shoreward of 20-fathoms. Finally, the amendment required that all 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 to the Reef Fish FMP, including a final SEIS, RIR and IRFA, implemented May 2010, prohibited the use of bottom longline gear shoreward of a line approximating the 35-fathom contour from June through August; established a longline endorsement; and restricted the total number of hooks onboard each reef fish bottom longline vessel to 1,000, of which only 750 may be rigged for fishing.

Amendment 32 to the Reef Fish FMP, including EIS, RIR and IRFA and implemented in March 2012, contained a commercial SWG quota adjustment to account for dead discards, and simplified the commercial SWG AMs by using the IFQ program to reduce redundancy.

Amendment 38 to the Reef Fish FMP, including EA, RIR, and RFA and implemented in March 2013, revised the postseason recreational AM that reduces the length of the recreational season for all SWG in the year following a year in which the ACL for gag or red grouper is exceeded. The modified AM reduces the recreational season of only the species (gag or red grouper) for which the ACL was exceeded.

A **2013 Framework Action**, including EA, RIR, and RFA and implemented in March 2013, eliminated the February 1 through March 31 SWG closure shoreward of 20 fathoms.

Amendment 44 to the Reef Fish FMP standardized the Minimum Stock Size Threshold (MSST) for certain reef fish species. The MSST is used to determine whether a stock is overfished; if the biomass of the stock falls below the threshold, then the stock is overfished. The MSST for several reef fish species was set equal to 50% of the biomass at MSY. This amendment was approved on December 21, 2017.

Amendment 36A to the Reef Fish FMP, including EIS, RIR and IRFA and implemented in January 2019, requires all reef fish permitted vessels landing federally managed reef-fish to land at approved locations and hail-in at least 3 hours, but no more than 24 hours before landing. The Amendment returns red snapper and grouper-tilefish shares from non-activated individual fishing quota (IFQ) accounts to the National Marine Fisheries Service (NMFS) for redistribution and allows NMFS to withhold a portion of IFQ allocation at the start of the year equal to an anticipated quota reduction.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modification of Gulf Other Shallow Water Grouper (Other SWG) Complex Catch Limits

Alternative 1: No Action – Maintain the current catch limits for the Other SWG complex: scamp, yellowmouth grouper, black grouper, and yellowfin grouper. The complex acceptable biological catch (ABC) is 710,000 pounds gutted weight (lb gw). The complex annual catch limit (ACL) is set equal to the complex ABC. The commercial ACL is 547,000 lb gw, and the commercial annual catch target (ACT) or quota, is set 4% below the commercial ACL at 525,000 lb gw. The recreational ACL is undefined.

Preferred Alternative 2: Reduce the Other SWG complex ABC by 54.7%. Set the stock ACL equal to 322,000 lb gw, the commercial ACL equal to 255,636 lb gw, and the commercial ACT (quota) equal to 245,410 lb gw.

Alternative 3: Reduce the Other SWG Complex ABC by 54.7% based on the average Other SWG complex landings from 2019-2023. The stock ACL is set equal to the ABC at 133,000 lb gw. The commercial ACL is 105,589 lb gw, and the commercial ACT (quota) is 101,365 lb gw.

Alternative 4: Reduce the total ACL of the scamp and yellowmouth grouper component of the Other SWG Complex by 54.7% based on the average scamp and yellowmouth grouper landings from 2019-2023. Use the average of the 2019-2023 landings for black grouper and yellowfin grouper to calculate the catch limits. The complex ABC/ACL is set at 151,000 lb gw, the commercial ACL is 119,879 lb gw, and the commercial ACT is 115,084 lb gw.

Discussion:

The Other SWG complex is currently managed using a complex ACL (710,000 lb gw) and recreational landings are monitored consistent with the Marine Recreational Fishery Statistics Survey (MRFSS). The stock complex ACL is set equal to the complex ABC. The commercial ACL was established based on an apportionment of the stock ACL, and the commercial ACT was reduced by 4% from the commercial ACL to accommodate flexibility measures between the Deep-water Grouper and Other SWG complexes in the IFQ program. Recreational harvest is restricted only in the year following an overage of the stock ACL, and only then when the stock ACL is projected to be fully harvested. To date, there has been no overage of the stock ACL, and thus, no restrictions on recreational harvest.

This action would modify the ABC, commercial ACL, and commercial ACT for the Other SWG complex. Consistent with current practice, the overfishing limit (OFL) will remain undefined. SEDAR 68 (2022) was completed and reviewed by the Gulf Council's (Council) Scientific and Statistical Committee (SSC), which provided revised catch limits for scamp and yellowmouth grouper. Scamp and yellowmouth grouper are managed along with black and yellowfin grouper in the Other SWG complex. The SSC recommended reduced catch limits for scamp and

yellowmouth grouper and the Council is developing an action (Reef Fish Amendment 58A) that considers modifying the composition of the Other SWG complex, specifying sector allocations, and modifying the structure of the commercial individual fishing quota program (IFQ) and recreational management measures. This framework action aims to reduce harvest of the Other SWG complex consistent with the results of SEDAR 68 to allow time for completion and implementation of Reef Fish Amendment 58A.

SEDAR 68 used updated recreational landings information informed by MRIP-FES. The SSC reviewed SEDAR 68 and recommended catch limits for scamp and yellowmouth grouper (Table 2.1.1) that are substantially reduced from recent landings for these species (Table 2.1.2⁵). From 2019 – 2023, average combined annual landings for scamp and yellowmouth grouper were 448,490 lb gw (Figure 2.1.1). To reduce harvest to the ABC recommended by the SSC based on SEDAR 68 (203,000 lb gw), landings would have to be reduced by 54.7% from the 2019-2023 average. This reduction target (as a percentage) was used as the basis for the action alternatives in this document. The percentage basis was used because the current Other SWG complex catch limits are based in part on landings data derived from MRFSS, and thus the ABC recommendation that is based on SEDAR 68 is not directly comparable to the current complex ABC of 710,000 lb gw. The objective of this action is to reduce landings (and fishing mortality) from the Other SWG complex consistent with the SSC’s recommendations for scamp and yellowmouth grouper while modifications to the Other SWG complex are developed in Reef Fish Amendment 58A.

Table 2.1.1. SSC recommended OFL and ABC values for scamp and yellowmouth grouper, based on the results of SEDAR 68 (2022) and using an MSY proxy of the yield when fishing at F_{40%SPR}. Catch limits are in lb gw.

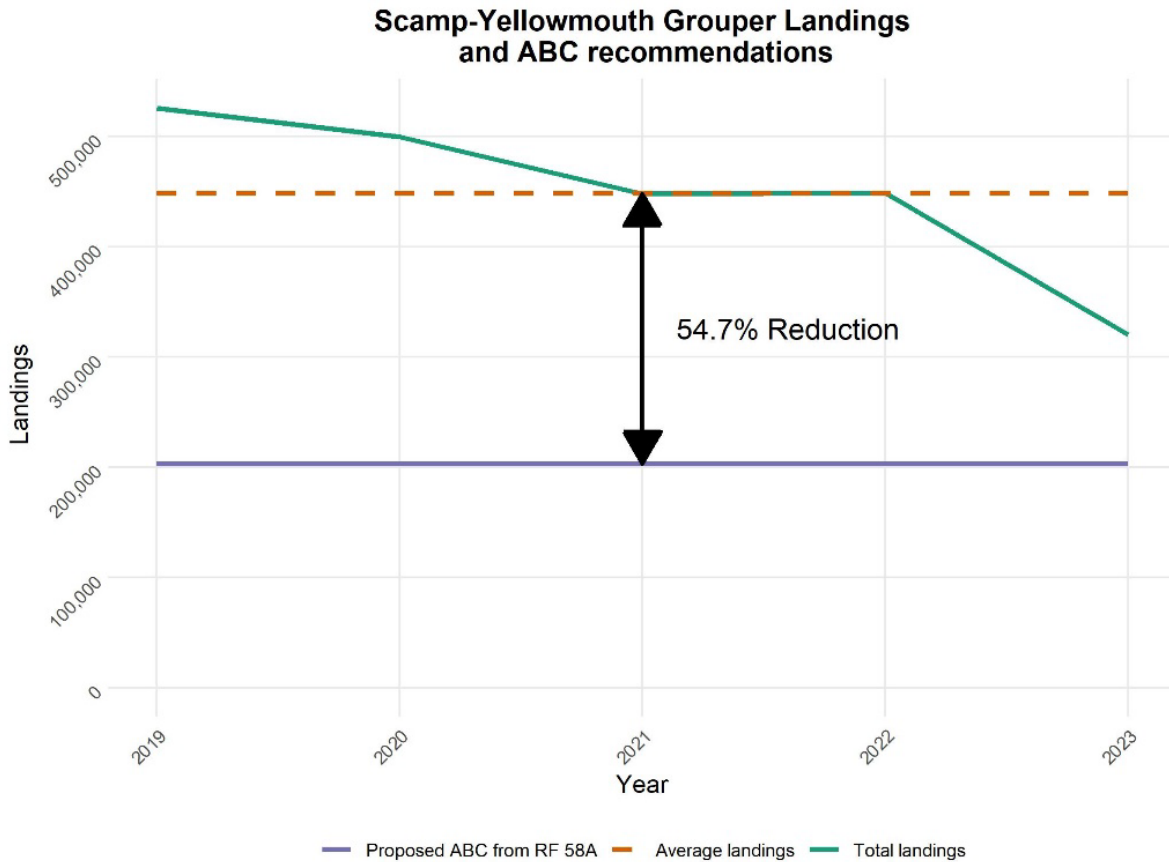
Year	OFL	ABC
2024	271,000	203,000
2025	263,000	203,000
2026+	257,000	203,000

⁵ The catch limits are consistent with the recreational data used in SEDAR 68, which was derived in part from MRIP-FES. The landings data used for the action are consistent with MRFSS as presented in Table 1.1.2.

Table 2.1.2. Landings for scamp and yellowmouth grouper from 2019 – 2023. Landings are in lb gw and recreational data are consistent with MRIP-FES. Data for 2023 are preliminary. Scamp and yellowmouth grouper are aggregated for both sectors because of data confidentiality requirements. The recreational landings data are not directly comparable to the current management measures established and monitored using MRFSS data.

	Commercial	Recreational	
Year	Scamp + YMG	Scamp + YMG	Total Landings
2019	114,072	411,764	525,836
2020	119,043	380,593	499,636
2021	129,982	317,851	447,833
2022	122,752	326,023	448,775
2023	109,137	211,234	320,371

Figure 2.1.1. Landings for scamp and yellowmouth grouper from 2019 – 2023 in comparison to the ABC recommendation from the SSC based on the review of SEDAR 68. The ABC recommendation is a 54.7% reduction from recent landings for these two species.



Alternative 1 (No Action) would maintain the current catch limits as established in the Generic ACL/AM Amendment (GMFMC 2011). These catch limits were set using recreational data from MRFSS. **Alternative 1** does not consider the harvest recommendations for scamp and yellowmouth grouper resulting from SEDAR 68 (2022) and increases the likelihood of overfishing of scamp and yellowmouth grouper relative to **Preferred Alternative 2** and **Alternatives 3 – 4**.

Preferred Alternative 2 would reduce the complex ABC by 54.7% consistent with the SSC recommended percent reduction in the ABC for scamp and yellowmouth grouper based on its review of SEDAR 68. **Preferred Alternative 2** would set the commercial ACL equal to 255,636 lb gw, and the commercial ACT equal to 245,410 lb gw. Since 2019, commercial landings for the Other SWG complex have averaged just under 150,000 lb gw and thus, the proposed commercial harvest limits may not adequately reduce the catch from this sector. However, this would result in a substantial reduction in the distributed annual IFQ allocation for the Other SWG complex and may lead to a reduction in commercial harvest. **Preferred Alternative 2** would reduce the recreational harvest consistent with the overall 54.7% reduction target. This would result in an allowable recreational Other SWG harvest equal to 66,364 lb gw (consistent with MRFSS); which is substantially below the recreational sectors recent annual landings and **Preferred Alternative 2** is consistent with the objective to reduce harvest as recommended by the SSC.

Alternative 3 would reduce the total allowable SWG Complex harvest by 54.7% relative to recent annual landings⁶ (2019-2023; see Table 1.1.2). This would set the complex ABC equal to 133,000 lb gw. The commercial ACL, commercial ACT, and the recreational component apportionment were calculated using the same approach as **Preferred Alternative 2**. The allowable harvest for both the recreational and commercial sectors would be reduced substantially relative to **Alternative 1** and **Preferred Alternative 2**.

Alternative 4 is similar to **Preferred Alternative 2** and **Alternative 3** in that it would reduce harvest of scamp and yellowmouth grouper by 54.7% relative to recent annual landings⁷ (2019-2023; see Table 1.1.2). In contrast to **Preferred Alternative 2** and **Alternative 3**, **Alternative 4**, would not reduce the harvest of black and yellowfin grouper as part of the calculation of the complex ABC. The complex ABC for **Alternative 4** would include the average landings from 2019-2023 for black and yellowfin grouper and the reduced landings (54.7%) for scamp and yellowmouth grouper. The commercial ACL, commercial ACT, and recreational apportionment would be set in the same manner as **Preferred Alternative 2** and **Alternative 3**.

In terms of total allowable harvest from greatest to least, the alternatives are: **Alternative 1** > **Preferred Alternative 2** > **Alternative 4** > and then **Alternative 3**. In December 2024, the Council's Reef Fish Advisory Panel reviewed the management alternatives and recommended **Preferred Alternative 2** noting the potential for reduced harvest while providing greater access to this complex while Reef Fish Amendment 58A is developed and implemented.

⁶ The recreational harvest was calculated using the MRFSS data consistent with current management.

⁷ The recreational harvest was calculated using the MRFSS data consistent with current management.

2.2 Action 2: Gulf Other SWG Complex Recreational Season

Alternative 1: No Action – Do not establish a recreational fixed closed season for the Other Shallow Water Grouper Complex.

Alternative 2: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open June 1 and close on the date indicated below, based on the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – May 31; September 15 – Dec 31 (Open June 1 – September 14)

Action 1, Alternative 3: Closed January 1 – May 31; Closed July 5 – Dec 31 (Open June 1 – July 4)

Action 1, Alternative 4: Closed January 1 – May 31; July 12 – Dec 31 (Open June 1 – July 11)

Preferred Alternative 3: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open July 1 and close on the date indicated below, based on the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – June 30; (Open July 1 – December 31)

Action 1, Alternative 3: Closed January 1 – June 30; Closed August 18 – Dec 31 (Open July 1 – August 17)

Action 1, Alternative 4: Closed January 1 – June 30; August 25 – Dec 31 (Open July 1 – August 24)

Alternative 4: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open April 1 and close May 31, and reopen on September 1 and close on the date indicated below, based on the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – March 31; June 1 – August 31 (Open April 1 – May 31; September 1 – December 31)

Action 1, Alternative 3: Closed January 1 – March 31; May 30 – December 31 (Open April 1 – May 29*)

Action 1, Alternative 4: Closed January 1 – March 31; September 7 – December 31 (Open April 1 – May 31; September 1 – September 6)

Discussion:

This action considers alternatives to establish a recreational closed season for the Other SWG complex. The commercial harvest of the Other SWG complex is managed by apportioning a percentage of the complex ABC/stock ACL to shareholders participating in the commercial IFQ program. The remaining portion of the complex ABC/stock ACL can be harvested by the recreational sector. This approach was developed in the Generic ACL/AM Amendment (GMFMC 2011) and the complex ABC/stock ACL has never been exceeded. Historically, most of the harvest of this complex was from the commercial sector. However, the recreational sector has incrementally increased its harvest (both in pounds landed and as a percentage of the harvest). The trend of increasing recreational harvest along with the reduction in total harvest

based on the SSC's recommended catch levels from SEDAR 68 (2022) increases the likelihood of overfishing. The harvest of the commercial sector is limited by the commercial IFQ program where any reduction in allowable harvest is achieved through changes in the distribution of annual allocation. In contrast, the recreational season is managed with a year-round season, minimum size limits (16 inch for scamp, 24 inch for black grouper, 20 inch for yellowfin grouper, no minimum size limit for yellowmouth grouper), and a four fish bag limit within the aggregate grouper bag limit. If Alternative 1 (no action) in Action 1 is selected as preferred (i.e., no reduction in allowable harvest), the total landings (commercial and recreational) are not expected to approach the current 710,000 lb gw complex ABC/stock ACL. However, the action alternatives in Action 1 consider reduced complex ABC/stock ACL values ranging from 322,000 – 133,000 lb gw, of which only a proportion would be available for recreational harvest consistent with the approach developed in the Generic ACL/AM amendment (GMFMC 2011).

Alternative 1 would maintain the current regulatory structure including a year-round recreational fishing season along with minimum size (scamp only) and daily bag limits. **Alternatives 2, 4, and Preferred Alternative 3** would retain the minimum size (scamp only) and bag limits but also consider a recreational closed season across different portions of the year. For **Alternatives 2, 4, and Preferred Alternative 3**, the opening date for each alternative is specified while the close date (if applicable), depends on the catch limits selected in Action 1. For each action alternative, the season duration is conditional upon the preferred alternative in Action 1 and the estimated catch rates for each month (Appendix A). No consideration of a recreational closed season is proposed in relation to Alternative 1 in Action 1 as the total harvest is not projected to exceed the complex ABC/stock ACL.

Alternative 2 would open the recreational fishing season on June 1 and prohibit harvest from January through May. This alternative would allow harvest during the summer when fishing effort is greatest and other target species are open to harvest. However, the increased catch rate during summer compared to **Preferred Alternative 3** or **Alternative 4** would allow for fewer fishing days than **Preferred Alternative 3** or **Alternative 4**. Under **Alternative 2** the season closure dates would occur as early as July 5 and no later than September 15 based on the alternatives presented in Action 1 (Figure 2.2.1. and Table 2.2.1).

Preferred Alternative 3 would open the recreational fishing season on July 1 and prohibit harvest from January through June. This alternative would prevent harvest in June when historical landings are highest and would prevent overlap with the beginning of the red snapper season when angler effort is very high. Thus, it would provide for a longer season than **Alternative 2** while providing some access during the summer period that is often preferable to recreational anglers (Table 2.2.1).

Alternative 4 considers a split-season approach where a portion of the recreational harvest would occur during the spring months (i.e., April – May) and a subsequent fall season opening September 1. **Alternative 4** may not fully harvest the recreational portion of the stock ACL if Alternative 2 in Action 1 is selected as preferred. **Alternative 4** could provide a balance of access across the Gulf to the extent that regional difference in harvest rates differ.

Figure 2.2.1. A comparison of the recreational seasons among the alternatives in Action 2.

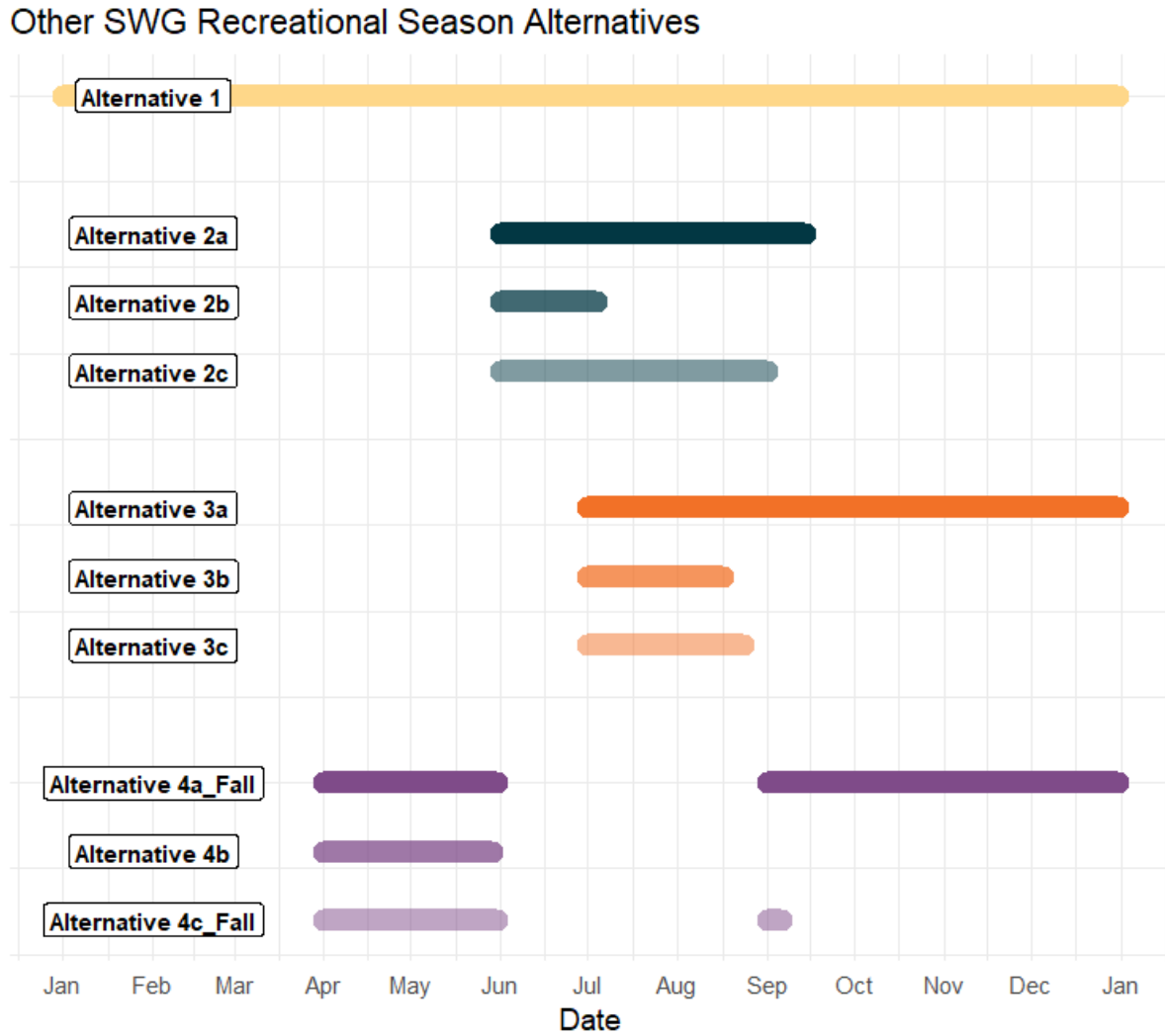


Table 2.2.1. Proposed recreational harvest levels based on an apportionment of the ABC.

Alternative 2 Fishing Season Start Date: June 1			
Action 1	Proposed Recreational harvest (lb gw)	Open Dates	Season Duration
Alternative 2	66,364	June 1 – September 14	106
Alternative 3	27,411	June 1 – July 4	34
Alternative 4	31,121	June 1 – July 11	41
Alternative 3 Fishing Season Start Date: July 1			
Alternatives	Proposed Recreational harvest (lb gw)	Open Dates	Season Duration
Alternative 2	66,364	July 1 – December 31	184
Alternative 3	27,411	July 1 – August 17	48
Alternative 4	31,121	July 1 – August 24	55
Alternative 4 Fishing Season Start Dates: April 1; September 1			
Alternatives	Proposed Recreational harvest (lb gw)	Open Dates	Season Duration
Alternative 2	66,364	April 1 – May 31; September 1 – December 31	183
Alternative 3	27,411	April 1 – May 29*	59
Alternative 4	31,121	April 1 – May 31; September 1 – September 6	67

* The recreational portion of the ACL is projected to be met prior to the re-opening of the split season thus, this would be a single April 1 – May 29 season.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Physical Environment

General Description of the Physical Environment

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

The Gulf has a total area of approximately 600,000 square miles (1.5 million km²), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.1.1).

Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Gulf water temperatures range from 54° F to 84° F (12° C to 29° C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73° F through 83° F (23-28° C), including bays and bayous (Figure 3.1.1), between 1982 and 2009, according to satellite-derived measurements (NODC 2011).⁸ In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

⁸ <http://accession.nodc.noaa.gov/0072888>

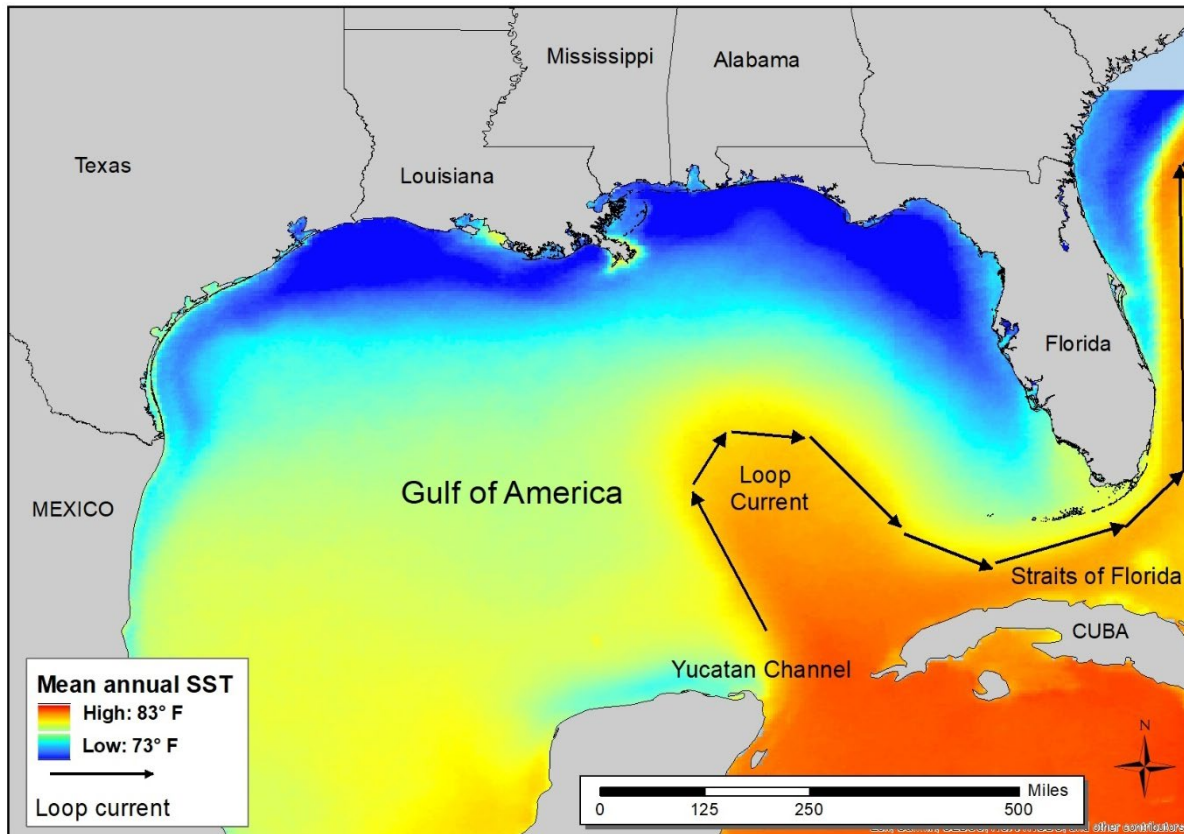


Figure 3.1.1. Mean annual sea surface temperature derived from the Advanced Very High-Resolution Radiometer Pathfinder Version 5 sea surface temperature data set.⁹

General Description of the Reef Fish Physical Environment

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

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

⁹ <http://pathfinder.nodc.noaa.gov>

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

Northern Gulf of Mexico Hypoxic Zone

A large hypoxic zone forms every summer in the northern Gulf. It is the result of allochthonous materials and runoff from agricultural lands resulting in increasing nutrient inputs to multiple rivers. These tributaries feed into the Mississippi River, which disperses to the Gulf, and creates a temperature and salinity dependent layering of waters. The nutrient rich fresh waters from the Mississippi create seasonal, large algal blooms at the surface that eventually die, sink to the bottom, and decompose. This creates the oxygen-poor, hypoxic, bottom water layer unless front or storm events occur, which allows for mixing of the layers (Rabalais and Turner 2019). Mapping of the hypoxic zone began in 1985. For 2021, the extent of the hypoxic area was 6,334 square miles, almost triple what it was in 2020 (2,116 square miles), but still less than the extent of the 2017 hypoxic area (8,776 square miles). The changes in hypoxic area can be attributed to changing amounts of river discharge and its associated nutrient load and storm events. The major factor for the reduced size in 2020 was the active storm season with Hurricane Hanna passing right over the zone, allowing for mixing of the waters. The 2021 hypoxia area was higher than the 5-year hypoxic area average (5,408 square miles) and much larger than the 1,930 square mile goal set by the Interagency Mississippi River and Gulf of Mexico Hypoxia Task Force to be reached by 2035.¹⁰ The hypoxic conditions in the northern Gulf directly impact less mobile benthic macroinvertebrates (e.g., polychaetes) by influencing density, species richness, and community composition (Baustian and Rabalais 2009; Breitburg et al. 2018). However, more mobile macroinvertebrates and demersal fishes are able to detect lower dissolved oxygen levels and move away from hypoxic conditions. Therefore, these organisms are indirectly affected by limited prey availability and constrained available habitat (Baustian and Rabalais 2009; Craig 2012).

3.2 Description of the Biological/Ecological Environment

The biological environment of the Gulf, including for Other Shallow-water Grouper (SWG) species, is described in detail in the Generic EFH Amendment (GMFMC 2004a) and the Generic ACL/AM Amendment (GMFMC 2011a), which are hereby incorporated by reference and summarized below.

¹⁰ <http://gulfhypoxia.net>

Other Shallow-water Grouper Life History Biology

The Other SWG species are assumed to each be single stock units due to a lack of detailed information on stock structure. All four species are protogynous hermaphrodites (SEDAR 68 2022), meaning that they begin life as female and can transition to male at older ages. Generally, eggs and larvae of Other SWG species are thought to be pelagic.

Scamp prefers rocky bottoms and ledges. Juveniles are found around jetties and mangroves. Spawning season occurs from January to June with peaks in March and April; however, the spawning patterns of scamp, much like other species of grouper, is complex (Lowerre-Barbieri, Susan et al. 2020). During spawning, males may defend spawning sites. There appears to be a special hierarchy during spawning times, and fish will exhibit several color phases during this time (Kobara et al. 2017). Yellowmouth grouper are difficult to distinguish from scamp (SEDAR 68, 2021) and share many characteristics with scamp in terms of habitat preferences and reproductive biology. Overall, yellowmouth grouper are much less common than scamp in the Gulf.

Black grouper occurs over wrecks, rocky coral reefs, ledges, and moderate to high-relief hard bottom habitat. Juveniles occupy submerged aquatic vegetation and mangroves in shallow water before moving to deeper waters as adults (GMFMC 2004). Yellowfin grouper is relatively rare in the Gulf. Its habitat is comprised of rocky bottoms and coral reefs from the shoreline to mid-shelf depths similar to other grouper species. Juveniles occupy shallow seagrass beds and migrate to deeper depths with age. Spawning occurs from March to August in the Gulf (GMFMC 2004).

Status of the Stock for Other SWG Species

See Chapter 1.1: Background, for more information. In summary, according to SEDAR 68 (2022), scamp and yellowmouth grouper are not overfished or experiencing overfishing as of 2020; the terminal year of information used in the stock assessment and subsequent review by the Scientific and Statistical Committee (SSC). The SSC did provide reduced catch level recommendations and the actions in this document are consistent with those recommendations. The most recent stock assessment for black grouper was completed in 2010 (SEDAR 19) and is no longer considered adequate for management advice. There is no stock assessment for yellowfin grouper. As a complex, harvest for the Other SWG complex has never exceeded the annual catch limit and is not classified as overfished or experiencing overfishing.

Protected Species and Protected Species Bycatch

NMFS manages marine protected species in the Southeast region under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). A brief summary of these two laws and more information is available on NMFS Office of Protected Resources website.¹¹

¹¹ <https://www.fisheries.noaa.gov/about/office-protected-resources>

ESA-listed species or distinct population segments (DPS) of marine mammals, sea turtles, fish, and corals occur in the exclusive economic zone (EEZ) of the Gulf. There are numerous stocks of marine mammals managed within the Southeast region. All marine mammals in U.S. waters are protected under the MMPA.

The five whale species that may be present in the Gulf (blue, sperm, sei, fin, and Rice's¹²) are listed as endangered under the ESA. Rice's whales are the only resident baleen whales in the Gulf. Manatees, listed as threatened under the ESA, also occur in the Gulf and are the only marine mammal species in this area managed by the U.S. Fish and Wildlife Service.

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

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

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

¹² The Rice's whale (*Balaenoptera ricei*) was previously classified as the Gulf of Mexico Bryde's whale but was later identified as morphologically and genetically distinct from other whales under the Bryde's whale complex, warranting classification as a new species of baleen whale living in the Gulf of Mexico.

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

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

There is no information to indicate marine mammals and birds rely on Other SWG species for food, and they are not generally caught by fishermen harvesting Other SWG species. The primary gear in the Gulf Reef Fish fishery used to harvest Other SWG species is hook-and-line and bottom longlines. These gear types are classified in the 2025 Marine Mammal Protection Act Proposed List of Fisheries as a Category III fishery (89 FR 77789; September 24, 2024), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. Additionally, there is no evidence that the Other SWG portion of the reef fish fishery as a whole is adversely affecting seabirds. Dolphins are the only species documented as interacting with the reef fish fishery. Bottlenose dolphin prey upon bait, catch, and/or discarded fish from the reef fish fishery.

Deepwater Horizon MC252 Oil Spill

The presence of polycyclic aromatic hydrocarbons (PAH), which are highly toxic chemicals that tend to persist in the environment for long periods of time, in marine environments can have detrimental impacts on marine finfish, especially during the more vulnerable larval stage of development (Whitehead et al. 2012). The future reproductive success of fish species may be negatively affected by episodic events resulting in high-mortality years or low recruitment. These episodic events could leave gaps in the age structure of the population, thereby affecting future reproductive output (Mendelssohn et al. 2012). Other studies have described the vulnerabilities of various marine finfish species, with morphological and/or life history characteristics similar to species found in the Gulf, to oil spills and dispersants (Hose et al. 1996; Carls et al. 1999; Heintz et al. 1999; Short 2003).

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

In addition to the crude oil, over a million gallons of the dispersant, Corexit 9500A®, was applied to the ocean surface and an additional hundreds of thousands of gallons of dispersant was pumped to the mile-deep wellhead (National Commission 2010). No large-scale applications of dispersants in deep water had been conducted until the *Deepwater Horizon* MC252 oil spill. Thus, no data exist on the environmental fate of dispersants in deep water. Twenty-first century dispersant applications are thought to be less harmful than their predecessors. However, the combination of oil and dispersants has proven to be more toxic to marine fishes than either dispersants or crude oil alone. Marine fish which are more active (e.g., a pelagic species versus a demersal species) appear to be more susceptible to negative effects from interactions with weathered oil/dispersant emulsions. These effects can include mobility impairment and inhibited respiration (Swedmark et al. 1973). The effect of oil, dispersants, and the combination of oil and dispersants on fishes of the Gulf remains an area of concern. More information about the *Deepwater Horizon* MC252 oil spill is available on the NOAA Southeast Regional Office (SERO) website.¹⁴

3.3 Description of the Economic Environment

3.3.1 Commercial Sector

Permits

Any fishing vessel that harvests and sells any of the reef fish species managed under the Reef Fish FMP from the Gulf exclusive economic zone (EEZ) must have a valid Gulf reef fish permit. As of July 8, 2021, there were 825 limited access valid or renewable reef fish permits (SERO Permits Database, May 2022). In order to harvest Other SWG, a vessel permit must also be linked to an IFQ account and possess sufficient allocation for this species. IFQ accounts can be opened and valid permits can be linked to IFQ accounts at any time during the year. Eligible vessels can receive Other SWG allocation from other IFQ participants. On average from 2019 through 2023, there were 693 IFQ accounts that held SWG allocation and 71% that held SWG shares (NMFS 2024a).

Although many fishing businesses only own one permitted vessel, some hold or own multiple permits and vessels. Detailed discussions on the business composition of IFQ participants are provided in the description of the economic environment sections of Amendment 53 (GMFMC 2022) and Amendment 56 (GMFMC 2024) and are incorporated herein by reference.

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

¹⁴ <https://www.fisheries.noaa.gov/news/deepwater-horizon-10-years-later-10-questions>

Vessels, Landings, and Dockside Revenue

The information in Table 3.3.1.1 describes the landings and revenue for vessels that harvested Other SWG each year from 2019 through 2023, including their revenue from other IFQ species, Gulf non-IFQ fisheries, and South Atlantic fisheries. The number of vessels that harvested Other SWG each year generally declined overall during this timeframe with the exception of a small increase in the number of vessels from 2019 to 2020 (Table 3.3.1.1). On average, Other SWG comprised approximately 2% of vessels' total annual ex-vessel revenue, and IFQ species, in general, comprised 97% of revenue. Other SWG landings and ex-vessel revenue varied during 2019 through 2023. Landings (not shown in table) and ex-vessel revenue from other IFQ species increased from 2021 to 2023. (Table 3.3.1.1). Although not shown in the table, the maximum annual gross revenue earned by a single vessel during the time was approximately \$4.37 million (2024 dollars) in 2023.

Table 3.3.1.1. Landings and revenue statistics for vessels harvesting Other SWG species (2024 dollars).

Year	# of Vessels	Other SWG landings in pounds (lbs) gutted weight (gw)	Other SWG ex-vessel revenue	Other IFQ species ex-vessel revenue	Gulf Non-IFQ species ex-vessel revenue	South Atlantic all species ex-vessel revenue	Average ex-vessel revenue per vessel
2019	309	185,014	\$1,225,710	\$55,728,500	\$1,308,763	\$487,452	\$228,987
2020	315	164,072	\$1,069,050	\$53,123,447	\$1,294,672	\$144,324	\$209,933
2021	300	187,412	\$1,255,077	\$56,621,292	\$1,005,049	\$259,459	\$224,131
2022	291	167,314	\$1,189,440	\$58,758,924	\$951,697	\$539,162	\$224,027
2023	292	173,156	\$1,260,479	\$57,331,813	\$671,883	\$403,091	\$209,284

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

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

Price information is important for evaluating the performance of a catch share program. Theoretically, allocation prices should reflect the expected annual profit from harvesting one unit of quota; whereas, share prices should reflect the net present value of the expected profit from harvesting one unit of quota in the long-run. Dockside or ex-vessel price is the price the vessel

receives at the first sale of harvest. Average share transfer¹⁵ prices fluctuated from 2019 through 2023; whereas, allocation remained relatively flat (Table 3.3.1.2). Ex-Vessel price increased by 9% overall; allocation transfer price decreased by 3%; and share price decreased by 18%.

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

Year	Share Transfer	Allocation Transfer	Ex-Vessel
2019	\$6.77	\$0.71	\$6.70
2020	\$6.04	\$0.68	\$6.57
2021	\$6.39	\$0.67	\$6.73
2022	\$6.41	\$0.72	\$7.17
2023	\$5.58	\$0.69	\$7.31

Source NMFS (2024)

Economic Value

Economic effects in the commercial Gulf SWG sector may arise from changes in landings, which can influence ex-vessel prices based on the domestic availability of Gulf SWG in markets.

Estimates of economic returns for vessels that harvested SWG during 2019-2023 are provided by Liese (2023)¹⁶. Liese (2023) generated annual vessel-level estimates of costs (as a percentage of revenue) and net revenue from operations for vessels that harvested “Other Shallow Water Groupers” in the Gulf. Estimates of PS can be calculated from the cost information contained in Liese (2023) in conjunction with estimates of annual revenue from the SEFSC-SSRG Socioeconomic Panel. PS is total annual revenue minus the costs for fuel, other supplies, hired crew, and the opportunity cost of an owner’s time as captain. Net revenue from operations, which most closely represents economic profits to the owner(s), is total annual revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, and the opportunity cost of an owner’s time as captain, as well as the vessel’s depreciation. According to Liese (2023), PS for commercial vessels that harvested Gulf SWG was approximately 48.3% of their annual gross revenue, on average, from 2014 through 2018. Net revenue from operations was 34.8% of their annual gross revenue, on average, during this period. Applying these percentages to the results provided in Table would result in an estimated per vessel average annual PS of \$580,776 (2024 dollars) and an average annual net revenue from operations of \$417,583 per year. Liese (2023) also provides annual trip-level estimates of costs (as a percentage of trip revenue) and trip net revenue for vessels that harvested snappers and groupers in the South Atlantic. According to Liese (2023), labor, including both hired and

¹⁵ Share transfer price refers to the price paid to purchase a share percentage that equates to one pound of SWG allocation at the time the transfer occurs (NMFS 2024a).

¹⁶ This report is available via the NOAA repository: <https://repository.library.noaa.gov/view/noaa/56480>

owner’s time, consumed 34.7% of trip revenue and fuel and supplies consumed 17%, leaving a trip net revenue margin of 48.4%, on average, from 2014 through 2018.

Dealers

The information in Table 3.3.1.3 illustrates the purchasing activities of dealers that bought Other SWG landings from vessels during 2019 through 2023. Like vessels, dealer participation in the Other SWG IFQ program is fluid, and not all dealers purchased SWG in each year during this time. On average, from 2019 through 2023, IFQ purchases comprised 23% of all purchases made by these dealers, with Other SWG species, in particular, accounting for less than a percent of total purchases. The average annual value of total purchases by these dealers also fluctuated during the period, with increased from 2020 to 2021 and a decline from 2022 to 2023 (Table 3.3.1.4). Although not shown in the table, the maximum annual value of all purchases made by a single dealer from 2019 through 2023 was \$16.07 million (2024 dollars) in 2022.

Table 3.3.1.3. Purchase statistics for dealers that bought Other SWG (2023 dollars)

Year	Number of Dealers	Other SWG Purchases	Other IFQ Purchases	Gulf Non-IFQ Purchases	South Atlantic Purchases	Average total purchases per dealer
2019	19	\$186,802	\$9,507,164	\$17,861,277	\$24,743,018	\$2,752,540
2020	19	\$281,354	\$12,060,358	\$10,139,601	\$16,633,032	\$2,058,650
2021	16	\$303,255	\$11,374,411	\$19,886,995	\$13,711,241	\$2,829,744
2022	16	\$258,080	\$9,168,939	\$17,031,939	\$19,658,646	\$2,882,350
2023	20	\$277,264	\$9,769,507	\$16,358,168	\$19,875,682	\$2,314,031

Keithly and Wang (2018) estimated the mark-ups between the ex-vessel price and the dealer sales price for red snapper, dolphin, red grouper, and an “Other Groupers” category. However, those estimates are insufficient to estimate PS or profit for Other SWG dealers, or changes to such as a result of regulatory changes, in part because costs other than the raw fish costs (which are equivalent to the ex-vessel value) are not taken into account. Further, Keithly and Wang’s (2018) category for “Other Groupers” includes black grouper, gag grouper, yellowedge grouper, and warsaw grouper. Therefore, the “other groupers” category is likely not a suitable proxy for Other SWG. NMFS does not possess estimates of operating costs for Other SWG dealers or seafood dealers more broadly, therefore, is not able to estimate profit, net cash flow, net revenue from operations, or PS for dealers as estimated for commercial vessels. However, it is likely that the harvest of Other SWG generates some PS and profit for Other SWG dealers. Further, because of federal dealers’ ability to switch to purchasing other species, changes to those values because of the management measures considered in this amendment are likely to be relatively small. Subsequently, any additional PS and profit generated from Other SWG sales further up the distribution chain to wholesalers/distributors, grocers, and restaurants is likely minimal, given the vast number of seafood and other products they handle and their even greater ability to shift to purchasing other products.

Imports

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

Groupers

According to NMFS' foreign trade data,¹⁷ grouper are not exported. Imports of fresh and frozen grouper products, which also directly compete with domestic harvest of snapper and grouper species are described in this section. As shown in Table 3.3.1.4, imports of fresh grouper products peaked in 2023. Total value of fresh grouper imports has been increasing in recent years and averaged \$67.0 million annually. The average price per pound for fresh grouper products was \$5.91 from 2019-2023, and these products primarily originated from Mexico, Panama, and Brazil.

Table 3.3.1.4. Annual pounds and value of fresh grouper imports and share of imports by country, 2019-2023.

	2019	2020	2021	2022	2023
Pounds of fresh Grouper imports (product weight, million pounds)	11.3	10.4	12.2	11.7	12.6
Value of fresh Grouper imports (millions \$, 2024\$)	71.1	53.7	72.5	69.4	68.2
Average price per lb (2024\$)	\$6.50	\$5.34	\$6.14	\$6.14	\$5.42
Share of Imports by Country					
Mexico	57.9	67.6	54.4	44	45
Brazil	16.9	12.3	18.1	23.9	19.8
Panama	8.1	8	10.9	13.4	12.7
All others	17	12.2	16.6	18.7	22.4

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

As shown in Table 3.3.1.5, imports of frozen grouper products peaked at 3.5 million lb pw in 2019 declining to a low of 0.8 million lb pw in 2020. Total revenue from frozen grouper decreased from 2019 to 2020, but increased to \$6.0 million in 2021. The average price per pound for frozen grouper products was \$2.28 from 2019-2023. Imports of frozen grouper products primarily originated in Brazil, Suriname, and Indonesia in 2019-2022.

¹⁷ <https://www.fisheries.noaa.gov/foss/>

Table 3.3.1.5. Annual pounds and value of frozen grouper imports and share of imports by country, 2019-2023.

	2019	2020	2021	2022	2023
Pounds of frozen Grouper imports (product weight, million pounds)	3.5	0.8	2.2	1.3	1.2
Value of frozen Grouper imports (millions \$, 2024\$)	5.7	1.8	6.0	3.1	2.7
Average price per lb (2024\$)	\$1.69	\$2.27	\$2.85	\$2.36	\$2.22
<i>Share of Imports by Country</i>					
Brazil	79.2	33.7	23.5	26.2	14
Suriname	11.2	25.9	30.6	16.2	0
Indonesia	3	1.1	22.2	5.9	0
All others	6.5	39.3	23.7	51.7	86

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

Snappers

According to NMFS' foreign trade data, Other SWG and other reef fish species are not exported from the U.S. to other countries. Imports of fresh and frozen snapper products, which directly compete with domestic harvest of snapper species are described in this section. As shown in Table 3.3.1.6, imports of fresh snapper products were 32.8 million lb product weight (pw) in 2019. They peaked at 36.0 million lb pw in 2021. Total revenue from snapper imports increased to a five-year high of \$187.5 million in 2021 (2024\$). The average price per pound for fresh snapper products was \$4.92 from 2019-2023 and varied over this time period. The average price per pound declined by 9% in 2023, relative to 2021 and 2022. Imports of fresh snapper products primarily originated in Mexico, Nicaragua, or Panama, entering the U.S. through the port of Miami.

Table 3.3.1.6. Annual pounds and value of fresh snapper imports and share of imports by country, 2019-2023. All monetary estimates are in 2024\$.

	2019	2020	2021	2022	2023
Pounds of fresh Snapper imports (product weight, million pounds)	32.8	32.4	36	32.2	32.1
Value of fresh Snapper imports (millions \$, 2024\$)	154.5	150.0	187.5	156.4	142.6
Average price per lb (2024\$)	\$4.89	\$4.80	\$5.40	\$5.04	\$4.44
<i>Share of Imports by Country</i>					
Mexico	34.9	40.4	32.8	31.2	32.3
Nicaragua	13.9	15.1	13.3	14.9	14.4
Panama	14.6	11	14	10.6	10.3
All others	36.6	33.5	39.9	43.4	42.8

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

As shown in Table 3.3.1.7, total revenue from imports of frozen snapper increased from \$40.8 million (2023\$) in 2019 to a five-year high of \$84.0 million in 2021 (2024\$) followed by a 44% decrease in 2023. The average price per pound for frozen snapper products was \$4.31, decreasing after 2022. Frozen snapper product imports primarily originated in Brazil or Suriname, and entered through the port of Miami.

Table 3.3.1.7 Annual pounds and value of frozen snapper imports and share of imports by country, 2019-2023.

	2019	2020	2021	2022	2023
Pounds of frozen Snapper imports (product weight, million pounds)	11.4	15.9	18.2	16.9	11.7
Value of frozen Snapper imports (millions \$, 2024\$)	49.1	64.0	84.0	73.4	42.5
Average price per lb (2024\$)	\$4.47	\$4.17	\$4.78	\$4.49	\$3.64
Share of Imports by Country					
Brazil	54.6	55.4	58.6	64.1	60.6
Suriname	13.5	10.3	10.5	5.5	12.3
Indonesia	6.8	5.4	3.9	8.0	7.0
All others	25	28.9	27	22.4	20.1

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

Business Activity

The commercial harvest and subsequent sales and consumption of fish generates business activity as fishermen expend funds to harvest the fish and consumers spend money on goods and services, such as lane snapper purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would spend their money on substitute goods and services. As a result, the analysis presented below represents a distributional analysis that only shows how economic impacts may be distributed through regional markets. It should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

Economic impact models can be used to determine the sources of the impacts. Each impact can be broken down into direct, indirect, and induced economic impacts. “Direct” economic impacts are the results of the money initially spent in the study area (e.g., country, region, state, or community) by the fishery or industry being studied. This includes money spent to pay for labor, supplies, raw materials, and operating expenses. The direct economic impacts from the initial spending create additional activity in the local economy, i.e., “indirect” economic impacts. Indirect economic impacts are the results of business-to-business transactions indirectly caused by the direct impacts. For example, businesses initially benefiting from the direct impacts will

subsequently increase spending at other local businesses. The indirect economic impact is a measure of this increase in business-to-business activity, excluding the initial round of spending which is included in the estimate of direct impacts. “Induced” economic impacts are the results of increased personal income caused by the direct and indirect economic impacts. For example, businesses experiencing increased revenue from the direct and indirect impacts will subsequently increase spending on labor by hiring more employees, increasing work hours, raising salaries/wage rates, etc. In turn, households will increase spending at local businesses. The induced impact is a measure of this increase in household-to-business activity.

Estimates of the U.S. average annual business activity associated with the commercial harvest of all Gulf reef fish species were derived using the model developed for and applied in NMFS (2024)¹⁸ and are provided in Table 3.3.1.8. Specifically, these impact estimates reflect the expected impacts from average annual gross revenues generated by landings of Other SWG IFQ species from 2019 through 2023. This business activity is characterized as jobs (full- and part-time equivalents), income impacts (wages, salaries, and self-employed income), value-added impacts (the difference between the value of goods and the cost of materials or supplies), and output impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

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

Table 3.3.1.8. Average annual business activity (2019 through 2023) associated with the commercial harvest of red snapper in the Gulf. All monetary estimates are in thousands of 2024 dollars.

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

Harvesters	Direct	Indirect	Induced	Total
Employment impacts	23	4	5	31
Income impacts	\$648	\$120	\$291	\$1,059
Total value-added impacts	\$691	\$433	\$498	\$1,621
Output Impacts	\$1,200	\$976	\$966	\$3,142
Primary dealers/processors	Direct	Indirect	Induced	Total
Employment impacts	5	2	3	10
Income impacts	\$211	\$195	\$184	\$590
Total value-added impacts	\$225	\$249	\$347	\$821
Output impacts	\$680	\$512	\$678	\$1,871
Secondary wholesalers/ distributors	Direct	Indirect	Induced	Total
Employment impacts	2	0	2	5
Income impacts	\$126	\$37	\$132	\$296
Total value-added impacts	\$134	\$63	\$226	\$423
Output impacts	\$337	\$123	\$440	\$900
Grocers	Direct	Indirect	Induced	Total
Employment impacts	9	1	2	12
Income impacts	\$259	\$86	\$130	\$475
Total value-added impacts	\$276	\$139	\$220	\$635
Output impacts	\$443	\$225	\$432	\$1,100
Restaurants	Direct	Indirect	Induced	Total
Employment impacts	58	4	10	72
Income impacts	\$1,039	\$315	\$595	\$1,950
Total value-added impacts	\$1,108	\$563	\$1,003	\$2,674
Output impacts	\$2,025	\$882	\$1,979	\$4,886
Harvesters and seafood industry	Direct	Indirect	Induced	Total
Employment impacts	97	11	22	129
Income impacts	\$2,283	\$754	\$1,333	\$4,370
Total value-added impacts	\$2,434	\$1,446	\$2,294	\$6,174
Output impacts	\$4,686	\$2,719	\$4,495	\$11,900

Source: Calculated by NMFS SERO using the model developed for and applied in NMFS (2024).

3.3.2 Recreational Sector

The recreational sector is composed of the private and for-hire modes. The private mode includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire mode is composed of charter vessels and headboats (also called party boats). Charter

vessels generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person. The type of service, from a vessel- or passenger-size perspective, affects the flexibility to search different fishing locations during the course of a trip and target different species because larger concentrations of fish are required to satisfy larger groups of anglers.

Angler Effort

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

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

Other measures of effort are possible, such as directed trips (the number of individual angler trips that either targeted or caught a particular species). Estimates of target or catch effort for individual species and additional years, as well as other measures of directed effort, are available via NMFS' MRIP query tool.¹⁹

Tables 3.3.2.1 and 3.3.2.2 describe the recreational target and catch trips for Other SWG complex species (scamp, yellowmouth grouper, black grouper, and yellowfin grouper) in the Gulf from 2019 through 2023. There were no recorded target trips in Texas for these species and Louisiana data are currently unavailable. Private vessels represent 80% of this target effort and the vast majority of it occurred in Florida (Table 3.3.2.1). The number of recreational target trips for Other SWG complex species increased substantially from a 5-year low in 2019 through 2023, with fluctuations. The majority of catch effort for Other SWG complex species was also attributed to private vessels in Florida and it increased substantially from 2019 through 2020, but then leveled off through 2023 (Table 3.3.2.2)

Table 3.3.2.1. Other SWG complex recreational target trips, by mode and state, 2019-2023.

¹⁹ <https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries>

	Alabama	Florida	Mississippi	Total
	Shore Mode			
2019	0	0	0	0
2020	0	11,647	0	11,647
2021	0	2,810	0	2,810
2022	0	3,238	0	3,238
2023	0	15,086	0	15,086
Average	0	3,351	0	6,556
	Charter Mode			
2019	0	3351	0	3,351
2020	108	549	0	657
2021	226	1,087	0	1,313
2022	601	3,297	0	3,898
2023	0	3,016	0	3,016
Average	187	2,260	0	2,447
	Private/Rental Mode			
2019	2,219	2,263	0	4,482
2020	4,438	29,406	0	33,844
2021	7,637	9,018	0	16,655
2022	4,453	67,647	0	72,100
2023	4,380	58,797	0	63,177
Average	4,625	33,426	0	38,052
	All Modes			
2019	2,219	5,614	0	7,833
2020	4,546	41,602	0	46,148
2021	7,863	12,914	0	20,777
2022	5,054	74,182	0	79,236
2023	4,380	76,899	0	81,279
Average	4,812	42,242	0	47,055

Source: MRIP database, SERO, NMFS (May 2025).

Note: Louisiana, Texas, and headboat information is currently unavailable.

Table 3.3.2.2. Other SWG complex recreational catch trips, by mode and state, 2019-2023.

	Alabama	Florida	Mississippi	Total
	Shore Mode			
2019	0	1,426	0	1,426
2020	0	54,650	0	54,650
2021	723	21,656	0	22,379
2022	0	1,126	0	1,126
2023	0	11,878	0	11,878
Average	0	3,351	0	18,292
	Charter Mode			
2019	7077	24702	0	31,779
2020	2,699	40,678	0	43,377
2021	3826	54,048	0	57,874
2022	5,101	54,258	0	59,359
2023	4,448	42,368	0	46,816
Average	4,630	43,211	0	47,841
	Private/Rental Mode			
2019	4,324	44,103	1,031	49,458
2020	2,906	115,555	0	118,461
2021	1,006	108,135	4,801	113,942
2022	11,242	149,673	0	160,915
2023	10,566	136,073	0	146,639
Average	6,009	110,708	1,166	117,883
	All Modes			
2019	11,400	70,231	1,031	82,662
2020	5,605	210,882	0	216,487
2021	5,554	183,839	4,801	194,194
2022	16,344	205,057	0	221,401
2023	15,014	190,320	0	205,334
Average	10,783	172,066	1,166	184,016

Source: MRIP database, SERO, NMFS (May 2025).

Note: Louisiana, Texas, and headboat information is currently unavailable.

Tables 3.3.2.3 and 3.3.2.4 describe the seasonal patterns of recreational target and catch trips for the Other SWG complex from 2019 through 2023. During this period, both recreational target and catch trips for these species were concentrated most heavily during MRIP waves 3 and 4 (June through August), on average.

Table 3.3.2.3. Other SWG complex recreational target trips, by MRIP wave, 2019-2023.

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
2019	0	777	4,936	2,119	0	0
2020	0	323	14,074	7,138	24,613	0
2021	0	0	11,802	4,752	3,930	293
2022	0	18,552	37,167	17,682	3,803	1,774
2023	0	5,789	19,296	28,553	0	27,640
Average	0	5,088	17,455	12,049	6,469	5,941

Source: MRIP database, SERO, NMFS (May 2025).

Table 3.3.2.4. Other SWG complex recreational catch trips, by MRIP wave, 2019-2023.

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
2019	2,353	19,762	21,698	14,459	4,472	9,702
2020	33,314	16,219	53,301	43,025	45,695	24,933
2021	15,824	11,379	64,214	64,385	21,172	17,221
2022	4,049	23,769	65,861	88,829	3,565	35,329
2023	13,592	11,551	73,806	59,930	22,394	24,060
Average	13,826	16,536	55,776	54,126	19,460	22,249

Source: MRIP database, SERO, NMFS (May 2025).

Similar analysis of recreational effort is not possible for the headboat mode in the Gulf because headboat data are not collected at the angler level. Estimates of effort by the headboat mode are provided in terms of angler days, or the number of standardized full-day angler trips.²⁰ The stationary “fishing for demersal (bottom-dwelling) species” nature of headboat fishing, as opposed to trolling, suggests that most, if not all, headboat trips and, hence, angler days, are demersal or reef fish trips by intent.

Headboat angler days have been variable across the Gulf States from 2019 through 2023, but there were no well-defined trends (Table 3.3.2.5). On average (2019 through 2023), Florida accounted for the majority of headboat angler days reported, followed by Texas and Alabama; Mississippi and Louisiana combined accounted for only a small percentage (Table 3.3.2.5). Headboat effort in terms of angler days for the entire Gulf tended to be concentrated most heavily during the summer months of June through August (Figure 3.3.2.1).

Table 3.3.2.5. Gulf headboat angler days and percent distribution by state (2019 through 2023).

²⁰ Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

	Angler Days				Percent Distribution			
	FL	AL	MS-LA*	TX	FL	AL	MS-LA	TX
2019	161,564	18,607	2,632	52,456	68.7%	7.9%	1.1%	22.3%
2020	126,794	13,091	1,728	51,498	65.7%	6.8%	0.9%	26.7%
2021	181,632	13,844	3,197	71,344	67.3%	5.1%	1.2%	26.4%
2022	164,872	14,751	3,679	65,634	66.2%	5.9%	1.5%	26.4%
2023	149,735	12,513	3,244	58,279	66.9%	5.6%	1.4%	26.0%
Average	156,919	14,561	2,896	59,842	66.9%	6.3%	1.2%	25.6%

Source: NMFS SRHS (2023).

*Headboat data from Mississippi and Louisiana are combined for confidentiality purposes.

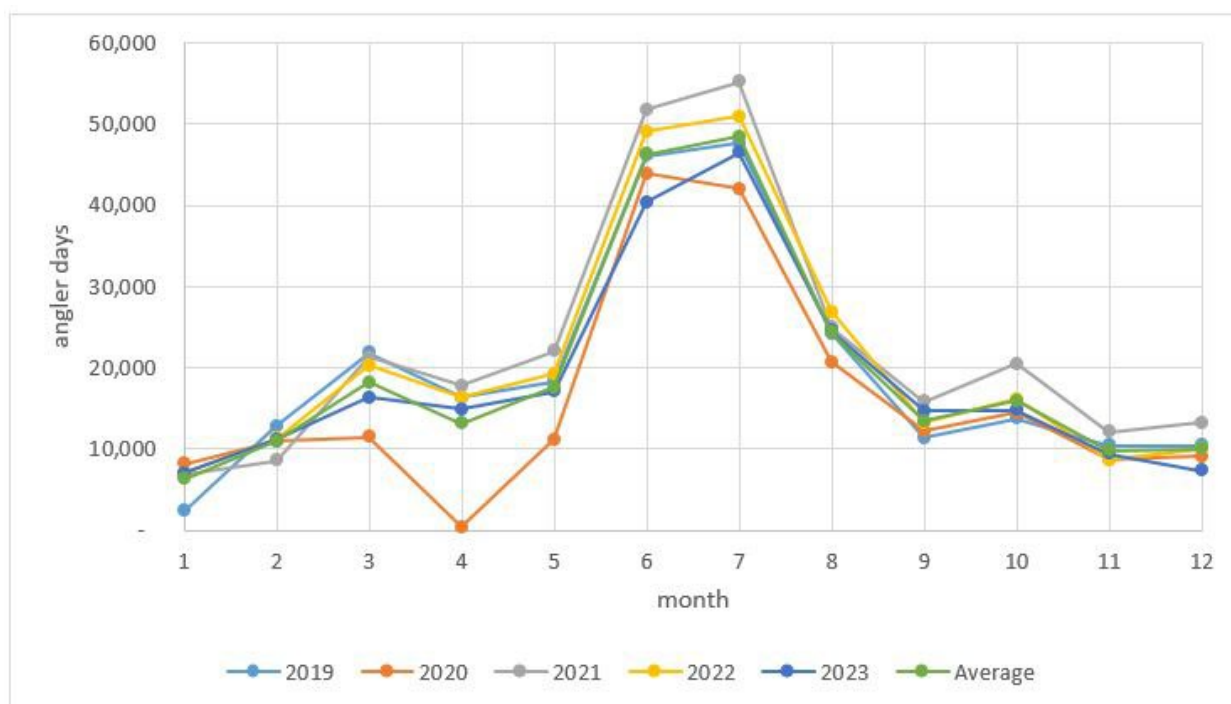


Figure 3.3.2.1. Gulf headboat angler days by month and year (2019 - 2023).

Source: NMFS SRHS (2023).

Permits

There are no specific federal permitting requirements for private recreational anglers to fish for or harvest shallow water grouper species, including scamp, yellowmouth grouper, black grouper, and yellowfin grouper. The same is true of private recreational vessel owners. Instead, private anglers are required either to possess a state recreational fishing permit that authorizes saltwater fishing in general, or to be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data

how many individual private anglers or private recreational vessels would be expected to be affected by the actions in this amendment.

For anglers to fish for or possess reef fish species in or from the Gulf Exclusive Economic Zone (EEZ) on for-hire vessels, those vessels are required to have a Gulf charter/headboat permit for reef fish (Gulf reef fish for-hire permit). As of August 26, 2021, there were 1,273 valid or renewable²¹ Gulf reef fish for-hire permits. The total number of valid or renewable Gulf reef fish for-hire permits has been relatively stable with less than a 1% change from year to year during 2016 through 2020 (Table 3.3.2.6). Note more recent permit information is currently unavailable.

Although the permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel and vessels may operate in both capacities. However, if a vessel meets the selection criteria used by the Southeast Regional Headboat Survey (SRHS) and is selected to report by the Science Research Director of the SEFSC, it is determined to operate primarily as a headboat and is required to submit harvest and effort information to the SRHS. As of July 31, 2024, 68 Gulf headboats were registered in the SRHS (R. Cheshire, NMFS SEFSC, pers. comm. 2024).

Table 3.3.2.6. Number of valid or renewable Gulf reef fish for-hire permits, 2016-2020.

Year	Number of Permits
2016	1,282
2017	1,280
2018	1,279
2019	1,277
2020	1,289

Source: NMFS SERO Sustainable Fisheries (SF) Access permits database (accessed 05/17/22).

Economic Value

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is consumer surplus (CS), which is the difference

²¹ A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration.

between the maximum amount an angler would be willing to pay for a fish and the amount they actually do pay.²² CS represents a savings of one's income that can be spent later on other goods and services, leading to an overall increase in utility or satisfaction for the angler and a benefit to the economy. All else equal, the amount anglers are willing to pay and the costs of fishing can vary depending on expected catch rates, harvest rates, and existing regulations. The economic value of changes in expected catch rates, harvest rates, or existing regulations can be measured by any associated changes in CS. However, because recreationally-caught fish are non-market goods and there are no transaction data available, CS cannot be measured directly. Instead, using survey elicitation methods and stated or revealed preference models, it is possible to estimate willingness to pay (WTP) values²³ that are a close approximation to the individual CS an angler would derive from an additional fish that is caught and kept. Direct estimates of the WTP for scamp, yellowmouth grouper, black grouper, and yellowfin grouper are not currently available. There are, however, estimates for grouper species in general. Haab et al. (2012) estimated the WTP for one additional grouper caught and kept in the Southeastern U.S. using four separate econometric modeling techniques. The finite mixture model, which takes into account variation in the preferences of fishermen, had the best prediction rates of the four models and, as such, was selected for presentation here. The mean WTP for an additional grouper was estimated to be \$168.76 (2024\$). Another study estimated the mean WTP for catching and keeping a second grouper on an angler trip at approximately \$128 (2023\$) and lower thereafter (approximately \$85 for a third grouper, \$63 for a fourth grouper, and \$49 for a fifth grouper) (Carter and Liese 2012). For the purposes of this amendment, the \$131 per fish estimate is assumed to be the best value to use for estimating the CS associated with catching and keeping a Other SWG complex species. The higher value provided by Haab et al. (2012) is likely less reasonable for these particular species.

Economic value for the for-hire component of the recreational sector can be measured in many ways. According to Savolainen et al. (2012), the average charter vessel operating in the Gulf is estimated to receive approximately \$107,000 (2024\$) in gross revenue and \$32,000 (2024\$) in net income (gross revenue minus variable and fixed costs) annually. The average headboat is estimated to receive approximately \$325,000 (2024\$) in gross revenue and \$95,000 (2024\$) in net income annually. More recent estimates of average annual gross revenue for Gulf headboats are provided in Abbott and Willard (2017) and D. Carter, SEFSC, pers. comm. 2018. Abbott and Willard (2017) suggest that Savolainen, et al.'s estimate of average annual gross revenue for headboats may be an underestimate, as data in the former suggest that average gross revenue in 2009 for the vessels in their sample was about \$575,000 (2024\$). Further, their data suggest average annual gross revenue per vessel had increased to about \$694,000 (2024\$) by 2014. However, Abbott and Willard's estimates are based on a sample of 17 headboats that chose to participate in the headboat collaborative program in 2014, while the Savolainen, et al. estimates are based on a random sample of 20 headboats. The headboats that participated in the collaborative program may be economic highliners, in which case Abbott and Willard's

²² Holding income and the prices of other goods constant.

²³ These are measures of compensating surplus, or the amount of money that an angler would be willing to pay in order to harvest the additional fish, while maintaining the same level of utility.

estimates would overestimate average annual gross revenue for Gulf headboats. D. Carter, SEFSC, pers. comm. 2018 recently estimated that average annual gross revenue for Gulf headboats was approximately \$514,000 (2024\$) in 2017. This estimate is likely the best current estimate of annual gross revenue for Gulf headboats, as it is based on a relatively large sample of 63 boats, or more than 90% of the active fleet, and is more recent.

However, gross revenues overstate the annual economic value and profits generated by for-hire vessels. Economic value for for-hire vessels can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of revenue, costs, and trip net revenue (TNR) for trips taken by headboats and charter vessels in 2017 are available from Souza and Liese (2019). After accounting for transactions fees, supply costs, and labor costs, net revenue per trip was 42% of revenue for Gulf charter vessels and 54% of revenue for Southeast headboats,²⁴ or \$938 and \$2,179 (2023 dollars), respectively (Table 3.3.2.7). When TNR is divided by the number of anglers on a trip, it represents cash flow per angler (CFpA), which is an approximation of PS per angler trip. The estimated CFpA value for an average Gulf charter angler trip is \$171 (2024\$) and the estimated CFpA value for an average Gulf headboat angler trip is \$77 (2024\$; Souza and Liese 2019). Estimates of CFpA for individual Reef Fish species or species group target trips, in particular, are not available.

²⁴ Southeast headboats include headboats operating either the Gulf or South Atlantic. Souza and Liese (2019) state “the sample size available for headboats is limited (n=30) and, hence, the results are presented at an overall SE aggregation.”

Table 3.3.2.7. Trip economics for offshore trips by Gulf charter vessels and Southeast headboats in 2017 (2023\$).

	Gulf Charter Vessels	Southeast Headboats
Revenue	100%	100%
Transaction Fees (% of revenue)	3%	6%
Supply Costs (% of revenue)	27%	19%
Labor Costs (% of revenue)	27%	22%
Net Revenue per trip including Labor costs (% of revenue)	42%	54%
Net Revenue per Trip	\$938	\$2,179
Average # of Anglers per Trip	5.5	28.2
Trip Net Cash Flow per Angler Trip	\$171	\$77

Source: Souza and Liese (2019).

Business Activity

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

Estimates of the business activity (economic impacts) associated with recreational angling for Other SWG complex species were calculated using average trip-level impact coefficients derived from the 2022 Fisheries Economics of the U.S. report (NMFS 2024) and underlying data provided by the National Oceanic and Atmospheric Administration Office of Science and Technology. Economic impact estimates in 2022 dollars were adjusted to 2023 dollars using the annual, not seasonally adjusted, gross domestic product (GDP) implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Business activity (economic impacts) for the recreational sector is characterized in the form of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts (contribution to the GDP in a state or region). Estimates of the average annual economic impacts (2019–2023) resulting from Other SWG complex charter, private vessel, and shore target trips are provided in Table 3.3.2.8. These

impacts should not be added together because this would result in double counting. The average impact coefficients, or multipliers, used in the model are invariant to the “type” of effort (e.g., target or catch) and can therefore be directly used to measure the impact of other effort measures such as Other SWG complex catch trips. To calculate the multipliers from Table 3.3.2.8, simply divide the desired impact measure (value-added impact, sales impact, income impact or employment) associated with a given state and mode by the number of target trips for that state and mode.

The estimates provided in Table 3.3.2.8 only apply at the state-level. Addition of the state-level estimates to produce a regional (or national) total may underestimate the actual amount of total business activity, because state-level impact multipliers do not account for interstate and interregional trading. It is also important to note that these economic impacts estimates are based on trip expenditures only and do not account for durable expenditures. Durable expenditures cannot be reasonably apportioned to individual species or species groups. As such, the estimates provided in Table 3.3.2.8 may be considered a lower bound on the economic activity associated with those trips that targeted Other SWG complex species.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered by MRIP in the Southeast, so, in addition to the absence of estimates of target effort, estimation of the appropriate business activity coefficients for headboat effort has not been conducted.

Table 3.3.2.8. Estimated average annual economic impacts (2019-2023) from Gulf charter, private vessel, and shore Other SWG complex target trips, by state,* using state-level multipliers. All monetary estimates are in 2024 dollars in thousands.

	FL	AL
	Charter Mode	
Target Trips	2,260	187
Value Added Impacts	\$1,523	\$76
Sales Impacts	\$2,413	\$133
Income Impacts	\$1,039	\$55
Employment (Jobs)	22	2
	Private/Rental Mode	
Target Trips	33,426	4,625
Value Added Impacts	\$1,196	\$180
Sales Impacts	\$1,998	\$389
Income Impacts	\$587	\$78
Employment (Jobs)	11	2
	Shore	
Target Trips	3,351	0
Value Added Impacts	\$194	\$0
Sales Impacts	\$320	\$0
Income Impacts	\$103	\$0
Employment (Jobs)	2	\$0
	All Modes	
Target Trips	39,037	4,812
Value Added Impacts	\$2,913	\$256
Sales Impacts	\$4,731	\$521
Income Impacts	\$1,728	\$132
Employment (Jobs)	36	3

*There was no recorded target effort for lane snapper in Texas or Mississippi and Louisiana data are currently unavailable.

National-level multipliers must be used to account for interstate and interregional trading when calculating a national total of economic impacts. Between 2019 and 2023, and using national-level multipliers, Other SWG complex target effort generated employment, income, value-added, and output (sales) impacts of 49 jobs, \$2.9 million, \$5.1 million, and \$9.7 million per year, respectively, on average.

3.4 Description of the Social Environment

This framework action affects the commercial and recreational management of species managed within the Other SWG complex in the Gulf, including scamp, yellowmouth grouper, black grouper, and yellowfin grouper. The following description includes permits related to the commercial and recreational reef fish fishing by state to provide a geographic distribution of

fishing involvement. Top communities based on the number of permits are presented. Commercial and recreational landings by state are included to provide information on the geographic distribution of fishing involvement. Descriptions of Other SWG-IFQ accounts with shares, Other SWG-IFQ accounts with allocation but without shares, and Other SWG-IFQ dealers are included at the state and community level. The top communities in the Gulf by commercial landings are identified and their commercial engagement and reliance are described. Descriptions of the top communities based on recreational engagement are also included. Lastly, social vulnerability data are presented for all top-ranking communities. Community level data are presented in order to meet the requirements of National Standard 8 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), which requires the consideration of the importance of fishery resources to human communities when changes to fishing regulations are considered.

The most recent data available has been utilized in the following section; however, the year range or date presented may not match what is included elsewhere in the document because some sources of data are not available at the community or state level.

3.4.1 Commercial Sector

Permits

Gulf reef fish permits are issued to entities, such as individuals and businesses in Florida (81.4% of Gulf reef fish vessels), Texas (7.8%), Alabama (4.5%), Louisiana (3.8%), and Mississippi (0.9%) (SERO permit office, July 8, 2021). Residents of other states (Arkansas, Georgia, Illinois, Maryland, Missouri, North Carolina, New York, Oklahoma, and South Carolina) also hold commercial reef fish permits, but these states represent a smaller percentage of the total number of issued permits.

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

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

State	Community	Reef Fish Permits (RR)
FL	Panama City	82
FL	Key West	43
FL	St. Petersburg	30
FL	Largo	26
TX	Galveston	22

State	Community	Reef Fish Permits (RR)
FL	Destin	22
FL	Cortez	21
FL	Pensacola	21
FL	Seminole	20
FL	Clearwater	16
FL	Tampa	16
FL	Lynn Haven	13
FL	Naples	13
FL	Steinhatchee	13
FL	Apalachicola	11
FL	Tarpon Springs	11

Source: SERO permit office, July 8, 2021.

Landings

The majority of the commercial catch of Other SWG is landed along the west coast of Florida (average of 87% from 2016-2020), followed by Louisiana (9.1%), Texas (2.9%), and Alabama and Mississippi (1%, NMFS SERO IFQ database accessed 4/2/25).

IFQ Accounts

To land IFQ-managed species, such as Other SWG, fishermen need a permitted vessel and sufficient IFQ allocation in the vessel's account to land the fish. Some accounts are held in the name of an individual, or more than one individual, while others form business entities and open accounts in the name of the business. This makes it more difficult to talk about the social environment, because we don't always know who is behind the account, and whether the holders of an account reside in the same area. In the following analysis, accounts are described at the state and community level based on the mailing address of the individual; business; or primary entity which equates to the primary individual listed on the account, if the account is held by more than one individual.

Also called shareholder accounts, an IFQ account is required to hold shares and allocation. The number of accounts is used here as a proxy to represent the number of participants.

Shareholders

As of July 8, 2021, a total of 507 IFQ accounts held shares of Other SWG-IFQ (IFQ database; includes active and suspended accounts). The majority of accounts with Other SWG-IFQ shares have a mailing address in Florida (80.1% of accounts with Other SWG-IFQ shares, Table 3.4.1.2), followed by Texas (7.1%), Alabama (4.7%), Louisiana (4.1%), and Mississippi (1%).

Accounts with mailing addresses in other states (Arkansas, Georgia, Michigan, North Carolina, New York, Oregon, South Carolina, Tennessee, Utah, and Wyoming) also hold Other SWG-IFQ shares, but these states represent a smaller percentage of the total number of accounts with shares.

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

Table 3.4.1.2. Number of IFQ accounts with Other SWG shares by state, including the percentage of shares by state by share category.

State	Accounts	SWG Shares (%)
AL	24	1.906
FL	406	76.258
LA	21	3.806
MS	5	0.423
TX	36	12.565
Other	15	4.432
Total	507	99.389

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

Note: Includes active and suspended accounts.

Accounts with Other SWG-IFQ shares are held by people with mailing addresses in a total of 183 communities (IFQ database accessed 7/8/21). Communities with the most accounts with Other SWG-IFQ shares are located in Florida and Texas (Table 3.4.1.3). The community with the most accounts with Other SWG-IFQ shares is Panama City, Florida (8.3% of accounts with shares), followed by Key West, Florida (4.7%), and Largo, Florida (3%).

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

State	Community	Accounts	SWG Shares (%)
FL	Panama City	42	11.952
FL	Key West	24	1.984
FL	Largo	15	2.604
FL	Cortez	14	2.213
FL	Pensacola	14	1.883
FL	Destin	13	1.076
FL	St. Petersburg	13	1.471
TX	Galveston	9	2.799
FL	Seminole	9	2.343

State	Community	Accounts	SWG Shares (%)
FL	Steinhatchee	9	1.403
FL	Tampa	9	1.153
FL	Apalachicola	8	2.059
FL	Fort Walton Beach	7	0.914
FL	Tallahassee	7	0.124
FL	Tarpon Springs	7	2.893

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

The largest or maximum percent of Other SWG-IFQ shares held in a community is 11.952% in Panama City, Florida (IFQ database accessed 7/8/21). The percentage of shares by community varies widely and a large number of accounts with shares may not necessarily correlate to a large percentage of shares in a particular category (Table 3.4.1.3). Some communities with a relatively smaller number of accounts may have a larger percentage of shares.

Allocation Holders without Shares

In 2020, a total of 214 IFQ accounts held Other SWG-IFQ allocation without Other SWG-IFQ shares (IFQ database accessed 2/25/22). However, these accounts may be related to accounts with SWG shares. The majority of accounts with Other SWG-IFQ allocation, but without Other SWG-IFQ shares have mailing addresses in Florida (79.4% of accounts with SWG allocation, but without SWG shares, Table 3.4.1.4), followed by Texas (9.8%), Louisiana (4.7%), and Alabama and Mississippi (3.3%). Account holders with Other SWG allocation, but without Other SWG shares also have mailing addresses in other states (Georgia, Illinois, North Carolina, Ohio, and South Carolina), but these states represent a smaller percentage of the total number of accounts with Other SWG allocation, but without Other SWG shares.

Table 3.4.1.4. Number of IFQ accounts with Other SWG allocation, but without Other SWG shares by state, 2020.

State	Accounts
AL/MS	7
FL	170
LA	10
TX	21
Other	6
Total	214

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

IFQ accounts with Other SWG-IFQ allocation, but without Other SWG-IFQ shares have mailing addresses in a total of 92 communities (IFQ database accessed 2/25/22). Communities with the most accounts with allocation, but without shares are located in Florida and Texas (Table

3.4.1.5). The community with the most accounts with allocation, but without shares is Panama City, Florida (8.4% of accounts with allocation, but without shares, Table 3.4.1.5), followed by Galveston, Texas (6.1%) and St. Petersburg, Florida (5.6%).

Table 3.4.1.5. Top communities by number of IFQ accounts with Other SWG allocation, but without Other SWG shares, 2020.

State	Community	Accounts
FL	Panama City	18
TX	Galveston	13
FL	St. Petersburg	12
FL	Largo	11
FL	Madeira Beach	9
FL	Clearwater	6
FL	Pensacola	6
FL	Seminole	6

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

Dealers

The majority of dealer facilities with Other SWG-IFQ species landings are located in Florida (average of 79.5% of Gulf SWG IFQ dealer facilities for 2016-2020, Table 3.4.1.6), followed by Louisiana (7.9%), Texas (6.8%), and Alabama and Mississippi (5.9%).

Table 3.4.1.6. Number of Gulf Other SWG IFQ dealer facilities by state for 2016-2020.

Year	AL/MS	FL	LA	TX
2016	7	87	8	7
2017	5	91	10	9
2018	6	84	9	10
2019	8	90	6	6
2020	6	82	10	5

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

Gulf Other SWG-IFQ dealers are located in a total 89 communities (IFQ database accessed 4/2/25, includes dealers with landings of Other SWG species from 2016-2020). Communities with the most Gulf Other SWG-IFQ dealer facilities are located in Florida, Alabama, and Louisiana (Table 3.4.1.7). The community with the most Gulf Other SWG-IFQ dealer facilities is Panama City, Florida (6.6% of Gulf Other SWG-IFQ dealer facilities, Table 3.4.1.7), followed by Key West, Florida (6.1%) and Madeira Beach, Florida (5.6%).

Table 3.4.1.7. Top communities by number of dealer facilities with Other SWG-IFQ landings during 2016-2020.

State	Community	*Dealer Facilities
FL	Panama City	14
FL	Key West	13
FL	Madeira Beach	12
FL	Destin	7
FL	St. Petersburg	7
AL	Bayou La Batre	5
FL	Bokeelia	5
FL	Crystal River	5
FL	St. James City	5
FL	Steinhatchee	5
LA	Golden Meadow	5

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

*Multiple dealers can use the same facility and a dealer can operate at multiple facilities.

Regional Quotient

Regional Quotient (RQ) is the proportion of Other SWG-IFQ species landed within a community out of the total amount of Other SWG-IFQ species landed within the Southeast region. It is an indicator of the percent contribution in pounds or value of Other SWG-IFQ species landed within that community relative to the regional fishery. The RQ is reported individually only for the top 10 communities by total landings for the years of 2016 through 2020. All other communities that landed Other SWG-IFQ species are grouped as “Other.” Figure 3.4.1.1 shows the RQ in percentage of pounds from 2016 to 2020. The dominant communities for Other SWG-IFQ species pounds landed included the communities of Madeira Beach, Panama City, and Apalachicola, Florida and Golden Meadow, Louisiana (Figure 3.4.1.1). Several of the top 10 communities are located in Pinellas County (Madeira Beach, Indian Shores, Tarpon Springs, and Redington Shores) and are within close proximity to each other. Indian Shores and Redington Shores are in particularly close geographic proximity as they border each other, but are separate towns and therefore are included as separate communities. Two of the top three communities are located in the Florida Panhandle (Panama City and Apalachicola).

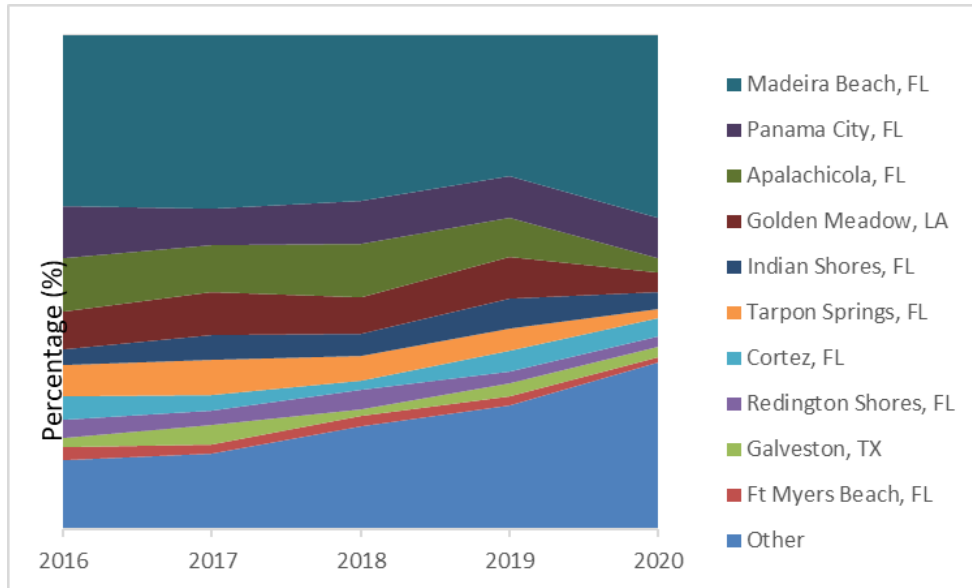


Figure 3.4.1.1. Regional Quotient (pounds) for top communities by landings in the Gulf Other SWG-IFQ Program from 2016 through 2020.

Source: IFQ database accessed 4/2/25.

Engagement and Reliance

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

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

Figure 3.4.1.2 is an overall measure of a community’s commercial fishing engagement and reliance and includes the communities with the strongest relationship to the commercial sector for Other SWG as depicted in Figure 3.4.1.1. Most communities in Figure 3.4.1.2 would be considered to be highly engaged in commercial fishing, as many are at or above one standard deviation of the mean factor score. Indian Shores and Redington Shores, Florida show the least amount of engagement in commercial fishing overall. Apalachicola, Florida and Golden Meadow, Louisiana demonstrate a moderate to high level of commercial reliance.

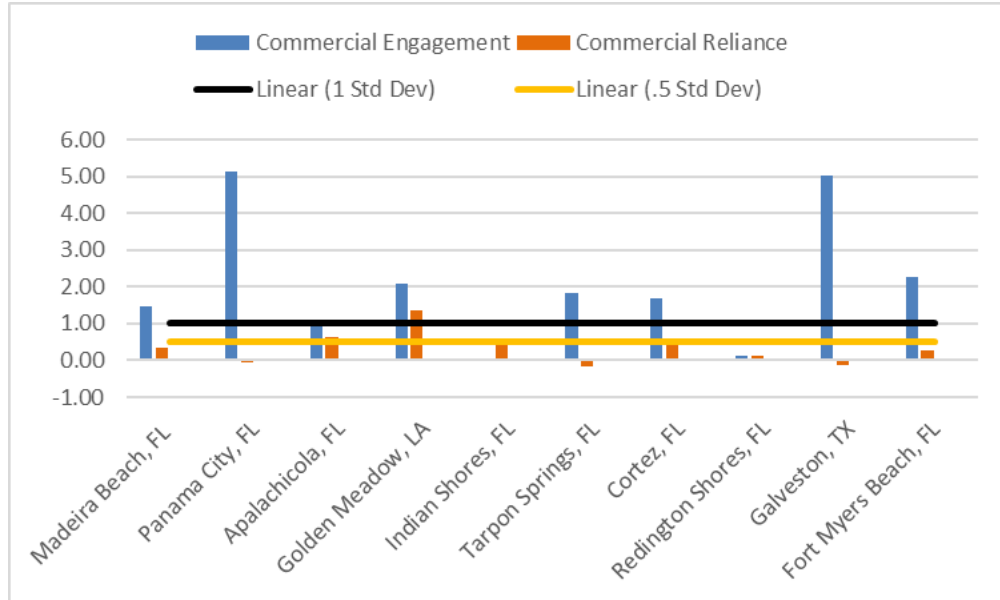


Figure 3.4.1.2. Commercial fishing engagement and reliance for top Other SWG communities. Source: SERO Community Social Vulnerability Indicators Database 2019.

3.4.2 Recreational Sector

Permits

Charter/headboat for reef fish permits are issued to entities, such as individuals and businesses in Florida (60% of charter/headboat for reef fish vessels), Texas (15.7%), Alabama (10.6%), Louisiana (7.4%), and Mississippi (2.6%, SERO permit office, July 8, 2021). Residents of other states (Arkansas, Arizona, California, Colorado, Georgia, Illinois, Michigan, Missouri, Montana, North Carolina, New Jersey, New York, Ohio, Oklahoma, Tennessee, Virginia, and Wisconsin) also hold charter/headboat permits, but these states represent a smaller percentage of the total number of issued permits.

Charter/headboat for reef fish permits are held those with mailing addresses in 355 communities (SERO permit office, July 8, 2021). Communities with the most charter/headboat for reef fish permits are located in Florida, Alabama, and Texas (Table 3.4.2.1). The communities with the most charter/headboat permits are Panama City, Florida (4.6% of charter/headboat permits), Destin, Florida (4.4%), and Orange Beach, Alabama (4.1%).

Table 3.4.2.1. Top communities by number of Gulf charter/headboat for reef fish permits.

State	Community	Charter/Headboat for Reef Fish Permits (RCG)
FL	Panama City	65

State	Community	Charter/Headboat for Reef Fish Permits (RCG)
FL	Destin	62
AL	Orange Beach	57
FL	Naples	45
FL	Key West	43
FL	Pensacola	30
FL	Sarasota	27
FL	St. Petersburg	23
TX	Galveston	21
FL	Panama City Beach	19
TX	Corpus Christi	19
FL	Cape Coral	18
FL	Clearwater	18
FL	Fort Myers	18
FL	Crystal River	16
FL	Tampa	16
FL	Gulf Breeze	14

Source: SERO permit office, July 8, 2021.

Landings

The majority of recreational Other SWG landings are from the waters adjacent to the west coast of Florida (average of 84.8% from 2019-2023), followed by Alabama (8%), Louisiana and Mississippi (6.2%), and Texas (1.4%, SEFSC Recreational MRFSS ACL Dataset and LA Creel).

Engagement and Reliance

Landings for the recreational sector based on fisheries survey data are not an accurate representation of the species caught at the community level, making it difficult to identify communities as dependent on recreational fishing for Other SWG. Because limited data are available concerning how communities are engaged and reliant on specific species in the recreational sector, indices were created using secondary data from permit and infrastructure information for the southeast recreational fishing sector at the community level (Jepson and Colburn 2013, Jacob et al. 2013). Recreational fishing engagement is represented by the number of recreational permits and vessels designated as “recreational” by homeport and owners address. Fishing reliance includes the same variables as fishing engagement, divided by population. Factor scores of both engagement and reliance were plotted by community.

Figure 3.4.2.1 identifies the Gulf communities located in Florida that are the top communities by engagement upon recreational fishing in general. Two thresholds of one and one-half standard

deviation above the mean were plotted to help determine a threshold for significance. Communities are presented in ranked order by fishing engagement and all included communities demonstrate high levels of recreational engagement, although this is not specific to fishing for Other SWG. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the top list, suggesting a greater importance for recreational fishing in that area. The communities of Tavernier and Islamorada, Florida demonstrate the highest reliance on recreational fishing. The communities of Marathon, Crystal River, Destin, Crystal River, and Port Saint Joe, Florida demonstrate a moderate to high reliance.

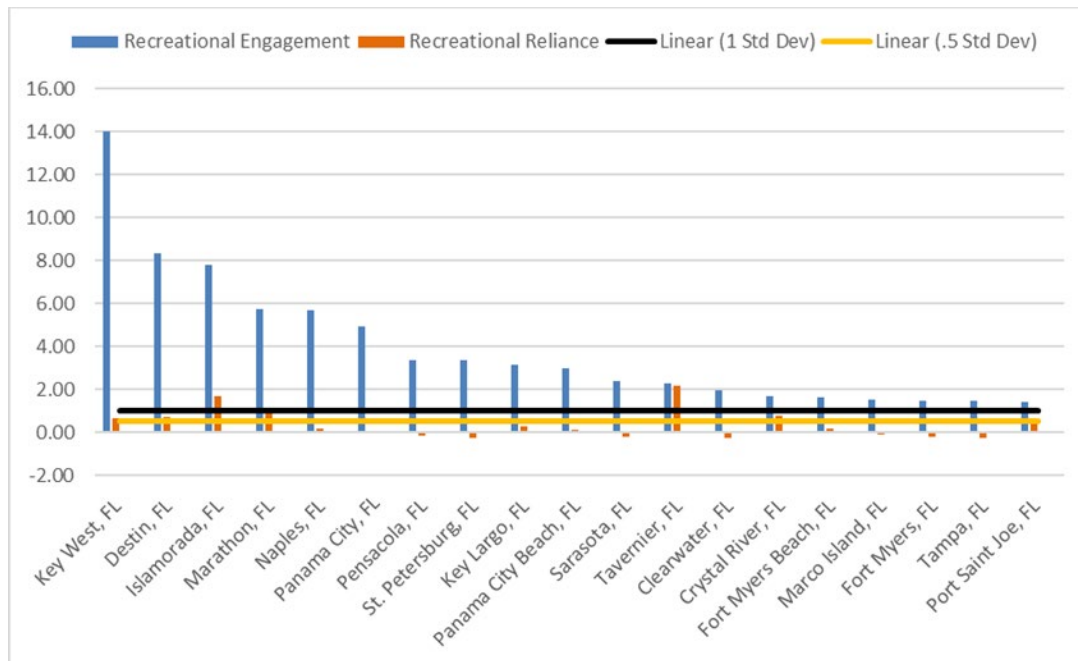


Figure 3.4.2.1. Recreational fishing engagement and reliance for top Florida communities. Source: SERO, Community Social Vulnerability Indicators Database 2019.

3.4.3 Social Vulnerability

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

Figures 3.4.3.1 and 3.4.3.2 provide social vulnerability rankings for place-based communities identified in Section 3.4 as important to commercial and recreational fishing for Other SWG specifically, fishing for reef fish, or marine fishing in general. Several communities exceed the threshold of one standard deviation above the mean for at least one of the indices (Bayou La Batre, Alabama; Bokeelia, Florida; and Steinhatchee, Florida). These communities would be the most likely to exhibit vulnerabilities to social or economic disruption resulting from regulatory change.

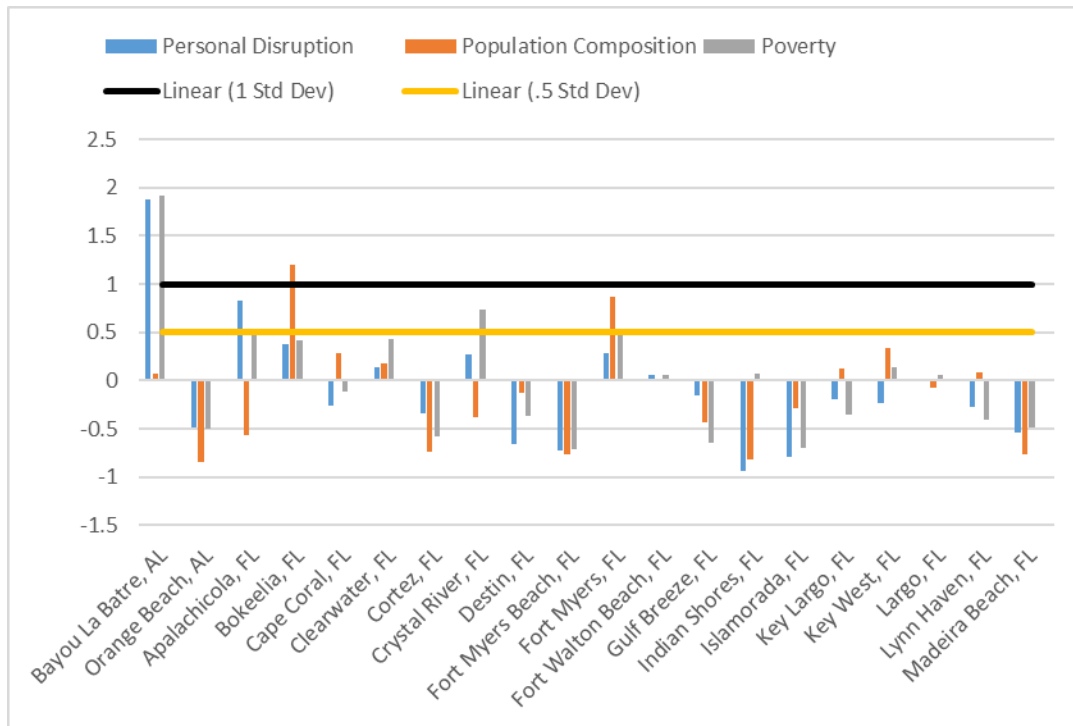


Figure 3.4.3.1. Social vulnerability indices for top commercial and recreational reef fish and Other SWG communities.

Source: SERO, Community Social Vulnerability Indicators Database 2022.

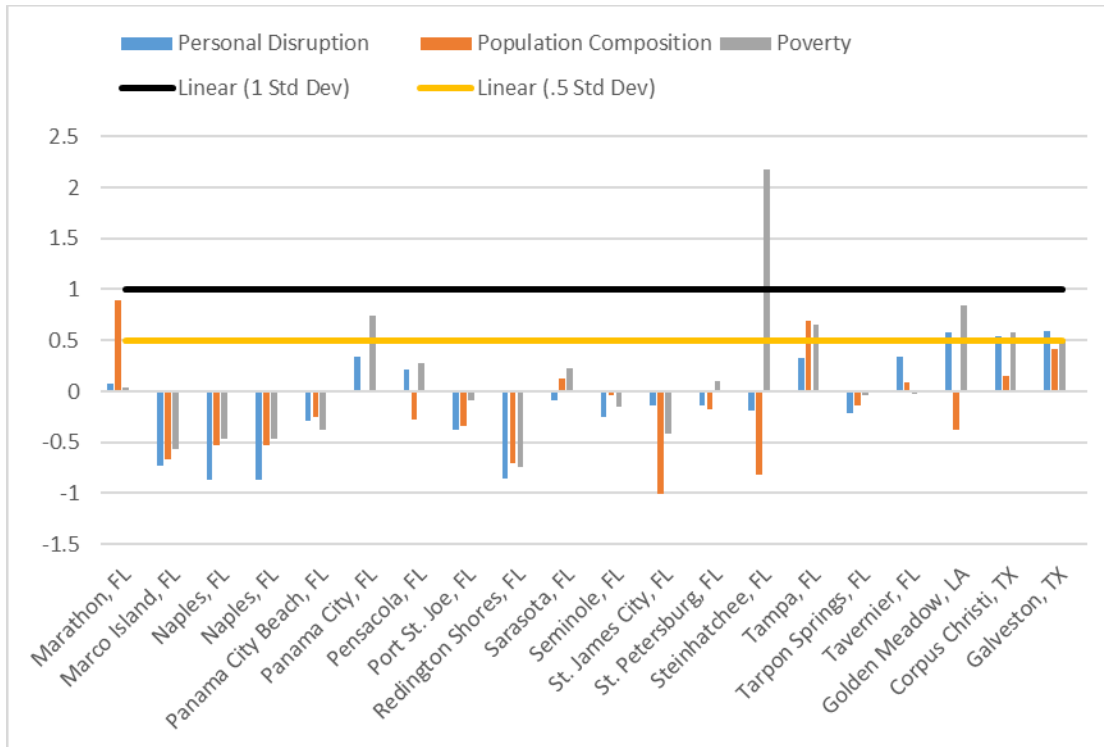


Figure 3.4.3.2. Social vulnerability indices for top commercial and recreational reef fish and Other SWG communities continued.

Source: SERO, Community Social Vulnerability Indicators Database 2022.

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

3.5 Description of the Administrative Environment

3.5.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Act (16 U.S.C. 1801 *et seq.*), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ. The EEZ is defined as an area extending 200 nautical miles from the seaward boundary of each of the coastal states. The Magnuson-Stevens Act also claims 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 Magnuson-Stevens Act and with other applicable laws summarized in Appendix C. In most cases, the Secretary has delegated this authority to NMFS.

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

The Gulf 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.

3.5.2 State Fishery Management

The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments of Texas, Louisiana, Mississippi, Alabama, and Florida have the authority to manage their respective state fisheries. Each of the five Gulf states exercises legislative and regulatory authority over their 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. Descriptions of individual state management and data collection programs can be found at the Web Pages shown in Table 3.6.2.1.

Table 3.5.2.1. Gulf state marine resource agencies and web pages.

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

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1: Modification of Gulf Other Shallow Water Grouper (Other SWG) Complex Catch Limits

Alternative 1: No Action – Maintain the current catch limits for the Other SWG complex: scamp, yellowmouth grouper, black grouper, and yellowfin grouper. The complex acceptable biological catch (ABC) is 710,000 pounds gutted weight (lb gw). The complex annual catch limit (ACL) is set equal to the complex ABC. The commercial ACL is 547,000 lb gw, and the commercial annual catch target (ACT) or quota, is set 4% below the commercial ACL at 525,000 lb gw. The recreational ACL is undefined.

Preferred Alternative 2: Reduce the Other SWG complex ABC by 54.7%. Set the stock ACL equal to 322,000 lb gw, the commercial ACL equal to 255,636 lb gw, and the commercial ACT (quota) equal to 245,410 lb gw.

Alternative 3: Reduce the Other SWG Complex ABC by 54.7% based on the average Other SWG complex landings from 2019-2023. The stock ACL is set equal to the ABC at 133,000 lb gw. The commercial ACL is 105,589 lb gw, and the commercial ACT (quota) is 101,365 lb gw.

Alternative 4: Reduce the total ACL of the scamp and yellowmouth grouper component of the Other SWG Complex by 54.7% based on the average scamp and yellowmouth grouper landings from 2019-2023. Use the average of the 2019-2023 landings for black grouper and yellowfin grouper to calculate the catch limits. The complex ABC/ACL is set at 151,000 lb gw, the commercial ACL is 119,879 lb gw, and the commercial ACT is 115,084 lb gw.

4.1.1 Direct and Indirect Effects on the Physical Environment

The alternatives to the status quo in this action set new ABCs, ACLs, and ACTs (quota) for the Other SWG Complex. This action would have no direct impact on the physical environment. However, decreases in catch limits may result in diminished fishing effort, which would decrease potential effects.

The commercial sector of the reef fish fishery is conducted using vertical line (i.e., electric reel, bandit rig, hook-and-line, and trolling) and longline gear. The recreational sector (headboat, charter, private vessels, and shore modes) primarily uses vertical line gear (hook-and-line). Reef fish are also harvested by spearfishing in both the commercial and recreational sectors; however, the proportion of SWG recreational landings attributable to this harvest method is estimated to be low compared to hook-and-line. In the Gulf, a majority of commercial SWG landings reported indicated that longline and vertical line were the predominant gears used. For the recreational sector, a majority of SWG landings indicated that hook-and-line fishing was the predominant gear used.

Commercial harvesting for reef fish using longline gear occurs over hard bottom habitats using weights to keep the gear in direct contact with the bottom. The potential for this gear to adversely impact the bottom depends on the type of habitat it is set on, the presence or absence of currents and the behavior of fish after being hooked. In addition, this gear, upon retrieval, can abrade, snag, and dislodge smaller rocks, corals, and sessile invertebrates (Hamilton 2000; Barnette 2001). Direct underwater observations of longline gear in the Pacific halibut fishery by High (1998) noted that the gear could sweep across the bottom. A study that directly observed deployed longline gear (Atlantic tilefish portion of the snapper-grouper fishery) found no evidence that the gear shifted significantly, even when set in currents (Grimes et al. 1982). Lack of gear shifting even in strong currents was attributed to setting anchors at either end of the longline to prevent movement, which is the standard in the longline component of the commercial sector of the reef fish fishery. Based on direct observations, it is logical to assume that bottom longline gear would have a minor impact on sandy or muddy habitat areas. However, due to the vertical relief that hard bottom and coral reef habitats provide, it would be expected that bottom longline gear may become entangled, resulting in potential negative effects to habitat (Barnette 2001).

The abundances of many managed reef fish species, including SWG species like scamp, yellowmouth grouper, black grouper, and yellowfin grouper, are higher on hard bottom areas than on sand or mud bottoms. For this reason, fishing with vertical line gear generally occurs over or near hard bottom areas. Vertical line gear includes multi-hook lines known as bandit gear, handlines, and rod-and-reels. Vertical line gear is less likely to contact the bottom than longline gear, but still has the potential to snag and entangle bottom structures and cause attached organisms such as soft corals and sponges to tear off or be abraded (Barnette 2001). In using bandit gear, a weighted line is lowered to the bottom, and then the weighted line is raised slightly off the bottom (Siebenaler and Brady 1952). The gear is in direct contact with the bottom for only a short period of time. Barnette (2001) suggests that physical impacts may include entanglement and minor degradation of benthic species from line abrasion and from the use of weights (sinkers).

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

Alternative 1 (No Action) would maintain the current catch limits for the Other SWG complex: scamp, yellowmouth grouper, black grouper, and yellowfin grouper. The complex ABC is 710,000 lb gw, and the complex ACL is set equal to that. The commercial ACL is 547,000 lb gw, and the commercial ACT is set at 525,000 lb gw. The recreational ACL is undefined.

Alternative 1 would allow overexploitation of the Other SWG Complex, especially for scamp and yellowmouth grouper. Southeast Data, Assessment, and Review (SEDAR) 68 (2022) found that large reductions in scamp and yellowmouth grouper harvest were required in order to prevent overfishing of these species. Thus, **Alternative 1** is not consistent with the goals of this action to reduce the likelihood of overfishing the SWG complex, and in particular scamp and yellowmouth grouper.

Preferred Alternative 2 would reduce the Other SWG complex ABC by 54.7% to 322,000 lb gw, and set the stock ACL equal to that. The commercial ACL would be set at 255,636 lb gw, and the commercial ACT (quota) would be set at 245,410 lb gw. **Preferred Alternative 2** is expected to reduce harvest of Other SWG to substantially below the OFL. While the commercial quota is set at 245,410 lb gw, commercial landings for the most recent five years (2019-2023) have averaged only 147,235 lb gw, despite catch limits substantially high than those proposed in this alternative. Thus, commercial catch is expected to be approximately 95-100 thousand pounds less than what is proposed in this alternative. In addition, action 2 in this document is expected to set a recreational closed season which would limit recreational harvest to under 66,364 lb gw. Thus, combined harvest is expected to be far less than the proposed overfishing limit for 2026 and beyond (Table 1.1.3) of 257,000 lb gw.

Alternative 3 would reduce the Other SWG complex ABC by 54.7% of the average landings of 2019-2023, or 133,000 lb gw, and set the stock ACL equal to that. The commercial ACL is 105,589 lb gw, and the commercial ACT (quota) is 101,365 lb gw. **Alternative 3** is expected to reduce harvest of SWG to the complex ACL. While the commercial quota would be set at 101,365 lb gw, commercial landing for the most recent five years (2019-2023) have averaged 147,235 lb gw, despite catch limits substantially higher than those proposed in this alternative. In addition, preliminary data for 2024 indicates harvest of just over 100,000 lb gw, indicating that the reduction under **Alternative 3** may have little impact on commercial harvest. In any case, commercial catch would be expected to be reduced by no more than 45-50 thousand pounds based on recent landings. In addition, action 2 in this document is expected to set a recreational closed season which would limit recreational harvest to under 27,411 lb gw. Thus, combined harvest is expected to be far less than the proposed overfishing limit for 2026 and beyond (Table 1.1.3) of 257,000 lb gw.

Alternative 4 would reduce the total ACL of the scamp and yellowmouth grouper component of the Other SWG Complex by 54.7% based on the average scamp and yellowmouth grouper landings from 2019-2023, and would use the average of the 2019-2023 landings for black grouper and yellowfin grouper to calculate the catch limits. Thus, the complex ABC and ACL would be set at 151,000 lb gw, the commercial ACL at 119,879 lb gw, and the commercial quota at 115,084 lb gw. **Alternative 4** is expected to reduce harvest of Other SWG to the ACL. While the commercial quota would be set at 115,084 lb gw, commercial landings for the most recent five years (2019-2023) have averaged 147,235 lb gw, despite catch limits substantially higher than those proposed in this alternative. In addition, preliminary data for 2024 indicates harvest of just over 100,000 lb gw, indicating that the reduction under **Alternative 4** may have little or no impact on commercial harvest. In any case, commercial catch would be expected to be reduced by no more than 30-35 thousand pounds based on recent landings. In addition, action 2

in this document is expected to set a recreational closed season which would limit recreational harvest to under 31,121 lb gw. Thus, combined harvest is expected to be far less than the proposed overfishing limit for 2026 and beyond (Table 1.1.3) of 257,000 lb gw.

Under **Alternative 1**, there would be no change to the fishing effort or direct effects on the physical environment. **Preferred Alternative 2** as well as **Alternatives 3** and **4** would reduce allowable harvest of SWG species. Because of the multispecies nature of the reef fish fishery for the commercial and recreational sectors, and because fishing effort may shift to or from other species and away or towards SWG specifically, reducing catch limits as proposed in **Preferred Alternative 2** and **Alternatives 3** and **4** is not expected to result in measurable effects to the physical environment compared to each other or compared to **Alternative 1**.

4.1.2 Direct and Indirect Effects on the Biological and Ecological Environment

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

Fishing can affect life history characteristics of reef fish, such as growth and maturation rates. Grouper reproduction may also be impacted by fishing. As an example, Fitzhugh et al. (2006) reported the size at which 50% of female gag (*Mycteroperca microlepis*) are sexually mature, and the size at which 50% of females transition to males, was smaller in their studies compared to earlier years. In addition, for hermaphroditic species (like DWG species), fishing pressure has been suggested as influential to changes in sex ratios. Again, looking to gag, the proportion of males in the population decreased from historical levels of 17% (Hood and Schlieder 1992) to 2-10% in the 1990s (Coleman et al. 1996), to approximately 2% in 2020 (SEDAR 72 2022). A decline in the ratio of male to female grouper could be an ongoing source of concern depending on the reproductive strategy of a particular species. Furthermore, for species that aggregate, there is a particular vulnerability to fishing because it is concentrated at specific locations. This problem is magnified at greater depths. At the depths common to Other SWG fishing (adult scamp are common at depths of 91 - 327 m; Farmer et. al., 2016), Other SWG species are expected to be vulnerable to mortality from barotrauma when hooked at depth and then reeled to the surface.

Bycatch does occur within the reef fish fishery. If fish are released due to catch limits, seasons, or other regulatory measures, these fish are considered bycatch. In general, reducing bycatch provides biological benefits to managed species as well as benefits to the reef fish fishery through less waste, higher yields, and, thus, less forgone yield. In some cases, actions are approved that can increase bycatch through regulatory discards such as increased minimum sizes and closed seasons. Under these circumstances, biological benefit to the managed species through the approved action is estimated to outweigh any increases in discards from the action.

The reef fish fishery can also affect species outside the reef fish complex. Specifically, sea turtles have been observed to be directly affected by the longline component of the Gulf reef fish fishery. These effects occur when sea turtles interact with fishing gear and result in capture and incidental injury or mortality (summarized in GMFMC, 2010). However, the most recent biological opinion (NMFS 2011a) for the Reef Fish FMP and re-initiation memos concluded that the operation of the fishery is not likely to jeopardize the continued existence of sea turtles or other species listed under the Endangered Species Act (ESA). This fishery is also not expected to adversely affect marine mammals. The primary gear types used by the commercial sector (longline and hook-and-line) were classified in the 2025 Marine Mammal Protection Act Proposed List of Fisheries as a Category III fishery (89 FR 77789; September 24, 2024) with regard to marine mammal species, indicating the gear has little effect on these populations.

Alternative 1 (No Action) would maintain the current catch limits for the Other SWG complex: scamp, yellowmouth grouper, black grouper, and yellowfin grouper. This alternative would allow continued overexploitation of the SWG complex. Because **Alternative 1** would allow continued harvest at or above recent levels, it is not consistent with the goals of this action, and would have negative effects on the biological environment.

Preferred Alternative 2 would reduce the Other SWG complex ABC by 54.7% to 322,000 lb gw, and set the stock ACL equal to that. **Preferred Alternative 2** is expected to reduce harvest of SWG. As detailed in Section 4.1.1, commercial catch is expected to be approximately 95-100 thousand pounds less than what is proposed in this alternative, and recreational harvest would be limited to 66,364 lb gw. Combined harvest is therefore expected to be less than the proposed overfishing limit for 2026 (SEDAR 68, 2022) and beyond (Table 1.1.1) of 257,000 lb gw. Thus, **Preferred Alternative 2** is expected to have positive impacts on the biological environment with regard to the Other SWG complex because it would implement sustainable harvest levels and fishing practices that are expected to result in an increased stock size.

Alternative 3 would reduce the Other SWG complex ABC by 54.7% of the average landings of 2019-2023, or 133,000 lb gw, and set the stock ACL equal to that. As detailed in Section 4.1.1, **Alternative 3** is expected to reduce commercial harvest of SWG by approximately 46,000 lb based on the most recent five years (2019-2023) average, and would also limit recreational harvest to 27,411 lb gw. Thus, combined harvest is expected to be far less the OFL and ABC indicated by SEDAR 68 (2022). **Alternative 3** is therefore expected to have positive impacts on the biological environment with regard to the Other SWG complex because it would implement sustainable fishing practices that are expected to result in an increased stock size.

Alternative 4 would reduce the total ACL of the scamp and yellowmouth grouper component of the Other SWG Complex by 54.7% based on the average scamp and yellowmouth grouper landings from 2019-2023, and would use the average of the 2019-2023 landings for black grouper and yellowfin grouper to calculate the catch limits. Thus, the complex ABC and ACL would be set at 151,000 lb gw. As detailed in Section 4.1.1., **Alternative 4** is expected to reduce commercial catch by an estimated 30-35 thousand pounds based on recent landings and would limit recreational harvest to 31,121 lb gw. **Alternative 4** is therefore expected to have positive impacts on the biological environment with regard to the Other SWG complex because it would implement sustainable fishing practices that are expected to result in an increased stock size.

With regard to bycatch of Other SWG species, **Alternative 1** is expected to have no effect, since it allows fishing to continue at current levels. **Preferred Alternative 2** and **Alternatives 3** and **4** are expected to increase bycatch of Other SWG species, especially in the recreational sector, because it would implement a fixed closed season, requiring discard of all Other SWG species captured during the closed season. **Alternative 3** is expected to result in the highest amount of bycatch relative to the other alternatives, because it would implement the lowest allowable catch and the shortest recreational season. **Alternative 2** is expected to result in the lowest amount of Other SWG species discards, since it would implement the highest catch limits and the longest recreational season of the action alternatives. However, in spite of an increase in discards, each of the action alternatives is expected to result in positive effects to the biological environment with regard to the Other SWG complex because they are expected to result in lower overall mortality to the complex than under current management, and would implement sustainable harvest levels and fishing practices that are expected to result in an increased stock size.

None of the Action 1 alternatives is expected to have significant impacts on any other component of the biological environment, because they are unlikely to change the fishing effort or manner of fishing for the reef fish fishery as a whole. Under **Alternative 1**, there would be no change to the fishing effort or direct effects on the biological environment. **Alternative 3** is expected to have the most positive effects of the action alternatives with regard to the biological environment as a whole, and **Preferred Alternative 2** is expected to have the least positive effects. However, due to the multispecies nature of the reef fish fishery for the commercial and recreational sectors, and because fishing effort may shift to or from other species and away or towards Other SWG specifically, reducing catch limits as proposed in **Preferred Alternative 2** and **Alternatives 3** and **4** is not expected to result in measurable effects to other components of the biological environment compared to each other or compared to **Alternative 1**.

4.1.3 Direct and Indirect Effects on the Economic Environment

Alternative 1 (No Action) would maintain the current catch limits for the Other SWG complex. For **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4**, the stock ACL for Other SWG would be reduced, respectively, to 322,000 lb gw, 133,000 lb gw, and 151,000 lb gw. The commercial ACL and quota are defined for **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4**, but the recreational ACL remains undefined.

Recreational Sector

Estimated increases in economic value to recreational fishermen are approximated by multiplying the expected change in the number of fish harvested by a per fish CS estimate. The most recent proxy for a CS estimate for an Other SWG species is the estimated value of the CS for a 1 fish change in grouper harvest, derived from keeping a second grouper on an angler trip. A value of \$131 (Carter and Liese 2012; values updated to 2024\$) reflect recreational willingness-to-pay (WTP) for 1 additional grouper harvest. This might overestimate the WTP of an Other SWG fish for Gulf recreational fishermen as a whole, if Gulf recreational fishermen are retaining more than one Other SWG fish per trip, since WTP decreases as additional fish are retained.

An upper bound on the expected change in the number of fish harvested is calculated by dividing the change in the recreational sector’s undefined ACL by 3.91 lb gw, which is the weighted average weight of a recreational landed Other SWG fish in the Gulf from the 2020 to 2024 fishing years.²⁵ A lower bound on the expected change in the number of fish harvested is calculated by dividing the difference between the recreational sector’s undefined ACL and the average landings for the recreational sector from 2018-2023, excluding 2020, by 3.91 lb gw. Multiplying the expected change in the number of fish expected to be landed by the recreational sector by the estimated value of the CS provides the expected change in CS for the recreational sector, as seen in Table 4.3.1.

Table 4.3.1. Upper and lower bounds of the expected change in the recreational sector’s CS, relative to Alternative 1. CS values are in 2024\$.

Alternative	Upper Bound of Expected Change in Rec Sector Landings, Expressed as Number of Fish	Upper Bound of Expected Change in Rec Sector CS	Lower Bound of Expected Change in Rec Sector Landings, Expressed as Number of Fish	Lower Bound of Expected Change in Rec Sector CS
Preferred Alt 2	-24,699	-\$3,235,518	-20,798	-\$2,724,503
Alt 3	-34,654	-\$4,539,723	-30,753	-\$4,028,708
Alt 4	-33,706	-\$4,415,506	-29,805	-\$3,904,492

²⁵ Landings were reported in paired species as black grouper and yellowfin grouper and as scamp and yellowmouth grouper. The percentage each pair represented for the overall recreational landings was averaged over 2018-2023, excluding 2020, and multiplied by the average recreationally landed weight of the predominantly landed species for each pairing (black grouper and scamp) over 2020-2024 (M. Larkin, SERO pers. comm. 2025), and then summed to get a representative weight for a recreationally landed Other SWG fish.

The producer surplus (PS) of the for-hire component of the recreational sector, being comprised of charter vessels and headboats, would be impacted by a change in the number of targeted trips. In the long run, factors of production, such as labor and capital, can be used elsewhere in the economy, and so only short-term changes to PS are expected. In the Gulf, headboat trips take a diverse set of anglers on a single vessel, generally advertising a diverse range of species to be caught. Therefore, an assumption that no headboat trips would be gained due to a change in the undefined recreational sector's ACL would be reasonable. However, charter vessel trips that are targeting Other SWG may be cancelled by anglers and are the focus of the recreational sector PS analysis. Table 3.3.2.1 shows that an average of 2,447 target trips by charter mode for Other SWG in the Gulf were made from 2019-2023, which accounts for just over 5% of all recreational target trips for Other SWG in the Gulf from 2019-2023. In contrast, an average of 47,841 catch trips by charter mode for Other SWG in the Gulf were made from 2019-2023. This suggests that Other SWG fish are incidentally harvested species. Therefore, a change in demand for for-hire trips would not be expected. While it is possible that some trips cancellations might occur, the effects would likely be minimal.

Commercial Sector

For the commercial sector, the comparison of effects is based on the resulting quotas from **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4** relative to that of **Alternative 1** as well as to that of historical landings under **Alternative 1**. This provides an upper and lower bound of the effects, with the upper bound allowing for the full potential of the quota to be realized under **Alternative 1** and with the lower bound based on the 5-year average of historical commercial landings (2018-2023, excluding 2020) under **Alternative 1**. The historical commercial landings used for the lower bound includes landings of speckled hind and warsaw grouper, which are deep-water grouper (DWG) species landed using Other SWG quota as part of the DWG/SWG flexibility measures established in Reef Fish Amendment 29 (GMFMC 2009).

As the Other SWG shares have less allocation associated with them due to a quota reduction, the associated allocation price would be expected to increase, since the fixed supply of allocation has become scarcer. Landings of speckled hind and warsaw grouper using Other SWG quota may decrease if the allocation price of Other SWG becomes less inexpensive relative to the lease and share prices of DWG.

To calculate expected changes in commercial CS, own-price flexibility²⁶ for the Gulf Other SWG commercial sector would be required to derive the expected average price change. Keithly and Tabarestani (2018) estimated an uncompensated own-price flexibility for "GOM Other Grouper," inclusive of Other SWG, of -0.396. When own-price flexibility is unavailable, price is assumed constant with changes in the commercial quota, and if the expected average price change is zero, then multiplying that by the change in expected harvest by the commercial sector under the proposed quota to arrive at the expected change in commercial CS for Other SWG

²⁶ The own-price flexibility is the percentage change in a product's price relative to the percentage change of a product's quantity sold. This shows the responsiveness of a product's price to the quantity being sold.

would result in a value of zero. However, for Other SWG, the expected change in commercial CS can be derived. The upper bound is displayed in Table 4.3.2, and the lower bound is displayed in Table 4.3.3.

Table 4.3.2. Upper bound of expected change in the commercial sector’s consumer surplus, relative to **Alternative 1**. Values are in 2024\$.

Alternative	Upper Bound of Expected Change in Landings by Commercial Sector (lb gw)	Upper Bound of Expected Average Price Change (\$/lb)	Upper Bound of Expected Change in CS (2024\$)
Preferred Alt 2	-279,590	\$1.45	-\$427,169
Alt 3	-423,635	\$2.20	-\$372,753
Alt 4	-409,916	\$2.13	-\$385,978

Table 4.3.3. Lower bound of expected change in the commercial sector’s consumer surplus, relative to **Alternative 1**. Values are in 2024\$.

Alternative	Lower Bound of Expected Change in Landings by Commercial Sector (lb gw)	Lower Bound of Expected Average Price Change (\$/lb)	Lower Bound of Expected Change in CS (2024\$)
Preferred Alt 2	0*	\$0	\$0
Alt 3	-86,046	\$1.25	-\$212,093
Alt 4	-72,327	\$1.05	-\$190,781

*The quota under Preferred Alternative 2 exceeds the 5-year historical average (2018-2023, excluding 2020) of commercial landings, so no change in the commercial’s sector’s CS would be expected.

To determine the upper bound of the respective expected changes in ex-vessel revenue as a result of the proposed changes to the quota and its effects on commercial landings, the quotas from **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4** are multiplied by the sum of the expected average price change from Table 4.3.2. and the average ex-vessel price per lb gw of \$6.90. From that value is then subtracted the average ex-vessel price per lb gw of \$6.90 for Other SWG from 2019-2023 (2024\$) multiplied by **Alternative 1**’s quota.

To determine the lower bound of the respective expected changes in ex-vessel revenue as a result of the proposed changes to the quota and its effects on commercial landings, the quotas from

Preferred Alternative 2, Alternative 3, and Alternative 4 are multiplied by the sum of the expected average price change from Table 4.3.3. and the average ex-vessel price per lb gw of \$6.90. From that value is then subtracted the average ex-vessel price per lb gw of \$6.90 for Other SWG from 2019-2023 (2024\$) multiplied by the average commercial landings from 2019-2023, excluding 2020. The upper and lower bounds of the expected changes in revenue are displayed in Table 4.3.4.

Table 4.3.4. Upper and lower bounds of the expected change in the commercial sector revenue, relative to Alternative 1. Values are in 2024\$.

Alternative	Upper Bound in Expected Change in Comm Revenue	Lower Bound in Expected Change in Comm Revenue
Preferred Alt 2	-\$1,571,152	\$0*
Alt 3	-\$2,698,023	-\$466,284
Alt 4	-\$2,581,399	-\$377,483

*The quota under Preferred Alternative 2 exceeds the 5-year historical average (2018-2023, excluding 2020) of commercial landings, so no change in the commercial’s sector’s revenue would be expected.

The commercial PS for vessels that harvested lane snapper in the Gulf is estimated as 48.3% of the ex-vessel value (Section 3.3.1). The upper and lower bounds of the expected change in commercial PS are shown in Table 4.3.4.

Table 4.3.4. Upper and lower bounds in expected change in the commercial sector PS relative to Alternative 1. Values are in 2024\$.

Difference	Upper Bound in Expected Change in Comm PS	Lower Bound in Expected Change in Comm PS
Preferred Alt 2	-\$758,867	\$0*
Alt 3	-\$1,303,145	-\$225,215
Alt 4	-\$1,246,816	-\$182,324

*The quota under Preferred Alternative 2 exceeds the 5-year historical average (2018-2023, excluding 2020) of commercial landings, so no change in the commercial’s sector’s PS would be expected.

The upper and lower bounds of the total expected changes in net economic benefits for the commercial sector from **Preferred Alternative 2, Alternative 3, and Alternative 4** relative to **Alternative 1** are displayed in Table 4.3.5.

Table 4.3.5. Upper and lower bounds in total expected change in net economic benefits for the commercial sector relative to Alternative 1. Values are in 2024\$.

Alternative	Upper Bound in Total Expected Change in Net Economic Benefits	Lower Bound in Total Expected Change in Net Economic Benefits
Preferred Alt 2	-\$1,186,036	\$0

Alternative	Upper Bound in Total Expected Change in Net Economic Benefits	Lower Bound in Total Expected Change in Net Economic Benefits
Alt 3	-\$1,675,898	-\$437,308
Alt 4	-\$1,632,794	-\$373,105

Net Economic Benefits

The total expected change in net economic benefits for both the recreational and commercial sectors are displayed in Table 4.3.6. **Preferred Alternative 2** is expected to have the smallest expected change in net economic benefits to the recreational and commercial sectors combined, followed by **Alternative 4** and then by **Alternative 3**.

Table 4.3.6. Upper and lower bounds of the combined total expected change in net economic benefits for the both the recreational and commercial sectors relative to Alternative 1. Values are in 2024\$.

Alternative	Upper Bound in Total Expected Change in Net Economic Benefits	Lower Bound in Total Expected Change in Net Economic Benefits
Preferred Alt 2	-\$4,421,554	-\$2,724,503
Alt 3	-\$6,215,621	-\$4,466,016
Alt 4	-\$6,048,300	-\$4,277,596

4.1.4 Direct and Indirect Effects on the Social Environment

This action would reduce the complex ABC, commercial ACL, and commercial ACT (quota) for Other SWG based on the results of the recent stock assessment for scamp and yellowmouth grouper and subsequent recommendations by the SSC to reduce the harvest of the two species. This action would also reduce portion of the catch available to the recreational sector because that amount is determined by the difference between the commercial ACL and the total complex ACL, both of which are reduced by this action. In general, lower catch limits would be associated with direct negative social effects in the short term as they allow for less fish to be landed. Generally, the higher the ACL, the greater the short-term social benefits that would be expected to accrue if harvest is sustainable. However, restrictions on harvest contribute to sustainable management goals, and are expected to be beneficial to fishermen and communities in the long term.

Usually, additional effects would not be expected under **Alternative 1** (No Action) as the catch limits would remain at current levels and fishing practices would not be affected. **Alternative 1** (No Action) would maintain the complex ABC and ACL at 710,000 lb gw, the commercial ACL at 547,000 lb gw, and the commercial ACT (quota) at 525,000 lb gw. However, this alternative

is not based on the best scientific information available and is inconsistent with the need to reduce the likelihood of overfishing of scamp and yellowmouth grouper, two of the four components of the Other SWG complex. Other species in the complex include black grouper and yellowfin grouper. Speckled hind and warsaw grouper are not part of the SWG complex, but can be landed using SWG-IFQ allocation by the commercial sector through flexibility measures. After all of an IFQ account holder's Deepwater Grouper (DWG) allocation has been landed and sold, or transferred, or if an IFQ holder has no DWG allocation, then Other SWG allocation may be used to land and sell warsaw grouper and speckled hind.

Under **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4**, the ABC, commercial ACL, and commercial ACT for Other SWG would be reduced based on the results of the recent stock assessment and SSC recommendations. Adjustments in catch limits based on updated information are necessary to ensure continuous social benefits over time. Specifically, updated information ensures the sustainability of fishing activities, which can stabilize business operations and planning for the future.

Preferred Alternative 2 would reduce the entire complex by 54.7% consistent with the SSC recommended percent reduction in the ABC for scamp and yellowmouth grouper and sets the stock ACL at 322,000 lb gw, commercial ACL at 255,636 lb gw, and commercial ACT (quota) at 245,410 lb gw. **Alternative 3** would reduce the total allowable SWG Complex harvest by 54.7% relative to recent landings (in MRFSS units) and sets the stock ACL at 133,000 lb gw, the commercial ACL at 105,589 lb gw, and the commercial ACT (quota) at 101,365 lb gw. **Alternative 4** would reduce the total ACL of the scamp and yellowmouth grouper component of the Other SWG Complex by 54.7% relative to recent landings, but would not reduce the harvest of black and yellowfin grouper as part of the calculation for the complex ABC. **Alternative 4** would set the complex ACL at 151,000 lb gw, the commercial ACL at 119,879 lb gw, and the commercial ACT (quota) at 115,084 lb gw.

Preferred Alternative 2, **Alternative 3** and **Alternative 4** would reduce catch levels substantially compared to **Alternative 1**, resulting in negative effects for both the recreational and commercial sectors as less fish is available to be landed. The magnitude of these effects in the short-term would be relative to the size of the reduction in available landings from **Alternative 1** for each sector.

Assuming that future landings will follow a similar pattern as recent landings, whether landings have met or exceeded catch levels in **Preferred Alternative 2** through **Alternative 4** is another factor that would influence the effects on Other SWG commercial and recreational sector participants. The commercial quota for Other SWG can include landings of speckled hind and warsaw grouper. A large proportion of speckled hind (71% in 2023, IFQ database accessed 5/28/24) is landed using Other SWG allocation; whereas a smaller proportion of warsaw grouper (11%) is landed using Other SWG allocation. Anecdotally, it has been reported that some participants use this flexibility measure to purchase Other SWG allocation to land DWG species because Other SWG allocation is less expensive than DWG allocation. Commercial landings with or without out these flexibility measure species have not met or exceeded the commercial ACT in **Preferred Alternative 2** in the last seven years, but have exceeded the commercial ACT

in **Alternative 3** and **Alternative 4** in all recent years. The recreational sector has substantially exceeded the recreational portion of the ACL under **Preferred Alternative 2** (66,364 lb gw), **Alternative 3** (27,411 lb gw), and **Alternative 4** (31,121 lb gw) in recent years.

In general, a higher ACL would result in the lowest level of negative social effects on the recreational and commercial sectors, such as a reduction in landings or access and loss due to that reduction, increased cost to participate through a price increase in purchasing quota or allocation, changes in the discarding of marketable fish or of discards of recreational catch, change in job or angler satisfaction, changes in fishing behavior or business operations, increased criticism of the government as being overbearing, and a change in the relationship between fishermen and the supply chain. Among the action alternatives, **Preferred Alternative 2** would be the most beneficial for fishermen, followed by **Alternative 4**, and **Alternative 3**.

Communities that would be most affected by changes to the catch limits for Other SWG are detailed in Section 3.4. Communities in Florida, followed by Texas, hold the greatest number and percentage of Other SWG shares and the greatest number of accounts with Other SWG allocation, but without Other SWG shares. Communities in Florida include the greatest number of dealer facilities with Other SWG landings. Communities in Florida, Louisiana, and Texas, see the highest commercial landings of Other SWG species. Specifically, Panama City, Florida ranks as the top community for number of accounts with shares and percentage of Other SWG shares; accounts with Other SWG allocation, but without Other SWG shares; and the number of dealers, and ranks second for commercial landings. Madeira Beach, Florida also ranks high for number of accounts with Other SWG allocation, but without Other SWG shares and the number of dealers, and ranks first for commercial landings. Key West, Florida (number of accounts with shares and percentage of shares and dealers); Galveston, Texas (number of accounts with shares and percentage of shares, number of accounts with allocation but without shares, and commercial landings); and Apalachicola, Florida (number of accounts with shares and percentage of shares and commercial landings) also rank highly for a number of commercial categories.

Recreationally, the communities of Panama City, Destin, Naples, Key West, Pensacola, Sarasota, and St. Petersburg, Florida have a large number for for-hire permits and are highly engaged in the recreational fishing industry.

4.1.5 Direct and Indirect Effects on the Administrative Environment

Because the alternatives in this action would not result in added regulations, there would not be any immediate effect on the administrative environment from rulemaking. Actions to control harvest by the Council and NMFS are mostly routine and conducted through the Council process as established by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Additionally, using ACLs and closed seasons, the Council and NMFS reduce the chances of overfishing and take measures to reduce the likelihood of the SWG complex becoming overfished. This minimizes the risk that SWG would be depleted, triggering further management action which would result in negative effects to the administrative environment.

Alternative 1 would result in retaining the catch limits for the Other SWG complex; however, because the current catch limits for SWG species are not considered by the Council's SSC or

NMFS to be consistent with the best scientific information available and are expected to result in fishing levels that aren't sustainable for the scamp stock, **Alternative 1** is not a viable alternative. **Preferred Alternative 2, Alternative 3, and Alternative 4** would reduce the SWG complex ABC and ACL to levels below the complex ABC and ACL. When compared to **Alternative 1**, the three action alternatives would be more likely to result in positive effects to the administrative environment because they results in harvest levels that are set to reduce the likelihood that overfishing and stock depletion would occur. Alternatives 3 sets the ABC and ACL at the lowest level of the alternatives, and thus the stock would have the least likelihood of experiencing overfishing under that alternative. **Alternative 4** would have the second lowest chance of exceeding the ABC and ACL, followed by Preferred Alternative 2. However, as each of the action alternatives is expected to result in fishing at sustainable levels below the OFL, each is expected to have positive effects on the administrative environment.

4.2 Action 2: Gulf Other SWG Complex Recreational Season

Alternative 1: No Action – Do not establish a recreational fixed closed season for the Other Shallow Water Grouper Complex.

Alternative 2: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open June 1 and close on the date indicated below, based on the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – May 31; September 15 – Dec 31 (Open June 1 – September 14)

Action 1, Alternative 3: Closed January 1 – May 31; Closed July 5 – Dec 31 (Open June 1 – July 4)

Action 1, Alternative 4: Closed January 1 – May 31; July 12 – Dec 31 (Open June 1 – July 11)

Preferred Alternative 3: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open July 1 and close on the date indicated below, based on the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – June 30; (Open July 1 – December 31)

Action 1, Alternative 3: Closed January 1 – June 30; Closed August 18 – Dec 31 (Open July 1 – August 17)

Action 1, Alternative 4: Closed January 1 – June 30; August 25 – Dec 31 (Open July 1 – August 24)

Alternative 4: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open April 1 and close May 31, and reopen on September 1 and close on the date indicated below, based on the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – March 31; June 1 – August 31 (Open April 1 – May 31; September 1 – December 31)

Action 1, Alternative 3: Closed January 1 – March 31; May 30 – December 31 (Open April 1 – May 29*)

Action 1, Alternative 4: Closed January 1 – March 31; September 7 – December 31 (Open April 1 – May 31; September 1 – September 6)

4.2.1 Direct and Indirect Effects on the Physical Environment

General effects on the physical environment from fishing and general effects from modifying catch limits are described in Section 4.1.1. Modifications to the recreational fishing season are expected to result in negligible effects on the physical environment as no change is expected to current recreational fishing practices used in the multi-species reef fish fishery. **Alternative 1** would maintain the current fishing season and would thus maintain current effects to the physical environment. Effects from **Preferred Alternative 2**, and **Alternatives 3** and **4** are expected to be negligible, as they are unlikely to change the fishing effort or manner of fishing for the reef fish fishery as a whole. Because of the multispecies nature of the reef fish fishery for the commercial and recreational sectors, and because fishing effort may shift to or from other species and away or towards Other SWG specifically, reducing the recreational season duration as proposed in each of the action alternatives is not expected to result in measurable effects to the physical environment compared to each other or compared to **Alternative 1**. Thus, the effects on the physical environment of **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4** in Action 2 are expected to be negligible.

4.2.2 Direct and Indirect Effects on the Biological and Ecological Environment

Direct and indirect effects on the biological and ecological environments from fishery management actions as they relate to modifying Other SWG catch limits were discussed in detail in Sections 4.1.1. and 4.1.2, and is incorporated herein by reference. Implementing a recreational fixed closed season would be expected to reduce recreational harvest and overall mortality of SWG species.

Alternative 1 (No Action) would not set a fixed closed season for the Other SWG complex and may allow overexploitation of the SWG complex. SEDAR 68 indicated that scamp and yellowmouth grouper stocks are declining and that fishing pressure needs to be reduced in order to avoid overfishing. Because the IFQ system allows commercial landings year-round, it is likely that **Alternative 1** would result in overharvest of the ACL and possibly the OFL, unless NMFS assumed, at the beginning of the fishing year that all of the commercial quota would be landed and implemented a recreational closure based on that. Since commercial landings have varied substantially in recent years, it is unclear if that would be a valid assumption. In addition, this assumption is not clearly stated in the current AM. Thus, it may not be possible to restrain harvest to the catch limits set in Action 1 of this document. Because **Alternative 1** is expected to allow continued harvest at or above recent levels, it is not consistent with the goals of this framework action and would have negative effects on the biological environment.

Alternative 2 would set a fixed closed season from January 1 from May 31, and then a second closed season that is based on the Alternative chosen in Action 1. If Alternative 2 in Action 1 is chosen, the fixed closed season would begin again on September 15. If Alternative 3 or 4 are chosen, the fixed closed season would begin again on July 5 and July 12, respectively.

Preferred Alternative 3 would set a fixed closed season from January 1 from June 30, and then a second closed season that is based on the alternative chosen in Action 1. If Action 1 **Alternative 2** is chosen, the recreational season would be open until the end of the fishing year through December 31. If **Alternative 3** or **4** in Action 1 are chosen, the fixed closed season would begin again on August 17 and August 24, respectively. **Alternative 4** would set fixed closed seasons from January 1 through March 31, a second closed season from June 1 through August 31, and then a third closed season that is based on the alternative chosen in Action 1. If Action 1 **Alternative 2** is chosen, the recreational fishing season would be open until the end of the year through December 31. If Action 1 **Alternative 3** is chosen, the quota is expected to be harvested by May 29, and thus the fixed closed season would extend from that date until the end of the fishing year. If **Alternative 4** is chosen, the third fixed closed season would begin again on September 6.

With regard to Other SWG complex species, **Preferred Alternative 3**, as well as **Alternatives 2** and **4**, are expected to have positive impacts on the biological environment because they would implement sustainable fishing practices and harvest levels that are expected to result in an increased stock size, especially for the depleted scamp stock. Since the alternatives in this action are expected to result in the same recreational harvest (as decided in Action 1), the impacts based on targeted harvest are expected to be the same. The recreational season chosen in this action may have undetermined effects on bycatch. All the action alternatives are expected to increase discards of Other SWG species because any of those species caught during the closed season would require discarding. Since there is currently no size limit or closed season, most SWG complex species that are captured are harvested. Because **Alternative 2** would allow some overlap with the prime red snapper recreational season (especially the for-hire season), and, under Preferred Alternative 2 in Action 1 would allow overlap with the gag recreational season and the first part of the greater amberjack recreational season, it is likely that this alternative would reduce discards relative to the other alternatives in this action. Because of the relatively minor difference between the season lengths in **Alternative 3** and **Alternative 4**, no measurable difference in discards is expected. However, even in spite of increased discards in all of the action alternatives, the effects of **Preferred Alternative 3** and **Alternatives 2**, and **4** are expected to be positive, since all are expected to reduce harvest relative to current levels and implement catch limits that are sustainable and will help increase populations of the species in the SWG complex.

The expected effects on the biological environment of the alternatives in Action 2 depend in part on the accuracy of NMFS ability to monitor recreational landings and predict when to close the recreational sector to fishing for DWG species. Regarding monitoring landings, the representativeness and accuracy of the recreational landings estimates is uncertain. Inability to accurately predict when the Other SWG Complex recreational catch limits will be harvested could result in overharvest or underharvest of the SWG complex. This could have negative or

positive impacts on both Other SWG species stocks and the biological environment in general. However, given these limitations, landings of Other SWG species in any of the proposed recreational seasons contained in Action 3 are not expected to vary from the estimates to the extent that they would have a measurable effect on the biological environment.

None of the Action 2 alternatives are expected to have significant impacts on any other component of the biological environment, because they are unlikely to change the fishing effort or manner of fishing for the reef fish fishery as a whole. Under **Alternative 1**, there would be no change to the fishing effort or direct effects on the biological environment. There is an expected increase in discards with slight and unmeasurable differences between the action alternatives, but each action alternative would still result in positive effects to the biological environment due to the positive effects it would have on SWG species stocks.

For the same reasons as stated in Section 4.1.2, no additional impacts to Endangered Species Act (ESA)-listed species or introduction of invasive species are anticipated as a result of this action.

4.2.3 Direct and Indirect Effects on the Economic Environment

Commercial Sector

This action is not expected to have any effects on the commercial sector, as it considers the establishment of a fixed closed season for the recreational sector.

Recreational Sector

Alternative 1 (No Action) would maintain that no recreational fixed closed season is established for the Other SWG complex. If the total ACL is reduced in Action 1 such that the undefined recreational ACL is below the historical average of recreational landings, then **Alternative 1** may be expected to result in the accountability measure (AM) being triggered, which is discussed in Chapter 1. In the year following the overage of the complex ACL, this AM would result in recreational fishing closing when the complex ACL is projected to be reached.

Alternative 2, Preferred Alternative 3, and Alternative 4 would establish a recreational fixed closed season for the Other SWG complex. As a positive effect from these three alternatives, the establishment of a recreational fixed closed season would be expected to assist in the prevention of the AM being triggered, as the recreational season would close when the recreational portion of the total ACL is expected to be met under the Preferred Alternative of Action 1. The full recreational portion of the total ACL would be expected to be harvested with **Alternative 2, Preferred Alternative 3, and Alternative 4**, so those alternatives are not expected to have any negative effects on the recreational sector. The selection of a recreational fixed closed season may align with fishing activity as well as season closures for other species, which could potentially provide additional benefits to the recreational sector.

4.2.4 Direct and Indirect Effects on the Social Environment

Establishing a recreational fixed closed season could change the level of access to Other SWG during periods when they are available and when participation in the Other SWG portion of the reef fish fishery is highest. Negative social effects could be expected by a loss of access due to the closure. However, long-term biological benefits of maintaining a healthy stock would contribute to future fishing opportunities for both the commercial and recreational sectors.

The social effects of **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4** compared to **Alternative 1** (No Action) would depend on when recreational effort and catch is the highest for Other SWG. In addition, generally, access to Other SWG for recreational participants would depend on the season length. However, because the number of recreational target trips for Other SWG is relatively small when compared with catch trips (see Section 3.3.2); it appears that Other SWG species are not targeted to a great extent by recreational anglers or for-hire vessels. Recreational effort and catch for Other SWG species is highest in the summer months, when recreational fishing effort in general is also the highest.

Alternative 2 proposes a recreational season that opens on June 1st and prohibits harvest from January through May, closing when the recreational portion of the total ACL is expected to be met (September 14th under Preferred Alternative 2 in Action 1). **Preferred Alternative 3** proposes a recreational season that opens on July 1st and prohibits harvest from January through June, closing when the recreational portion of the ACL is expected to be met (December 31st under Preferred Alternative 2 in Action 1). Participation and landings in Other SWG has historically been highest during wave 3 (May and June) and wave 4 (July and August, Table 3.3.2.4 and Table 2, Appendix A). **Alternative 2** and **Preferred Alternative 3**, would allow recreational anglers and for-hire fishing businesses access to Other SWG in several of the months when participation has historically been the highest. **Alternative 2** includes a greater number of historically high effort and catch months (June, July, and August); whereas **Preferred Alternative 3** begins in July, skipping the month of June in order to prevent harvest in the month of highest landings and prevent an overlap with the high effort experienced during the start of the red snapper season. **Alternative 4** proposes a split recreational season that occurs in April through May (April 1st through May 31st under Preferred Alternative 2 in Action 1) and a fall season opening in September (September 1st through December 31st under Preferred Alternative 2 in Action 1). **Alternative 4** would allow for harvest during one of the historically high participation months of May and would allow for a fall season in September through when the recreational portion of the total ACL is met, but fishing for Other SWG would be closed during other historically important summer months. A split season could help to provide access to different areas throughout the Gulf, allowing for geographic differences. Constraining recreational fishing through a fixed closed season for Other SWG would be expected to contribute to the sustainability of harvest and the health of the Other SWG complex and provide for long-term social benefits.

Considering the proposed recreational portion of the ACL (Preferred Alternative 2, Action 1) and peak harvest of Other SWG, even though **Alternative 2** (106 days) and **Preferred Alternative 3** (184 days) result in a sizable difference in season length, both offer harvest opportunities during peak times and are anticipated to offer somewhat similar social benefits for Gulf fishing communities. However, **Preferred Alternative 3** could be the most beneficial for recreational

participants because of the longer season under this alternative. **Alternative 4** (183 days) offers a similar season length to **Preferred Alternative 3** but does not include harvest during most of the peak summer months. However, social effects for communities engaged in the recreational harvest of Other SWG (Section 3.4) such as the benefits of access during important times or negative effects, such as the closure and lack of access during other parts of the year would vary depending when participation in the fishery is the highest in that community.

4.2.5 Direct and Indirect Effects on the Administrative Environment

This action would have minor effects on the administrative environment. Since this action implements a fixed close season, there is no longer potential for an in-season closure to be triggered. However, since an in-season closure has not been implemented for the SWG complex since its inception, there is no actual change. Neither is there effect on the administrative burden for law enforcement, as law enforcement officers do not monitor catch limits but would only continue to monitor compliance with any established closed season. Some administrative burden is anticipated with respect to outreach as it relates to notifying stakeholders of the changes to the recreational fishing season. These effects are not expected to be significant.

CHAPTER 5. REGULATORY IMPACT REVIEW

To be completed.

CHAPTER 6. INITIAL REGULATORY FLEXIBILITY ANALYSIS

To be completed.

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

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APPENDIX A. SEASON PROJECTIONS

Recreational and Commercial Season Analyses for the Gulf of Mexico Shallow-water Grouper Complex

Southeast Regional Office

LAPP/DM Branch

February 2025

The Gulf of Mexico (Gulf) shallow water grouper (SWG) complex consists of black grouper, scamp, yellowedge grouper and yellowmouth grouper. These species are currently managed as a stock complex in federal waters under the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP). In 2025, an amendment to the Reef Fish FMP will establish allowable catch limits (ACLs) and sector allocations in pounds (lb) gutted weight (gw) for the commercial and recreational sectors. This analysis provides the average commercial landings and how much that represents of each proposed commercial IFQ quota option, and separately projects recreational season closures based on all management options being considered.

Commercial and recreational landings data

Monthly commercial landings were obtained for the SWG species from the National Marine Fisheries Service (NMFS) Catch Share Database (January 2025; **Table 1**). Gulf recreational landings for the SWG complex were obtained from the Southeast Fisheries Science Center (SEFSC) recreational ACL files (accessed December 2024; **Table 2**). The SEFSC recreational landings dataset includes landings from the Texas Parks and Wildlife recreational creel survey (TPWD), Louisiana Department of Wildlife and Fisheries creel survey (LA Creel), Southeast Region Headboat Survey (SRHS), and Marine Recreational Fisheries Statistics Survey (MRFSS; Florida, Alabama and Mississippi). The MRFSS file contain estimates from MRIP's Access Point Angler Intercept Survey (APAIS), MRFSS (private angler effort estimates), and For-Hire Telephone Survey (FHS; for-hire effort estimates). For 2020 and 2021, imputed MRFSS catch estimates are used to account for disruptions in the dockside sampling due to COVID. Monthly landings were estimated for MRFSS, TPWD and LA Creel by assuming equal daily catch rates for months within a wave and then combined with SRHS, which are provided monthly.

Predicted future landings for both the commercial and recreational sector were estimated by averaging monthly landings in 2022-2024 when available, and 2021-2023 otherwise. The average monthly landings were then divided by the number of days in each month to provide a daily catch rate for each sector.

Commercial Gulf SWG species are currently managed as a catch share program, and therefore, any reductions in the commercial quota will result in fewer pounds being distributed to each participant who holds shares in the program rather than the fishery experiencing closures. Average commercial landings of SWG species are calculated to project future landing rates and are provided to compare against each of the proposed IFQ quotas (**Table 3**). Separately, the recreational sector will be closed if the ACL is met or is projected to be met. Predicted recreational closure dates are provided in **Table 4** based on cumulatively summed projected recreational landings of SWG species.

Table 1. Monthly commercial landings (lb gw) of the Gulf shallow-water grouper from 2021-2023 and projected future landings using averaged landings from 2022-2024. 2024 landings are preliminary.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Landings
2021	10,064	8,417	14,116	15,315	14,526	16,317	21,123	11,296	9,176	10,463	8,950	16,165	155,928
2022	5,648	9,919	10,298	11,283	18,152	23,840	13,965	12,308	11,093	9,262	7,405	13,525	146,698
2023	6,453	14,170	18,340	14,483	17,305	16,021	16,072	11,826	6,760	6,586	9,758	11,238	149,012
Prelim 2024	5,099	10,894	8,017	10,454	10,413	10,625	13,981	11,371	6,560	3,481	4,666	7,765	103,326
3yr Avg Projected Landings	5,733	11,661	12,218	12,073	15,290	16,829	14,673	11,835	8,138	6,443	7,276	10,843	133,012

Source: SEFSC Commercial ACL dataset [January, 2025].

*2024 Commercial landings are preliminary.

Table 2. Monthly recreational landings (lb gw) of the Gulf shallow-water grouper from 2021-2024 along with projected future landings estimated using averaged landings from 2022-2024 through October and 2021-2023 for November and December.

Preliminary 2024 landings were available for January through October.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Landings
2021	1,173	895	10,746	10,960	22,287	22,841	31,169	30,247	6,191	7,214	2,559	2,358	148,639
2022	524	239	6,999	7,420	44,219	43,624	14,162	14,301	3,755	3,732	582	883	140,440
2023	64	61	715	1,173	18,841	18,933	13,977	13,802	33,198	34,319	583	479	136,146
Prelim 2024	593	558	2,302	2,520	10,580	11,400	24,107	23,596	6,063	6,102	-	-	86,953
3yr Avg Projected Landings	394	286	3,339	3,705	24,546	24,652	17,416	17,233	14,339	14,718	1,241	1,240	123,108

Source: SEFSC MRFSS recreational ACL database [December, 2024].

Notes: MRFSS landings include all Gulf shallow-water grouper landings (black grouper, scamp, yellowfin grouper, yellowmouth grouper; TPWD, SRHS, LA Creel, MRFSS).

*Recreational January-October 2024 landings are preliminary.

Table 3. Average commercial landings of the Gulf of Mexico SWG commercial sector compared against each proposed 2026 IFQ Quota alternative. Source: NMFS Catch Share Database (January 2025).

Alternatives	Proposed IFQ Quota (lb gw)	Average Commercial Landings	% Average Landings compared against Proposed IFQ Quota
Alternative 1: No Action	710,000	150,546	19%
Alternative 2	245,410	150,546	54%
Alternative 3	101,365	150,546	131%
Alternative 4	115,084	150,546	116%

Table 4. Projected Gulf of Mexico SWG closure dates expected for the recreational sector with each proposed 2026 Annual Catch Limit (ACL) alternative. Source: SEFSC MRFSS Recreational ACL Dataset (December 2024).

Fishing Season Start Date: June 1			
Alternatives	Proposed Recreational ACL (lb gw)	3-year Average (W1-5:2022-2024 W6: 2021-2023)	Upper 95% 3-year Average (W1-5: 2022-2024) W6: 2021-2023)
Alternative 1: No Action	710,000	No Closure	No Closure
Alternative 2	66,364	Sep 15	Jul 30
Alternative 3	27,411	Jul 5	Jun 19
Alternative 4	31,121	Jul 12	Jun 22
Fishing Season Start Date: July 1			
Alternatives	Proposed Recreational ACL (lb gw)	3-year Average (W1-5:2022-2024 W6: 2021-2023)	Upper 95% 3-year Average (W1-5: 2022-2024) W6: 2021-2023)
Alternative 1: No Action	710,000	No Closure	No Closure
Alternative 2	66,364	No Closure	Sep 18
Alternative 3	27,411	Aug 18	Aug 5
Alternative 4	31,121	Aug 25	Aug 10
Fishing Season Start Date: September 1			
Alternatives	Proposed Recreational ACL (lb gw)	3-year Average (W1-5:2022-2024 W6: 2021-2023)	Upper 95% 3-year Average (W1-5: 2022-2024) W6: 2021-2023)
Alternative 1: No Action	710,000	No Closure	No Closure
Alternative 2	66,364	No Closure	Oct 31
Alternative 3	27,411	Oct 28	Sep 26
Alternative 4	31,121	Dec 21	Sep 29

Fishing Season Start Date: April 1-May 31; September 1 – Dec 31			
Alternatives	Proposed Recreational ACL (lb gw)	3-year Average (W1-5:2022-2024 W6: 2021-2023)	Upper 95% 3-year Average (W1-5: 2022-2024) W6: 2021-2023)
Alternative 1: No Action	710,000	No Closure	No Closure
Alternative 2	66,364	No Closure	Apr 1 – May 31 Open Sep 18 Closed
Alternative 3	27,411	May 30	May 14
Alternative 4	31,121	Apr 1 – May 31 Open Sep 7 Closed	May 17

The reliability of these results is dependent upon the accuracy of the underlying data and input assumptions. The analysis intends to create a realistic baseline as a foundation for comparisons, under the assumption that projected future landings will accurately reflect actual future landings. These closure dates are our best estimate, but uncertainty still exists as economic conditions, weather events, changes in catch-per-unit effort, fisher response to management regulations, and a variety of other factors may cause departures from any assumption.

APPENDIX B. CONSIDERED BUT REJECTED

Alternative 4: Establish a recreational fixed closed season for the Other SWG complex. The recreational season would open September 1 and close when the recreational portion of the total ACL is expected to be met under the Preferred Alternative in Action 1.

Action 1, Alternative 2: Closed January 1 – August 31 (Open September 1 – December 31)

Action 1, Alternative 3: Closed January 1 – August 31; Closed October 28 – Dec 31 (Open September 1 – October 27)

Action 1, Alternative 4: Closed January 1 – August 31; Closed December 21 – Dec 31 (Open September 1 – December 20)

APPENDIX C. SUMMARY OF PUBLIC COMMENT

To be completed.