Modifications to Shallow-Water Grouper Management Measures

Draft Amendment 58A
to the Fishery Management Plan for
Reef Fish Resources of the Gulf

November 2025

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measures
APAIS	Access Point Angler Intercept Survey
BMSY	stock biomass level capable of producing an equilibrium yield of MSY
BSIA	best scientific information available
BiOp	biological opinion
CFpA	net cash flow per angler
CHTS	Coastal Household Telephone Survey
CS	consumer surplus
Council	Gulf Council
Councils	Gulf and South Atlantic Fishery Management Councils
DPS	distinct population segments
DWG	deep-water grouper
E.O.	Executive Order
EA	Environmental Assessment
EEZ	exclusive economic zone
EFH	Essential Fish Habitat
EIS	economic impact statement
ESA	Endangered Species Act
FES	Fishing Effort Survey
FHS	for-hire survey
FL	fork length
FMP	Fishery Management Plan
FMSY	maximum sustainable yield
GDP	gross domestic product
GMFMC	Gulf of Mexico Fishery Management Council
GSAD	Gulf and South Atlantic Dealers
Gulf	Gulf of America (Formerly Gulf of Mexico)
HAPC	habitat areas of particular concern
IFQ	individual fishing quota
IRFA	initial regulatory flexibility analysis
LA Creel	Louisiana Department of Wildlife and Fisheries' recreational creel survey
LAPP	Limited Access Privilege Program
MD	Memorial Day
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammals Protection Act
MRFSS	Marine Recreational Fishery Statistics Survey
MRIP	Marine Recreational Information Program

MSST	minimum stock size threshold
MSY	maximum sustainable yield
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OST	Office of Science and Technology
OY	optimum yield
Other SWG	Other Shallow-water Grouper complex
PAH	polycyclic aromatic hydrocarbons
PS	producer surplus
RFA	Regulatory flexibility analysis
RIR	Regulatory Impact Review
RQ	regional quotient
Reef Fish FMP	Fishery Management Plan for the Reef Fish Resources in the Gulf
SDC	status determination criteria
SEDAR	Southeast Data, Assessment, 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 Regional Headboat Survey
SSB	spawning stock biomass
SSC	Scientific and Statistical Committee
SSRG	Social Scientists Research Group
SWG	shallow-water grouper
Secretary	Secretary of Commerce
South Atlantic Council	South Atlantic Fishery Management Council
TAC	total allowable catch
TL	total length
TNR	trip net revenue
TPWD	Texas Parks and Wildlife Department
WTP	willingness-to-pay
YFG	yellowfin grouper
YMG	yellowmouth grouper
gw	gutted weight
lw	landed weight
mp	million pounds
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

Several species of Gulf of America (Gulf)[1] grouper are currently managed together in the Other Shallow-water Grouper (SWG) complex: scamp (*Mycteroperca phenax*), yellowmouth grouper (*Mycteroperca interstitialis*), black grouper (*Mycteroperca bonaci*), and yellowfin grouper (*Mycteroperca venenosa*). These species were originally assigned to this complex in the Generic Annual Catch Limits (ACLs) and Accountability Measures (AMs) Amendment to the Fishery Management Plans (FMPs) of the Gulf Region (ACL/AM Amendment; GMFMC 2011). This grouping was based on where these species occurred in the Gulf environment, and whether it was common for these species to be caught on the same fishing trips. Until recently, none of these species had approved peer-reviewed stock assessments available to inform their stock status[2]. 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 Council's (Council) 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 Amendment 58A to the FMP for the Reef Fish Resources in the Gulf (Reef Fish FMP). While developing Amendment 58A, the Council simultaneously finalized a framework action regarding Other SWG management at its June 2025 meeting.[3] The purpose of that framework action is to reduce Other SWG catch levels to align with catch advice from SEDAR 68 and adjust the recreational fishing season to achieve those harvest targets beginning in 2026, while Amendment 58A (this document) is being finalized.

The Generic ACL/AM Amendment specified a total complex ACL for the Other SWG complex and apportioned a specified amount of the total complex ACL to the commercial sector. The Other SWG ACLs include a black grouper sector allocation of 73% to the commercial sector and 27% to the recreational sector. Additionally, the commercial sector takes 80.1% of the scamp, yellowfin and yellowmouth grouper combined, based on landings during 2001-2004. That apportionment and the associated catch limits are shown in Table 1.1.1. The commercial apportionment allows the commercial sector to operate under the Grouper-Tilefish Individual Fishing Quota (IFQ) program (Amendment 29 to the Reef Fish FMP; GMFMC 2008b). Landings (2000 – 2024) by species for the Other SWG are shown in Table 1.1.2. The recreational landings data used to develop the current catch limits were derived from the Marine Recreational Fisheries Statistics Survey (MRFSS), Southeast Regional Headboat Survey (SRHS), and Texas Parks and Wildlife Department (TPWD) creel survey. Recreational landings are now estimated using Marine Recreational Information Program (MRIP), complemented by the TPWD creel survey, the Louisiana Department of Wildlife and Fisheries Creel Survey (LA Creel), the SRHS, and the MRIP For-hire Telephone Survey (FHTS). MRIP includes the Access Point Angler Intercept Survey (APAIS; estimates catch) and the Fishing Effort Survey (FES;

[1] The Gulf of Mexico was renamed the Gulf of America pursuant to Executive Order 14172, and Secretary of the Interior Order No. 3423.

[2] Black grouper had last been assessed in 2010 (SEDAR 19), but an assessment attempted in 2017 (SEDAR 48) had to be terminated due to irreconcilable data issues. Thus, no assessment for informing the stock status of black grouper relative to its SDC exists.

[3] https://gulf-council-media.s3.amazonaws.com/uploads/2025/07/SWG-Framework-Action_Final.pdf

estimates effort), and presently covers Florida, Alabama, and Mississippi. MRFSS and MRIP both generate landings estimates in pounds of fish, but those estimates are not directly comparable because they use different effort scales. Therefore, the total landings shown in Table 1.1.2 cannot be directly compared to the total ACL shown in Table 1.1.1. A depiction of the percentage of commercial landings attributable to each species within the Other SWG complex is shown in Figure 1.1.1.

Table 1.1.1. Catch limits and buffers by complex and 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; ABC = acceptable biological catch. An OFL for Other SWG and the recreational ACLs are presently undefined.

Complex	Year	OFL	ABC (Total ACL)	Comm ACL	Comm Quota	Comm Buffer	Rec ACL
Other SWG	2015+	undefined	0.710	0.547	0.526	4%	undefined

Table 1.1.2. Landings for Other SWG by sector from 2000 – 2024. Landings are in lb gw. Black grouper and yellowfin grouper (YFG) are aggregated for the recreational sector due to data confidentiality requirements. Scamp and yellowmouth grouper (YMG) are aggregated for both sectors because of data confidentiality requirements.

	Commercial					Recreational (MRIP-FES)			
Year		Black Grouper	Yellowfin Grouper	Scamp + YMG	Total Comm Landings	Black Grouper + YFG	Scamp + YMG	Total Rec Landings	Total Landings
2000	Pre-IFQ Years SEFSC Commercial ACL Files (February 2024)	390,587	6,996	44,673	442,256	10,777	47,774	58,551	500,807
2001		346,566	7,225	30,542	384,333	27,368	66,988	94,356	478,689
2002		283,751	7,856	47,543	339,150	34,132	93,232	127,363	466,513
2003		332,134	4,380	40,933	377,447	57,748	190,714	248,462	625,909
2004		354,782	6,258	53,848	414,888	8,256	141,870	150,126	565,014
2005		208,309	6,523	47,052	261,884	179,705	168,559	348,264	610,148
2006		147,329	689	35,980	183,998	1,915	324,857	326,773	510,771
2007		92,189	3,913	61,417	157,519	19,863	115,204	135,067	292,586
2008		65,081	2,464	73,528	141,073	3,984	278,926	282,910	423,983
2009		39,702	1,962	66,812	108,476	87,558	198,979	286,538	395,014
2010	Gulf IFQ Program	20,905	1,394	153,618	175,917	334	92,861	93,195	269,112
2011		34,970	945	149,834	185,749	565	124,482	125,048	310,797
2012		47,537	739	249,826	298,102	51,382	237,192	288,573	586,675
2013		56,750	856	243,129	300,735	5,916	261,780	267,696	568,431
2014		60,555	568	169,125	230,248	826	264,471	265,297	495,545
2015		54,831	442	183,154	238,427	3,807	342,097	345,904	584,331
2016		48,788	709	285,741	335,238	8,182	244,715	252,897	588,135
2017		37,032	152	162,825	200,009	8,826	193,595	202,421	402,430
2018		34,806	440	143,047	178,293	358	233,878	234,236	412,529
2019		25,634	377	114,072	140,083	354	411,764	412,118	552,201
2020		25,345	66	119,043	144,454	2,101	380,593	382,694	527,148
2021		25,899	47	129,982	155,928	199	317,851	318,050	473,978
2022		23,892	54	122,752	146,698	1,215	326,023	327,237	473,935
2023		39,814	61	109,137	149,012	32,744	211,221	243,964	392,976
2024		23,622*		79,704	103,326	17,571	200,134	217,705	321,031

Sources: Commercial data from SEFSC Commercial ACL Data (March 2024); SERO Catch Share Database (February 2024). Recreational data from SEFSC Recreational MRIP-FES ACL File (MRIP_FES_rec81_23wv6_24Apr24). *Commercial landings in 2024 for black grouper and yellowfin grouper are aggregated for data confidentiality and 2024 recreational data are preliminary.

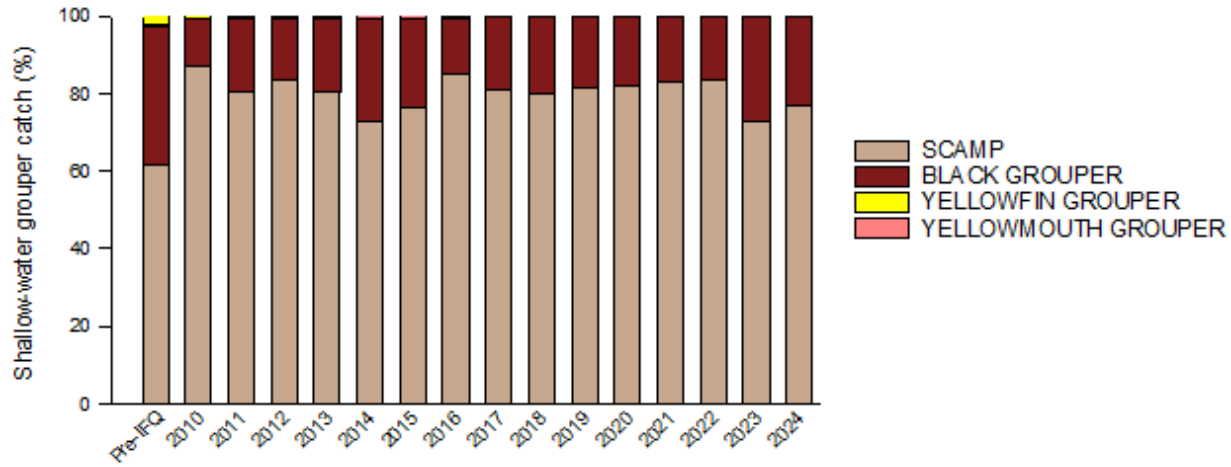

Figure 1.1.1. Percentages of commercial landings by species for the Other SWG complex from the 2024 Grouper-Tilefish IFQ Program Report[4]. Average data for the three years prior to the start of the IFQ program (2007-2009) are summarized as "Pre-IFQ".

Commercial Sector

Commercial harvest of Other SWG has been managed under the Grouper-Tilefish IFQ program since 2010 (GMFMC 2008b). Anyone commercially fishing for Other SWG must possess a federal commercial reef fish permit, have an active vessel monitoring system, have an IFQ account, and hold Other SWG allocation under the IFQ program. IFQ allocation is determined and distributed at the beginning of each calendar year by multiplying a shareholder's IFQ Other SWG shares, represented as a fraction of the total commercial quota, times the commercial quota for that share category. Allocation can be transferred to accounts that do not hold Other SWG shares. The current commercial quota is approximately 4% below the commercial ACL for both complexes (GMFMC 2011; Table 1.1.1) and was originally established primarily to account for flexibility measures in the IFQ program between the SWG and deep-water grouper (DWG) share categories. These flexibility measures allow fishermen to land certain species from one share category under the other share category, so long as they no longer hold any allocation for the share category in which the species is included. A secondary reason for the 4% buffer was to account for uncertainty in discards at the beginning of the IFQ program. The stock assessments for IFQ species assume very high certainty in commercial landings estimates relative to non-IFQ species due to rigorous program reporting requirements. Recently, the Council discussed the possibility of removing the flexibility measures and the associated buffer[5] and decided to review this provision in Amendment 58A (this document). The IFQ program acts as the AM for the commercial portion of the reef fish fishery for Other SWG. The pounds available to the commercial sector are released to shareholder accounts on January 1 each year and cannot be recalled, and commercial fishermen cannot land Other SWG species without the requisite allocation. As a result, the commercial quota has never been exceeded for this complex under the IFQ program.

[4] https://noaa-sero.s3.amazonaws.com/drop-files/cs/2022_GT_AnnualReport_Final.pdf

[5] Beginning page 143-- https://gulf-council-media.s3.amazonaws.com/uploads/2025/02/GMFMC-Full-Council-August-2024.pdf

Recreational Sector

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

Presently, there is no defined ACL for the recreational sector for Other SWG. Thus, outside of the use of the IFQ program as the AM for the commercial sector, the only other AM for the Other SWG is a post-season AM for the recreational sector. This AM requires that in the year following an overage of the Other SWG stock ACL, recreational fishing for Other SWG will close when the complex stock ACL is projected to be reached. No payback provision for an overage of a complex ACL currently exists.

The recreational data collection process was disrupted in 2020 due the COVID-19 pandemic. Dockside samplers were unable to engage recreational fishermen and conduct interviews because of human proximity restrictions meant to suppress the spread of the COVID-19 virus for a substantial portion of the 2020 calendar year. As a result, recreational data for Other SWG species are highly uncertain and that annual estimate will be omitted from analyses used to inform recreational action alternatives. More discussion of the various Gulf recreational data collection surveys is available in Appendix E.

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. The stock identification workshop for SEDAR 68 determined that species misidentification was likely for scamp and yellowmouth grouper measuring approximately 16 inches total length and less. Thus, the decision was made to assess the two species together due to the potential for species misidentification, combined with similar life histories. This is the first time these species have been formally assessed. The stock assessment used updated recreational landings information informed by MRIP-FES. In reviewing SEDAR 68, the SSC determined that the current maximum sustainable yield (MSY) proxy of the yield when fishing at a 30% spawning potential ratio ($F_{30\%SPR}$), was not biologically appropriate for protogynous hermaphrodites (animals which begin life as females and can change sex to male at older ages), like scamp and yellowmouth grouper. Thus, the SSC recommended changing the MSY proxy to a more conservative yield when fishing at $F_{40\%SPR}$, thereby ensuring a larger fraction of the spawning stock biomass (SSB) would be conserved each year to support future recruitment. The issue of recruitment was discussed during the review, with the SSC determining it more appropriate to project future yield under a more conservative recruitment forecast commensurate with recent data (Table 1.1.3).

At its November 2024 meeting, the Council directed the SSC to provide a comparison of the MSY proxy assuming an SPR of 30% and 40%, along with associated catch levels, for scamp and yellowmouth grouper. The Council also requested inclusion of updated scamp and

yellowmouth grouper landings data from 2021-2023 and estimates of anticipated landings in 2026 that would be reduced by 54.7% based on the Shallow-water Grouper Framework Action (GMFMC 2025). At its May 2025 meeting, the SSC reviewed updated landings and projections for scamp and yellowmouth grouper.[6] The SSC discussed the need to evaluate its recommendation for a proxy for F_{MSY} (assuming either an SPR 30% or 40%) and what to recommend for a corresponding catch limit. The SSC recommended to the Council catch advice for scamp and yellowmouth grouper where the OFL was equal to the yield at $F_{40\%SPR,}$ or 233,000 lb gw, and the ABC was set at 75% of $F_{40\%SPR}$, or 183,000 lb gw, for 2027 – 2031 and subsequent years (Table 1.1.4). Consistent with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Council is considering the SSC recommendations to change the MSY proxy and specify new catch limits consistent with that new MSY proxy and the results of updated projections using the SEDAR 68 assessment model.

Table 1.1.3. Summary of selected Magnuson-Stevens Act benchmarks and reference points for the SEDAR 68 assessment. SSB is in metric tons (male and female combined SSB), whereas F is a harvest rate (total biomass killed all ages / total biomass age 1+). An SPR proxy of 40% is presented.

Criteria	Definition	Value
$F_{MSYProxy}$	Equilibrium F to achieve 40% SPR	0.117
MFMT	$F_{MSYProxy}$	0.117
$F_{Current}$/MFMT	Current overfishing status	**0.786**
MSST	0.75 * $SSB_{40\%SPR}$	922
$SSB_{Current}$/MSST	Overfished status based on MSST	**1.41**

Table 1.1.4. SSC recommended OFL and ABC values from May 2025 for scamp and yellowmouth grouper, based on the results of updated projections using the SEDAR 68 (2022) assessment model and using an MSY proxy of the yield when fishing at $F_{40\%SPR}$. Catch limits are in lb gw.

Years	OFL	ABC
2027-2031+	233,000	183,000

To constrain harvest to the reduced catch levels and to prevent future overfishing of scamp and yellowmouth grouper, these stocks need to be managed separately from black grouper and yellowfin grouper. Black grouper was last assessed as a single stock that spans the jurisdictions of both the Gulf and South Atlantic Fishery Management Councils (SEDAR 19 2010). Thus, the stock OFL and ABC include harvest in both the Gulf and South Atlantic and the ABC is apportioned between the two Councils as specified in the Generic ACL/AM Amendment. Because any changes to the stock OFL and ABC would need to be recommended by both Councils, the Gulf Council is not considering any changes to those catch limits. The proposed combined black grouper and yellowfin grouper catch limits include the established Gulf apportionment of the black grouper ABC. There is no stock assessment for yellowfin grouper.

[6] The full May 2025 SSC meeting summary can be read through this link: https://gulf-council-media.s3.amazonaws.com/uploads/2025/05/Gulf-Standing-SSC-Summary-May-2025-05142025.pdf

The yellowfin grouper portion of the combined catch limits was derived using average total yellowfin grouper landings from the years 1999 – 2008.

Table 1.1.5. Catch limits for black grouper and yellowfin grouper in the Gulf, using the time series for each as recommended in the Generic ACL/AM Amendment, and following the jurisdictional apportionment with the South Atlantic Fishery Management Council for black grouper. Catch limits are in lb gw and recreational harvest data are inclusive of MRFSS.

Year	OFL	Gulf ABC	Gulf Comm ACL	Gulf Comm ACT	Gulf Rec ACL
2015+	Undefined	310,844	227,735	218,626	83,109

Other SWG and Deep-water Grouper (DWG) Flexibility Measures

Amendment 29 to the Reef Fish FMP (GMFMC 2009) established flexibility measures between the Other SWG and DWG complexes to reduce discards and allow commercial fishermen to better use the allocation they have in a given fishing year. These measures were implemented without regard to a species' stock status. A graphical depiction of these flexibility measures is shown in Figure 1.1.2. Briefly:

- A shareholder may land scamp under their DWG allocation, so long as they have no Other SWG allocation remaining in their shareholder account or any associated vessel accounts.
- A shareholder may land Warsaw grouper or speckled hind under their Other SWG allocation, so long as they have no DWG allocation remaining in their shareholder account or any associated vessel accounts.

Due to the risk of overfishing scamp and yellowmouth grouper (current landings compared to the proposed ABC), and the need to restructure the Other SWG share category, the Council considered whether to establish a similar flexibility measure for the newly proposed Scamp Complex that allows Warsaw grouper and speckled hind to be landed under one of the new share categories' allocation when certain conditions are met. It is expected that the scamp and yellowmouth grouper ABC would be comprised entirely of landings of those species, based on historical landings against the proposed ACLs. With the reduction in quota for SWG it is not expected that fishermen would utilize this flexibility provision measure unless they had extremely limited DWG allocation available to them, especially as the DWG quota is also expected to decrease (see Appendix A).

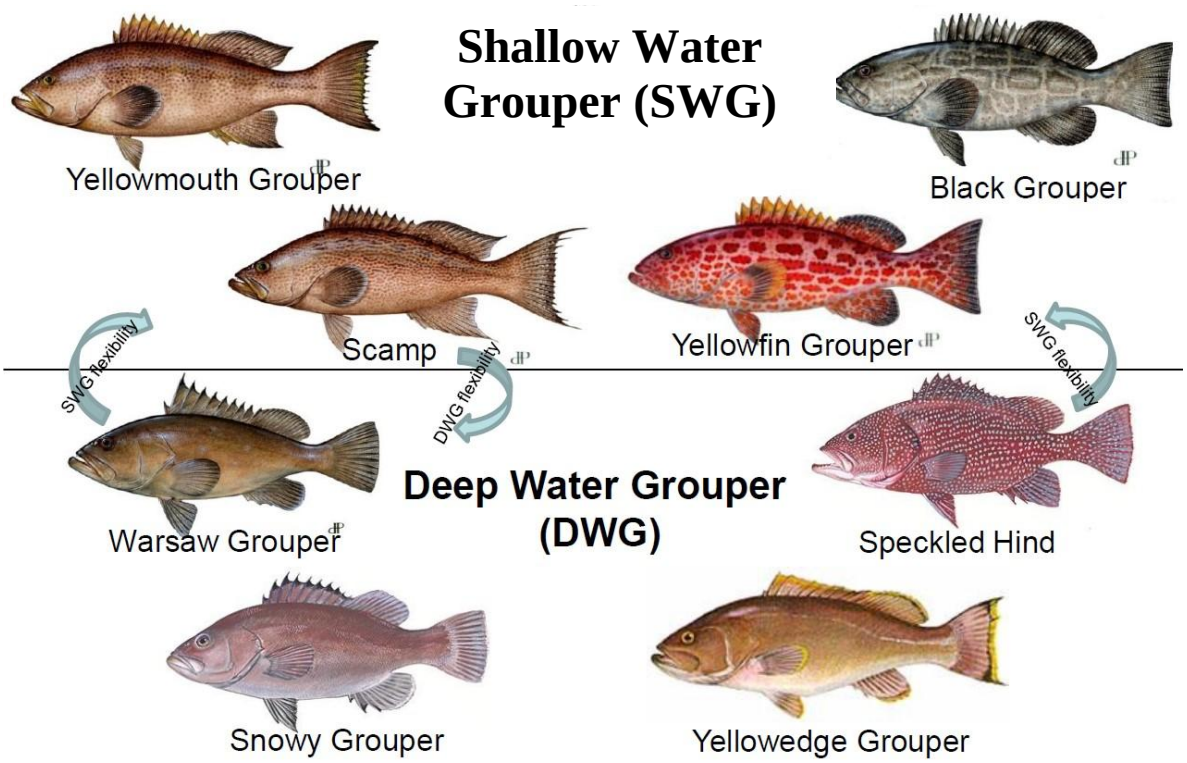

Figure 1.1.2. Depiction of the SWG and DWG flexibility measures as defined in Amendment 29 to the Reef Fish FMP.

Unlike the recreational data collection programs, commercial fishermen are mandated to report their Other SWG landings. To maintain their commercial permit, the permit holder must report any landings of Other SWG to the IFQ program electronically. This process is not reliant upon state or federal agency personnel conducting an interview of the commercial permit holder. Therefore, the COVID-19 restrictions that affected all the recreational data collection programs in the Gulf were not applicable to the commercial sector. As a result, the annual commercial landings for the year 2020 are included in the appropriate commercial-specific management action analyses.

1.2 Purpose and Need

The purpose of this amendment is to modify the status determination criteria, catch limits, sector allocations and accountability measures for individual species within the Other SWG complex by creating two new complexes in response to the results of the first stock assessment on scamp and yellowmouth grouper.

The need for these actions is to consider new stock assessment advice for scamp and yellowmouth grouper that is consistent with the best scientific information available to implement measures to avoid future overfishing, avoid triggering a rebuilding plan, and to achieve OY for the species considered herein, consistent with the authority under the Magnuson-Stevens Act.

1.3 History of Management

The original **Reef Fish FMP**, implemented in November 1984, was designed to rebuild declining reef fish stocks. It included prohibitions on the use of fish traps, roller trawls, and powerhead-equipped spear guns within an inshore stressed area and data reporting requirements. **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 DWG (misty grouper, snowy grouper, yellowedge grouper, and Warsaw grouper, and scamp once the SWG quota was filled) quota; 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, IRFA, and effective July 2004, revised the commercial trip limit to 5,200 lb gutted weight (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) (which appeared to be resulting in mini-derby fisheries around the closed season rather than a fishing reduction). 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 7.48 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 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 IFQ accounts to NMFS for redistribution and allows NMFS to withhold a portion of IFQ allocation at the start of the year equal to an anticipated quota reduction.

A **2025 Framework Action**, including EA, RIR, and RFA and implemented in 2025, reduced catch limits for the Other SWG complex and established a fixed closed season for the recreational sector.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modification of Gulf of America (Gulf) Other Shallow Water Grouper (SWG) Complex and Individual Fishing Quota (IFQ) Share Categories

2.1.1 Action 1.1: Modification of the Gulf SWG Complex

Alternative 1: No Action – Maintain the current composition of the Other SWG complex: scamp, yellowmouth grouper, black grouper, and yellowfin grouper.

Alternative 2: Dissolve the existing Other SWG complex and form two new complexes: scamp and yellowmouth grouper complex (Scamp Complex) and black grouper and yellowfin grouper complex (Black Grouper Complex). Create two new IFQ share categories: one for the Scamp Complex and one for the Black Grouper Complex.

*Note: **Alternative 1** is inconsistent with the best scientific information available and is therefore not a viable alternative.*

Discussion:

This action would modify the Other SWG complex based on the results of the SEDAR 68 stock assessment, which assessed scamp and yellowmouth grouper as a single complex. SEDAR 68 used data through 2020 and used updated recreational landings information informed by the Marine Recreational Information Program (MRIP), including the Fishing Effort Survey (FES). The SEDAR 68 stock assessment and its resultant catch projections were determined to be consistent with the best scientific information available by the Gulf Council's (Council) Scientific and Statistical Committee (SSC). Subsequently, at its November 2024 meeting, the Council directed the SSC to provide a comparison of the MSY proxy assuming a spawning potential ratio (SPR) of 30% and 40% along with associated catch levels for scamp and yellowmouth grouper. The Council also requested inclusion of updated scamp and yellowmouth landings data from 2021-2023 and estimates of anticipated landings in 2026 that would be reduced by 54.7% based on the Shallow-water Grouper Framework Action (GMFMC 2025). At its May 2025 meeting, the SSC reviewed updated landings and projections for scamp and yellowmouth grouper and maintained its recommendations for separating the Other SWG Complex into two sub-complexes, and with the use of an MSY proxy of $F_{40\%SPR}$.

Black grouper was last assessed as a single stock across the Gulf and South Atlantic Fishery Management Councils' jurisdictions in the southeastern U.S. (SEDAR 19 2010). Thus, the stock overfishing limit (OFL) and acceptable biological catch (ABC) include harvest in both the Gulf and South Atlantic regions and the ABC is apportioned between the two Councils as specified in the Generic Annual Catch Limit (ACL)/Accountability Measure (AM) Amendment (GMFMC 2011). Because any changes to the stock OFL and ABC would need to be recommended by both Councils, the Gulf Council is not considering any changes to those catch limits at this time. The proposed combined black grouper and yellowfin grouper catch limits include the established

Gulf apportionment of the black grouper ABC. It should be noted that the last attempt at a stock assessment for southeastern U.S. black grouper was terminated due to irreconcilable data issues during the data workshop (SEDAR 48 2017). The Gulf yellowfin grouper stock has never been assessed.

Alternative 1 (No Action) would maintain the current Other SWG stock complex, such that it includes scamp, yellowmouth grouper, yellowfin grouper, and black grouper. This alternative is not viable for several reasons. SEDAR 68 included recreational landings estimates for scamp and yellowmouth grouper derived from MRIP, while recreational landings estimates for yellowfin grouper and black grouper are inclusive of the legacy federal Marine Recreational Fisheries Statistics Survey (MRFSS). Therefore, the recreational landings histories for these pairs of species are not comparable at this time and cannot be combined within a single complex. In addition, scamp and yellowmouth grouper require a substantial reduction in the allowable harvest based on SEDAR 68 and the SSC's recommendations. As a result of the markedly lower catch advice for scamp and yellowfin grouper from SEDAR 68, allowing the current Other SWG complex to persist as is could allow for overfishing of scamp and yellowmouth grouper.

Alternative 2 would modify the Other SWG complex to form two sub-complexes. The Scamp Complex would include scamp and yellowmouth grouper and the Black Grouper Complex would include black grouper and yellowfin grouper. In addition, because Other SWG species are commercially harvested under the Grouper-Tilefish Individual Fishing Quota (IFQ) program, **Alternative 2** would also create two new share categories that replace the Other SWG share category. One share category would include scamp and yellowmouth grouper, and the other would include black grouper and yellowfin grouper. As a result of the Other SWG share category being modified into two new share categories, the flexibility measures as written in Amendment 29 to the Fishery Management Plan for the Reef Fish Resources of the Gulf (Reef Fish FMP; GMFMC 2008b) would no longer be applicable and would be eliminated.

Because **Alternative 1** (No Action) is not viable, and **Alternative 2** best represents the biological requirements of these managed species consistent with the best scientific information available (BSIA), no other alternatives are being considered under this action. Another approach to management under the current IFQ system for these species would not be consistent with BSIA.

2.1.2 Action 1.2: Distribution of IFQ Program Shares to Newly Established Scamp and Black Grouper Complex Share Categories

Alternative 1: No Action. Proportionally distribute Scamp Complex and Black Grouper Complex share categories based on existing Other SWG share percentages to the Scamp Complex and the Black Grouper Complex.

Alternative 2. Proportionally distribute Scamp Complex and Black Grouper Complex share categories to IFQ participants based on participant's individual landings histories of each IFQ for each sub-complex within a specified reference period:

Option 2a: Use IFQ participants landings history from 2011 – 2024
Option 2b: Use IFQ participants landings history from 2016 – 2024
Option 2c: Use IFQ participants landings history from 2020 – 2024

Alternative 3. Proportionally distribute Scamp Complex and Black Grouper Complex share categories to IFQ participants, with 50% based on existing Other SWG share percentages and 50% based on landings histories, by species, for each IFQ participant within a specified reference period.

Option 3a: Use IFQ participants landings history from 2011 – 2024
Option 3b: Use IFQ participants landings history from 2016 – 2024
Option 3c: Use IFQ participants landings history from 2020 – 2024

Discussion:

Due to the government shutdown, analysis to inform the discussion is not available. A presentation providing a broad overview of how the alternatives would affect the shares of current SWG shareholders was provided by staff (Tab B, No 8a).

2.2 Action 2: Establish Biological Reference Points, Status Determination Criteria (SDC), Catch Limits, Sector Allocations, for the Black Grouper Complex

Alternative 1: No Action – Do not establish MSY, maximum fishing mortality threshold (MFMT), minimum stock size threshold (MSST), or optimum yield (OY) for the new Black Grouper Complex as established in Action 1.1. Do not set an OFL, ABC, or ACL for the Black Grouper Complex. Do not establish allocations for the recreational and commercial sectors in the Black Grouper Complex.

Preferred Alternative 2: Establish the MSY proxy, MFMT, MSST, and OY as defined for the Other SWG Complex and for black grouper in Amendment 48 to the Reef Fish FMP (GMFMC 2021) and set the SDC for the Black Grouper Complex based on the SSC recommendation of $F_{30\%SPR}$. Establish catch limits for the Black Grouper Complex as detailed in the table below, consistent with the Generic ACL/AM Amendment (GMFMC 2011) and the SSC's recommendations.

SDC and Catch Limits	
MSY	yield at $F_{30\%SPR}$
MFMT	F_{MSY}
MSST	75% of B_{MSY}
OY	90% of MSY
OFL	Undefined*
ABC	310,844
Stock ACL	310,844
Comm ACL	227,735
Rec ACL	83,109

*The black grouper OFL is for Gulf and South Atlantic combined, while the yellowfin OFL is for the Gulf. The stock complex ABC represents the summation of the ABC for yellowfin grouper and the Gulf-apportioned ABC for black grouper. Catch limits are in gutted weight and are based in part on MRFSS data.

Discussion:

This action considers establishing management criteria for a new Gulf Black Grouper Complex. **Alternative 1** would not establish management criteria for the new Black Grouper Complex considered in Action 1. **Preferred Alternative 2** would establish biological reference points, SDC, catch limits, and sector allocations for the Black Grouper Complex. Rationale for the biological reference points, SDC, catch limits, and sector allocation informing **Preferred Alternative 2** is provided in the discussion below.

Biological Reference Points and SDC

Alternative 1 (No action) would not establish any biological reference points, SDC, or catch limits for the Black Grouper Complex (black grouper and yellowfin grouper, if selected in Action 1). This would be inconsistent with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and is therefore not a viable option.

Preferred Alternative 2 would establish biological reference points, SDC, and catch limits for the Black Grouper Complex. The biological reference points and SDC would be consistent with those established for Other SWG in Reef Fish Amendment 48 (GMFMC 2021). When developing Reef Fish Amendment 48, a range of proxy values for MSY and MFMT was considered for the Other SWG complex. At the time, the Other SWG complex did not have an established MSY proxy; therefore, the yield when fishing at $F_{30\%SPR}$ was selected for the complex by the Council. A Gulf-specific stock assessment not been conducted for black grouper or yellowmouth grouper, so if a new Gulf Black Grouper Complex is created (Action 1) then the complex will remain unassessed. Therefore, retaining the previous MSY proxy ($F_{30\%SPR}$) determination for the new Black Grouper Complex is appropriate until a time when new scientific information or an assessment is made available to inform a modified value for MSY. To align with this definition of MSY, **Preferred Alternative 2** would also set the MFMT for the Black Grouper Complex equal to F_{MSY}.

MSST is a biomass level set at or below the biomass level capable for producing MSY or the MSY proxy (B_{MSY} [or proxy]) for a stock or stock complex. It is used to determine when a stock or stock complex is overfished. If fishing mortality can be kept below the OFL (MFMT), the stock or stock complex biomass is unlikely to drop below the overfished level (MSST). However, the stock or stock complex biomass can fluctuate due to environmental variability, and due to management being unsuccessful in constraining fishing mortality. In such cases, there are concerns with setting MSST either too close to or too far from B_{MSY} (or proxy).

Preferred Alternative 2 would set MSST at 75% of B_{MSY} for the Black Grouper Complex. Porch *et al.* 2016 stated the probability that a stock will fall below 75% of B_{MSY} when it is not undergoing overfishing owing to random fluctuations in recruitment and natural mortality was low for the species examined in that study. An implication of this study result is that a stock which is identified as being below 75% of B_{MSY} likely did not arrive there by random or natural influences. Therefore, an MSST at 75% of B_{MSY} is being considered for the Black Grouper Complex.

The Magnuson-Stevens Act and National Standard (NS) 1 guidelines state that OY should be based on MSY as reduced by relevant economic, social, and ecological factors. The NS 1 guidelines also state that OY should include some consideration of uncertainty. National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center (SEFSC) staff and the SSC have recommended against specifying OY as the yield at a certain F (total biomass killed all ages / total biomass age 1+) and have suggested instead it be a percentage of MSY.[7] When developing Amendment 48, the Council ultimately settled on setting OY at 90% of MSY. Based on that determination, OY for the Black Grouper Complex would be set at 90% of MSY in **Preferred Alternative 2**.

Catch Limits and Sector allocations

Black grouper is considered to be a single stock across the Gulf and South Atlantic regions. Apportionment between the Councils is based on the Council jurisdictional boundary: South Atlantic = 47% of stock ABC and Gulf = 53% of stock ABC (as established by using 50% of catch history from 1986 – 2008 + 50% of catch history from 2006 – 2008). The Council's SSC recommended reductions for the Gulf black grouper catch limits, but because the black grouper stock is co-managed by the South Atlantic Fishery Management Council, no change to those catch limits could be made without their cooperation. The current yellowfin grouper OFL and ABC are based on landings data from 1995-2008. Under **Alternative 1** (No action), the Black Grouper Complex OFL would remain undefined, and thus sector allocations between the commercial and recreational sectors for the Black Grouper Complex would not be established. **Preferred Alternative 2** would establish sector allocations for the Black Grouper Complex based on the Generic ACL/AM Amendment. From the Generic ACL/AM Amendment, Gulf sector allocation of black grouper and yellowfin grouper were determined from landings during the years 2004-2008 and 2001-2004, respectively. Under **Preferred Alternative 2**, the stock complex ABC represents the summation of the ABC for yellowfin grouper and the Gulf-apportioned ABC for black grouper. The Black Grouper Complex ACL is established and set equal to the complex ABC. The Black Grouper Complex sector ACLs would be established and set equal to the sum of the black grouper (species) commercial and recreational sector ACLs and the yellowfin grouper (species) commercial and recreational sector ACLs. The black grouper species ACLs would be based on an apportionment of 73% of the species ACL for the commercial sector and 27% for the recreational sector, consistent with the apportionment in the Generic ACL/AM Amendment. The yellowfin grouper species ACLs would be based on an apportionment of 80.1% of the species ACL for the commercial sector and 19.9% for the recreational sector, also consistent with the apportionment in the Generic ACL/AM Amendment.

[7] E-mail from Clay Porch, SEFSC to the Amendment 48, Red Drum Amendment 5 interdisciplinary plan team, dated February 21, 2020.

2.3 Action 3: Recreational AMs for the Black Grouper Complex

Alternative 1: No Action – Do not establish recreational sector AMs for the Black Grouper Complex.

Alternative 2: A post-season recreational AM would be implemented for the Black Grouper Complex if the recreational ACL and the Black Grouper Complex ACL are exceeded. In the year following an overage, NMFS would close the recreational Black Grouper Complex to harvest when the recreational ACL is met or is projected to be met, unless NMFS determines based upon the best scientific information available (BSIA) that closure of the recreational fishing season is unnecessary.

Alternative 3: For the recreational sector, if the average recreational Black Grouper Complex landings exceed the average recreational ACL, and the average Black Grouper Complex landings exceed the average Black Grouper Complex ACL over a three-year moving period, the Regional Administrator (RA) would reduce the duration of the recreational season by the amount projected such that the recreational ACL is not exceeded during the following fishing year unless NMFS determines based upon the best scientific information available (BSIA) that no adjustment to the recreational fishing season is necessary.

Discussion:

Alternative 1 (No action) would not establish recreational sector AMs for the Black Grouper Complex. **Alternative 2** would establish a post-season AM, requiring NMFS, in the fishing year after the stock ACL was exceeded, to monitor and close recreational harvest when the stock ACL is reached or projected to be reached. As a result, an overage of the ACL in a single year would not necessitate a closure of the fishery, thus providing more continuous fishing opportunity across seasons. **Alternative 3** would examine the three-year moving average of recreational landings to assess whether that value is greater than the recreational ACL, and also greater than the complex ACL. If so, the RA would reduce the duration of the recreational season by the amount projected such that the recreational ACL is not exceeded during the following fishing year. **Alternative 3** has an additional provision that would allow NMFS to determine if any adjustment to recreational fishing season is warranted.

Under **Alternative 1** (No action), no mechanism would close the recreational fishery and the season would remain open for the entire fishing year. To assess the potential effects of implementing a closed season AM, as considered in **Alternative 2** and **Alternative 3**, two analyses were conducted. The first analysis produced simulations based on average Black Grouper Complex landings from 2000-2023 (Appendix D). These simulations were compared using varying values for Proportion Square Error (PSE) often reported in recreational landings data. In simulations assuming an annual PSE of 90%, the recreational ACL (Action 2, Preferred Alternative 2) was only exceeded approximately 2% (Fig. 2.3.1 A) of the time, and only 0.1% of the time when assuming an annual PSE of 50% (Fig 2.3.1 B). For other simulations assuming an annual PSE of 30% (Fig. 2.3.1. C) and 10% (Fig. 2.3.1. D), the recreational ACL was never exceeded.

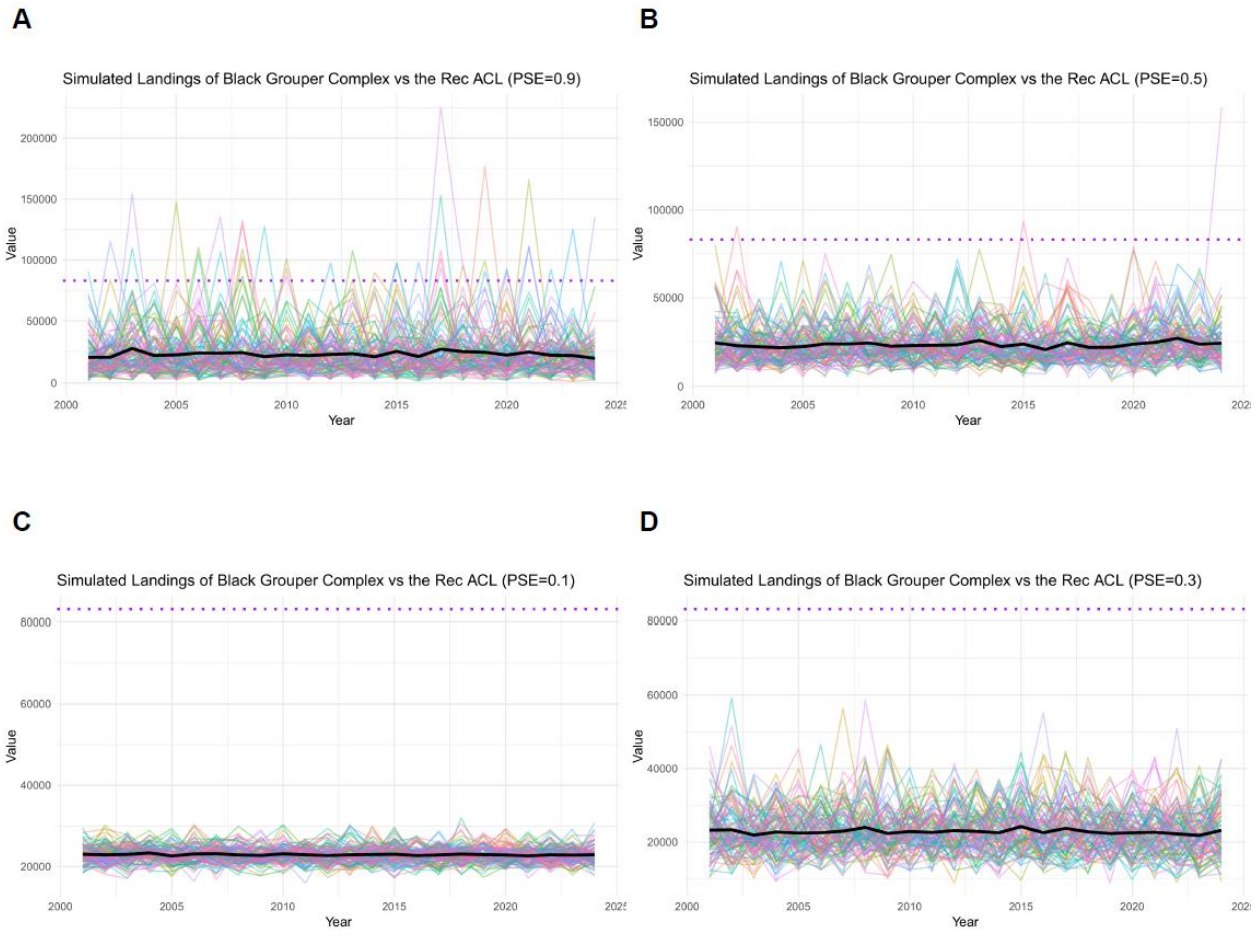

Figure 2.3.1. Results of the Black Grouper Complex simulation analysis. The solid black line is the average Black Grouper Complex landings from 2000-2023 and the purple dotted is line is the recreational ACL considered in Action 2, Preferred Alternative 2.

Another series of simulations were run using a 3-year moving average to assess how many simulated results exceed the recreational ACL considered in Action 2, Preferred Alternative 2 (Appendix D). The results were very similar between the 3-year moving average and the 1-year approach. For the 3-year moving average, the simulation using a PSE of 90% resulted in the recreational ACL being exceeded in 0.08% of the simulated cases (Fig. 2.3.2 A). None of the simulations assuming any other value for PSE resulted in an overage of the recreational ACL (Fig. 2.3.2 B-D).

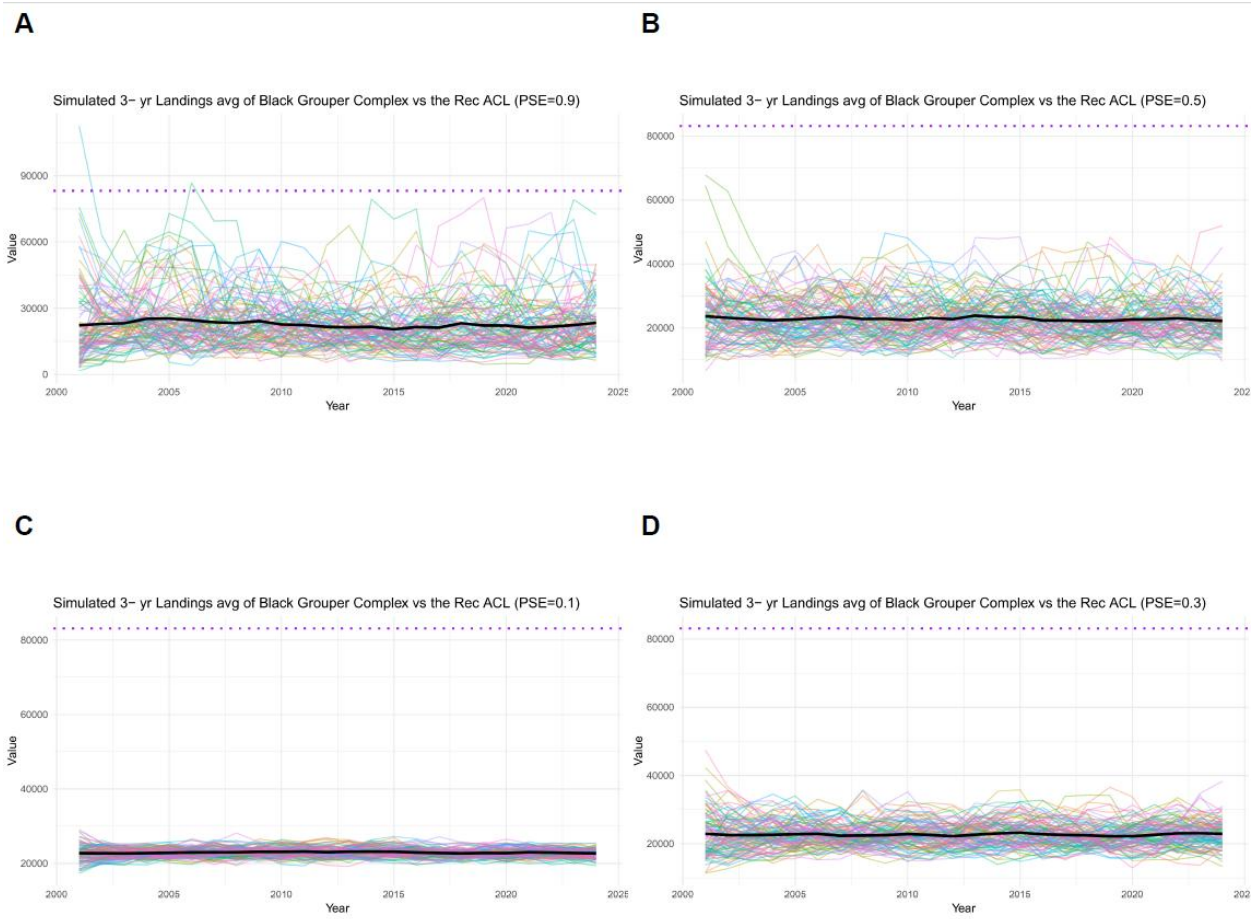

Figure 2.3.2. Results of the Black Grouper Complex simulation analysis using a 3-year moving average. The solid black line is the average Black Grouper Complex landings from 2000-2023 and the purple dotted is line is the recreational ACL considered in Action 2, Preferred Alternative 2.

Additionally, a rudimentary predictive analysis was conducted to explore if a 3-year moving or weighted 3-year average performed any better than a "naïve" analysis that assumed what was landed in pervious year would be landed in the following year (Appendix D). To conduct this analysis, Black Grouper Complex landings from 1986-2023 were used. This analysis indicated that no method performed substantially better than other at predicting annual recreational landings from one year to another (Fig. 2.3.3). Broadly, all three methods struggled to predict future landings, especially in the portion of the time series that exhibited any type of trend (Fig. 2.3.4).

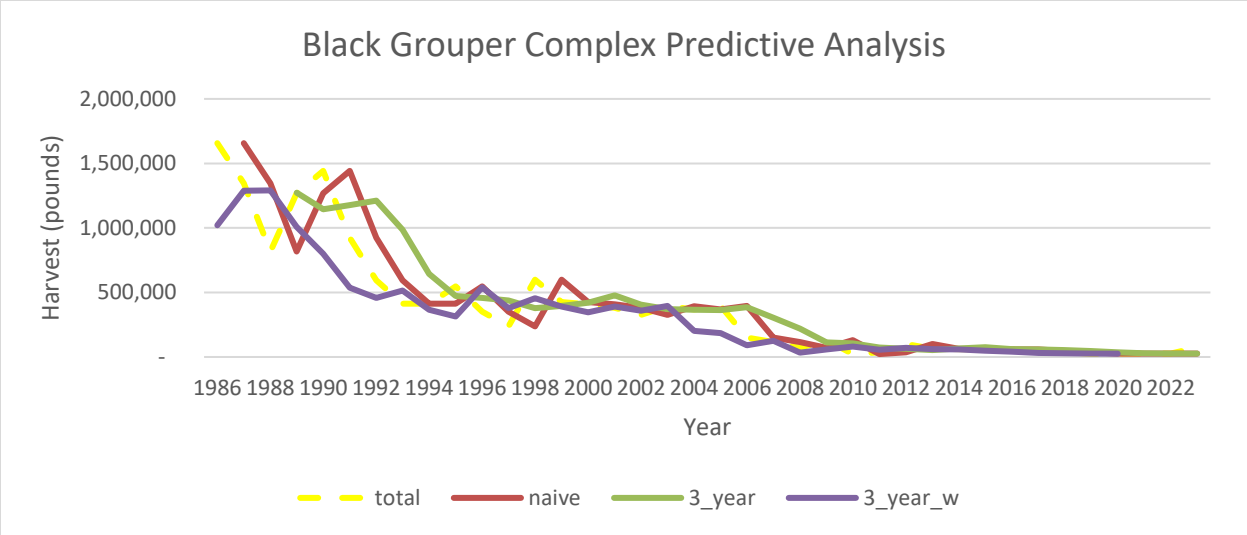

Figure 2.3.3. Results of a predictive analysis (naïve, 3-year average, 3-year weighted average) for the Black Grouper Complex.

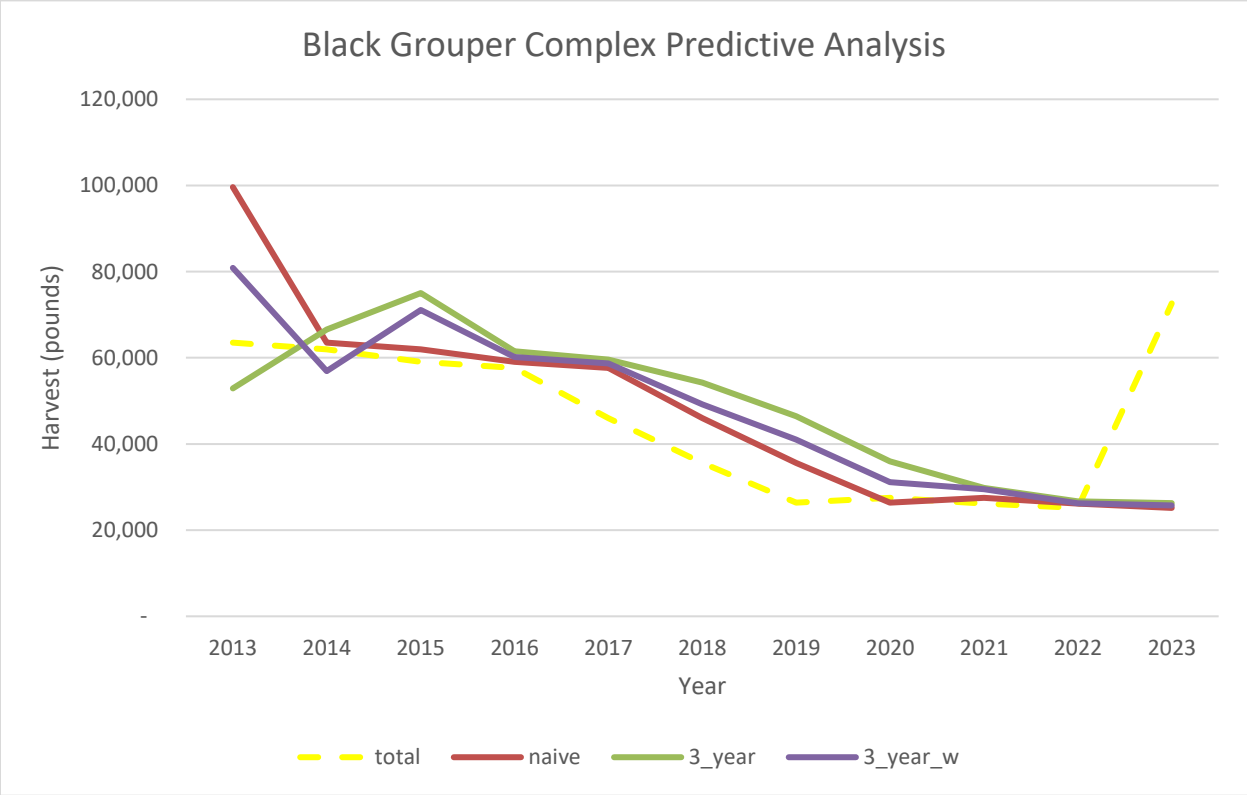

Figure 2.3.4. A reproduction of Figure 2.3.2 focusing on the more contemporary landings history (2013-2023).

The result of this analysis indicates that it is highly unlike that the Black Grouper Complex recreational ACL will be exceeded. There does not appear to be a possibility that **Alternative 2** could be triggered in a year following high observed landings that are also extremely uncertain (a PSE > 50%), since the complex ACL is never exceeded in any simulation run. A few simulations using higher PSE values did result in some annual landings (0.01 – 1.8%) above the recreational ACL value considered in Action 2, Preferred Alternative 2, but the stock ACL was never exceeded.

For **Alternative 3**, no simulated annual landings estimated at any PSE value exceeded the stock ACL. Additionally, the use of a 3-year average approach may not provide any added benefit in managing the Black Grouper complex to an ACL. In the case of trending landings or an anomalous year of high landings, managing with a 3-year average could be imposing reduced fishing effort on years well after higher landings have been observed (Fig. 2.3.4). However, 3-year average methodology aside, there is no evidence, based on the simulation analysis, that **Alternative 3** would result in triggering a recreational AM because historical Black Grouper Complex landings are substantially lower than the stock ACL considered in Action 2, Preferred Alternative 2.

2.4 Action 4: Establish Biological Reference Points and SDC for the Scamp Complex

Alternative 1: No Action – Do not establish MSY, MFMT, MSST, or OY for the new Scamp Complex established in Action 1.1.

Preferred Alternative 2: Establish the MSY proxy, MFMT, MSST, and OY for the Scamp Complex based on the SSC recommendations of the yield when fishing at $F_{40\%SPR}$:

Criteria Type	Alternative 2
MSY	**yield at $F_{40\%SPR}$**
MFMT	**F_{MSY}**
MSST	**75% of B_{MSY}**
OY	**90% of MSY**

Discussion:

Alternative 1 (No action) would not establish any biological reference points, SDC, or catch limits for the Scamp Complex (scamp/yellowmouth grouper, if selected in Action 1). This is not consistent with the requirements of the Magnuson-Stevens Act and is therefore not a viable action.

Some biological reference points and SDC considered under **Preferred Alternative 2** for the Scamp Complex in this action are consistent with those values established for the Other SWG complex in Amendment 48. Scamp and yellowmouth grouper were assessed together in SEDAR 68. The Council's SSC recommended setting an MSY proxy for the Scamp Complex at the yield when fishing at $F_{40\%SPR}$. **Preferred Alternative 2** reflects this recommendation, and would set the MFMT equal to the fishing mortality at the MSY proxy of $F_{40\%SPR}$.

In **Preferred Alternative 2**, the MSST for the Scamp Complex would be set at 75% of B_{MSY}. The same rationale used for Preferred Alternative 2 in Action 3 was used in setting this value in **Preferred Alternative 2** of this action (Porch *et al.* 2016 discussion; Section 2.2). A description of OY and its function are provided in Section 2.3. Amendment 48 set OY for Other SWG at 90% of MSY or the MSY proxy. Based on that determination, the OY for the Scamp Complex would be set at 90% of MSY in **Preferred Alternative 2**.

2.5 Action 5: Establish Catch Limits and Sector Allocations for the Scamp Complex

Note: The OFL and ABC are based on the SSC's recommendations from updated catch projections received in May 2025 using the SEDAR 68 (2022) assessment model for 2027-2031. Catch limits, in gutted weight (gw), are inclusive of and would be monitored using estimates from MRIP-FES. The OFL, ABC, and ACLs are based on the F_{MSY} proxy of the yield when fishing at $F_{40\%SPR}$.

Alternative 1: No Action – Do not establish catch limits for the new Scamp Complex as established in Action 1.1.

Preferred Alternative 2: Establish catch limits for the Scamp Complex. The stock ACL is set equal to the ABC. The stock ACL equals the combined sector ACLs. Establish sector allocations for the Scamp Complex as follows:

Option 2a: The commercial and recreational allocations are based sector allocations as established in the Generic ACL/AM Amendment. The commercial sector is allocated 80.1% of the scamp and yellowmouth grouper combined ACL, and the recreational sector is allocated 19.9%.

Year	OFL	ABC	Stock ACL	Comm ACL	Rec ACL
2027-2031+	233,000	183,000	183,000	146,583	36,417

Preferred Option 2b: The commercial and recreational allocations are based on the proportion of average landings for 2012-2023 excluding the 2020 COVID year. The commercial sector is allocated 38.6% of the scamp and yellowmouth grouper combined ACL, and the recreational sector is allocated 61.4%.

Year	OFL	ABC	Stock ACL	Comm ACL	Rec ACL
2027-2031+	233,000	183,000	183,000	70,638	112,362

Option 2c: The commercial and recreational allocations are based on reducing catch limits equally (percentagewise) between the commercial and recreational sectors based on the most recent three years of landings (i.e., 2021-2023). The commercial sector is allocated 29.7% of the scamp and yellowmouth combined ACL and the recreational sector is allocated 70.3%.

Year	OFL	ABC	Stock ACL	Comm ACL	Rec ACL
2027-2031+	233,000	183,000	183,000	54,351	128,649

Discussion:

Alternative 1 (No action) would not establish a stock ACL or sector allocations for the Scamp Complex. This would be inconsistent with the requirements of the Magnuson-Stevens Act (NS 1) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and is therefore not a viable option. **Option 2a**, **Preferred Option 2b**, and **Option 2c** of **Preferred Alternative 2** would establish catch limits and sector allocations for the Scamp Complex. The stock ACL would be set equal to the ABC, and the sector ACLs would combine to equal the stock ACL. **Option 2a** would establish sector allocations for the Scamp Complex (80.1% commercial, 19.9% recreational) based on the allocations defined in the Generic ACL/AM Amendment. If the Council selects **Option 2a**, then it would result in a *de facto* reallocation from the recreational sector to the commercial sector. This is because the MRIP-FES inclusive recreational landings estimates used in the SEDAR 68 stock assessment and resultant catch projections estimate much higher historical recreational landings than MRFSS, which informed the Generic ACL/AM Amendment. Instead of credit for these historically higher landings being applied to the recreational sector, **Option 2a** mathematically and incorrectly assumes no difference between MRFSS and MRIP. Thus, **Option 2a** would reduce recreational sector allowable harvest relative to allowable commercial harvest.

The landings used for establishing the sector allocations in both **Preferred Option 2b** and **Option 2c** are displayed in Table 2.5.1. **Preferred Option 2b** would establish sector allocations for the Scamp Complex based on landings for 2012-2023 (since implementation of the Generic ACL/AM Amendment), excluding the 2020 COVID year. This alternative would decrease in the commercial sector allocation with an increase in the recreational sector allocation. The year 2020 could be considered an outlier due to abnormal fishing effort for many Gulf species because of the COVID-19 pandemic. **Preferred Option 2b** uses a longer time period in setting the allocation percentages than **Option 2a** or **Option 2c**. Because of this longer time period, **Preferred Option 2b** may mitigate some short-term trends or recent changes in fishery dynamics.

Option 2c would establish commercial and recreational allocations for the Scamp Complex by reducing catch limits equally (percentagewise) between the commercial and recreational sectors based on the most recent three years of landings (i.e., 2021-2023). To generate these catch levels, the difference between the 3-year average and the newly proposed ACL would be divided by the 3-year average to generate a percent difference. The inverse of that percent difference would be multiplied by the sector-specific 3-year averages to generate the sector-specific ACLs (Table 2.5.1).

Table 2.5.1. Annual commercial, recreational (MRIP-FES), and total Scamp Complex landings from 2012 – 2023. Sector-specific landings as a percentage are also reported for the time series. These data used are the same as in Table 1.1.2.

Year	Commercial	Recreational	Total	%Commercial	%Recreational
2012	**249,826**	**237,195**	**487,021**	**51.3**	**48.7**
2013	**243,129**	**261,809**	**504,938**	**48.2**	**51.8**
2014	**169,125**	**264,495**	**433,620**	**39.0**	**61.0**
2015	**183,154**	**342,097**	**525,251**	**34.9**	**65.1**
2016	**285,741**	**244,715**	**530,456**	**53.9**	**46.1**
2017	**162,825**	**193,630**	**356,455**	**45.7**	**54.3**
2018	**143,047**	**233,878**	**376,925**	**38.0**	**62.0**
2019	**114,072**	**411,764**	**525,836**	**21.7**	**78.3**
2020	**119,043**	**380,593**	**499,636**	**23.8**	**76.2**
2021	**129,982**	**317,851**	**447,833**	**29.0**	**71.0**
2022	**122,752**	**326,023**	**448,775**	**27.4**	**72.6**
2023	**109,137**	**211,234**	**320,371**	**34.1**	**65.9**
Alt 2. *Preferred Option 2b* Avg. 2012-2023 (no 2020)	**173,890**	**276,790**	**450,680**	**38.6**	**61.4**
Alt 2. Option 2c	**New ACL**	**Difference**	**Inverse of Difference**	**Commercial ACL**	**Recreational ACL**
405,660	**183,000**	**~0.55**	**~0.45**	**54,351 (29.7%)**	**128,649 (70.3%)**

2.6 Action 6: Establish Recreational Annual Catch Target (ACT) Buffers for the Scamp Complex

Alternative 1: No Action – Do not establish a recreational ACT for the Scamp Complex.

Preferred Alternative 2: Establish a recreational ACT for the Scamp Complex by applying the Council's ACL/ACT Control Rule and considering scamp and yellowmouth grouper a single stock. Use landings data from 2019 – 2023, excluding the 2020 COVID year. The ACT would be set at 14% below the recreational ACL.

Alternative 3: Establish a recreational ACT for the Scamp Complex by applying the Council's ACL/ACT Control Rule and using scamp as an indicator species for the complex. Use landings data from 2019 – 2023, excluding the 2020 COVID year. The ACT would be set at 18% below the recreational ACL.

Discussion:

An ACT is used to account for additional management uncertainty in a fishery. Broadly, not accounting for any additional management uncertainty, as described in **Alternative 1** (No action) could be problematic for the complex. SEDAR 68 indicated that a substantial reduction (~58%) in harvest of the Scamp Complex was warranted for the stability of the stock (Action 6). As a result, new species complexes and catch limit reductions are being considered in this document. In addition, a fixed recreational closed season is being has been approved in a separate Framework Action to reduce SWG species harvest and is also being considered in Action 7. The Framework Action was approved by the Council in effort to reduce Other SWG harvest in the 2026 fishing year (GFMC 2025) while Amendment 58A (this document) could be developed.

Preferred Alternative 2 and **Alternative 3** would apply the Council's ACL/ACT Control Rule (Appendix B) to calculate a buffer between the ACL and ACT, and would use landings data from 2019-2023, excluding the 2020 COVID year. **Preferred Alternative 2** would consider scamp and yellowmouth grouper as a single stock in the ACL/ACT Control Rule and results in a 14% buffer between the ACL and ACT (Figure B1). **Alternative 3** would use scamp as an indicator species for the Scamp Complex resulting in an 18% buffer between the ACL and ACT (Figure B2). Since sector allocations for the Scamp Complex differ across Options 2a-2c in Alternative 2 of Action 5, the resulting recreational ACT for **Preferred Alternative 2** and **Alternative 3** in Action 6 differ based on the preferred alternative in Action 5. The resulting ACT values (lb gw) for each alternative are indicated in Table 2.6.1.

Table 2.6.1. Scamp recreational ACT values for Action 6 **Preferred Alternative 2** and **Alternative 3** calculated as a function of possible recreational ACL options presented for Alternative 2 in Action 5.

Year	Action 5, Alt. 2 Options	Rec ACL	Preferred Action 6, Alt. 2 ACT	Action 6, Alt. 3 ACT
2027+	Option a	36,417	31,319	29,862
2027+	Preferred Option b	112,362	96,631	92,137
2027+	Option c	128,649	110,638	105,492

More scientific uncertainty is assumed when an indicator species is used for a species assemblage as differences in the fishing effort between species, life history traits, and other management considerations are unknown; therefore, using a species as a representative for managing one or more other species in a complex in inherently more uncertain than considering an individual species. This results in **Alternative 3** having a larger buffer relative to **Preferred Alternative 2**. SEDAR 68 assessed Gulf scamp and yellowmouth grouper together as a complex due to difficulties in differentiating between the species. Therefore, **Preferred Alternative 2** includes uses scamp and yellowmouth grouper as a single complex in the ACL/ACT Control Rule, consistent with the most recent SEDAR 68 stock assessment.

2.7 Action 7: Establish a Fixed Closed Season and Recreational Sector AMs and Establish a Recreational Payback Provision for the Scamp Complex

2.7.1 Action 7.1: Establish a Fixed Closed Season and Recreational Sector AMs for the Scamp Complex

Alternative 1: No Action – Do not establish a fixed closed season for the recreational sector and do not establish recreational sector AMs for the Scamp Complex. The Scamp Complex would be open to harvest by the recreational sector from January 1 through December 31 each year.

Alternative 2: Establish a fixed closed season for the recreational sector for the Scamp Complex. The Scamp Complex would be closed from January through May each year (open on June 1 until December 31). A season closure would be implemented for the Scamp Complex when NMFS projects the recreational ACT (established in Action 6) is met.

Alternative 3: Establish a fixed closed season for the recreational sector for the Scamp Complex. The Scamp Complex would be closed from January through June each year (open on July 1 until December 31). A season closure would be implemented for the Scamp Complex when NMFS projects the recreational ACT (established in Action 6) is met.

Discussion:

Fixed closed season

The Council recently (June 2025) took final action on a framework action to implement a fixed closed recreational season for the Other SWG complex (GFMC 2025). The Council selected a fixed close season from January 1 through June 30 (July 1 start date). The Council acknowledged that although a shorter season would result, it was necessary to implement the fixed-closed season in order to constrain recreational landing and avoid exceeding the Other SWG complex ACL. The Council supported beginning the season on July 1 because it would still allow recreational access to the fishery when the highest recreational fishing effort is observed and would limit regulatory discards of the Other SWG. Similarly, potential season starting dates in the summer months (June and July) are being considered for this amendment for the new Scamp Complex (assuming Alternative 2 in Action 1.1 is selected).

Alternative 1 (No action) would not establish a closure fixed closed season or AMs which would allow for an early season closure. Given the substantial reduction in harvest required to avoid overharvest of scamp (as calculated from SEDAR 68), it is unlikely those harvest targets would be achieved without a fixed recreational closed season or AMs. **Alternative 2** and **Alternative 3** would consider recreational fixed-closed season and an AM that would close the fishing season upon NMFS projecting that the complex ACT has been met. For **Alternative 2**

and **Alternative 3**, the opening dates for the fishing season would be June 1 and July 1, respectively.

Scamp Complex season duration analysis

Two recreational season duration analyses have been generated (Appendix C). The first incorporates the last 3 years of Scamp Complex recreational landings data from 2022-2024 (Table 2.7.1.1). The other includes the years 2023 and 2024 (Table 2.7.1.2). The rationale for only including the two most recent years in the other analysis is because it is likely that relatively high Scamp Complex landings in September and October since 2023 are a result of modifications to the gag grouper recreational fishing season. With the shortened gag season now opening in the fall months, it is likely that increased recreational effort is now occurring during this time period and is contributing to in the increased recent landings attributable to the Scamp Complex relative to historical observations. To capture this confounding factor with gag management changes, a Scamp Complex recreational season duration analysis was conducted using an average of only the two most recent years of landings data (Table 2.7.1.2).

Discussion of Scamp Complex season duration analysis (3-year average)

Three years is the minimum time series that can be used to generate an average and standard deviation. A longer time series was not considered because recent changes (within 2 years) to the gag grouper recreational fishing season is likely influencing fishing effort on scamp as well. Therefore, informing the season duration using only three years is mathematically appropriate while also accounting for recent reductions in the gag grouper recreational fishing season.

Broadly, recreational harvest of the Scamp Complex varies temporally over the calendar year with relatively higher levels of harvest observed in the months of May-August (Table C1; Appendix C). The lowest level of harvest occurs in the winter months (November-April) and intermediate recreational harvest of scamp occurs in the fall (September-October [Table C1; Appendix C]). A recent increase in scamp harvest and fishing effort in September and October has been observed in 2023 and 2024. This underlying effect results in marked differences in estimated season duration for the three season starting dates considered in this action. Given the decrease in allowable harvest outlined in Actions 5 and 6, **Alternative 2** and **Alternative 3** both estimate a seasonal closure before the end of the calendar year regardless of start date.

Alternative 1 (No action) would not result in a closure of the recreational fishing season. The months of June and July have similar observed Scamp Complex recreational harvest (Appendix C); therefore, estimated season duration is similar between **Alternative 2** and **Alternative 3**. Additionally, Scamp Complex recreational harvest in August is similar to June and July, but a marked decrease of approximately 50% occurs in September (Appendix C). As a result, there is a slightly lower maximum number of days open for **Alternative 2** (21-80 days) relative to **Alternative 3** (21-99 days).

Table 2.7.1.1. Results of a Scamp Complex recreational season duration analysis (using a 3-year average) to estimate the number of days the recreational season would be open relative to the possible recreational ACL and ACT (lb gw) considered in Actions 5 and 6, respectively. The estimated season duration (Days Open) is also dependent on the season start date as Scamp Complex harvest varies temporally throughout the calendar year. For Action 7.1, two possible starting dates with a provision to implement a season closure for the Scamp Complex when NMFS projects the recreational ACT implement a sea are considered: June 1 **(Alternative 2)** and July 1 **(Alternative 3)**.

Action 7.1 *Alternative 2*: Fishing Season Start Date: June 1				
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Preferred Alternative 2* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**31,319**	**Jun 23**	**22**
Preferred Option b	**112,362**	**96,631**	**Aug 10**	**70**
Option c	**128,649**	**110,638**	**Aug 20**	**80**
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Alternative 3* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**29,862**	**Jun 22**	**21**
Preferred Option b	**112,362**	**92,137**	**Aug 6**	**66**
Option c	**128,649**	**105,492**	**Aug 16**	**76**
Action 7.1 *Alternative 3*: Fishing Season Start Date: July 1				
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Preferred Alternative 2* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**31,319**	**Jul 23**	**22**
Preferred Option b	**112,362**	**96,631**	**Sep 17**	**78**
Option c	**128,649**	**110,638**	**Oct 8**	**99**
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Alternative 3* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**29,862**	**Jul 22**	**21**
Preferred Option b	**112,362**	**92,137**	**Sep 10**	**71**
Option c	**128,649**	**105,492**	**Sep 30**	**91**

Discussion of Scamp Complex season duration analysis (2-year average)

Alternative 1 (No action) would start the recreational season on January 1 and no fixed close season would be established. The months of June through October have similar observed Scamp Complex recreational harvest (Table C1; Appendix C); therefore, estimated season duration is

similar between **Alternative 2** and **Alternative 3**. As a result, the estimated number range of recreational season days open for **Alternative 2** (28-105 days) is also similar to **Alternative 3** (28-110 days).

Table 2.7.1.2. Results of a Scamp Complex recreational season duration analysis (using a 2-year average) to estimate the number of days the recreational season would be open relative to the possible recreational ACL and ACT (lbs gw) considered in Actions 5 and 6, respectively. The estimated season duration (Days Open) is also dependent on the season start date as Scamp Complex harvest varies temporally throughout the calendar year. For Action 7.1, two possible starting dates with a provision to implement a season closure for the Scamp Complex when NMFS projects the recreational ACT implement a sea are considered: June 1 **(Alternative 2)** and July 1 **(Alternative 3)**.

Action 7.1 *Alternative 2*: Fishing Season Start Date: June 1				
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Preferred Alternative 2* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**31,319**	**Jun 30**	**29**
Preferred Option b	**112,362**	**96,631**	**Aug 30**	**90**
Option c	**128,649**	**110,638**	**Sep 14**	**105**
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Alternative 3* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**29,862**	**Jun 29**	**28**
Preferred Option b	**112,362**	**92,137**	**Aug 25**	**85**
Option c	**128,649**	**105,492**	**Sep 8**	**99**
Action 7.1 *Alternative 3*: Fishing Season Start Date: July 1				
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Preferred Alternative 2* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**31,319**	**Jul 29**	**28**
Preferred Option b	**112,362**	**96,631**	**Oct 3**	**94**
Option c	**128,649**	**110,638**	**Oct 19**	**110**
Action 5 Alternative 2:	**Recreational ACL**	**Action 6, *Alternative 3* Proposed Recreational ACT**	**Projected Closure**	**Days Open**
Option a	**36,417**	**29,862**	**Jul 28**	**27**
Preferred Option b	**112,362**	**92,137**	**Sep 28**	**89**
Option c	**128,649**	**105,492**	**Oct 13**	**104**

Accountability measures

Alternative 1 (No action) would not establish recreational sector AMs for the Scamp Complex. **Alternative 2** and **Alternative 3** would close recreational fishing for the Scamp Complex when the recreational ACT is projected to be met. **Alternative 2** and **Alternative 3** would provide a buffer to decrease the chances of exceeding the recreational ACL by monitoring to the ACT and reduce the probability of overfishing the Scamp Complex. However, **Alternative 2** and **Alternative 3** can potentially result in less realized harvest by the recreational sector and a subsequently shorter recreational fishing season, as it relies on season projections that are subject to high uncertainty.

2.7.2 Action 7.2: Establish a Recreational Payback Provision for the Scamp Complex

Alternative 1: No action. Do not establish a recreational payback provision.

Alternative 2: If recreational Scamp Complex landings exceed the complex recreational ACL in a fishing year and the stock complex is overfished, NMFS would reduce the recreational ACL and ACT for the following fishing year by the amount of the ACL overage in the prior fishing year, unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary.

Discussion:

Alternative 1 (No action) would not establish a payback provision for the Scamp Complex. **Alternative 2** would establish a payback provision for the recreational sector. In a year following an overharvest of the Scamp Complex recreational ACL and the stock is overfished, NMFS would reduce the recreational ACL and ACT. The ACL and ACT reduction would only remain in effect for one year, provided the newly adjusted ACL is not exceeded in the following year. If the ACL is not exceeded for a second time, then in subsequent years the ACL and ACT would return to the original levels. However, if the adjusted ACL is exceeded in the following year, then the ACL and ACT will be further adjusted in accordance with the alternative. Under the NS 1 guidelines, if catch exceeds the ACL for a given stock or stock complex more than once in four years, the system of ACLs and AMs should be re-evaluated, and modified, if necessary, to improve its performance and effectiveness.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Physical Environment

General Description of the Physical Environment

The physical environment for Gulf of America (Gulf) reef fish is detailed in the Environmental Impact Statement (EIS) for the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2004), Generic EFH Amendment 3 (GMFMC 2005), and the Generic Annual Catch Limit/Accountability Measure (ACL/AM) Amendment (GMFMC 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 km^2), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.1.1).

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

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

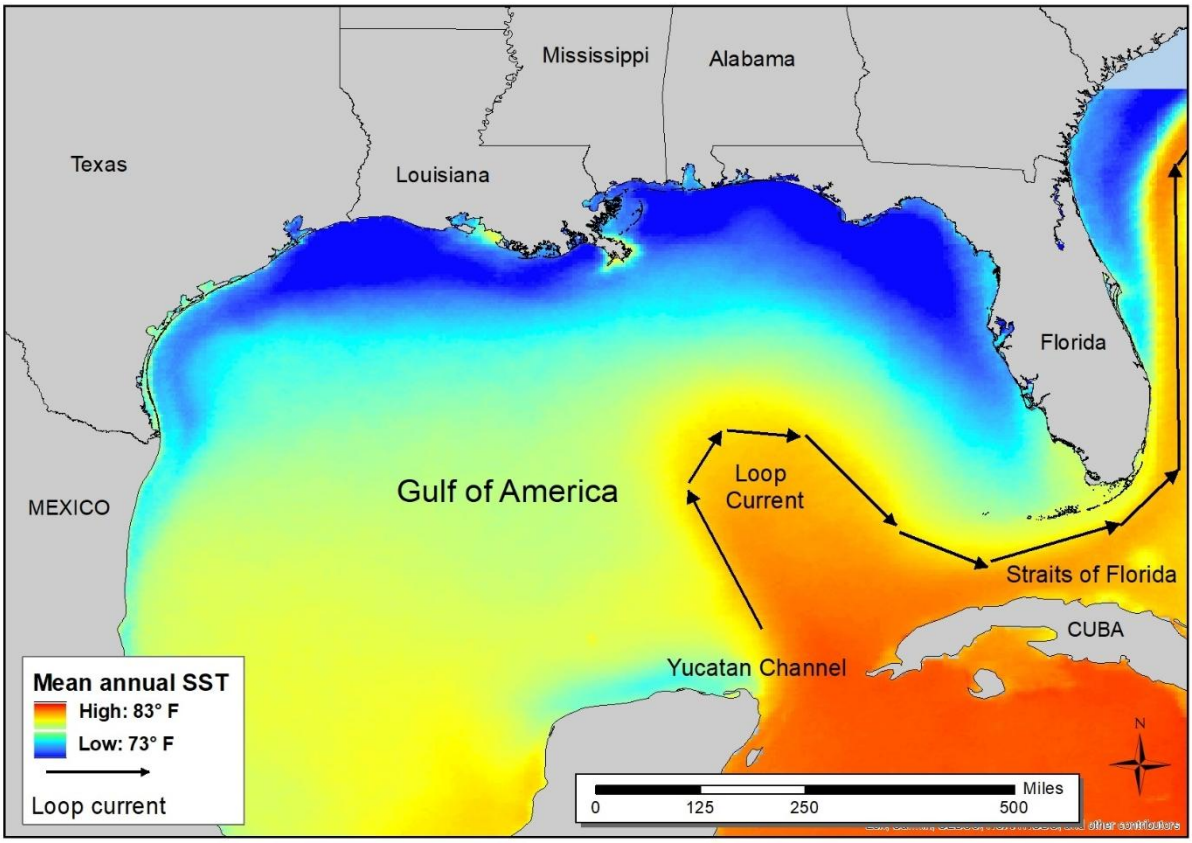

Figure 3.1.1. Mean annual sea surface temperature derived from the Advanced Very High-Resolution Radiometer Pathfinder Version 5 sea surface temperature data set.[9]

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 2004). Juvenile and adult reef fish are typically demersal and usually associated with bottom topographies on the continental shelf (less than 100 m [328 ft]) which have high relief, e.g., 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.

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

Habitat Areas of Particular Concern (HAPC) and Environmental Sites of Special Interest
Detailed information pertaining to HAPCs is provided in Generic Amendment 3 and Amendment 9 to the Fishery Management Plan for the Coral and Coral Reefs of the Gulf of Mexico, U.S. Waters (Coral FMP; 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 2004) that are relevant to reef fish management. These documents are hereby incorporated by reference.

Northern Gulf Hypoxic Zone
A large hypoxic zone forms every summer in the northern Gulf. It is the result of allochthonous materials and runoff from agricultural lands resulting in increasing nutrient inputs to multiple rivers. These tributaries feed into the Mississippi River, which disperses to the Gulf, and creates a temperature and salinity dependent layering of waters. The nutrient rich fresh waters from the Mississippi create seasonal, large algal blooms at the surface that eventually die, sink to the bottom, and decompose. This creates the oxygen-poor, hypoxic bottom water layer unless front or storm events occur, which 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 2004) and the Generic ACL/AM Amendment (GMFMC 2011a), which are hereby incorporated by reference and summarized below.

SWG Life History Biology
SWG broadly describe four grouper species including scamp, yellowmouth grouper, black grouper, and yellowfin grouper. All four species are protogynous hermaphrodites (SEDAR 68

[10] http://gulfhypoxia.net

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. The 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 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 at smaller size classes ($\leq$ 16 inches total length; 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. In May 2025, the SSC reviewed updated projections for scamp and yellowmouth grouper that included more recent landings and was considerate of the anticipated reductions in harvest associated with the action. The SSC determined that the scamp and yellowmouth grouper abundance has continued to decline and recognized the need both for a harvest reduction and longer-term management measures within this amendment.

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 ACL and is not classified as overfished or experiencing overfishing.

Protected Species and Protected Species Bycatch

The National Marine Fisheries Service (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] ESA-listed species or distinct population segments (DPS) of marine mammals, sea turtles, fish, and corals occur in the exclusive economic zone

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

(EEZ) of the Gulf. There are numerous stocks of marine mammals managed within the Southeast region. All marine mammals in U.S. waters are protected under the MMPA.

The five whale species that may be present in the Gulf (blue, sperm, sei, fin, and Rice's[12]) are listed as endangered under the ESA. Rice's whales are the only resident baleen whales in the Gulf. Manatees, listed as threatened under the ESA, also occur in the Gulf and are the only marine mammal species in this area managed by the U.S. Fish and Wildlife Service.

Sea turtles, fish, and corals that are listed as threatened or endangered under the ESA occur in the Gulf. These include the following: five species of sea turtles (Kemp's ridley, loggerhead (Northwest Atlantic Ocean DPS), green, 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. Critical habitat has been proposed in the Gulf for the North Atlantic DPS of green sea turtles.

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

On April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule (81 FR 20057) removing the range-wide and breeding population ESA-listings of the green sea turtle and listing eight DPSs as threatened and three DPSs as endangered. The North Atlantic DPS occurs in the Gulf and are listed as threatened.[13] 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.

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)

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

[13] Limited information previously indicated that benthic juveniles from both the North Atlantic and South Atlantic DPSs may be found in waters off the mainland United States. However, additional research indicates that juveniles from the South Atlantic DPS are not likely to occur in these waters, including the Gulf.

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 ray 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 9 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.[14]

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.

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 EEZ must have a valid Gulf reef fish permit. As of July 8, 2021, there were 825 limited access valid or renewable reef fish permits (SERO Permits Database, May 2022). Note, more recent permit information is currently unavailable. In order to harvest Other SWG, a vessel permit must also be linked to an individual fishing quota (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% of those held SWG shares (NMFS 2024b).

[14] 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.

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 2021) and Amendment 56 (GMFMC 2023) 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). Note, more recent dealer permit information is currently unavailable. 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. Note, more recent IFQ dealer endorsement information is currently unavailable.

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 89% of revenue. Other SWG landings and ex-vessel revenue fluctuated during 2019 through 2023. Although not shown in the table, the maximum annual gross revenue earned by a single vessel from 2019 through 2023 was approximately $4.55 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	$1,226,061	$57,638,098	$7,489,786	$558,226	$216,544
2020	315	164,072	$1,069,216	$55,594,288	$6,137,654	$201,571	$200,009
2021	300	187,412	$1,255,042	$60,337,038	$6,061,134	$478,534	$227,106
2022	291	167,314	$1,189,688	$60,930,030	$6,669,804	$684,515	$238,742
2023	292	173,156	$1,260,668	$62,899,768	$7,079,708	$410,249	$245,378

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

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

Price information is important for evaluating the performance of a catch share program. Theoretically, allocation prices should reflect the expected annual profit from harvesting one unit

of quota, whereas share prices should reflect the net present value of the expected profit from harvesting one unit of quota in the long run. Dockside or ex-vessel price is the price the vessel receives at the first sale of harvest. Average share transfer[15] prices fluctuated from 2019 through 2023; whereas allocation transfer prices remained relatively flat (Table 3.3.1.2). The average ex-vessel price increased by 9% overall during this period; the average allocation transfer price decreased by 3%; and the average share price decreased by 18%.

Table 3.3.1.2. Average Other 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

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 producer surplus (PS) can be calculated from the cost information contained in Liese (2023) in conjunction with estimates of annual revenue from the SERO IFQ database and the SEFSC Social Science Research Group (SSRG) Socioeconomic Panel. PS is total annual revenue minus variable costs, including the costs for fuel, other supplies, and hired crew, as well as the opportunity cost of an owner's time as captain. Net revenue from operations, which most closely represents economic profits to the owner(s), is total annual revenue minus variable and fixed costs, including the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, and overhead, as well as the opportunity cost of an owner's time as captain and the vessel's depreciation. According to Liese (2023), PS for commercial vessels that harvested Gulf SWG was approximately 51.7% 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 3.3.1.1 would result in an estimated per vessel average annual PS of $113,364 (2024 dollars) and an average annual net revenue from operations of $76,307 per year. Liese (2023) also provides annual trip-level estimates of costs (as a percentage of trip revenue) and trip net revenue for vessels that harvested snappers and groupers in the South Atlantic. According to Liese (2023), labor, including both hired and owner's time, consumed 34.7% of trip revenue and fuel and supplies consumed 16.9%, leaving a trip net revenue margin of 48.4%, on average, from 2014 through 2018.

[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: https://repository.library.noaa.gov/view/noaa/56480

Dealers

The information in Table 3.3.1.3 illustrates the purchasing activities of dealers that bought Other SWG landed 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 47% 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 trended upwards during the period, with a dip in 2020 only (Table 3.3.1.3). Although not shown in the table, the maximum annual value of all purchases made by a single dealer from 2019 through 2023 was approximately $15 million (2024 dollars) in 2023.

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	93	$1,018,605	$58,946,873	$55,765,536	$25,160,162	$1,514,959
2020	88	$962,013	$56,460,047	$41,727,355	$16,684,587	$1,316,295
2021	81	$1,091,145	$62,239,987	$55,063,039	$14,308,640	$1,638,306
2022	75	$1,094,395	$61,730,641	$51,171,088	$20,214,787	$1,789,479
2023	69	$1,085,426	$63,273,295	$43,980,770	$19,885,362	$1,858,331

Source: SEFSC Fishing Communities Web Query Toll (Version Feb 11, 2025 Years: 2014-2023)

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] groupers 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 (lb) product weight (pw) for fresh grouper products was $5.91 from 2019-2023, and these products primarily originated from Mexico, Brazil, and Panama.

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 lb pw 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
Share of Imports by Country					
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 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 period. 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
Share of Imports by Country					
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 $49.1 million (2024$) in 2019 to a five-year high of $84.0 million in 2021 (2024$) followed by a 49% decrease through 2023. The average price per pound for frozen snapper products was $4.31, with a notable decrease in 2023. 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 grouper purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would spend their money on substitute goods 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 here should be interpreted with caution. The results are based on average relationships developed through the analysis of many fishing operations that harvest many different species.

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

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

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 Marine Recreational Information Program (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).

[19] https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries

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

	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	6,556	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	18,147	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 (May 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).

[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 0.5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

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

	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.

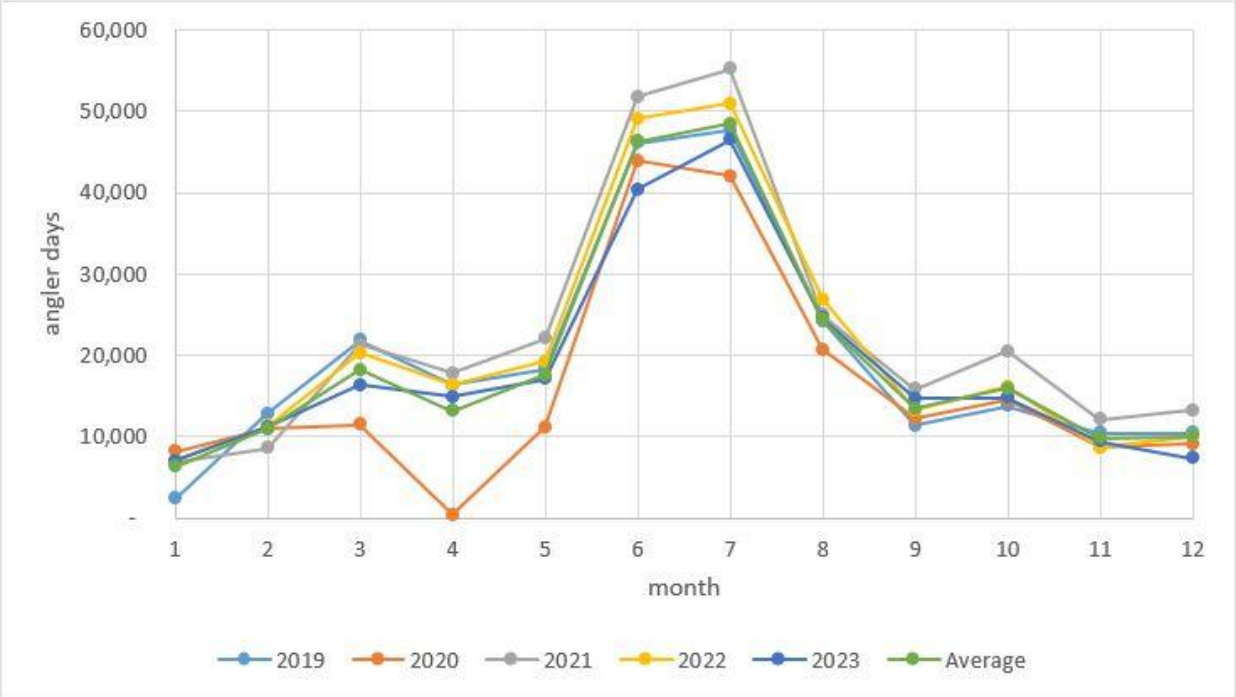

Figure 3.3.2.1. Gulf headboat angler days by month and year (2019 - 2023).
Source: NMFS SRHS (2023).

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 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 renewable[21] 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 Southeast Fisheries Science Center (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, 2016-2019.

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

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 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. Due to recreationally caught fish being 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) values[23] 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

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

[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.

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 considers 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 $131 (2024$) and lower thereafter (approximately $87 for a third grouper, $64 for a fourth grouper, and $51 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 species in the Other SWG complex. 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 estimates would overestimate average annual gross revenue for Gulf headboats. D. Carter, (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 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

[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."

3.3.2.7). When TNR is divided by the number of anglers on a trip, it represents cash flow per angler (CFpA), which approximates 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.

Table 3.3.2.7. Trip economics for offshore trips by Gulf charter vessels and Southeast headboats in 2017 (2024$).

	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 (NOAA) Office of Science and Technology. Economic impact estimates in 2022 dollars were adjusted to 2024 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 Other SWG complex species 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 $9.6 million per year, respectively, on average.

3.4 Description of the Social Environment

This amendment affects the commercial and recreational management of the proposed black grouper and scamp complexes in the Gulf. The following description presents baseline

information on fishing participants and fishing communities. This description includes the current status of the fisheries in order to present the communities that are expected to be primarily affected by the actions in this amendment because they are the most engaged in and/or reliant on the fisheries and is used to inform the social effects. Community level data are presented whenever possible 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 following description includes permits related to recreational reef fish fishing by state in order to provide a geographic distribution of fishing involvement. Top communities based on the number of recreational permits are presented. Recreational landings by state are included to provide information on the geographic distribution of fishing involvement. Descriptions of the top communities based on recreational engagement and top communities by headboat survey landings are also included. Lastly, social vulnerability data are presented for all top-ranking communities.

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

3.4.1 Commercial Sector

To be updated later with permit and IFQ data.

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

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

Recreational Landings for the species included in the SWG complex are collected across both the FES and MRFSS survey, which are not directly comparable. Looking at data from 2020 through 2024 for landings of the SWG species, across both surveys, the majority of annual recreational landings of the SWG species are in Florida waters, but the species are landed across the Gulf. Scamp landings account for the vast majority of landings, followed by Black Grouper (SEFSC Recreational MRFSS ACL Dataset and LA Creel).

Headboat Regional Quotient

Figures 3.4.2.1 and 3.4.2.2 show the top Gulf communities based on a regional quotient (RQ) of recreational headboat landings for black grouper and scamp complexes for 2020 through 2024. The RQ is the proportion of landings in the listed homeports for the headboats out of the total SRHS landings for that region and is a relative measure. The RQ is calculated as the homeports' average proportion of the total number of each complexes' landings by SRHS vessels during this time period (SEFSC SRHS, 2020-2024) and is presented below in Figure 3.4.2.1, in descending order. The top headboat homeports reporting black grouper or scamp complex landings are concentrated in Florida and Texas. Headboats with homeports in Louisiana, Alabama, and Mississippi landed a very small proportion of these two complexes.

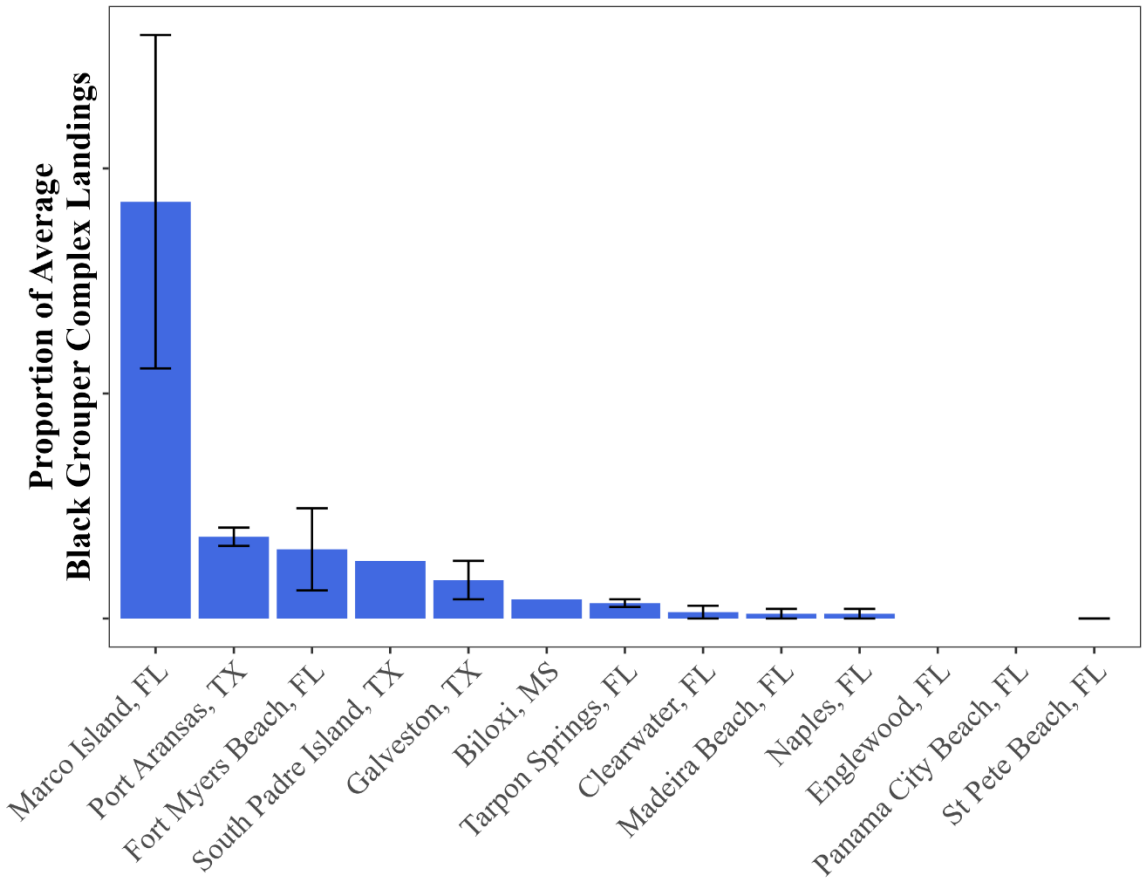

Figure 3.4.2.1. Headboat RQ-average proportion of black grouper complex landings by community for headboats included in the SRHS.
Source: SEFSC SRHS, 2020-2024.

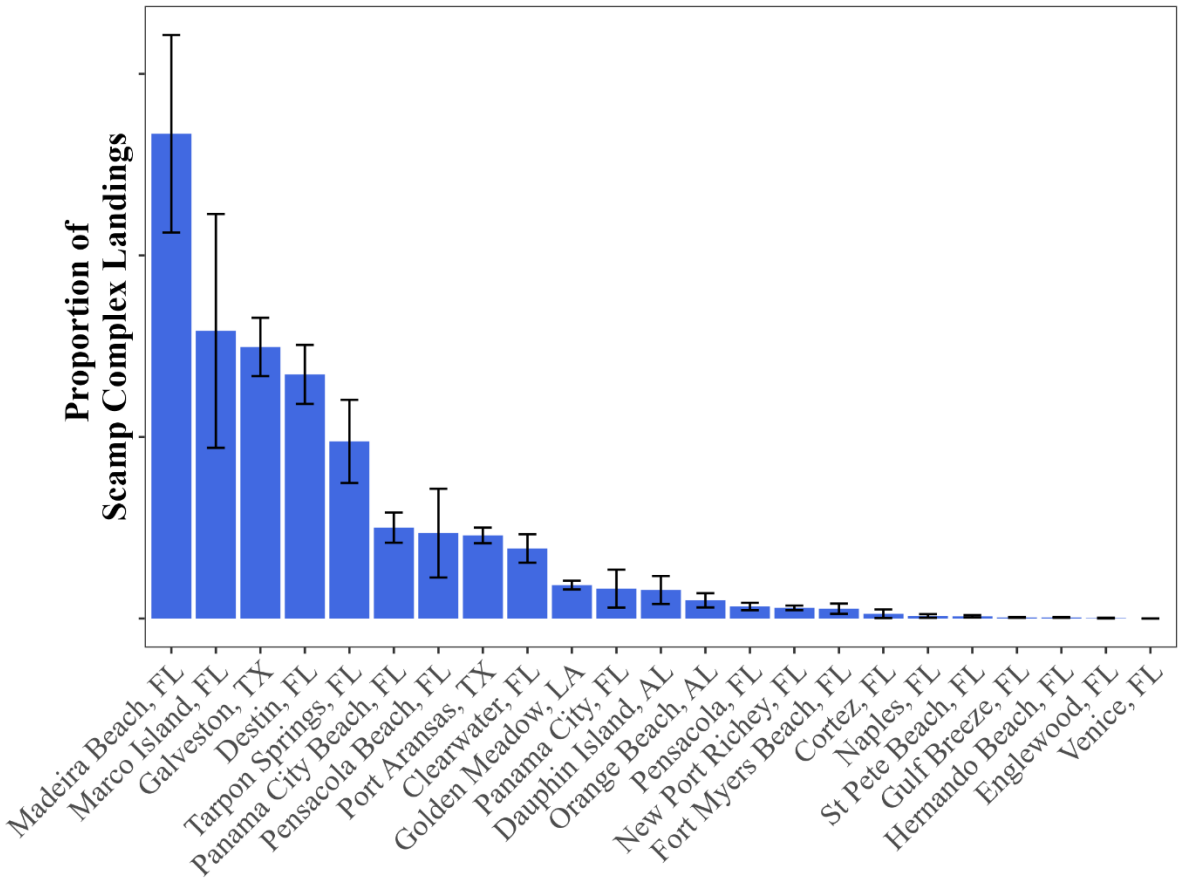

Figure 3.4.2.2. Headboat RQ-average proportion of scamp complex landings by community for headboats included in the SRHS.
Source: SEFSC SRHS, 2020-2024.

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 the black grouper and scamp complexes. 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 vessels designated as "recreational" by homeport and owner's address and the number of recreational fishing survey sites in a particular community. Fishing reliance includes the same variables as fishing engagement, divided by population. Factor scores of both engagement and reliance were plotted by community.

Figure 3.4.2.3 identifies the Gulf communities that are the top communities by engagement in 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 the species included in the new complexes. 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 Venice, Louisiana; Tavernier; Florida; Islamorada, Florida; Orange Beach, Alabama; Port Aransas, Texas; Destin, Florida; Key West, Florida; Marathon, Florida; and Crystal River, Florida demonstrate the highest reliance on recreational fishing. The communities of Naples and Fort Myers Beach, Florida demonstrate a moderate to high reliance.

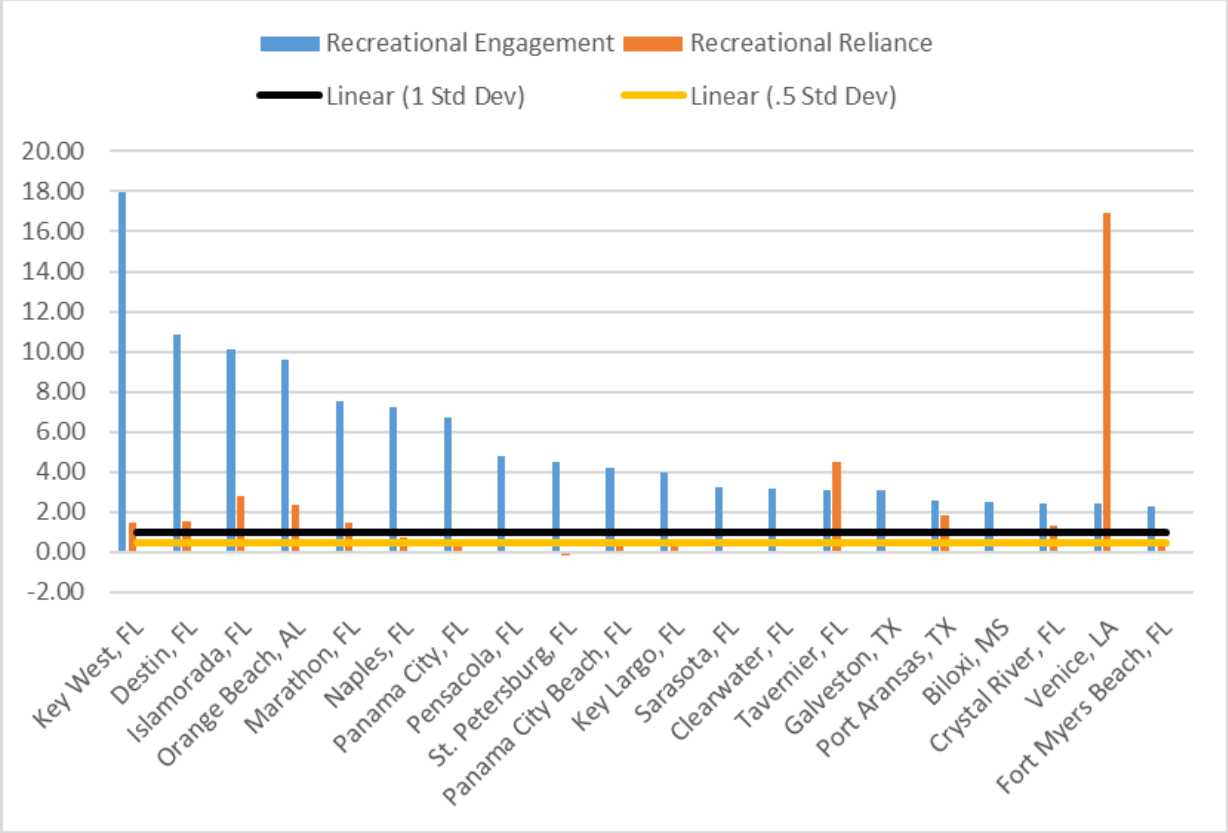

Figure 3.4.2.3 Recreational fishing engagement and reliance for top Gulf communities.
Source: SERO, Community Social Vulnerability Indicators Database 2022.

3.4.3 Social Vulnerability

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

signs of populations experiencing vulnerabilities. Again, for those communities that exceed the threshold it would be expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

Figures 3.4.3.1 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 the black grouper and scamp complexes specifically, fishing for reef fish, or marine fishing in general.

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 D. 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 3.5.2.1.

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 the Gulf of America (Gulf) Other Shallow Water Grouper (SWG) Complex and Individual Fishing Quota (IFQ) Shares Categories

4.1.1 Action 1.1: Modification of the Gulf SWG Complex

4.1.1.1 Effects on the Physical Environment

Alternative 1 (No Action) would retain the four species Other Shallow-water Grouper (SWG) Complex (scamp, yellowmouth grouper, black grouper, and yellowfin grouper). **Alternative 2** would dissolve the existing Other SWG complex and form two new complexes: scamp and yellowmouth grouper complex (Scamp Complex) and black grouper and yellowfin grouper complex (Black Grouper Complex). **Alternative 1** would also create two new IFQ share categories: one for the Scamp Complex and one for the Black Grouper Complex. This action would have no direct impact on the physical environment. Both **Alternative 1** and **Alternative 2** would affect the way the complexes are structured for management but are not expected to modify fishing effort for Other SWG species. Because of the multi-species nature of the reef fish fishery for the commercial and recreational sectors, **Alternative 1** and **Alternative 2** are not expected to result in measurable effects to the physical environment relative to each other. Rather, the modification to the SWG complex structure considered in **Alternative 2** is a result of a desire to recategorize the other SWG complex to manage these species more effectively from an administrative perspective.

Any effects from this action are not expected to be significant, as this action is not expected to change how the reef fish fishery is prosecuted overall because it is a multi-species fishery targeting many species. This action would only affect the portion of the fishery targeting SWG species.

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.

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. Since the mid-2010s, private recreational and charter for-hire vessels have increasingly adopted the use of bow-mounted electric trolling motors with GPS, allowing these vessels to remain at a geographic point without the need of a traditional anchor. The continued adoption of this method of staying on location when fishing would be expected to decrease direct interactions with the physical environment by these vessels from traditional anchoring practices (Capt. Dylan Hubbard, pers. comm, 2024).

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 (1980) noted that the gear could sweep across the bottom. A study that directly observed deployed longline gear (Atlantic tilefish portion of the snapper-grouper fishery) found no evidence that the gear shifted significantly, even when set in currents (Grimes et al. 1982). Both **Alternatives 1** and **2** would affect the way complexes are structured for management but are not expected to modify fishing effort for SWG species.

4.1.1.2 Effects on the Biological and Ecological Environment

Alternative 1 (No Action) would retain the Other SWG Complex which would comprise four species. SEDAR 68 assessed scamp and yellowmouth grouper as a complex, and provided updated catch advice for those two species, but not for black grouper or yellowfin grouper. Additionally, SEDAR 68 included Marine Recreational Information Program (MRIP) informed landings estimates for private recreational vessels. The catch levels for black grouper and yellowfin grouper, established in the Generic Annual Catch Limit/Accountability Measure (ACL/AM) Amendment, were published using the legacy federal Marine Recreational Fisheries Statistics Survey (MRFSS). NMFS comparisons of the different Gulf-wide federal fisheries recreational data survey designs has indicated that MRIP, inclusive of the Fishing Effort Survey (FES), most often results in higher estimates of recreational landings. Having two sets of recreational catch levels with differing data units for each pair of species within the Other SWG Complex is problematic. This data disparity could lead to unsustainable harvest of black grouper and yellowfin grouper if the Other SWG complex is retained and then monitored using a complex catch level informed by MRIP-FES. Since results from SEDAR 68 are considered consistent with the best scientific information available (BSIA) for scamp and yellowmouth grouper, the Council is obligated to apply catch levels for those species for management.

A negative biological affect could be realized for black grouper and yellowfin grouper that were not part of the catch level updates resulting from SEDAR 68, if monitored to catch levels informed by MRIP-FES. By splitting the Other SWG Complex into a new Scamp Complex (scamp and yellowfin grouper) and a new Black Grouper Complex (black grouper and yellowfin grouper), **Alternative 2** would address the issues for these Other SWG species discussed in the

previous paragraph. Catch levels informed by SEDAR 68 could be applied to the Scamp Complex. The Black Grouper Complex catch levels could be set for those species using an appropriate catch level determination independent of SEDAR 68. Therefore, **Alternative 2** is likely to have a positive biological effect relative to **Alternative 1**.

4.1.1.3 Effects on the Economic Environment

Alternative 2 dissolves the existing Other SWG complex and forms two new complexes. Without additional aspects of the two new complexes characterized, the economic effects to the commercial sector and to the recreational sector are unknown, in relation to **Alternative 1** (No Action). Currently, flexibility measures exist in the IFQ program between the Other SWG and DWG share categories, as established in Amendment 29 to the Reef Fish FMP (GMFMC 2008). If flexibility measures are not considered with the two new complexes, then the commercial quota for DWG will be set equal to the commercial ACL, with no buffer. Therefore, while economic effects may be expected from **Alternative 2**, the magnitude and sign (positive or negative) cannot be determined.

4.1.1.4 Effects on the Social Environment

To be completed.

4.1.1.5 Effects on the Administrative Environment

Alternative 1 (No Action) would retain the current composition of the Other SWG complex; and therefore, result in no change to the regulatory environment. **Alternative 2** would not substantially modify the regulatory environment by splitting the existing Other SWG complex into two new categories: Black Grouper Complex (black grouper and yellowfin grouper) and Scamp Complex (scamp and yellowmouth grouper). **Alternative 2** would require rulemaking, and to date, no Gulf reef fish complex has been dissolved into separate complexes. However, the administrative structure for reporting these species through the commercial IFQ program and the various recreational data collection surveys already exists so no additional regulatory requirements would be necessary to monitor the new complexes.

4.1.2 Action 1.2: Distribution of IFQ Program Shares to Newly Established Scamp and Black Grouper Complex Share Categories

4.1.2.1 Effects on the Physical Environment

To be completed.

4.1.2.2 Effects on the Biological and Physical Environment

To be completed.

4.1.2.3 Effects on the Economic Environment

To be completed.

4.1.2.4 Effects on the Social Environment

To be completed.

4.1.2.5 Effects on the Administrative Environment

To be completed.

4.2 Action 2: Establish Biological Reference Points, Status Determination Criteria (SDC), Catch Limits, and Sector Allocations for the Black Grouper Complex

4.2.1 Effects on the Physical Environment

Alternative 1 (No Action) would not establish maximum sustainable yield (MSY), maximum fishing mortality threshold (MFMT), minimum stock size threshold (MSST), or optimum yield (OY) for the new Black Grouper Complex. Nor would **Alternative 1** set an overfishing limit (OFL), acceptable biological catch (ABC), or Annual Catch Limit (ACL). for the Black Grouper Complex. Additionally, **Alternative 1** would not establish allocations for the recreational and commercial sectors. **Preferred Alternative 2** would establish MSY, MFMT, MSST, OY, set an OFL, ABC, ACL, and sector allocation for the Black Grouper Complex. Establishment of catch levels for the Black Grouper Complex in **Preferred Alternative 2** is not likely to affect the physical environment, because of the multi-species nature of the reef fish fishery for the commercial and recreational sectors. **Alternative 1** and **Preferred Alternative 2** are not expected to result in measurable effects to the physical environment relative to each other.

4.2.2 Effects on the Biological and Ecological Environment

Effects from fishery management actions as they relate to SWG species 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.

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 Other SWG 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 the species 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 [299 – 1,073 ft]; Farmer et. al., 2016), these species are expected to be vulnerable to mortality from barotrauma when hooked at depth and then reeled to the surface.

Bycatch, or fish released due to regulatory measures or angler preferences, does occur within the reef fish fishery. 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 size limits and closed seasons. Under these circumstances, any biological benefit to the managed species through the approved action is estimated to outweigh any negative effects from 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 (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) regarding marine mammal species, indicating the gear has little effect on these populations.

As discussed in section 2.2, not establishing biological reference points, SDC, or catch limits is problematic for sustainably managing a stock or complex under the requirements of Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). **Alternative 1** (No Action) would not establish these management metrics to monitor harvest to a sustainable level and this would likely have negative biological effects on the Black Grouper Complex. **Preferred Alternative 2** would establish these management metrics and allow for monitoring of the complex to a sustainable level and establish defined biological reference points for the complex. Therefore, **Preferred Alternative 2** would have a positive effect on the on the biological environment relative to **Alternative 1**.

Expected effects to discards and co-occurring species

With regard to bycatch of the Black Grouper Complex, **Alternative 1** and **Preferred Alternative 2** would result in some bycatch from regulatory discarding. **Preferred Alternative 2** is not expected to affect discards for either sector. Based on historical catch rates, neither sector is expected to reach its sector ACL and thus discards are expected to result from size limits, rather than the catch limits that are the subject of this action. However, alternatives considered in Action 3 and discussed in Section 4.3 of this document would implement a recreational accountability measure (AM) designed to constrain recreational harvest levels to the

recreational ACL. In the event that the recreational ACL is met, and the AM is triggered, an increase in discards would be expected. None of the Action 2 alternatives are expected to have measurable impacts on any other component of the biological environment, because of the multi-species nature of the reef fish fishery for the commercial and recreational sectors. Fishing effort may shift to or from other species and away or towards Black Grouper Complex species specifically but is not expected to change the prosecution of the fishery as a whole.

Expected effects to protected species

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

4.2.3 Effects on the Economic Environment

Preferred Alternative 2 establishes a complex ACL, commercial ACL, and recreational ACL for the Black Grouper Complex established in Action 1.1, whereas **Alternative 1** (No Action) would not establish these ACLs.

Commercial Sector

For the commercial sector, the comparison of effects is based on the resulting commercial ACL (227,735 lb gw) from **Preferred Alternative 2** relative to that of the 5-year average (2019-2023) of historical commercial landings (28,238 lb gw) under **Alternative 1**. The commercial sector has not been constrained its landings in recent years, so historical commercial landings represent what the sector may utilize if the complex ACL, commercial ACL, and recreational ACL are not established. As the commercial ACL in **Preferred Alternative 2** is greater than the 5-year average of historical commercial landings, the economic effects may be an upper bound, should the commercial sector fully utilize its ACL.

To calculate expected changes in commercial CS, own-price flexibility[25] for the commercial sector of the Black Grouper Complex 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 Black Grouper Complex species, of -0.396. If 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 the Black Grouper Complex would result in a value of zero. However, for the Black Grouper Complex, the expected change in commercial CS can be derived using the own-price flexibility for "GOM Other Grouper." The expected change in the commercial sector's CS is displayed in Table 4.2.3.1.

[25] 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.

Table 4.2.3.1. Expected change in the commercial sector's consumer surplus, relative to **Alternative 1**. Values are in 2024$.

Alternative	Expected Change in Landings by Commercial Sector (lb gw)	Expected Average Price Change ($/lb)	Expected Change in CS (2024$)
Preferred Alt 2	199,497	-$19.29	$2,469,234

To determine the expected change in ex-vessel revenue as a result of the proposed change to the commercial ACL and its effects on commercial landings, the commercial ACL from **Preferred Alternative 2** is multiplied by the sum of the expected average price change from Table 4.2.3.1 and the average ex-vessel price per lb gw of $6.90 for Other SWG (a proxy, as it includes the Black Grouper Complex species as well as the Scamp Complex species). 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. The commercial PS for vessels that harvested shallow-water grouper in the Gulf is estimated as 51.7% of the ex-vessel value (Section 3.3.1). The expected changes in revenue and in commercial PS are shown in Table 4.2.3.2.

Table 4.2.3.2. Expected change in the commercial sector revenue, relative to **Alternative 1**. Values are in 2024$.

Alternative	Expected Change in Comm Revenue	Expected Change in Comm PS
Preferred Alt 2	-$3,017,945	-$1,560,277

The total expected change in net economic benefits for the commercial sector from **Preferred Alternative 2** relative to **Alternative 1** is calculated by adding the expected change in commercial CS from Table 4.2.3.1 to the expected change in commercial PS from Table 4.2.3.2. This value is displayed in Table 4.2.3.3.

Table 4.2.3.3. Total expected change in net economic benefits for the commercial sector relative to **Alternative 1**. Values are in 2024$.

Alternative	Total Expected Change in Net Economic Benefits
Preferred Alt 2	$908,956

Recreational Sector

Estimated changes 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 a black grouper complex 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 a black grouper complex fish for Gulf recreational fishermen as a whole, if Gulf recreational fishermen

are retaining more than one black grouper complex fish per trip, since WTP decreases as additional fish are retained.

The expected change in the number of fish harvested is calculated by dividing the difference between the recreational sector's ACL (83,109 lb gw) and the average landings for the recreational sector from 2019 to 2023 (7,323 lb gw) by 12.98 lb gw, which is the weighted average weight of a recreationally landed black grouper in the Gulf from the 2020 to 2024 fishing years. This may be expected as an upper bound if the recreational sector fully utilizes its sector ACL. 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 4.2.3.4.

Table 4.2.3.4. Expected change in the recreational sector's CS, relative to **Alternative 1**. CS values are in 2024$.

Alternative	Expected Change in Rec Sector Landings, Expressed as Number of Fish	Expected Change in Rec Sector CS
Preferred Alt 2	5,840	$765,045

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 added due to a change in the recreational sector's ACL would be reasonable. However, charter vessel trips that are targeting black grouper complex species may be added 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, which included the species in the Black Grouper Complex established in Action 1, are incidentally harvested species. Therefore, a change in demand for for-hire trips would not be expected. While it is possible that some trips additions might occur, the effects would likely be minimal.

Net Economic Benefits

The total expected change in net economic benefits for both the recreational and commercial sectors are displayed in Table 4.2.3.5.

Table 4.2.3.5. 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	Total Expected Change in Net Economic Benefits
Preferred Alt 2	$1,674,002

4.2.4 Effects on the Social Environment

Preferred Alternative 2 would establish biological reference points, SDC, and catch limits for the Black Grouper Complex, as required under Magnuson Stevens Act. To the extent that these biological parameters help determine if overfishing has occurred, or if the stock or stock complex is overfished, they would help to ensure the continued sustainability of the stock and ensure the maximum yield of the fishery. These parameters would also contribute to more effective management measures employed by the Council and could lead to greater benefits to be shared among users. Without these parameters in place, fishers could harvest fish at levels that could have long-term impacts from stock declines. These social effects would be felt by both commercial fishers (and their suppliers, processors, and dealers), as well as from recreational fishers and communities. Relative to **Alternative 1** (No Action), which is not consistent with the Magnuson-Stevens Act requirements, one would expect to see social benefits from the development of these parameters, as they will allow for the application of BSIA to the management of the fishery.

Additionally, **Preferred Alternative 2** sets the sector allocations and catch limits for the commercial and recreational sectors. Comparing proposed allocations and catch limits under this alternative, with the historical landings presented earlier in this document, neither sector would be required to reduce their landings in the fishery, as historical landings are below the proposed catch limits. Additionally, as these measures are designed to encourage and safeguard the long-term health of the fish stocks, these limits could provide social benefits by limiting future overfishing and keeping annual harvests that are within a limit to prevent the fishery from becoming overfished.

4.2.5 Effects on the Administrative Environment

Alternative 1 (No Action) would not affect the administrative environment since no monitoring of the Black Grouper Complex would be required. **Preferred Alternative 2** would require rulemaking to implement. However, rulemakings to codify catch limits are routine and are generally initiated through the Council process as established by the Magnuson-Stevens Act.

4.3 Action 3: Recreational AMs for the Black Grouper Complex

4.3.1 Effects on the Physical Environment

Alternative 1 (No Action) would not establish a recreational AM for the Black Grouper Complex. **Alternative 2** would establish a post-season AM for the recreational Black Grouper Complex fishery. **Alternative 3** would compare a 3-year moving average of landings to assess whether that value exceeds both the recreational ACL and the stock ACL. If both ACLs are exceeded, the Regional Administrator (RA) would reduce the duration of the recreational season by the amount projected such that the recreational ACL is not exceeded during the following fishing year unless NMFS determines using BSIA that no adjustment to the recreational fishing season is necessary.

For **Alternative 1**, the recreational season would remain open for the entire fishing year regardless of the magnitude of Black Grouper Complex harvest. Both **Alternative 2** and **Alternative 3** would establish a mechanism to potentially close the recreational Black Grouper Complex season when the recreational ACL (established in Action 2 Alternative 2) is exceeded. Because **Alternative 2** and **Alternative 3** would establish a trigger for closing recreational harvest of the Black Grouper Complex, there would likely be a positive effect on the physical environment relative to **Alternative 1** by way of decreased fishing activity and interaction between fishermen and the physical environment. However, this effect is probably minimal considering the multi-use effort of the reef fish fishery. Recreational anglers would likely to target other reef fish species using bottom gear making the physical environment effects of the alternatives in Action 2 negligible.

4.3.2 Effects on the Biological and Ecological Environment

The purpose of setting a recreational AM is an additional management measure which allows for the ability to implement harvest restrictions when a biologically sustainable harvest level is exceed or predicted to exceeded within the fishing season. For **Alternative 1** (No Action), the recreational season would remain open for the entire fishing year regardless of the magnitude of Black Grouper Complex harvest. This approach could have a negative effect on the biological environment if unsustainable harvest persists over time. **Alternative 2** and **Alternative 3** would establish a mechanism to potentially close the recreational Black Grouper Complex season when the recreational ACL (established in Action 2 Alternative 2) is exceeded.

Based on the simulation analysis using recreational Black Grouper Complex landings from 2000-2023 (section 4.3 and Appendix D), the likelihood of exceeding the recreational ACL is low. However, a portion of the simulation analysis that generated 1-year estimates indicated that simulated results did exceed the recreational ACL in approximately in 2% of cases. So, while historical Black Grouper Complex recreational landings are substantially below the recreational ACL (established in Action 2 Alternative 2), a post-season AM could be triggered when the recreational ACL is exceeded in the previous year as outlined in **Alternative 2**. Exceeding the recreational ACL would cause a negative biological effect from unsustainable overharvest; therefore, **Alternative 2** would result in a more positive biological effect than **Alternative 1** where no closure is possible under any level of recreational harvest.

Results of the simulation analysis indicated that the complex ACL would likely never be exceeded, even with an annual proportional standard error (PSE) as high as 90% using a 3-year

moving average (Figure 2.3.2 A). Given the low average historical landings relative to the stock ACL (established in Action 2 Alternative 2) it unlikely the AM mechanism outlined in **Alternative 3** would ever be triggered. Additionally, **Alternative 3** allows for the possibility of the recreational ACL to be exceeded for multiple years before implementing the AM and the mechanism for this AM is also dependent on landings from the commercial sector which introduces additional management uncertainty. It is difficult to compare any biological environmental effect between **Alternative 1** and **Alternative 3** given how unlikely recreational Black Grouper Complex landings are to exceed the complex ACL for multiple years in a row. Implementing an AM mechanism that is unlikely to be triggered (**Alternative 3**) may function similar to **Alternative 1**. Alternatively, there is a possibility the AM could be triggered as described in **Alternative 2**. Therefore, **Alternative 2** likely has a more positive effect on the biological environment relative to both **Alternative 1** and **Alternative 3**.

4.3.3 Effects on the Economic Environment

Commercial Sector

As this action relates to AMs for the recreational sector. No economic effects are expected for the commercial sector.

Recreational Sector

Alternative 1 (No Action) would not establish recreational AMs, whereas **Alternative 2** and **Alternative 3** would establish recreational AMs based on the recreational and complex ACLs being exceeded. As the commercial quota serves as the AM for the commercial sector, if the commercial quota is being fully utilized, then any overage by the recreational sector would lead to the complex ACL being exceeded. If the commercial quota is not being fully utilized, then an overage by the recreational sector may not necessarily exceed the complex ACL. Figures 2.3.1 and 2.3.2 illustrate how unlikely it is that the recreational ACL from Action 2 Preferred Alternative 2 would be exceeded annually using either year-to-year or a moving 3-year average approach. If the recreational ACL is unlikely to be exceeded, then it follows that the complex ACL would also be unlikely to be exceeded. The likelihood of the recreational ACL being exceeded is greater under **Alternative 2** than under **Alternative 3**. Without additional information to know how often the recreational AM may be triggered or the implications of the season duration in the year following an overage, the economic effects to the recreational sector cannot be quantified.

4.3.4 Effects on the Social Environment

Alternative 1 (No Action) likely would have no social benefits to recreational fishers, as it does not implement any AM if the recreational ACL is exceeded. If recreational and/or stock ACLs are exceeded, fish stocks could decline, which could limit future recreational fishing activity and opportunities. However, given the recreational ACL proposed in Action 2, if current recreational catch and effort continue, complex landings would be unlikely to exceed the complex ACL level. Should fishing effort increase, **Alternative 2** would provide a less restrictive approach compared

to **Alternative 3**, with an overage in one year only triggering closer monitoring and tracking (and potential closure) of the fishery should the complex ACL be reached or projected to be reached in the second fishing year. While **Alternative 3** would necessitate a closure for recreational access if sector and complex ACLS are exceeded, it proposes a three-year average for assessing any overage. This option would provide some flexibility, accounting for short term shifts in fishing behavior and effort in the recreational sector. While both **Alternative 2** and **Alternative 3** would potentially limit recreational fishing access and opportunities (should the complex ACL be reached), these alternatives would be expected to protect the long-term health of the complex for future recreational fishing opportunities.

4.3.5 Effects on the Administrative Environment

Alternative 1 (No Action) would not affect the administrative environment since it would not establish any recreational AM. There is a potential that this action would have a minor effect on the administrative environment if the recreational sector exceeded its Black Grouper Complex ACL. However, simulation analysis (Appendix D) indicates this outcome is generally unlikely as described in **Alternative 2** and extremely unlikely as described in **Alternative 3**, where the complex ACL would have to be exceeded on average over three years before triggering the AM. Some administrative burden is anticipated with respect to outreach as it relates to notifying stakeholders of the changes to recreational landings black grouper and yellowfin grouper being monitored under their new Black Grouper Complex rather than the previous Other SWG. However, these effects are not expected to be significant.

4.4 Action 4: Establish Biological Reference Points and SDC for the Scamp Complex

4.4.1 Effects on the Physical Environment

Alternative 1 (No Action) would not establish status determination criteria for the new Scamp Complex. **Preferred Alternative 2** would establish MSY, MFMT, MSST, and OY for the new Scamp Complex. Establishing these biological reference points and criteria (**Preferred Alternative 2**) allow for sustainable management of the complex. Either not defining (**Alternative 1**) or establishing biological criteria for the Scamp Complex (**Preferred Alternative 2**) are not expected to result in measurable effects to the physical environment relative to each other.

4.4.2 Effects on the Biological and Ecological Environment

Fishing effects on the life history characteristics of reef fish is discussed in section 4.2.2 and are applicable to the alternatives being considered in this action. Additionally, as discussed in section 2.2, not establishing biological reference points or SDC is problematic for sustainably managing a stock or complex. **Alternative 1** (No Action) would not establish these management metrics to monitor harvest to a sustainable level and this would likely have negative biological effects on the Scamp Complex. **Preferred Alternative 2** would establish these management

metrics and define biological reference points for the complex. Therefore, **Preferred Alternative 2** would have a positive effect on the on the biological environment relative to **Alternative 1**.

4.4.3 Effects on the Economic Environment

Preferred Alternative 2 establishes the MSY proxy, MFMT, MSST, and OY for the Scamp Complex established in Action 1, while **Alternative 1** (No Action) would not establish these. As values for the complex ACL and sector ACLs are established in Action 5, the economic effects to the commercial and recreational sectors are unknown for **Preferred Alternative 2**, relative to **Alternative 1**. However, in comparison to not establishing the MSY proxy, MFMT, MSST, and OY (**Alternative 1**), **Preferred Alternative 2** is expected to assist in preventing overfishing, which would be expected to result in positive economic effects to both sectors.

4.4.4 Effects on the Social Environment

Preferred Alternative 2 uses biological parameters and catch projections from SEDAR 68 (2022) and Amendment 48 (GMFMC 2021). These parameters would establish an MSY and OY designed to sustain fish stocks and ensured continued benefits. These levels, and the resulting OFL/ABC discussed in the next action, would reduce the overall target yield levels for the fishery, which would limit both recreational and commercial fishing opportunities. However, as with Action 2, while these parameters would have a social effect by limiting current fishing access, they would support and protect the fish stocks and help to ensure the biological sustainability of the fishery in the future. This would provide greater social benefits in the future, avoiding overfishing, protect stocks from being overfished, and contributing to healthier fish stocks for both recreational and commercial fishers. Fishing communities engaged in, and reliant on, recreational and commercial fishing would likely benefit from continued fishing opportunities for scamp and yellowmouth grouper.

Relative to **Alternative 1** (No Action), which is not consistent with BSIA, there would likely be social benefits from the development of these parameters, as they will allow for the application of BSIA to the fishery management.

4.4.5 Effects on the Administrative Environment

Alternative 1 (No Action) would have no effect on the administrative environment since no SDC or biological reference points would be established for the Scamp Complex. **Preferred Alternative 2** would provide a positive effect to the administrative environment relative to **Alternative 1**. Because **Preferred Alternative 2** would implement biologically informed metrics for management of the Scamp Complex, this would minimize the risk that the complex would be depleted, triggering other management action which would results in negative effects on the administrative environment.

4.5 Action 5: Establish Catch Limits and Sector Allocations for the Scamp Complex

4.5.1 Effects on the Physical Environment

Alternative 1 (No Action) would not set an OFL, ABC, or ACL for the Scamp Complex. **Preferred Alternative 2** would establish an OFL, ABC, or ACL for the Scamp Complex based on the results of SEDAR 68. Additionally, **Preferred Alternative 2** would establish sector allocations based on either the 2011 Generic ACL/AM Amendment (**Alternative 2 Option 2a**), a time series of landings from 2012-2023 (excluding 2020; **Preferred Alternative 2 Option 2b**), or a time series of landings from 2021-2023 (**Alternative 2 Option 2c**). The ACLs considered in **Option 2a**, **Option 2b**, and **Option 2c** in **Alternative 2** represent a substantial decrease (~55%; Table 2.5.1) from the ACL used to manage the Other SWG Complex. Historically, the majority of landings under the Other SWG complex were scamp, so this reduction for the new Scamp Complex is mostly attributable to the results of SEDAR 68 rather than splitting the Other SWG Complex into two new complexes (Action 1.1 Alternative 2).

Descriptions of the types of commercial and recreational fishing gear for SWG species, including those species within the new Scamp Complex are provided in section 4.1.1.1. This action would have no direct impact on the physical environment. However, decreases in catch limits described in **Option 2a, Preferred Option 2b, and Option 2c** in **Alternative 2** may result in diminished fishing effort, which could decrease potential effects. Any effects from this action are not expected to be significant, as this action is not expected to change how the reef fish fishery is prosecuted overall because it is a multi-species fishery targeting many species.

4.5.2 Effects on the Biological and Ecological Environment

Not establishing catch levels, as considered in **Alternative 1** (No Action), would not allow for assessing whether Scamp Complex harvest is at a sustainable level and inconsistent with the Magnuson-Stevens Act. **Alternative 2** would establish appropriate catch levels consistent with BSIA. Fishing effects on the life history characteristics of reef fish is discussed in section 4.2.2 and these effects would be addresses by establishing sustainable harvest levels for the Scamp Complex. Even with a modest increase in commercial discards, each of the action alternatives is expected to result in positive effects to the biological environment with regard to species in the Other SWG complex because they are expected to result in lower overall mortality to the complex than under current management, reducing harvest to a level that is expected to result in an increased stock size. Therefore, **Alternative 2** would provide substantial biological benefit to the complex relative to **Alternative 1**. Because the complex would be monitored to the complex ACL, the various sector allocations considered in **Option 2a**, **Preferred Option 2b**, and **Option 2c** in **Alternative 2** would still provide values of sustainable harvest for the complex relative to **Alternative 1**.

4.5.3 Effects on the Economic Environment

Preferred Alternative 2 establishes a complex ACL, commercial ACL, and recreational ACL for the Scamp Complex established in Action 1.1, whereas **Alternative 1** (No Action) would not establish these ACLs. **Preferred Alternative 2**, **Option 2a**, **Preferred Option 2b**, and **Option 2c** establish sector allocations, respectively, as 80.1%/19.9% commercial/recreational, 38.6%/61.4% commercial/recreational, and 29.7%/70.3% commercial/recreational.

Commercial Sector

For the commercial sector, the comparison of effects is based on the resulting commercial ACL from **Alternative 2 Option 2a** (146,583 lb gw), **Preferred Option 2b** (70,638 lb gw), and **Option 2c** (54,351 lb gw) relative to that of the 5-year average (2019-2023) of historical commercial landings (118,997 lb gw) under **Alternative 1**.

To calculate expected changes in commercial CS, own-price flexibility[26] for the commercial sector for the Gulf Scamp Complex 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 Scamp Complex species, of -0.396. If 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 the Scamp Complex would result in a value of zero. However, for the Scamp Complex, the expected change in commercial CS can be derived using the own-price flexibility for "GOM Other Grouper." The expected change in the commercial sector's CS is displayed in Table 4.5.3.1.

Table 4.5.3.1. Expected change in the commercial sector's consumer surplus, relative to **Alternative 1**. Values are in 2024$.

Preferred Alternative 2, Option	Expected Change in Landings by Commercial Sector (lb gw)	Expected Average Price Change ($/lb)	Expected Change in CS (2024$)
Option 2a	27,586	-$0.63	$84,063
Preferred Option 2b	-48,359	$1.11	-$105,226
Option 2c	-64,646	$1.48	-$128,584

To determine the respective expected changes in ex-vessel revenue as a result of the proposed change to the commercial ACLs and its effects on commercial landings, the commercial ACLs from **Preferred Alternative 2 Option 2a**, **Preferred Option 2b**, and **Option 2c** are multiplied by the sum of the expected average price change from Table 4.5.3.1 and the average ex-vessel price per lb gw of $6.90 for Other SWG (a proxy, as it includes the Scamp Complex species as well as the Black Grouper Complex species). 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

[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.

average commercial landings from 2019-2023. The commercial PS for vessels that harvested shallow-water grouper in the Gulf is estimated as 51.7% of the ex-vessel value (Section 3.3.1). The expected changes in revenue and in commercial PS are shown in Table 4.5.3.2.

Table 4.5.3.2. Expected change in the commercial sector revenue, relative to **Alternative 1**. Values are in 2024$.

Preferred Alternative 2, Option	Expected Change in Comm Revenue	Expected Change in Comm PS
Option 2a	$97,437	$50,375
Preferred Option 2b	-$255,093	-$131,883
Option 2c	-$365,168	-$188,792

The total expected change in net economic benefits for the commercial sector from **Preferred Alternative 2** relative to **Alternative 1** is calculated by adding the expected change in commercial CS from Table 4.5.3.1 to the expected change in commercial PS from Table 4.5.3.2. This value is displayed in Table 4.5.3.3.

Table 4.5.3.3. Total expected change in net economic benefits for the commercial sector relative to **Alternative 1**. Values are in 2024$.

Preferred Alternative 2, Option	Total Expected Change in Net Economic Benefits
Option 2a	$134,438
Preferred Option 2b	-$237,109
Option 2c	-$317,376

Recreational Sector

Estimated changes 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 a Scamp Complex 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 harvested. This might overestimate the WTP of a scamp complex fish for Gulf recreational fishermen as a whole, if Gulf recreational fishermen are retaining more than one Scamp Complex fish per trip, since WTP decreases as additional fish are retained.

The expected change in the number of fish harvested is calculated by dividing the difference between the recreational sector's ACL and the average landings for the recreational sector from 2019-2023 (329,490 lb gw) by 3.85 lb gw, which is the weighted average weight of a recreationally landed scamp in the Gulf from the 2020 to 2024 fishing years. 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 4.2.3.4.

Table 4.2.3.4. Expected change in the recreational sector's CS, relative to **Alternative 1**. CS values are in 2024$.

Preferred Alternative 2, Option	Expected Change in Rec Sector Landings, Expressed as Number of Fish	Expected Change in Rec Sector CS
Option 2a	-76,060	-$9,963,872
Preferred Option 2b	-56,350	-$7,381,903
Option 2c	-52,124	-$6,828,180

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 added due to a change in the recreational sector's ACL would be reasonable. 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, which included the species in the scamp complex established in Action 1, 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.

Net Economic Benefits

The total expected change in net economic benefits for both the recreational and commercial sectors are displayed in Table 4.5.3.5.

Table 4.5.3.5. 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$.

Preferred Alternative 2, Option	Total Expected Change in Net Economic Benefits
Option 2a	-$9,829,433
Preferred Option 2b	-$7,619,012
Option 2c	-$7,145,556

4.5.4 Effects on the Social Environment

Preferred Alternative 2 introduces a catch limit that is substantially lower than historic landings across both the commercial and recreational sectors (compare the proposed ACL to the previous landing records presented earlier). Potential negative social effects could occur from this catch limit, by reducing fishing opportunities for both sectors.

The sector allocations introduced in **Preferred Alternative 2** would have varied social effects as they would determine how the Scamp Complex ACL is distributed between the two categories of users. **Option 2a** would likely bring negative social effects for the recreational sector, by utilizing the sector limits established in the Generic ACL/AM Amendment. As noted in the discussion, this would be a *de facto* reallocation of catch from the current and historical landings from the recreational sector to the commercial sector. As recreational landings have outweighed commercial landings in the past, this option would likely prove disruptive to fishing communities engaged in recreational fishing for scamp and yellowmouth grouper. It would, however, provide opportunities for the commercial sector to increase their landings of this complex. **Preferred Option 2b** and **Option 2c** attempt to better match allocations with current and/or past levels of fishing effort by the two sectors. The options differ in the time series duration applied (relative to the other alternatives), with **Preferred Option 2b** taking a longer time view to account for differences in fishing effort and landings between the sectors, while **Option 2c** focuses on more recent landings, with each section having a same percentage decrease to match the lower ACL. Both options would limit the opportunities for commercial and recreational fishing but attempt to ensure continued access to the fishery. **Preferred Option 2b** attempts to ensure fairness in access through employing a longer-term time series data to determine allocation percentages, while **Option 2c** uses more recent sector landings for each sector to reach the new harvest levels.

4.5.5 Effects on the Administrative Environment

Alternative 1 would not have any effect on the administrative environment since no catch limits or sector allocations would be established. However, not establishing catch levels for the Scamp Complex is expected to result in overharvest of the complex. In **Preferred Alternative 2**, **Option 2a**, **Preferred Option 2b**, and **Option 2c** would all reduce catch levels to sustainably manage the complex consistent with BSIA. When compared to **Alternative 1**, **Preferred Alternative 2** is expected to have similar beneficial effects to the administrative environment, resulting in harvest levels that reduce the likelihood of overexploiting the Scamp Complex, which could trigger the need for additional regulatory action.

4.6 Action 6: Establish Recreational Annual Catch Target (ACT) Buffers for the Scamp Complex

4.6.1 Effects on the Physical Environment

Alternative 1 (No Action) would not establish an ACT buffer. **Preferred Alternative 2** would establish an ACT 14% below the recreational ACL while **Alternative 3** would establish an ACT 18% below the recreational ACL. The alternatives in this action would have a negligible effect on the physical environment as recreational fishing for the Scamp Complex would still be permissible. Since the ACT value is always less than the ACL, it is possible that more recreational in-season closures would result when monitoring harvest to the ACT, as considered in **Preferred Alternative 2** and **Alternative 3** relative to **Alternative 1**. However, because of the multi-use nature of the reef fish fishery, it is unlikely any of the alternatives in this action would result in any changes to the physical environment.

4.6.2 Effects on the Biological and Physical Environment

An ACT is an AM that accounts for additional management uncertainty in monitoring a particular species or complex. By monitoring harvest to a recreational ACT rather than a sector-specific ACL, the probability of exceeding the ACL is reduced when data collection is not timely or there is high uncertainty in the recreational harvest estimates. **Alternative 1** (No Action), **Preferred Alternative 2**, and **Alternative 3** would monitor Scamp Complex harvest to sustainable levels; however, monitoring harvest to an ACT as described in **Preferred Alternative 2**, and **Alternative 3** would increase the probability that harvest will remain at or below sustainable catch levels in the face of additional management uncertainty. This amendment would establish a new Scamp Complex, so this established management measure creates additional uncertainty. Additionally, SEDAR 68 resulted in a substantial reduction in catch levels. Recreational data collection surveys often struggle to produce catch estimates for lower catch levels which can be harvested quicker than the temporal scale of the survey design. Therefore, **Preferred Alternative 2** and **Alternative 3** are expected to have a more positive effect on the biological environment relative to **Alternative 1**.

The values for the ACT were generated using the ACL/ACT Control Rule. As stipulated in the ACL/ACT Control Rule, complexes of species that are represented by a singular species are inherently uncertain. This is because there is underlying uncertainty when an indicator species is used as an indirect proxy for another species when considering management measures. **Preferred Alternative 2** would assume a combined management unit for scamp and yellowmouth grouper, while **Alternative 3** would instead use scamp as an indicator species for the Scamp Complex. SEDAR 68 was an assessment that combined inputs for both scamp and yellowmouth grouper to produce results reflective of what would be the new Scamp Complex. As a result, **Preferred Alternative 2** would retain that combined approach for considering the management of scamp and yellowmouth grouper together. While **Preferred Alternative 2** and **Alternative 3** have similar biological effects relative to each other, **Preferred Alternative 2** would maintain the decision structure for combining scamp and yellowmouth grouper fishery characteristics across all considered management measures for the Scamp Complex.

4.6.3 Effects on the Economic Environment

Commercial Sector

As this action would establish a recreational ACT buffer for the Scamp Complex, no economic effects are expected for the commercial sector.

Recreational Sector

Estimated changes 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 a Scamp Complex 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 WTP for 1 additional grouper harvest. This might overestimate the WTP of a Scamp Complex fish for Gulf recreational fishermen as a whole, if Gulf recreational fishermen are retaining more than one Scamp Complex fish per trip, since WTP decreases as additional fish are retained.

The expected change in the number of fish harvested is calculated by dividing the difference between the recreational sector's ACL and the average landings for the recreational sector from 2019-2023 (329,490 lb gw) by 3.85 lb gw, which is the weighted average weight of a recreationally landed scamp in the Gulf from the 2020 to 2024 fishing years. 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. For **Preferred Alternative 2** with a 14% recreational ACL/ACT buffer and for **Alternative 3** with a 18% recreational ACL/ACT buffer, these values are seen in Table 4.6.3.1.

Table 4.6.3.1. Expected change in the recreational sector's CS, relative to **Alternative 1**. CS values are in 2024$.

	Action 6, Preferred Alt 2 (14% rec ACL/ACT buffer)		Action 6, Alt 3 (18% rec ACL/ACT buffer)	
Action 5 Preferred Alternative 2, Option	**Expected Change in Rec Sector Landings, Expressed as Number of Fish**	**Expected Change in Rec Sector CS**	**Expected Change in Rec Sector Landings, Expressed as Number of Fish**	**Expected Change in Rec Sector CS**
Option 2a	-1,323	-$173,321	-1,701	-$222,856
Preferred Option 2b	-4,083	-$534,821	-5,249	-$687,607
Option 2c	-4,674	-$612,336	-6,010	-$787,289

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 added due to a change in the recreational sector's ACL would be reasonable. 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, which included the species in the Scamp Complex established in Action 1, 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.

Net Economic Benefits

As the only expected economic effects are to the recreational sector, the expected change in the recreational sector's CS, as seen in Table 4.6.3.1, represents the total expected change in net economic benefits for both the recreational and commercial sectors.

4.6.4 Effects on the Social Environment

ACTs help to address management uncertainty in monitoring landings against catch limits, reducing the risk of exceeding sector and complex ACLs. Exceeding stock ACLs could reduce availability of fish for recreational producers, or lead to future closures or other restrictions to manage fish stocks. **Alternative 1** (No Action), which does not establish a recreational ACT, would not further constrain harvest. In the short term, Alternative 1 would be expected to result in positive social benefits to the recreational fishing community to be realized as additional days on the water and increased opportunity to catch Scamp Complex species. Long-term, however, if the ability of NMFS to constrain recreational sector landings to the recreational ACL is low

and season closures regularly occur, negative and perhaps compounding social effects could befall the recreational sector as it sees access reduced and opportunities to catch Scamp Complex species limited.

Preferred Alternative 2 and **Alternative 3** would further limit the recreational ACL by introducing an ACT. However, as noted above, these measures attempt to ensure that recreational fishers do not exceed their sector ACL. **Alternative 3** proposes the larger buffer and would further limit fishing opportunities for the recreational sector. The social effects of these alternatives also depend on the sector allocation proposals, as discussed in Action 5. However, the ACTs could help to ensure that ACLS are not exceeded and ensure that the fish stocks remain at the sustainable levels, which would be beneficial for continued recreational engagement in this fishery.

4.6.5 Effects on the Administrative Environment

Alternative 1 (No Action) would not affect the administrative environment since no recreational ACT would be established. **Preferred Alternative 2** and **Alternative 3** would establish an ACT; and therefore, generate a minor negative effect to the administrative environment to monitor the Scamp Complex to constrain recreational landings below the recreational ACT. However, establishing an ACT would likely mitigate the increased management uncertainty inherent in substantially reducing the recreational ACL and establishing the new management structure of the Scamp Complex. Therefore, compared to **Alternative 1**, **Preferred Alternative 2** and **Alternative 3** are expected to have similar beneficial effects to the administrative environment because they result in harvest levels that reduce the likelihood of overexploiting the Scamp Complex, which could trigger the need for additional regulatory action.

4.7 Action 7: Establish a Fixed Closed Season Recreational Sector AM and Establish a Payback Provision for the Scamp Complex

4.7.1 Action 7.1: Establish a Fixed Closed Season and Recreational Sector AMs for the Scamp Complex

4.7.1.1 Effects on the Physical Environment

Modifications to the recreational fishing season are expected to result in negligible effects on the physical environment. Effects from **Alternatives 1-3** are expected to be negligible, as they are unlikely to change the fishing effort or manner of multi-species fishing for the reef fish fishery as a whole. Also, because fishing effort may shift to or from other species and away or towards from the Scamp Complex 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** (No Action).

4.7.1.2 Effects on the Biological and Ecological Environment

Fishing effects on the life history characteristics of reef fish is discussed in section 4.2.2 and are to be referenced here when discussing the biological and ecologic environmental effects of considering a fixed recreational season closure. Implementing a recreational fixed closed season would be expected to reduce recreational harvest and overall mortality of the Scamp Complex. **Alternative 1** (No Action) would not set a fixed closed season for the Scamp Complex and may allow overexploitation of the complex. SEDAR 68 indicated that scamp and yellowmouth grouper 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 Action 5 proposed ACLs and possibly the ABCs, 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 5 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 Actions 5 and 6. This means that the season would open on June 1 and close for the remainder of the year based on the catch limits chosen in Actions 5 and 6. **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 Actions 5 and 6. This means that the season would open on July 1 and close for the remainder of the year based on the catch limits chosen in Action 5 and 6.

Both **Alternative 2** and **Alternative 3** 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 Complex. Since the alternatives in this action are expected to result in the same recreational harvest (as decided in Actions 5 and 6), 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 Scamp Complex species because any of those species caught during the closed season would require discarding. Because both **Alternative 2** and **Alternative 3** would allow some overlap with the prime red snapper recreational season (especially the for-hire season), and also 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 durations in **Alternative 2** and **Alternative 3**, no measurable difference in discards is expected. Regardless of any predicted increased discards under the action alternatives, the effects of **Alternative 2** and **Alternative 3** 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 Scamp Complex.

The expected effects on the biological environment of the alternatives in Action 7.1 depend in part on the accuracy of NMFS ability to project recreational landings and set the Scamp Complex fixed closed season such that the season closure date occurs when the recreational harvest, combined with the commercial ACL, is approximately equal to the complex ACL. Regarding monitoring landings, the representativeness and accuracy of the recreational landings estimates is uncertain. Any inability to accurately predict when Scamp Complex recreational catch limits will be harvested could result in overharvest or underharvest of the complex. This could have negative or positive impacts on both Scamp Complex species and the biological environment in general. However, given these limitations, landings of Scamp Complex species in any of the proposed recreational seasons contained in Action 7.1 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 7.1 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 the Scamp Complex. For the same reasons as stated in Section 4.2.2, no additional impacts to ESA-listed species or introduction of invasive species are anticipated as a result of this action.

4.7.1.3 Effects on the Economic Environment

Commercial Sector

As this action would establish a fixed closed recreational season and recreational sector AMs for the scamp complex, no economic effects are expected for the commercial sector.

Recreational Sector

Alternative 1 (No Action) would not establish a fixed closed recreational season and not establish recreational sector AMs for the scamp complex. **Alternative 2** and **Alternative 3** would establish a recreational fixed closed season for the Scamp Complex and would implement a season closure when NMFS projects the recreational ACT, as established in Action 6, is met. **Alternative 2** and **Alternative 3** would not be expected to result in additional effects beyond the analyses of Action 6, as they serve the function of a constraint of the recreational sector's ACT, and the full recreational sector's allowable harvest is expected to be achieved despite a shorter season. Additionally, although a shorter season for Scamp Complex species has the potential to affect demand for for-hire trips, it is expected that any change in headboat or charter effort, and corresponding PS, would be minimal, given the assumption (previously discussed in the economic analyses for Actions 2 and 6) that these are incidentally caught species.

4.7.1.4 Effects on the Social Environment

Alternative 1 (No Action) does not propose any fixed closed season for the Scamp Complex . However, given the harvest reductions proposed in previous actions, coupled with current recreational fishing demand, it seems likely that keeping the fishery open will lead to exceeding

the recreational ACL and possibly the complex ACL. This would have future negative social effects, by threatening the stock health, which could require future management efforts to limit fishing access or make it more difficult for recreational fishers to land these fish.

Alternative 2 and **Alternative 3** introduce a recreational fixed-closed season and an AM that would close the fishing season upon NMFS projecting that the complex ACT has been met. For **Alternative 2** and **Alternative 3**, the opening dates for the fishing season would be June 1 and July 1, respectively. Both of these alternatives would affect recreational fishers by limiting their access to the fishery until the opening date and closing the fishery upon reaching the ACT. However, such measures would help constrain annual harvest to the ACT, which would result in social benefits to the recreational fishers through continued access to the fishery going forward and preventing overfishing. Additionally, both of these alternatives seek to reduce the social disruption and impact of the closures, designed to facilitate access for as many days as possible during summer months, when recreational fishing effort is at its peak.

4.7.1.5 Effects on the Administrative Environment

This action would have minor effects on the administrative environment. Neither is there an 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.

4.7.2 Action 7.2: Establish a Recreational Payback Provision for the Scamp Complex

4.7.2.1 Effects on the Physical Environment

The effects analysis on the physical environment for Action 7.2 is similar as that discussed for Action 7.1 in section 4.7.1.1. Establishment of a payback provision for exceeding a catch limit is 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. Effects from **Alternative 1** (No Action) and **Alternative 2** 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.

4.7.2.2 Effects on the Biological and Ecological Environment

Fishing effects on the life history characteristics of reef fish are discussed in Section 4.2.2 and are to be referenced here when discussing the biological and ecologic environmental effects of considering establishment of a payback provision . Implementing a recreational payback would be expected to reduce recreational harvest and overall mortality of the Scamp Complex.

Alternative 1 (No Action) would not establish a recreational payback provision. **Alternative 2** states if recreational Scamp Complex landings exceed the complex recreational ACL in a fishing

year and the stock complex is overfished, NMFS would reduce the recreational ACL and ACT for the following fishing year by the amount of the ACL overage in the prior fishing year, unless BSIA determines that a greater, lesser, or no overage adjustment is necessary. Catch levels trigger a payback provision and subject to modification as result would be those alternatives for ACL and ACT selected in Actions 5 and 6. SEDAR 68 indicated a decline in Scamp Complex spawning stock biomass and recruitment in recent years. If recreational harvest substantially exceeds new recreational catch levels or collection of recreational landings data is not timely enough to close the fishery (as selected in Action 7.1), a payback provision, as outlined in **Alternative 2**, may be biologically beneficial to the Scamp Complex by reducing fishing mortality in the recreational sector. However, several continuous years of a payback could result in very small recreational catch levels that shorten fishing seasons to two months or less (as is the case for greater amberjack and gag grouper). Two months is the temporal scale of a data collection wave for MRIP-FES. Fishing seasons reduced to a few months or weeks are difficult to monitoring using MRIP-FES and could result in high numbers of discards during a prolonged closed season, which would not occur under **Alternative 1**. If an ACT is established in Action 6 and a fixed recreational closed season is established in Action 7.1, it is also possible these added management measures may be adequate to sufficiently manage the Scamp Complex to the recreational ACL established in Action 5. In Action 7.1, fixed closed season alternatives have been selected so that seasonal overlap across the Scamp Complex and other popular recreational reef fish species that occur in similar habitats (e.g., gag grouper, red snapper, greater amberjack) in an effort to mitigate seasonal discard mortality while also constraining harvest to appropriate catch levels. Therefore, it is difficult to determine with certainty if the effects on the biological environment of **Alternative 1** would greatly differ from those in **Alternative 2**.

4.7.2.3 Effects of the Economic Environment

Commercial Sector

As this action would establish a recreational payback provision for the scamp complex, no economic effects are expected for the commercial sector.

Recreational Sector

Alternative 1 (No Action) would not establish a recreational payback provision for the Scamp Complex, while **Alternative 2** would establish one, such that the recreational ACL and ACT would be reduced by the amount of the ACL overage in the prior fishing year, if the recreational Scamp Complex landings exceed the recreational ACL and the complex is overfished, unless BSIA determines an adjustment is necessary. **Alternative 2** may be expected to have negative economic effects on the recreational sector should a recreational payback be required; however, if a recreational payback is not required, then no economic effects to the recreational sector would be expected.

4.7.2.4 Effects of the Social Environment

To be completed.

4.7.2.5 Effects on the Administrative Environment

Alternative 1 (No Action) would not affect the administrative environment since it would not establish a payback provision. **Alternative 2** would have an effect on the administrative environment relative to **Alternative 1** since a payback would be implemented in a year following an overage of the Scamp Complex recreational ACL. NMFS would be responsible for calculating the overage and then reduce the recreational catch levels by the amount of the overage in the following fishing season. Therefore, **Alternative 2** would have increased administrative burden relative to **Alternative 1**. However, **Alternative 2** could reduce the likelihood of overexploiting the Scamp Complex, which could trigger the need for additional regulatory action.

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GC = Gulf 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

APPENDIX A. CONSIDERED BUT REJECTED

Action: IFQ Flexibility Measures

Alternative 1: No Action – Do not create flexibility measures for scamp, Warsaw grouper, or speckled hind. These species could not be landed under an alternative allocation category. The Scamp Complex quota would be equal to the complex ACL established in Action 6.

Alternative 2: Create a flexibility measure for Warsaw grouper and speckled hind that accounts for the new share categories in Alternative 2 of Action 1. Create a flexibility measure that allows Warsaw grouper and speckled hind, designated as DWG share category species, to be landed under Scamp Complex allocation once all DWG allocation in an account has been harvested. The Scamp Complex quota would be 4% below the Scamp Complex ACL established in Action 6.

Action 3: Recreational Accountability Measures for the Black Grouper Complex

Alternative: An in-season recreational fishing closure would be implemented for the Black Grouper Complex when NMFS projects the recreational ACL (established in Action 2) is met

APPENDIX B. GULF COUNCIL ACL/ACT BUFFER CALCULATION SPREADSHEETS

As of 7/1/2025			**Note: Scamp and yellowmouth considered a single stock**	**Gulf SWG**	
ACL/ACT Buffer Spreadsheet			version 4.1 - April 2011	**Sector: Rec**	
sum of points	3			**Years: 2019, 2021-2023**	
max points	5.0		Buffer between ACL and ACT (or ABC and ACL)	Unweighted	12
Min. Buffer	**0**	**min. buffer**	User adjustable	Weighted	**14**
Max Unw.Buff	19	max unwt. Buff			
Max Wtd Buff	**25**	**max wtd. buffer**	User adjustable		

Component	Element score	Element	Selection	Element result
Stock assemblage	0	This ACL/ACT is for a single stock.	x	0
	1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		
Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years	x	0
	1	Catch limit has been exceeded 2 or more times in last 4 years		
		For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL	0.0	
		Not applicable (there is no catch limit)		
		Apply this component to recreational fisheries, not commercial or IFQ fisheries		
Precision of Landings Data Recreational	0	Method of absolute counting		2
	1	MRIP proportional standard error (PSE) <= 20		
	2	MRIP proportional standard error (PSE) > 20	x	
		Not applicable (will not be included in buffer calculation)		
		Apply this component to commercial fisheries or any fishery under an IFQ program		
Precision of Landings Data Commercial	0	Landings from IFQ program		not applicable
	1	Landings based on dealer reporting		
	2	Landings based on other		
		Not applicable (will not be included in buffer calculation)	x	
Timeliness	0	In-season accountability measures used or fishery is under an IFQ		1
	1	In-season accountability measures not used	x	
			Sum	3

Weighting factor				
	Element weight	Element	Selection	Weighting
Overfished status	0	1. Stock biomass is at or above B_{OY} (or proxy).		0.2
	0.1	2. Stock biomass is below B_{OY} (or proxy) but at or above B_{MSY} (or proxy).		
	0.2	3. Stock biomass is below B_{MSY} (or proxy) but at or above minimum stock size threshold (MSST).	x	
	0.3	4. Stock is overfished, below MSST.		
	0.3	5. Status criterion is unknown.		

Figure B1: Calculating the ACL/ACT buffer considering scamp and yellowmouth grouper as a single stock. This results in a 14% buffer between the ACL and ACT for the Scamp Complex (Action 7 Alternative 2).

As of 10/16/2024			**Note: Scamp used as indicator for PSE determination and SDC**		**Gulf SWG**	
ACL/ACT Buffer Spreadsheet			version 4.1 - April 2011		**Sector: Rec**	
sum of points	4				**Years: 2019, 2021-2023**	
max points	5.0		Buffer between ACL and ACT (or ABC and ACL)		Unweighted	15
Min. Buffer	**0**	**min. buffer**	User adjustable		Weighted	**18**
Max Unw.Buff	19	max unwt. Buff				
Max Wtd Buff	**25**	**max wtd. buffer**	User adjustable			
	Component	Element score	Element		Selection	Element result
	Stock assemblage	0	This ACL/ACT is for a single stock.			1
		1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		x	
	Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years		x	0
		1	Catch limit has been exceeded 2 or more times in last 4 years			
			For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL		0.0	
			Not applicable (there is no catch limit)			
			Apply this component to recreational fisheries, not commercial or IFQ fisheries			
		0	Method of absolute counting			2
	Precision of	1	MRIP proportional standard error (PSE) <= 20			
	Landings Data	2	MRIP proportional standard error (PSE) > 20		x	
	Recreational		Not applicable (will not be included in buffer calculation)			
			Apply this component to commercial fisheries or any fishery under an IFQ program			
	Precision of	0	Landings from IFQ program			not applicable
		1	Landings based on dealer reporting			
	Landings Data	2	Landings based on other			
	Commercial		Not applicable (will not be included in buffer calculation)		x	
	Timeliness	0	In-season accountability measures used or fishery is under an IFQ			1
		1	In-season accountability measures not used		x	
					Sum	4
	Weighting factor					
		Element weight	Element		Selection	Weighting
	Overfished status	0	1. Stock biomass is at or above B_{OY} (or proxy).			0.2
		0.1	2. Stock biomass is below B_{OY} (or proxy) but at or above B_{MSY} (or proxy).			
		0.2	3. Stock biomass is below B_{MSY} (or proxy) but at or above minimum stock size threshold (MSST).		x	
		0.3	4. Stock is overfished, below MSST.			
		0.3	5. Status criterion is unknown.			

Figure B2: Calculating the ACL/ACT buffer considering scamp as an indicator species. This results in a 18% buffer between the ACL and ACT for the Scamp Complex (Action 7 Alternative 3).

APPENDIX C. RECREATIONAL SEASON ANALYSES FOR THE SCAMP COMPLEX IN THE GULF OF AMERICA

Southeast Regional Office
LAPP/DM Branch
July 2025

The Gulf of America[127] (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 (Reef Fish FMP). 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 Council's (Council) 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 Amendment 58A to the Reef Fish FMP that considers composition changes to the Other SWG complex, changes to catch limits, modification of the commercial Individual Fishing Quota (IFQ) program, and other management measures. This analysis provides the average recreational landings of Gulf scamp and yellowmouth grouper (Scamp Complex) and recreational season closures based on all management options being considered.

Recreational landings data

Gulf recreational landings for the Scamp Complex were obtained from the Southeast Fisheries Science Center (SEFSC) recreational ACL files (accessed May 2025; Table C1). 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 Information Program (MRIP) Fishing Effort Survey (FES; Florida, Alabama and Mississippi). The MRIP FES file contains estimates from MRIP's Access Point Angler Intercept Survey (APAIS), MRIP FES (private angler effort estimates), and For-Hire Telephone Survey (FHS; for-hire effort estimates). For 2020 and 2021, imputed MRIP FES catch estimates are used to account for disruptions in the dockside sampling due to COVID. Monthly landings were estimated for MRIP FES, 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 the recreational sector were estimated by averaging monthly landings in 2022-2024. The average monthly landings were then divided by the number of days in each month to provide a daily catch rate for each sector. Average recreational landings of the Scamp Complex are calculated to project future landing rates and are provided to compare against each of the proposed annual catch targets (ACTs; Table C2). The recreational sector will be closed if the ACT is met or is projected to be met.

[27] 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.

Predicted recreational closure dates are provided in Table C2 based on cumulatively summed projected recreational landings of scamp and yellowmouth grouper species.

Table C1. Monthly recreational landings (lb gw) of Gulf Scamp Complex from 2022-2024 along with projected future landings estimated using averaged landings from 2023-2024 (2-year average) and 2022-2024 (3-year average).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Landings
2022	497	236	33,375	32,896	61,806	60,475	61,124	61,312	6,679	6,656	457	509	326,023
2023	64	50	773	1,150	39,672	39,076	26,502	26,305	35,680	36,903	2,542	2,504	211,221
2024	1,916	1,737	9,974	10,079	24,006	24,361	40,798	40,479	18,765	18,686	4,504	4,828	200,134
2yr Avg Projected Landings	990	893	5,374	5,615	31,839	31,718	33,650	33,392	27,223	27,795	3,523	3,666	205,678
3yr Avg Projected Landings	826	674	14,707	14,708	41,828	41,304	42,808	42,699	20,375	20,748	2,501	2,614	245,793

Source: SEFSC MRIP FES recreational ACL database May, 2025.
Notes: MRIP FES landings include Scamp Complex landings (scamp, yellowmouth grouper; TPWD, SRHS, LA Creel, MRIP FES).

Table C2. Projected Gulf Scamp Complex closure dates expected for the recreational sector with each proposed 2026 Annual Catch Limit (ACL) alternative using a 2-year average 2023-2024. Source: SEFSC MRIP FES Recreational ACL Dataset (May 2025).

Fishing Season Start Date: January 1			
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 2 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	31,319	May 18
Option B	112,362	96,631	Jul 19
Option C	128,649	110,638	Aug 1
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 3 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	29,862	May 17
Option B	112,362	92,137	Jul 15
Option C	128,649	105,492	Jul 27
Fishing Season Start Date: June 1			
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 2 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	31,319	Jun 30
Option B	112,362	96,631	Aug 30
Option C	128,649	110,638	Sep 14
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 3 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	29,862	Jun 29
Option B	112,362	92,137	Aug 25
Option C	128,649	105,492	Sep 8
Fishing Season Start Date: July 1			
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 2 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	31,319	Jul 29
Option B	112,362	96,631	Oct 3
Option C	128,649	110,638	Oct 19
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 3 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	29,862	Jul 28
Option B	112,362	92,137	Sep 28
Option C	128,649	105,492	Oct 13

Table C3. Projected Gulf Scamp Complex closure dates expected for the recreational sector with each proposed 2026 Annual Catch Limit (ACL) alternative using a 3-year average 2022-2024. Source: SEFSC MRIP FES Recreational ACL Dataset (May 2025).

Fishing Season Start Date: January 1			
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 2 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	31,319	May 1
Option B	112,362	96,631	June 18
Option C	128,649	110,638	Jun 28
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 3 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	29,862	Apr 28
Option B	112,362	92,137	Jun 15
Option C	128,649	105,492	Jun 24
Fishing Season Start Date: June 1			
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 2 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	31,319	Jun 23
Option B	112,362	96,631	Aug 10
Option C	128,649	110,638	Aug 20
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 3 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	29,862	Jun 22
Option B	112,362	92,137	Aug 6
Option C	128,649	105,492	Aug 16
Fishing Season Start Date: July 1			
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 2 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	31,319	Jul 23
Option B	112,362	96,631	Sep 17
Option C	128,649	110,638	Oct 8
Action 6 Alternative 2 Options	Recreational ACL (lb gw)	Action 7, Alternative 3 Proposed Recreational ACT (lb gw)	Projected Closure
Option A	36,417	29,862	Jul 22
Option B	112,362	92,137	Sep 10
Option C	128,649	105,492	Sep 30

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 D: ACTION 3 SIMULATION AND PREDICTIVE ANALYSIS

Black Grouper Complex Predictive and Simulated Analyses to explore potential management approaches

Background information

Table D1. Catch levels in Amendment 58A

Year	OFL	ABC	Stock ACL	Comm ACL	Rec ACL
2027+	Undefined*	310,844	310,844	227,735	83,109

Black Grouper Complex Avg and SD Rec Landings (2000-2023): 22,852 +/- 40,239 lb

PSE range of black grouper only recreational landings (2000-2023): 31.1-96.9 with an average of 54.8+/-17.4.

Simulated Analysis

Recreational landings of the black grouper complex were of 2000-2023 were used. To complete analysis, 100 iterations of simulated data were run. The simulations assumed a log-normal probability distribution using the of mean average and standard error of black grouper complex landings (2000-2023). A PSE value was used to inform the standard error calculation. To test the effects of assuming differing PSE on the simulation outputs, 4 differing PSE values were run (0.1,0.3,0.5,0.9). Simulated values that were below zero were changed to zero, and values above 260,719 (the largest observed value of 179,806 in 2015 with an added PSE of 0.45) were capped at 260,719. For the 1-year approach, annual simulated values generated. For the 3-year method, a 3-year moving average of the simulated values was generated. A total of 100 simulations were run and compared the rec ACL as they appear in Action 3 of Amendment 58A.

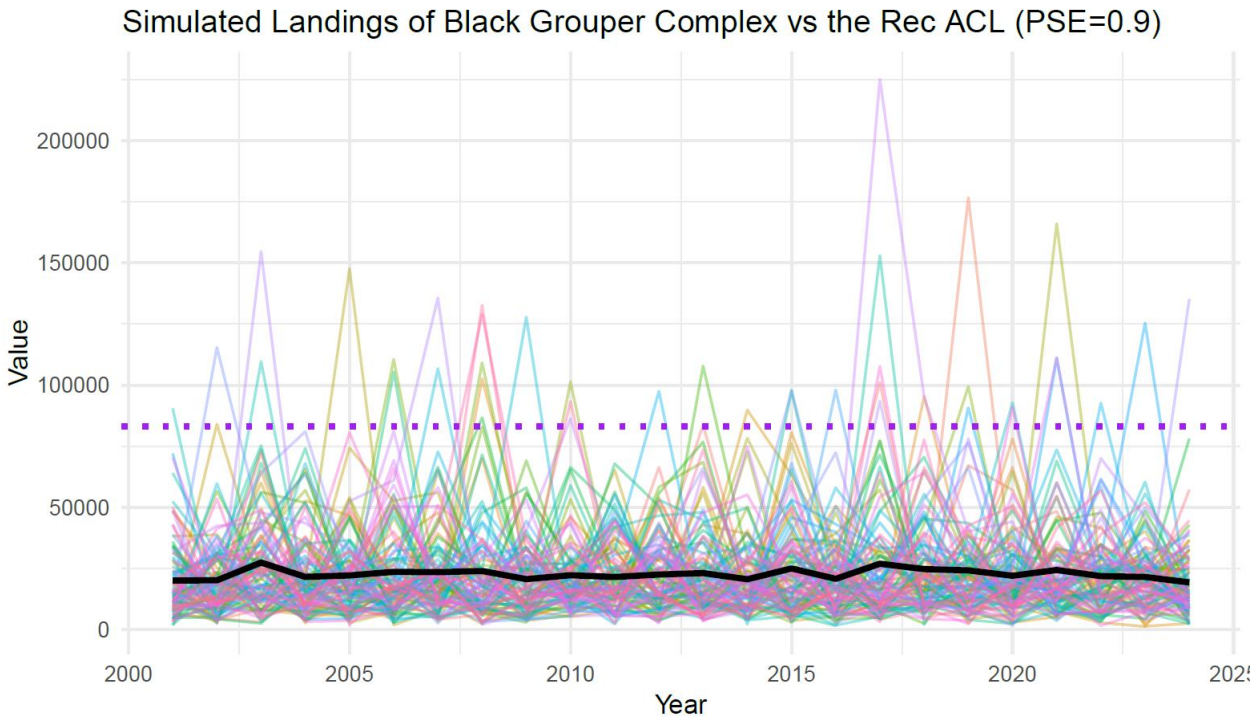

Figure D1: Simulation of 1-year approach with a PSE of 90%. For this result, 1.8% of simulated values exceeded the recreational ACL.

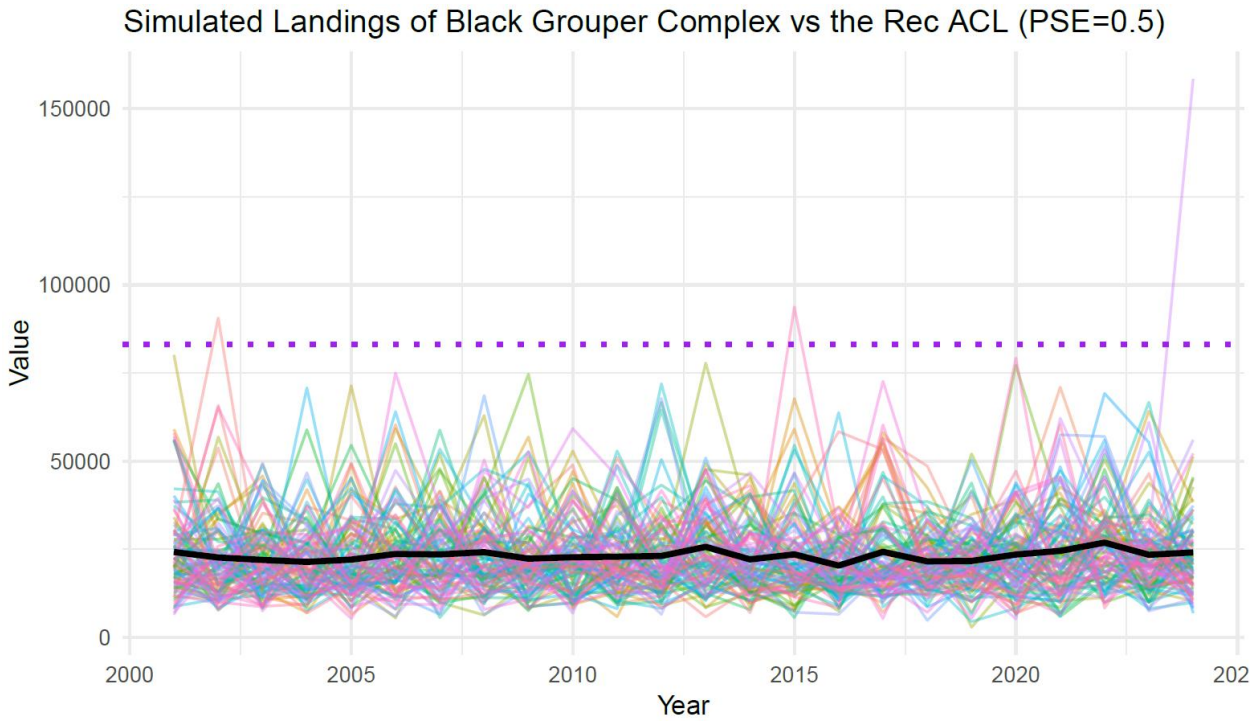

Figure D2: Simulation of 1-year approach with a PSE of 50%. For this result, 0.1% of simulated values exceeded the recreational ACL.

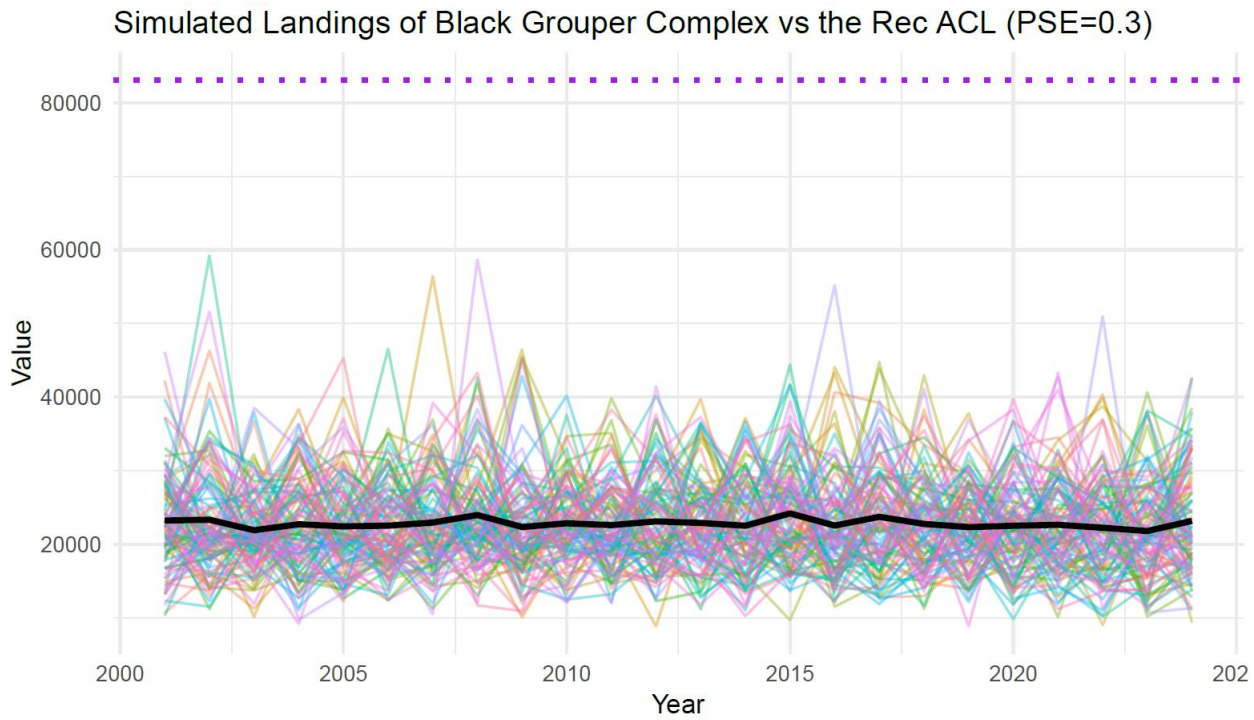

Figure D3: Simulation of 1-year approach with a PSE of 30%. For this result, 0.0% of simulated values exceeded the recreational ACL.

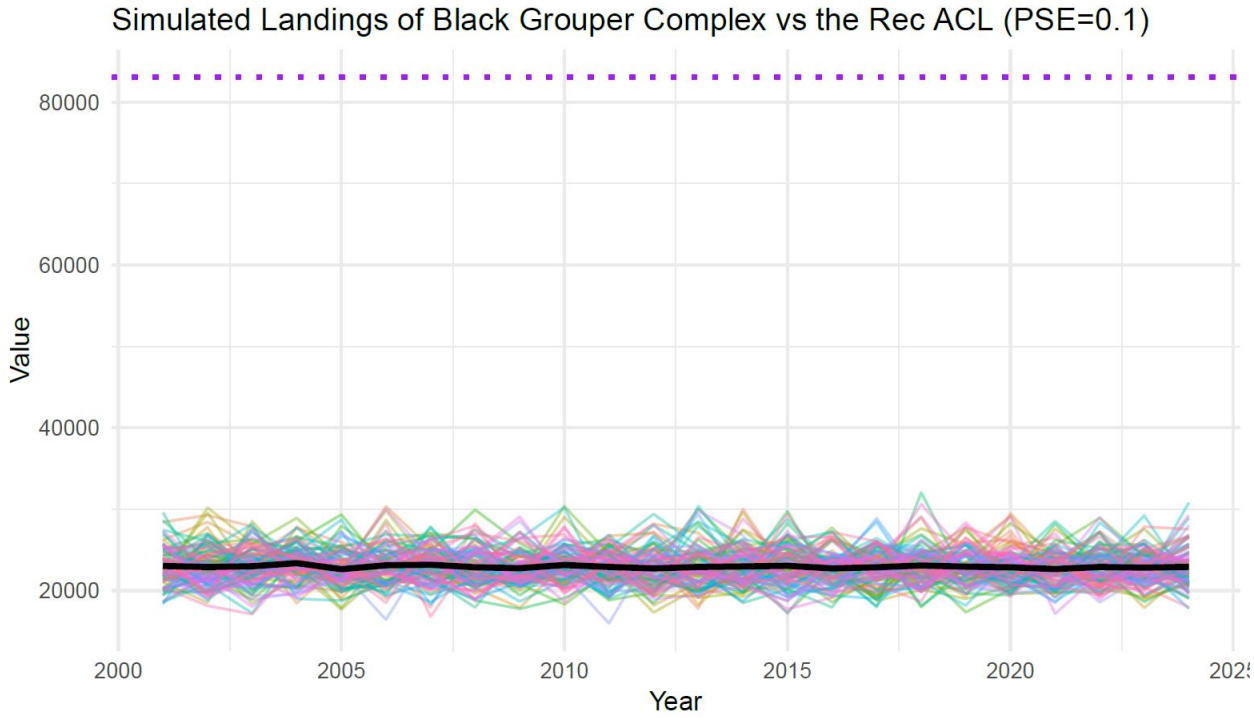

Figure D4: Simulation of 1-year approach with a PSE of 10%. For this result, 0.0% of simulated values exceeded the recreational ACL.

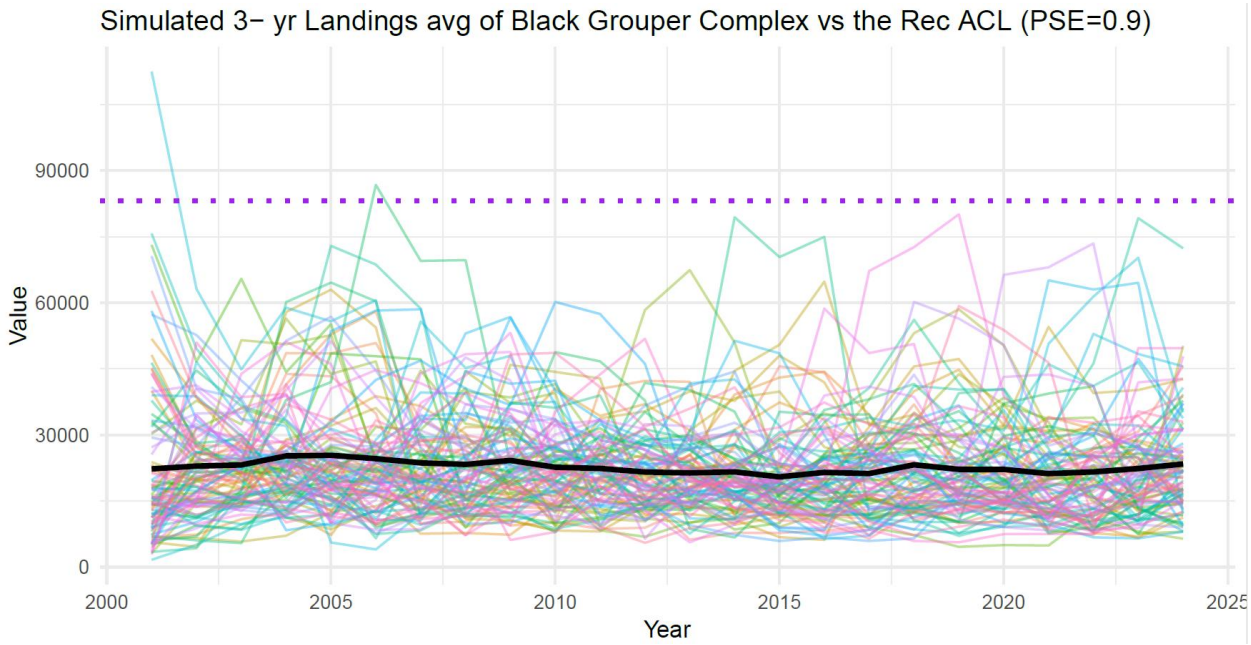

Figure D5: Simulation of 3-year approach with a PSE of 90%. For this result, 0.08% of simulated values exceeded the recreational ACL.

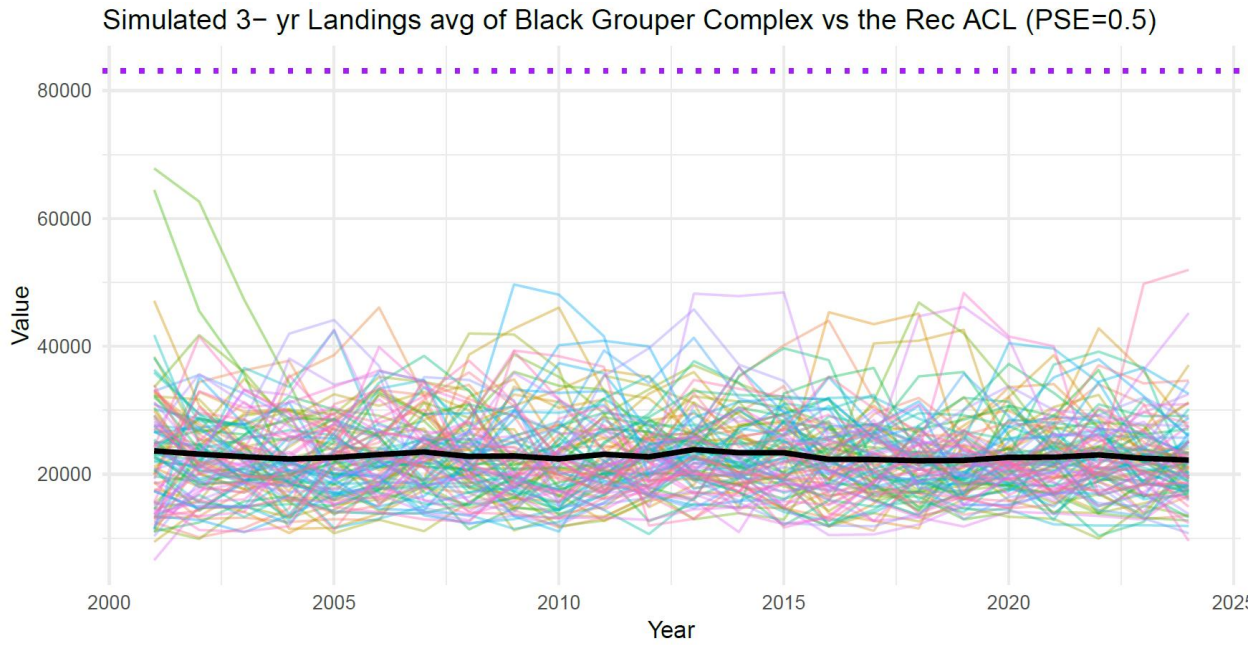

Figure D6: Simulation of 3-year approach with a PSE of 50%. For this result, 0.0% of simulated values exceeded the recreational ACL.

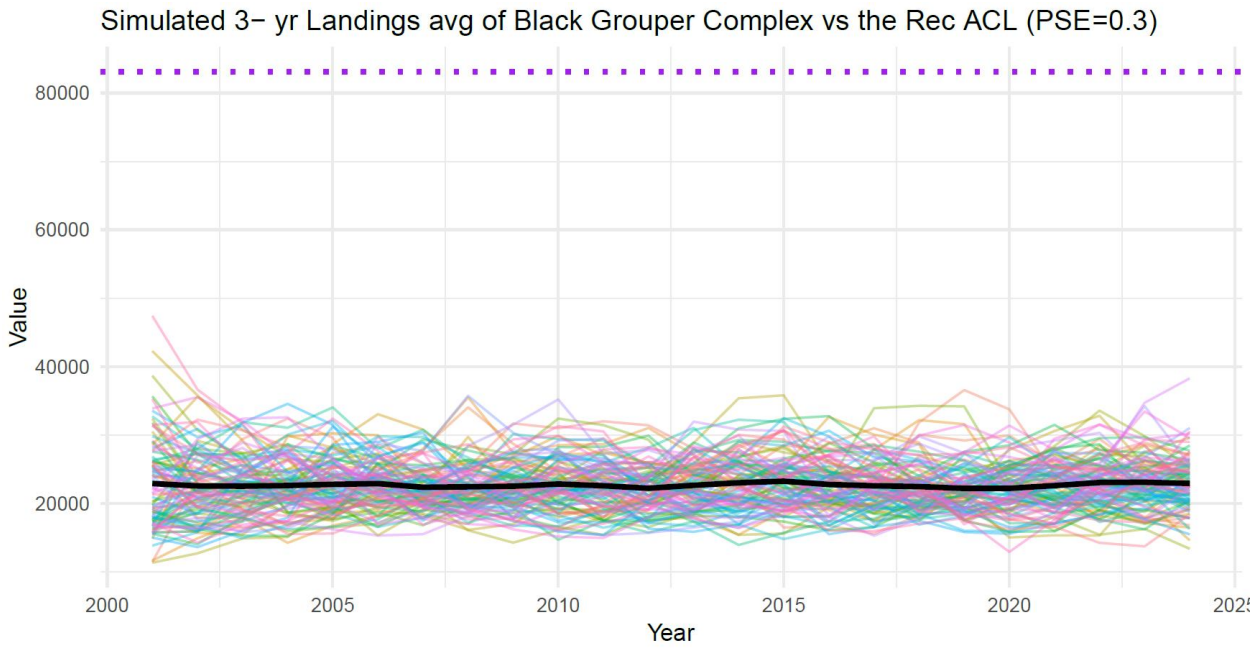

Figure D7: Simulation of 3-year approach with a PSE of 30%. For this result, 0.0% of simulated values exceeded the recreational ACL.

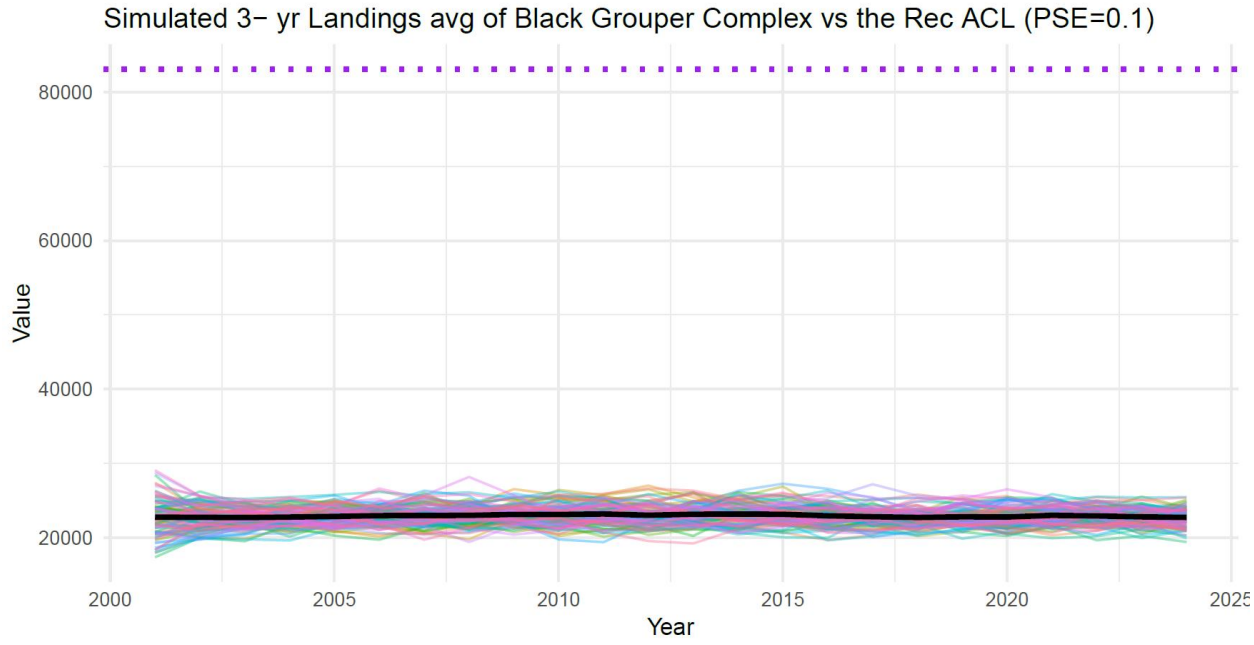

Figure D8: Simulation of 1-year approach with a PSE of 10%. For this result, 0.0% of simulated values exceeded the recreational ACL.

Predictive Analysis

Naïve method: Whatever was harvested last year will be harvested this year
3-year moving average: Use the average of the three previous years to predict the next year
3-year weighted average: Values for selecting weights were optimized in Solver and resulted in a weight of (yr1[furthest]=0.25; yr2=0; yr3[closest]=.0.75)

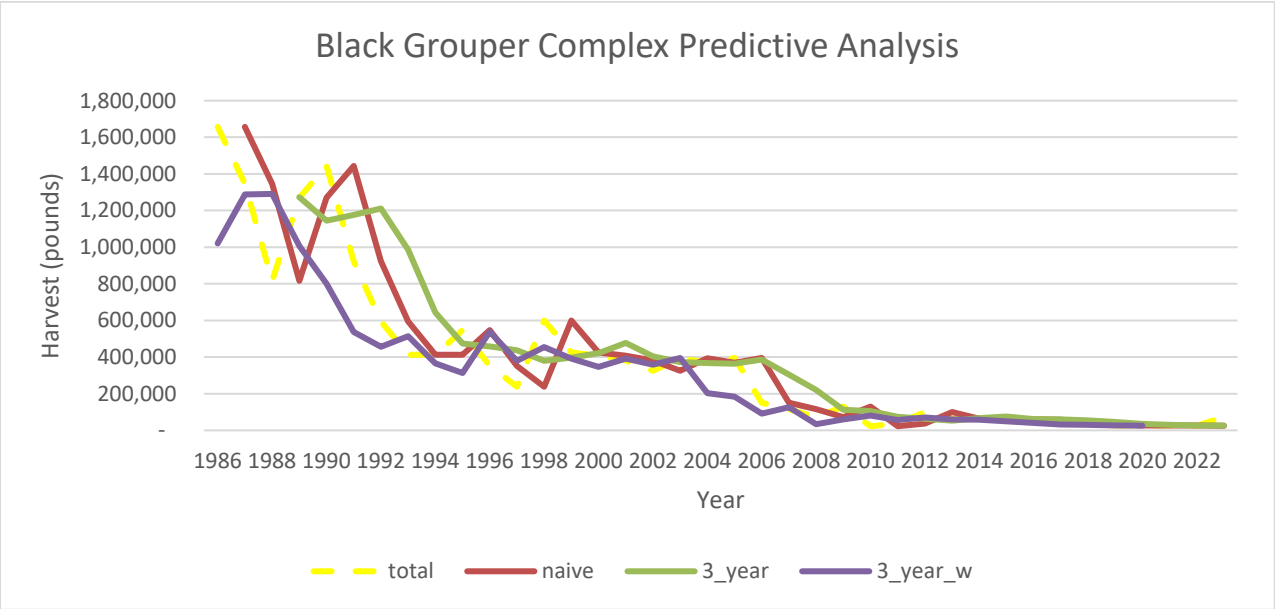

Figure D9: Results of predictive analysis (naïve, 3-year average, 3-year weighted average) for black grouper complex.

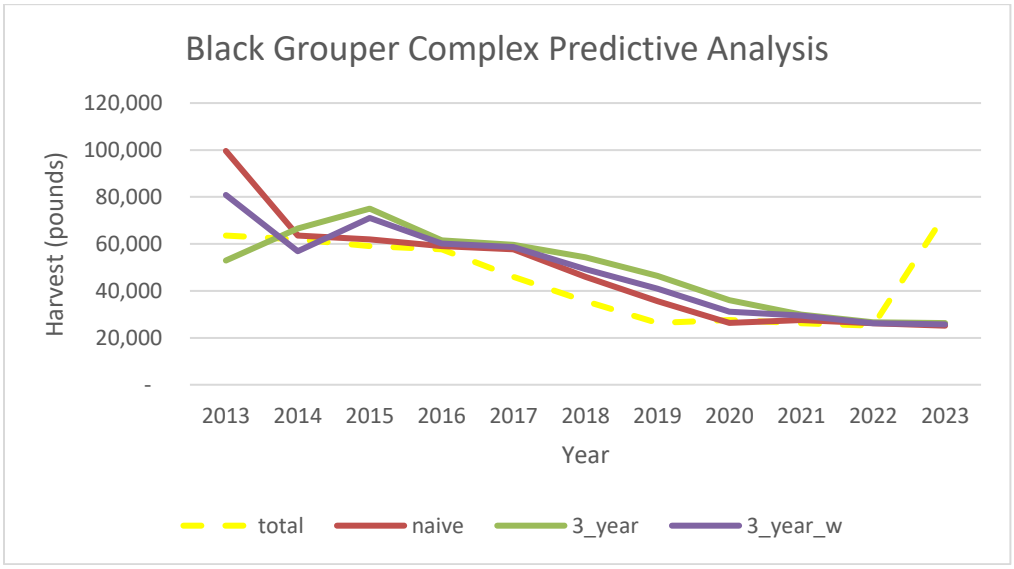

Figure D10: Comparative analysis illustrated in Figure 1 focusing on a more contemporary landings history (2013-2023).

APPENDIX E: GULF RECREATIONAL DATA COLLECTION SURVEYS

Recreational Data

History of Federal Data Collection for the Private Component of the Recreational Sector

The National Marine Fisheries Service (NMFS) created the MRFSS in 1979. In the Gulf, MRFSS collected recreational catch and effort data beginning in 1981. MRFSS included both the Coastal Household Telephone Survey (CHTS) and onsite interviews at marinas and other points where recreational anglers fish. In 2008, MRIP replaced MRFSS to meet increasing demand for more precise, accurate, and timely recreational catch estimates. Until 2013, recreational catch, effort, and participation were estimated through a suite of independent but complementary surveys: telephone surveys of households and for-hire vessel operators that collected information about recreational fishing activity and an angler intercept survey that collected information about the fish that were caught.

MRIP APAIS began incorporating a new survey design in 2013. This new design addressed concerns regarding the validity of the survey approach, specifically that trips recorded during a given time period are representative of trips for a full day, 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 (NMFS 2019).

MRIP transitioned from CHTS to a new mail survey (FES) in 2015, 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). Because FES and CHTS are so different, NMFS conducted side-by-side testing of the two methods and found that, in general, total recreational fishing effort estimates generated from the FES are higher — and in some cases substantially higher — than the CHTS estimates (NMFS 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 also present in CHTS but went unaccounted due to biases that were identified as FES was developed. NMFS developed a calibration model to allow historic effort estimates using MRIPCHTS 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 NMFS Office of Science and Technology (OST) discussed the release of a pilot study (NMFS 2023)[28], which evaluated potential respondents' bias (e.g., 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 questions in the survey led to overestimation of fishing effort by MRIP-FES. As a result of this, NMFS OST conducted a more comprehensive pilot study which began in 2024 and is expected to end data collection in 2025. NMFS 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, NMFS 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 spring 2026, any expectation about results would be speculative. After the updated survey data are finalized, it will then be available for evaluation by data users (e.g., the Southeast Fisheries Science Center, Southeast Regional Office, and the Council).

Gulf State Recreational Surveys

Since 2014, Louisiana generates weekly estimates of catch and effort through their LA Creel program. LA Creel uses a combination of data collected dockside (access point survey) and through weekly phone and email effort surveys to estimate recreational saltwater fish harvests. The LA Creel program consists of biologists conducting interviews at public fishing sites, with charter captains and groups of saltwater anglers about their fishing activities. LA Creel provides weekly recreational fishery information to aid in the management of Louisiana's fishery resources. It is composed of an on-site access-point survey and two weekly effort surveys stratified across five basins. The access point survey provides estimated catch rates per trip. One effort survey generates estimated private angler effort in the form of total angler trips and the other does the same for charter trips. Licensed private anglers are stratified across geographical regions and Louisiana's Recreational Offshore Landings Permit (ROLP) holders, while licensed charter captains are stratified between those with and without ROLP permits. Using licensed anglers provides a clearly defined angler frame with high quality contact information, while stratifying within this frame allows LA Creel to account for differences in fishing activity across the state. Access point survey assignments are randomly drawn based on fishing pressures weighted by the types of activities present and the total angler activity. LA Creel boasts production of weekly landings at the basin level on just a two-week delay, which can reduce recall bias and provide near real time landings estimates that can be used in monitoring recreational quotas and identifying impacts to recreational landings from short term events. LA Creel contacts for-hire captains via telephone at random, with a goal of reaching 30% of captains who fish offshore (those who hold a ROLP) and 10% who fish inshore (who do not hold a ROLP). During red snapper season, LA Creel contacts 100% of captains who hold offshore permits.[29]

[28] https://www.fisheries.noaa.gov/recreational-fishing-data/fishing-effort-survey-research-and-improvements
[29] https://www.lafisheriesforward.org/wp-content/uploads/2024/02/LFF_FastFacts_LaCREEL_2024-01-ADA.pdf

Alabama and Mississippi piloted versions of the LA Creel effort survey in their own states alongside the MRIP FES surveys in 2024. Beginning in 2025, both Alabama and Mississippi were operating their own iterations of LA Creel effort and dockside surveys (AL Creel and MS Creel, respectively) alongside MRIP APAIS and FES surveys.

Texas Parks and Wildlife Department (TPWD) conducts their own creel survey to estimate private and charter landings in Texas.[30] TPWD Sport-boat Angling Survey uses dockside interviews at recreational boat access sites to generate catch and effort estimates for finfish species caught by private boat and charter operators off the Texas coast. Texas reports recreational data in high (May 15 through November 20) and low (November 21 through May 14) activity periods. Creel surveys are conducted from 10 AM to 6 PM at specified boat-access sites along the Texas coast. Over 1,000 surveys are scheduled annually on randomly selected weekdays and weekends in proportion to the amount of fishing activity at each site. Charter vessel catch and effort data in Texas are monitored by the Texas Parks and Wildlife Department's Coastal Creel Survey. This is a field-intercept survey of boat-based fishing, including for-hire vessels. This survey estimates fishing effort and catch (harvest only) on a seasonal (high-use and low-use) basis.

Like all surveys, both the Louisiana and Texas state surveys have inherent uncertainty. Both LA Creel and the TPWD survey are only conducted in their state and therefore cannot generate Gulf-wide estimates. LA Creel is comparable in survey methodology to the MRIP design. The TPWD survey only produces landings estimates and reports every six-months. This time frame limits in-season monitoring for short fishing seasons (e.g., weeks or months). Both state effort surveys, like APAIS, are also limited to intercepting anglers at public access points and their willingness to answer dockside interview questions, and in the case of LA Creel, the effort (telephone survey) portion of the program.

[30] https://tpwd.texas.gov/fishboat/fish/didyouknow/coastal/creel.phtml