

Continuation of Management Measures to Reduce Reef Fish Release Mortality



Abbreviated Framework Action under the Fishery Management Plan for the Reef Fish Resources of the Gulf

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ABBREVIATIONS USED IN THIS DOCUMENT

CBO	Congressional Budget Office
CFpA	net cash flow per angler
Council	Gulf Council
CS	consumer surplus
E.O.	Executive Order
EEZ	exclusive economic zone
GDP	gross domestic product
GMFMC	Gulf of Mexico Fishery Management Council
Gulf	Gulf of America (Formerly Gulf of Mexico)
gw	gutted weight
IFQ	individual fishing quota
IRFA	initial regulatory flexibility analysis
LDWF	Louisiana Department of Wildlife and Fisheries
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MRIP	Marine Recreational Information Program
NAICS	North American Industry Classification System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
PS	producer surplus
RFA	Regulatory flexibility analysis
RIR	Regulatory Impact Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SRHS	Southeast Regional Headboat Survey
TNR	trip net revenue
TPWD	Texas Parks and Wildlife Department

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CHAPTER 1. INTRODUCTION

1.1 Background

National Standard 9 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) states that conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch. One source of mortality is barotrauma. Barotrauma refers to injuries caused by the change of pressure associated with being reeled up from depth. Signs of barotrauma include:

- Stomach protruding from the mouth
- Bulging eyes
- Bloated midsection or distended intestines
- Sluggish swimming or inability to swim downward
- Lifted or bubbly scales.

A variety of tools are available to help mitigate barotrauma and increase survival of released reef fish, including venting tools, which release the gasses from the fish's abdominal cavity, and descending devices, which lower the fish to a depth at which the effects of barotrauma are reduced, and the fish can swim away. Recent literature has shown a decrease in discard mortality of reef fish in the Gulf of America (Gulf) and South Atlantic experiencing barotrauma when using a descending device (Sauls 2014; Eberts and Somers 2017; Runde and Buckel 2018; Bohaboy et al. 2020; Drymon et al. 2020; Runde et al. 2021; Runde et al. 2022).

The Direct Enhancement of Snapper Conservation and the Economy through Novel Devices Act (DESCEND) Act of 2020¹ became effective on January 13, 2022, and National Marine Fisheries Service (NMFS) implemented a final rule clarifying the definitions of a venting tool and descending device on February 14, 2022². The DESCEND Act implemented the requirement for people fishing aboard commercial or recreational vessels fishing for reef fish to possess a venting tool or descending device that is rigged and ready for use when fishing in the Gulf. The DESCEND Act was proposed based on literature that supported the reduced discard mortality of fishes experiencing barotrauma, when released using a venting or descending device. The DESCEND Act expired in January 2026. Numerous recreational advocacy groups have written to the Gulf Council (Council) and provided public comment during meetings expressing their support for the continuation of the requirements implemented through the DESCEND Act. This prompted the Council to direct staff in April 2025³ to initiate the development of a document to continue the regulatory requirement for a venting/descending device to be rigged and ready when fishing for reef fish in the Gulf.

¹[HR 5126](#) 2020

² [87 FR 2355](#)

³ [April 2025 Council Motion](#), [April 2025 Reef Fish Committee Minutes](#).

1.2 Purpose and Need

The purpose of this action is to implement the regulatory requirements for commercial and recreational fishermen to possess a venting tool or descending device that is rigged and ready for use when fishing for reef fish in the Gulf exclusive economic zone (EEZ).

The need for this action is to continue regulatory requirements established under the DESCEND Act, and implementing regulations, given the Act expired in January 2026. Research studies have shown the use of descending devices or venting tools reduce discard mortality of many reef fish, resulting in increased conservation and sustainability of reef fish stocks.

1.3 History of Management

Reef Fish Amendment 27/ Shrimp Amendment 14 (GMFMC 2007) required reef fish fishermen to use non-stainless steel circle hooks when using natural baits, as well as venting tools and dehooking devices to reduce mortality of released fish. The requirement to “use” venting tools did not specify when venting should be used, the rule was interpreted to mean that fish should always be vented when released. As a result, fishermen would sometimes vent reef fish that were not in need of venting. This requirement also either precluded the use of alternative tools such as descending devices or subjected the fish to additional unnecessary handling stress. For this reason, the venting tool requirement was repealed in 2013 (GMFMC 2013).

Reef Fish Framework action (GMFMC 2013) to remove the requirement for venting tools aboard commercial and recreational reef fish vessels given unintended consequences inducing unnecessary handling stress. The elimination of this requirement was to reduce reef fish injury associated with improper venting technique and allowed the use of “novel” devices, such as descending devices.

DESCEND Act (HR 5126 2020) became effective on January 13, 2022. The National Marine Fisheries Service (NMFS) implemented clarifying regulations in February 2022⁴. The DESCEND Act added a new section, 321, to the Magnuson-Stevens Act requiring persons on commercial, for-hire, and private recreational vessels to have a venting tool or descending device rigged and ready to use when fishing for reef fish species in the Gulf EEZ. Regulations clarified the definitions for a descending device and venting tool⁵.

1.4 Continuation of Management Measures to Reduce Reef Fish Release Mortality

The Council would implement a regulatory requirement for commercial and recreational fishermen to possess a venting tool or descending device that is rigged and ready for use when

⁴ [87 FR 2355](#)

⁵ [50 CFR 622.30\(c\)](#)

fishing for reef fish in the Gulf EEZ, as previously required by the DESCEND Act, and regulations implementing the Act.

1.4.1 Discussion

Release mortality estimates for reef fish vary depending on the type of gear, depth of capture, surface water temperature, handling time, and the presence of predators (Campbell et al. 2014; Pulver 2017; Hyman et al. 2025). Venting tools and descending devices, when used properly, have been shown to increase survival of released reef fish species (Sauls 2014; Runde and Buckel 2018; Bohaboy et al. 2020; Drymon et al. 2020; Runde et al. 2021; Runde et al. 2022). Venting tools and descending devices can be either commercially manufactured or home-made. Regulations defined venting and descending devices as⁶:

(1) ***Descending device.*** A descending device is an instrument capable of releasing a fish at the depth from which the fish was caught.

(i) The descending device must be a weighted hook, lip clamp, or container that will hold the fish while it is lowered to depth. The device must be capable of releasing the fish automatically, by actions of the operator of the device, or by allowing the fish to escape on its own when at depth.

(ii) The descending device must use a minimum of a 16-ounce (454-gram) weight and a minimum of a 60-ft (15.2-m) length of line.

(2) ***Venting tool.*** A venting tool is a device capable of penetrating the abdomen of a fish to release the excess gases accumulated in the body cavity when a fish is retrieved from depth. A venting tool must be a sharpened, hollow instrument that allows air to escape, such as a hypodermic syringe with the plunger removed. A 16-gauge needle, which has an outside diameter of 0.065 inches (1.65 mm), is the minimum diameter hollow tube that must be used. A larger diameter hollow needle is preferred to allow more air to escape from a fish rapidly. A device that is not hollow, such as a knife or an ice pick, is not a venting tool and will cause additional damage to a fish.

Many descending devices need to be rigged to a rod and reel to be used. If not pre-rigged, the time needed to rig the device may contribute to mortality of the fish. As such, when descending devices are required, they shall be rigged and ready for use while fishing for reef fish is occurring. Commercially available descending devices, range in price from ~\$18.99 for the Shelton Fish Descender to ~\$99.95 for the SeaQualizer. Venting tools are relatively cheaper, with some models available for \$11.00.

⁶ [50 CFR 622.30\(c\)](#)

In 2022, the Return ‘em Right⁷ program launched a wide-spread effort with anglers to educate on the importance of descending devices, and distribute descending devices, free of charge to anglers who participate in the education module. Since the initiation of the program, 47,232 anglers have participated in the Return ‘em Right program, 97% identified as private recreational anglers, 2% identified as State For-hire participants, and 1% identified as Federal For-Hire participants (owner/operator/crew). Through the Return ‘em Right program, anglers participated in an education module on the best releasing mechanisms and the overarching importance of using descending devices to reduce the effects of barotrauma, and reduce discard mortality. Anglers across all Gulf states have participated in the program, but a vast majority identified being based out of Florida (Table 1.4.1).

Table 1.4.1. Number of individuals who have participated in the Return ‘Em Right Educational module and received a descending device by sector and state as of October 2025. Anglers self-identify the sector in which they participate in as well as the Gulf state they fish from.

Return 'Em Right Angler Participation	MS	LA	AL	TX	FL	Total
Private Recreational Angler	893	2,219	3,250	3,966	35,467	45,795
Federal For-Hire	8	19	63	77	447	614
State For-Hire	14	30	36	86	657	823
Total						47,232

Source: Personal communication N. Haddad Return 'Em Right Communications Manager 2025.

Table 1.4.2 displays the Southeast Regional Headboat Survey number of discards, by species for January 2024 - October 2025. Of those discards, the number of those that were descended ranged from 1.3% - 21.7% while the percentage of those fish that were vented ranged from 0.1% - 60.3%. These data are self-reported by the headboat fleet and display that many headboat charters have already become accustomed to descending/venting reef fishes who are experiencing barotrauma. As such, extending the current regulatory requirements is unlikely to increase the burden for captains and crew members/deck hands. Additionally, given widespread participation amongst the headboat fleet, it is unlikely that additional costs will be burdensome for the sector.

⁷ <https://returnemright.org/>. Return ‘Em Right’s project partners include Florida Sea Grant, University of Florida, Gulf States Marine Fisheries Commission, NOAA and a coalition of anglers, industry groups, state agencies, universities, government and non-government organizations.

Table 1.4.2. Southeast Regional Headboat Survey reporting from operators within the Gulf on species released from January 2024 - October 2025. Of those released, the number and percentage of those fishes that were descended or vented.

Species	Total Released	# Descended	% Descended	# Vented	% Vented
Gray Triggerfish	155,685	3,478	2.2	39,382	25.3
Red Snapper	122,632	18,606	15.2	73,918	60.3
White Grunt	85,935	2,986	3.5	47	0.1
Red Grouper	72,615	7,294	10	11,495	15.8
Vermilion Snapper	52,665	9,135	17.3	6,047	11.5
Lane Snapper	24,272	5,273	21.7	951	3.9
Gag	22,307	2,630	11.8	3,143	14.1
Gray Snapper	10,753	1,851	17.2	1,582	14.7
Black Sea Bass	7,168	94	1.3	18	0.3
Hogfish	4,414	1,125	25.5	284	6.4

Source: Personal Communications C. Robertson Gulf States Marine Fisheries Commission 2025.

While there are no self-reported data from the recreational sector of released descended/vented reef fish, there has been nearly universal support voiced by recreational anglers during public meetings for continuing these gear requirements. Based on the number of private recreational anglers (45,795) who have participated in the Return ‘Em Right education module and program (Table 1.4.1), it is likely that the recreational community is broadly aware of the benefits to reef fish as a result of using descending/venting tools, and are likely to comply with regulations for requirement of such tools, as they have done so from 2022-2025 since the DESCEND Act was implemented. Return ‘Em Right is an ongoing educational program and continues to engage in outreach with the recreational fishing sector, there is likely no additional need for NMFS or the Council to engage in additional outreach programs extending beyond support for the Return ‘Em Right program, further reducing the burden on NMFS and Council staff. Additionally, given the widespread buy-in from the community, and further support from stakeholders, it is anticipated that a regulatory requirement for descending/venting tools will be broadly accepted by the community, as noted in the Recreational Initiative Working Group report⁸(GMFMC 2025), and several other comment letters supporting the continuation of the DESCEND Act. The overall regulatory burden and economic effects of this action are likely minimal and offset by the biological benefits and increased fishing opportunities associated with reducing release mortality. Implementing a long-standing requirement for descending/venting tools is a permanent extension of what has already been in place for the previous 4 years. Additionally, descending/venting tools are also required for reef fish in the South Atlantic⁹ and proposed for the Caribbean¹⁰.

⁸ [Recreational Working Group Final Report](#) detailing working group recommendations for management actions, including continuation of the regulations required under the DESCEND Act.

⁹ [85 FR 36171](#)

¹⁰ [89 FR 79492](#)

CHAPTER 2. REGULATORY IMPACT REVIEW

2.1 Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: 1) it provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action; 2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem; and, 3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way. The RIR also serves as the basis for determining whether the regulations are a “significant regulatory action” under the criteria provided in Executive Order (E.O.) 12866. This RIR analyzes the impacts this action would be expected to have on the Gulf of America (Gulf) reef fish fishery.

2.2 Problems and Objectives

The problems and objectives addressed by this action are discussed in Chapter 1.

2.3 Description of the Fishery

2.3.1 Commercial Reef Fish Sector

Permits

Fishing vessels harvesting and selling reef fish from the Gulf exclusive economic zone (EEZ) must have a valid Gulf federal reef fish commercial permit. Commercial Gulf reef fish permits are a limited access permit. After a permit expires, it can be renewed or transferred up to one year after the date of expiration. As shown in Table 2.3.1.1, the number of permits that were valid at any point in a given year decreased steadily from 2020-2024, with an overall reduction of approximately 2%.

To harvest Gulf red snapper or grouper and tilefish species managed under the individual fishing quota (IFQ) program, a vessel permit must also be linked to an IFQ account and possess sufficient allocation for those 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 red snapper or grouper-tilefish allocation from other IFQ participants. On average from 2020-2024, there were 624 IFQ accounts that held red snapper allocation and 342 (55%) that held red snapper shares. There were 805 IFQ accounts, on average (2020-2024), that held grouper-tilefish allocation and 580 (72%) that held grouper-tilefish shares (NMFS 2025a and NMFS 2025b).

Table 2.3.1.1. Number of valid Gulf federal commercial reef fish permits (2020-2024).

Year	Number of Permits
2020	837
2021	831
2022	827
2023	824
2024	819
Average	828

Source: NMFS SERO (May 2026).

Vessels, Landings, and Revenue

Not all holders of Gulf commercial permits for reef fish are active each year. Tables 2.3.1.2 and 2.3.1.3 provide the reef fish landings and revenues for vessels, which, during the 2020-2024 timeframe, possessed a valid or renewable commercial Gulf reef fish permit and were actively fishing. The number of vessels with reported landings of Gulf reef fish declined in most years from 2020-2024, resulting in a 12% decrease overall during the period. Total landings of reef fish species varied annually, averaging 12.9 million pounds gutted weight (gw) between 2020 and 2024. Total dockside revenue from reef fish landings also varied during this period, averaging \$78.5 million annually (Table 2.3.1.3).

Table 2.3.1.2. Number of vessels, trips, and reef fish landings (lbs gw) by year for permitted commercial Gulf reef fish vessels (2020-2024).

Year	Number of Vessels	Number of Reef Fish Trips	Red Snapper and Grouper-Tilefish IFQ Landings (lbs gw)	Gulf Non-IFQ Reef Fish Landings (lbs gw)	Total Reef Fish Landings (lbs gw)
2020	496	5,516	11,030,627	1,663,965	12,694,592
2021	466	5,122	11,879,426	1,612,502	13,491,928
2022	440	4,426	11,076,962	1,625,977	12,702,939
2023	440	4,345	11,235,493	1,677,497	12,912,990
2024	435	4,147	10,949,260	1,619,260	12,568,520
Average	455	4,711	11,234,354	1,639,840	12,874,194

Sources: NMFS Southeast Regional Office (SERO) IFQ database (accessed April 2, 2025) for IFQ landings and Southeast Fisheries Science Center (SEFSC) Socioeconomic Panel (August 2025 version) for all other statistics.

Table 2.3.1.3. Number of vessels and revenue by year (2025\$) for permitted commercial Gulf reef fish vessels (2020-2024).

Year	Number of Vessels	Red Snapper and Grouper-Tilefish IFQ Revenue	Gulf Non-IFQ Reef Fish Ex-vessel Revenue	All Other Commercial Fishing Ex-vessel Revenue*	Total All Species Ex-vessel Revenue	Average Ex-vessel Revenue per Vessel
2020	496	\$ 64,212,872	\$ 6,140,441	\$ 3,086,267	\$ 73,439,580	\$ 148,064
2021	466	\$ 69,113,098	\$ 6,397,741	\$ 4,281,792	\$ 79,792,631	\$ 171,229
2022	440	\$ 68,571,673	\$ 6,841,820	\$ 3,790,357	\$ 79,203,849	\$ 180,009
2023	440	\$ 70,900,741	\$ 7,280,088	\$ 3,492,590	\$ 81,673,419	\$ 185,621
2024	435	\$ 68,060,305	\$ 7,176,727	\$ 3,031,217	\$ 78,268,249	\$ 179,927
Average	455	\$ 68,171,738	\$ 6,767,363	\$ 3,536,444	\$ 78,475,546	\$ 172,970

Sources: NMFS SERO IFQ database (accessed April 2, 2025) for IFQ revenue and SEFSC Socioeconomic Panel (August 2025 version) for all other statistics.

*Includes revenue from non-reef fish landed in the Gulf and all species landed by Gulf reef fish vessels in South Atlantic jurisdictional waters.

Liese (2023) provides measures of economic performance such as annual vessel-level estimates of costs (as a percentage of revenue) and net revenue from operations for vessels that harvested reef fish during 2014-2018. 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 Southeast Regional Office (SERO) IFQ database and the Southeast Fisheries Science Center (SEFSC) Social Science Research Group 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 reef fish was approximately 51.3% of their annual gross revenue, on average, from 2014 through 2018. Net revenue from operations was 32% of their annual gross revenue, on average, during this period. Applying these percentages to the results provided in Table 2.3.1.3 would result in an estimated per vessel average annual PS of \$88,734 (2025 dollars) and an average annual net revenue from operations of \$55,350.

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, such as other finfish or seafood products, and

services, such as visits to different food service establishments. 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)¹¹ and are provided in Table 2.3.1.4. Specifically, these impact estimates reflect the expected impacts from average annual gross revenues generated by landings of Gulf reef fish from 2020 through 2024. This business activity is characterized as jobs (full- and part-time equivalents), income impacts (wages, salaries, and self-employment income), value-added impacts (the difference between the value of goods or services and the cost of materials, supplies, and labor across the supply chain), 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.

¹¹ A detailed description of the input/output model is provided in NMFS (2011).

Table 2.3.1.4. Average annual business activity (2020 through 2024) associated with the commercial harvest of Gulf reef fish (2025\$).

Harvesters	Direct	Indirect	Induced	Total
Employment impacts	1,337	208	275	1,819
Income impacts	\$40,460	\$7,512	\$18,165	\$66,137
Total value-added impacts	\$43,128	\$27,044	\$31,081	\$101,253
Output Impacts	\$74,939	\$60,969	\$60,337	\$196,245
Primary dealers/processors	Direct	Indirect	Induced	Total
Employment impacts	278	111	193	583
Income impacts	\$13,202	\$12,166	\$11,507	\$36,875
Total value-added impacts	\$14,072	\$15,524	\$21,664	\$51,260
Output impacts	\$42,490	\$32,004	\$42,348	\$116,843
Secondary wholesalers/ distributors	Direct	Indirect	Induced	Total
Employment impacts	129	28	125	283
Income impacts	\$7,865	\$2,339	\$8,271	\$18,475
Total value-added impacts	\$8,383	\$3,923	\$14,129	\$26,436
Output impacts	\$21,066	\$7,681	\$27,477	\$56,223
Grocers	Direct	Indirect	Induced	Total
Employment impacts	553	63	123	739
Income impacts	\$16,178	\$5,376	\$8,120	\$29,673
Total value-added impacts	\$17,245	\$8,662	\$13,747	\$39,654
Output impacts	\$27,650	\$14,068	\$26,989	\$68,707
Restaurants	Direct	Indirect	Induced	Total
Employment impacts	3,448	230	563	4,242
Income impacts	\$64,897	\$19,682	\$37,173	\$121,753
Total value-added impacts	\$69,177	\$35,182	\$62,632	\$166,992
Output impacts	\$126,491	\$55,055	\$123,593	\$305,139
Harvesters and seafood industry	Direct	Indirect	Induced	Total
Employment impacts	5,746	640	1,280	7,665
Income impacts	\$142,601	\$47,075	\$83,237	\$272,913
Total value-added impacts	\$152,006	\$90,336	\$143,253	\$385,595
Output impacts	\$292,636	\$169,778	\$280,743	\$743,157

2.3.2 Recreational Reef Fish Sector

The recreational sector is comprised 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 boats and headboats (also called party boats). Charter boats 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 since larger concentrations of fish are required to satisfy larger groups of anglers.

Angler Effort

Recreational effort estimates derived from the Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of 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.

Estimates of Gulf charter and private reef fish target and catch effort are provided in Tables 2.3.2.1 through 2.3.2.4. Data from MRIP, the Louisiana Department of Wildlife and Fisheries (LDWF) Recreational Creel Survey, and the Texas Parks and Wildlife Department (TPWD) Marine Sport-Harvest Monitoring Program were used to generate these estimates.

Tables 2.3.2.1 and 2.3.2.2 describe the recreational target and catch trips for Gulf reef fish on charter vessels from 2020 through 2024. The number of recreational target and catch trips for Gulf reef fish species fluctuated in all states from 2020 through 2024. The majority of effort was attributed to Florida; target trips averaged 266,935 annually and catch trips averaged 608,415.

Table 2.3.2.1. Gulf charter vessel reef fish target trips, by state (2020-2024).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
2020	38,252	196,779	6,550	1,657	2,192
2021	49,034	251,830	8,207	566	3,757
2022	50,447	272,412	6,756	328	5,323
2023	67,978	325,523	9,806	1,325	4,619
2024	64,075	288,133	10,105	378	7,619
Average	53,957	266,935	8,285	851	4,702

Source: MRIP database, SERO, NMFS (May 2026) for AL, FL and MS; LDWF Recreational Creel Survey for LA and TPWD Marine Sport-Harvest Monitoring Program for TX.

Table 2.3.2.2. Gulf charter vessel reef fish catch trips, by state (2020-2024).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
2020	62,854	582,453	11,404	2,315	10,939
2021	81,090	638,408	27,598	864	9,852
2022	69,746	635,237	18,708	749	9,556
2023	89,363	634,241	26,228	1,731	13,623
2024	86,508	551,738	17,067	1,238	14,936
Average	77,912	608,415	20,201	1,379	11,781

Sources: MRIP database, SERO, NMFS (May 2026) for AL, FL and MS; LDWF Recreational Creel Survey for LA and TPWD Marine Sport-Harvest Monitoring Program for TX.

Tables 2.3.2.3 and 2.3.2.4 provide the recreational target and catch trips for Gulf reef fish on private vessels from 2020 through 2024. The number of recreational target and catch trips for Gulf reef fish species varied year to year in all states. The majority of effort was again attributed to Florida; target trips averaged 2,598,649 annually and catch trips averaged 4,895,215.

Table 2.3.2.3. Gulf private vessel reef fish target trips, by state (2020-2024).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
2020	472,004	2,586,237	87,922	74,991	12,923
2021	334,888	2,163,649	85,486	121,131	14,446
2022	458,900	2,921,717	72,579	161,129	13,250
2023	349,983	2,600,995	66,587	104,804	20,021
2024	399,679	2,720,647	62,123	74,388	14,548
Average	403,091	2,598,649	74,939	107,289	15,038

Source: MRIP database, SERO, NMFS (May 2026) for AL, FL and MS, LDWF Recreational Creel Survey for LA and TPWD Marine Sport-Harvest Monitoring Program for TX.

Table 2.3.2.4. Gulf private vessel reef fish catch trips, by state (2020-2024).

Year	Alabama	Florida	Louisiana	Mississippi	Texas
2020	607,591	5,066,103	4,399	117,604	33,853
2021	366,296	4,392,771	2,331	148,007	33,118
2022	579,768	4,724,022	2,464	159,066	28,406
2023	456,451	5,055,930	2,154	124,898	47,905
2024	539,635	5,237,249	563	139,504	33,231
Average	509,948	4,895,215	2,382	137,816	35,303

Sources: MRIP database, SERO, NMFS (May 2026) for AL, FL and MS, LDWF Recreational Creel Survey for LA and TPWD Marine Sport-Harvest Monitoring Program for TX.

Similar analysis of recreational effort is not possible for the headboat mode 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 total number of standardized full-day angler trips.¹² Headboat angler days across the Gulf increased substantially in 2021 and then decreased steadily through 2024 (Table 2.3.2.5). On average (2020 through 2024), Florida accounted for the majority of headboat angler days reported, followed by Texas. Alabama, Mississippi, and Louisiana combined accounted for only a small percentage (Table 2.3.2.5). 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 2.3.2.1).

Table 2.3.2.5. Gulf headboat angler days and percent distribution by state (2020-2024).

Year	Angler Days				Percent Distribution		
	FL	AL- MS- LA	TX	Total	FL	AL- MS- LA	TX
2020	126,794	14,819	51,498	193,111	65.66%	7.67%	26.67%
2021	181,632	17,041	71,344	270,017	67.27%	6.31%	26.42%
2022	149,368	18,263	62,705	230,336	64.85%	7.93%	27.22%
2023	149,735	15,757	58,279	223,771	66.91%	7.04%	26.04%
2024	146,544	12,874	57,074	216,492	67.69%	5.95%	26.36%
Average	150,815	15,751	60,180	226,745	66.48%	6.98%	26.54%

Source: NMFS Southeast Region Headboat Survey (SRHS) (2024).

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

¹² Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort, and actual trip durations may vary within each category.

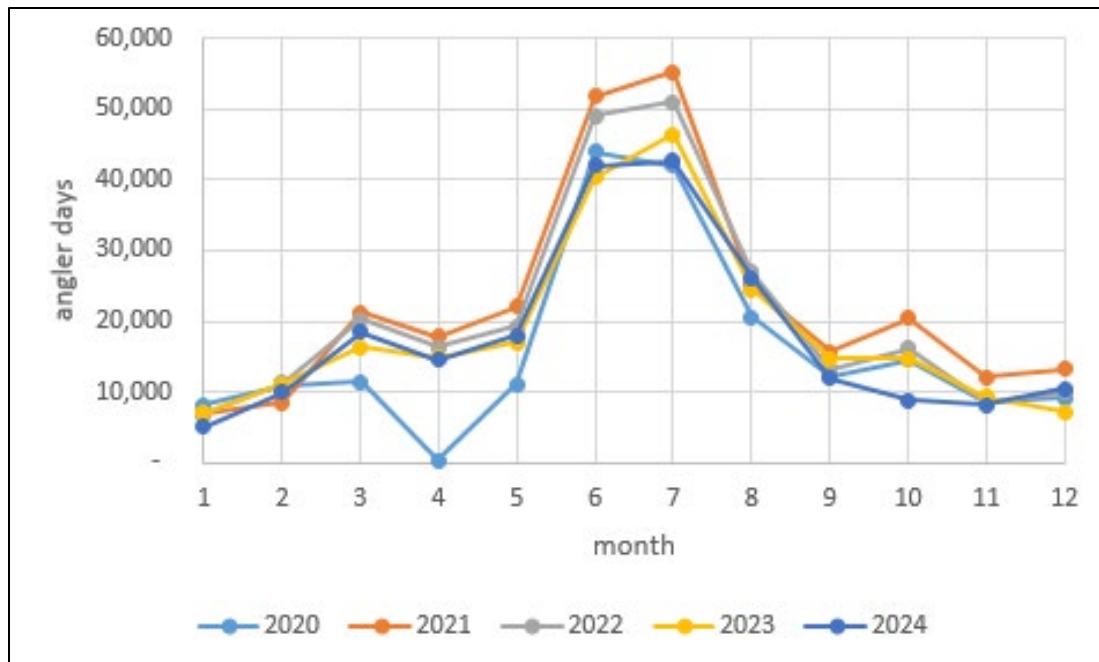


Figure 2.3.2.1. Gulf headboat angler days by month and year (2020-2024).
Source: NMFS SRHS (2024).

Permits

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). The total number of valid or renewable Gulf reef fish for-hire permits remained constant from 2020 to 2021, then steadily decreased from 2022-2024, with an overall reduction of approximately 2% (Table 2.3.2.6).

Table 2.3.2.6. Number of for-hire vessels (charter and headboat) that held a Gulf reef fish for-hire permit by vessel homeport state (2020-2024).

Year	AL	FL	LA	MS	TX	Non-Gulf	Total
2020	145	803	111	29	194	12	1,294
2021	155	805	111	24	188	11	1,294
2022	157	818	99	22	177	11	1,284
2023	160	818	86	24	172	12	1,272
2024	154	818	83	25	174	11	1,265
Average	154	812	98	25	181	11	1,282

Source: NMFS SERO.

Note: Includes RCG and HRCG permitted-vessels.

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 Region Headboat Survey (SRHS) and is selected to report by the Science Research Director of the SEFSC, it is determined to operate primarily as a headboat and is required to

submit harvest and effort information to the SRHS. During 2024, 73 Gulf headboats were registered in the SRHS (R. Cheshire, NMFS SEFSC, pers. comm. 2025). The majority of these headboats were located in Florida (44), followed by Texas (18), Alabama (7), and Mississippi/Louisiana (4).

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.¹³ CS represents a savings of one's income that can be spent later on other goods and services, leading to an overall increase in utility or satisfaction for the angler and a benefit to the economy. All else equal, the amount anglers are willing to pay and the costs of fishing can vary depending on expected catch rates, harvest rates, and existing regulations. The economic value of changes in expected catch rates, harvest rates, or existing regulations can be measured by any associated changes in CS. However, because recreationally caught fish are non-market goods and there are no transaction data available, CS cannot be measured directly. Instead, using survey elicitation methods and stated or revealed preference models, it is possible to estimate willingness to pay values¹⁴ that are a close approximation to the individual CS an angler would derive from an additional fish that is caught and kept. The estimated value of the CS for catching and keeping a second red snapper on an angler trip is \$105 (values updated to 2025 dollars¹⁵), and decreases thereafter (\$70 for a third red snapper, \$52 for a fourth red snapper, and \$41 for a fifth red snapper) (Carter and Liese 2012). The estimated value of the CS for catching and keeping a second grouper on an angler trip is \$135 (2025\$), and decreases thereafter (\$90 for a third grouper, \$66 for a fourth grouper, and \$52 for a fifth grouper) (Carter and Liese 2012). Another study, Haab et al. (2012), estimated the recreational CS for other snappers harvested on a trip using a mail survey of recreational anglers fishing in the Gulf. Their estimated CS for harvesting one additional snapper was approximately \$16.

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 \$110,000 (2025\$) in gross revenue and \$33,000 (2025\$) in net income (gross revenue minus variable and fixed costs) annually. The average headboat is estimated to receive approximately \$335,000 (2025\$) in gross revenue and \$98,000 (2025\$) 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 \$592,000 (2025\$). Further, their data suggest average annual gross revenue per vessel had increased to about \$715,000 (2025\$) by 2014. However, Abbott and Willard's estimates are based on a sample of 17 headboats that chose

¹³ Holding income and the prices of other goods constant.

¹⁴ 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.

¹⁵ Converted to 2025 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

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, SEFSC, pers. comm. 2018 estimated that average annual gross revenue for Gulf headboats was approximately \$530,000 (2025\$) 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 about 86% 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,¹⁶ or \$966 and \$2,244 (2025 dollars), respectively (Table 2.3.2.7). When TNR is divided by the number of anglers on a trip, it represents cash flow per angler (CFpA), which is an approximation of PS per angler trip. The estimated CFpA value for an average Gulf charter angler trip is \$176 (2025\$) and the estimated CFpA value for an average Gulf headboat angler trip is \$80 (2025\$; Souza and Liese 2019). Estimates of CFpA for individual reef fish species or species group target trips are not available.

Table 2.3.2.7. Trip economics for offshore trips by Gulf charter vessels and Southeast headboats in 2017 (2025\$).

	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	\$966	\$2,244
Average # of Anglers per Trip	5.5	28.2
Trip Net Cash Flow per Angler Trip	\$176	\$80

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

¹⁶ Southeast headboats include headboats operating in 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."

similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

Estimates of the business activity (economic impacts) associated with recreational angling for Gulf reef fish on charter and private vessels were calculated using average trip-level impact coefficients derived from the 2022 Fisheries Economics of the U.S. report (NMFS 2024) and underlying data provided by the National Oceanic and Atmospheric Administration Office of Science and Technology. Economic impact estimates in 2022 dollars were adjusted to 2025 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 (2020-2024) resulting from private and charter trips that targeted reef fish are provided in Table 2.3.2.8. 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 Gulf reef fish catch trips. To calculate the multipliers from Table 2.3.2.8, 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 2.3.2.8 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 2.3.2.8 may be considered a lower bound on the economic activity associated with those private and charter mode trips that targeted Gulf reef fish.

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 2.3.2.8. Estimated average annual economic impacts (2020-2024) from charter and private vessel trips that targeted Gulf reef fish, by state, using state-level multipliers (2025\$).

	FL	AL	MS	LA	TX
	Charter Mode				
Target Trips	266,935	53,957	851	8,285	4,702
Value Added Impacts	\$185,257	\$22,563	\$131	\$5,594	\$3,627
Sales Impacts	\$293,419	\$39,422	\$221	\$9,818	\$6,000
Income Impacts	\$126,287	\$16,296	\$82	\$4,030	\$2,307
Employment (Jobs)	2,544	461	3	118	50
	Private/Rental Mode				
Target Trips	2,598,649	403,091	107,289	74,939	15,038
Value Added Impacts	\$95,738	\$16,195	\$1,214	\$12,664	\$4,427
Sales Impacts	\$159,922	\$34,888	\$3,181	\$27,338	\$8,286
Income Impacts	\$46,946	\$6,945	\$492	\$6,365	\$2,325
Employment (Jobs)	884	138	10	131	40
	All Modes				
Target Trips	2,865,584	457,048	108,140	83,224	19,740
Value Added Impacts	\$280,995	\$38,758	\$1,346	\$18,258	\$8,054
Sales Impacts	\$453,342	\$74,310	\$3,402	\$37,156	\$14,286
Income Impacts	\$173,233	\$23,241	\$574	\$10,396	\$4,632
Employment (Jobs)	3,427	599	13	249	90

National-level multipliers must be used to account for interstate and interregional trading when calculating a national total of economic impacts. Between 2020 and 2024, and using national-level multipliers, private and charter trips that targeted Gulf reef fish generated employment, income, value-added, and output (sales) impacts of 5,333 jobs, \$313.8 million, \$541.7 million, and \$997.4 million per year, respectively, on average.

2.4 Impacts of Management Measures

The continuation of gear requirements, which require commercial and recreational fishermen to possess a venting tool or descending device that is rigged and ready for use when fishing for reef fish in the Gulf EEZ, is not expected to affect commercial or recreational reef fish landings and effort. However, this action is expected to positively benefit reef fish that are released, by reducing mortality associated with barotrauma. This action is expected to result in direct economic costs due to the expenses borne by commercial fishermen, for-hire operators, and recreational anglers who purchase a venting tool or descending device. On average, a descending device, and necessary accessories to make it rigged and ready for use retails for about \$100. This estimate is based on data from the SeaQualizer website¹⁷, which offers a Sportsman's package valued at \$99.95. The package includes a descending device and accessories needed for proper

¹⁷ <https://www.seaqualizer.com/products/sportsmans-package>

use. On average, the price of a venting tool kit including replacement needles ranges from about \$20 to \$40¹⁸. Economic costs that would result from this management action would be derived by multiplying the per unit cost of the device selected by the number of devices purchased. Although the total number of devices to be bought in response to this action is unknown, it can be inferred that the number of devices that will be purchased each year should decline. Furthermore, it is likely that, rather than incurring the civil penalties that would result from non-compliance with the Direct Enhancement of Snapper Conservation and the Economy through Novel Devices (DESCEND) Act, most commercial fishermen and for-hire operators with a federal reef permit have already acquired a descending device or venting tool. Return 'Em Right¹⁹, an organization working “to increase the survival of reef fish that are caught and released in the Gulf” distributes descending device kits in exchange for the completion of a training course. As of October 2025, the organization has trained and distributed kits to more than 47,000 reef fish fishermen in the Gulf, including 614 federally permitted for-hire operators (Table 1.4.1). Prior to the implementation of the DESCEND Act, the Congressional Budget Office (CBO) estimated the cost of requiring descending devices or venting tools in the Gulf at less than \$2 million in the first year²⁰. The CBO also indicated that costs would decrease in subsequent years. Costs are expected to further decrease because of the tens of thousands of devices already distributed free of charge by Return 'Em Right and those already purchased by commercial fishermen and private anglers since the inception of the DESCEND Act. Direct costs to fishermen are expected to be much lower given the continuation of work conducted by Return 'Em Right. Return 'Em Right will likely continue to conduct education and outreach on best release practices for reef fish and other species groups for the next 15 years, as outlined in the Deepwater Horizon Open Ocean Trustee Implementation Group Final Restoration Plan 4²¹ with continuation through approximately 2040.

Increases in the survival rates of reef fish caught and released due to the proper use of descending devices or venting tools are expected to result in improvements to reef fish stocks, which in turn would be translated into additional fishing opportunities for commercial fishermen and private and for-hire anglers prosecuting reef fish in the Gulf. Therefore, this management action is expected to result in indirect economic benefits due to increased fishing opportunities to fish for reef fish. Although the magnitude of these economic benefits cannot be quantified at this time, they will be commensurate with the resulting additional reef fish fishing opportunities for recreational anglers, for-hire businesses, and commercial fishermen.

2.5 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a “significant regulatory action” if it is likely to result in: 1) an annual effect of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, territorial, or tribal governments or communities; 2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; 3)

¹⁸ [Amazon.com : fish venting tool](#)

¹⁹ [Return 'Em Right](#)

²⁰ <https://www.cbo.gov/system/files?file=2020-06/hr5126.pdf>

²¹ [Deepwater Horizon Open Ocean Trustee Implementation Group Final Restoration Plan 4](#)

materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or 4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this E.O. Based on the information provided above, which estimates annual costs were less than \$2 million dollars in the year the DESCEND Act was implemented and much less in subsequent years, this action has been determined to not be economically significant for the purposes of E.O. 12866.

CHAPTER 3. REGULATORY FLEXIBILITY ACT ANALYSIS

3.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic effects of various alternatives contained in the regulatory action and to ensure the agency considers alternatives that minimize the expected economic effects on small entities while meeting the goals and objectives of the applicable statutes (e.g., the Magnuson-Stevens Fishery Conservation and Management Act [Magnuson-Stevens Act]).

With certain exceptions, the RFA requires agencies to conduct an initial regulatory flexibility analysis (IRFA) for each proposed rule. The IRFA is designed to assess the effects various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those effects. An IRFA is primarily conducted to determine whether the proposed regulatory action would have a significant economic effect on a substantial number of small entities. In addition to analyses conducted for the Regulatory Impact Review (RIR), the IRFA provides: 1) a description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed regulatory action; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed regulatory action will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed regulatory action, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; and 6) a description of any significant alternatives to the proposed regulatory action which accomplish the stated objectives of applicable statutes and would minimize any significant economic effects of the proposed regulatory action on small entities.

In addition to the information provided in this section, additional information on the expected economic effects of the proposed action is included in Chapter 2, the RIR. All monetary values are expressed in 2025 dollars.

3.2 Statement of the need for, objective of, and legal basis for the proposed action

A discussion of the reasons why action by the agency is being considered is provided in Chapter 1.4. The purpose is to implement regulatory requirements for commercial and recreational

fishermen to possess a venting tool or descending device that is rigged and ready for use when fishing for reef fish in the Gulf of America (Gulf) exclusive economic zone (EEZ). The need for this action is to continue regulatory requirements established under the Direct Enhancement of Snapper Conservation and the Economy through Novel Devices (DESCEND) Act, which expired in January 2026. This Act is thought to reduce discard mortality of reef fish through the use of descending or venting tools, and as a result would promote increased conservation and sustainability of reef fish stocks. The Magnuson-Stevens Act provides the statutory basis for this proposed action.

3.3 Description and estimate of the number of small entities to which the proposed action would apply

This proposed regulatory action would require commercial, recreational, and for-hire reef fish vessels to possess a venting tool or descending device that is rigged and ready for use when fishing for reef fish in the Gulf EEZ

A valid federal commercial Gulf reef fish vessel permit is required for commercial fishing vessels to legally harvest reef fish in the Gulf EEZ. At the end of 2024, 819 vessels possessed a valid federal commercial Gulf reef fish vessel permit. Although it is likely that most of the 819 commercial reef fish vessels have already acquired a descending device or a venting tool, this section assumes that the proposed action applies to all commercial reef fish vessels because the number of commercial vessels with a descending device or venting tool is not known. For vessels that commercially harvest red snapper and other reef fish in the Gulf, currently available data indicate that economic profits, as measured by net revenues from operations, are approximately 32% of annual average ex-vessel revenues (Liese 2023). Between 2020 and 2024, annual ex vessel revenues per vessel averaged \$172,970, yielding average annual profits of \$55,351 per vessel.

Although the proposed action would apply to recreational anglers, the RFA does not consider recreational anglers to be entities. Small entities include small businesses, small organizations, and small governmental jurisdictions (5 U.S.C. 601(3)-(6)). Recreational anglers are not businesses, organizations, or governmental jurisdictions and so they are outside the scope of this analysis (5 U.S.C. 603).

A valid federal for-hire Gulf reef fish vessel permit is required for for-hire vessels to legally harvest reef fish in the Gulf. In 2024, there were 1,265 vessels with valid federal for-hire Gulf reef fish vessel permits. According to Savolainen et al. (2012), which contains the most recent estimates of economic returns, including economic profits, for the for-hire sector, average annual economic profits are approximately \$32,650 per charter vessel and \$97,700 per headboat. Although it is likely that most of the 1,265 for-hire reef fish vessels have already acquired a descending device or a venting tool, this section assumes that the proposed action applies to all for-hire reef fish vessels because the number of for-hire vessels with a descending device or venting tool is unknown.

National Marine Fisheries Service (NMFS) does not possess complete ownership data for businesses and vessels that participate in the federal reef fish fishery. Therefore, it is not currently feasible to accurately determine affiliations between these particular businesses. As a result of the incomplete ownership data for purposes of this analysis, it is assumed that each of the aforementioned vessels is independently owned by a single business, which is expected to result in an overestimate of the actual number of businesses directly regulated by this proposed regulatory action. Thus, this proposed regulatory action is estimated to directly regulate up to 819 businesses in the commercial Gulf reef fishing industry and 1,265 businesses in the Gulf for-hire fishing industry.

On December 29, 2015, NMFS issued a final rule establishing a small business size standard of \$11 million in annual gross receipts (revenue) for all businesses primarily engaged in the commercial fishing industry (North American Industry Classification System [NAICS] code 11411) for RFA compliance purposes only (80 FR 81194, December 29, 2015). In addition to this gross revenue standard, a business primarily involved in commercial fishing is classified as a small business if it is independently owned and operated and is not dominant in its field of operations (including its affiliates). From 2020 through 2024, the maximum annual gross revenue earned by a single commercial reef fish vessel during this time was approximately \$4.7 million. Based on this information, all commercial fishing businesses directly regulated by this proposed action are determined to be small entities for the purpose of this analysis.

For other industries, the Small Business Administration has established size standards for all major industry sectors in the U.S., including for-hire businesses (NAICS code 487210). A business primarily involved in for-hire fishing is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates) and has annual receipts (revenue) not in excess of \$14 million for all its affiliated operations worldwide. NMFS does not have data to estimate the maximum gross revenue for charter vessels. However, the maximum annual gross revenue for a single headboat in the Gulf was about \$1.45 million in 2017 (D. Carter, Southeast Fisheries Science Center, pers. comm. 2017), and according to Savolainen et al. (2012), on average, annual gross revenue for headboats in the Gulf is about three times greater than annual gross revenue for charter vessels. Based on this information, all for-hire fishing businesses directly regulated by this proposed regulatory action are determined to be small businesses for the purpose of this analysis.

3.4 Description of the projected reporting, record-keeping, and other compliance requirements of the proposed action

This proposed regulatory action would not establish any new reporting or record-keeping requirements. It would, however, require commercial and recreational fishermen to possess a venting tool or descending device that is rigged and ready for use when fishing for reef fish in the Gulf EEZ, as previously required by the DESCEND Act, and regulations implementing the Act. Commercially available descending devices, range in price from approximately \$18.99 (Shelton Fish Descender) to \$99.95 (SeaQualizer). Venting tools are relatively cheaper, with some models available for \$11.00. It is likely that most of the Gulf commercial and for-hire reef

fish vessels have already acquired a descending device or a venting tool to comply with the DESCEND Act requirements.

3.5 Identification of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed action

No federal rules have been identified that duplicate, overlap, or conflict with the proposed rule.

3.6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

If implemented, this proposed regulatory action is expected to directly affect the 819 vessels with federal commercial Gulf reef fish permits. Further, this proposed regulatory action is expected to directly affect the 1,265 for-hire fishing businesses with valid federal for-hire permits in the Gulf reef fish fishery. All regulated commercial and for-hire fishing businesses have been determined, for the purpose of this analysis, to be small entities. Based on this information, the proposed regulatory action is expected to affect a substantial number of small businesses.

Significant economic effects

The outcome of “significant economic impact” can be ascertained by examining two factors: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities directly regulated by this regulatory action have been determined to be small entities. Thus, the issue of disproportionality does not arise in the present case.

Profitability: Do the regulations significantly reduce profits for a substantial number of small entities?

The proposed action would require each commercial and for-hire vessel harvesting reef fish in the EEZ to spend between \$11 and \$100 to purchase a venting tool or descending device. Because the expense per vessel is minimal relative to the average annual profit per vessel, it is concluded that the proposed action is not expected to affect the profitability of commercial and for-hire vessels harvesting reef fish in the EEZ. Additionally, it is likely that most of the Gulf commercial and for-hire reef fish vessels have already acquired a descending device or a venting tool to comply with the DESCEND Act.

In summary, this proposed action is not expected to have a significant economic impact on a substantial number of small entities.

3.7 Description of the significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

This proposed regulatory action, if implemented, is not expected to have a significant economic impact on a substantial number of small entities. As a result, the issue of significant alternatives is not relevant.

CHAPTER 4. LIST OF PREPARERS

PREPARERS

Name	Expertise	Responsibility	Agency
Sarah Gardiner	Fishery Biologist	Team Lead; Abbreviated Framework Action Development	Gulf Council
Assane Diagne	Economist	Abbreviated Framework Action Development	Gulf Council
David Records	Economist	Description of the Fishery, Regulatory Impact Review Regulatory Flexibility Act Analysis	SERO
Carolyn Alkire	Economist	Description of the Fishery, Regulatory Impact Review Regulatory Flexibility Act Analysis	SERO

REVIEWERS (Preparers also serve as reviewers)

Name	Expertise	Responsibility	Agency
Mara Levy	Attorney	Legal Review	NOAA GC
Carrie Simmons	Fishery Biologist	Review	Gulf Council
John Froeschke	Fishery Biologist	Review	Gulf Council
Frank Helies	Fishery Biologist	Review	SERO

NOAA GC = National Oceanic and Atmospheric Administration General Counsel; SEFSC = Southeast Fisheries Science Center; SERO = Southeast Regional Office of the National Marine Fisheries Service.

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APPENDIX A: SUMMARY OF PUBLIC COMMENT

Continuation of Management Measures to Reduce Reef Fish Release Mortality Written comments received between August 2025 and November 3, 2025

2 comments received.

- Support for requiring the use of venting tools and descending devices
 - Takes little time to do it right.
 - Should be encouraged and practices by everyone.
 - Proven to benefit reef fish conservation.
- Abbreviated frameworks should not become standard practice to allow the public full opportunity to review and provide input.