

Gag History of Management in the Gulf of Mexico

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Introduction

NOAA Fisheries Service and the Gulf of Mexico Fishery Management Council (Council), under provisions of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), are responsible for management of species within the Gulf of Mexico exclusive economic zone (EEZ). To manage a given species (or group of species), the Council must first develop a fishery management plan (FMP) and submit it to the Secretary of Commerce (Secretary) for approval.

The Reef Fish FMP was one of the first FMPs developed by the Council. It was submitted in August 1981, approved by the Secretary in June 1983, and implemented in November 1984. The goal identified in the FMP was “to manage the reef fish fishery of the United States waters of the Gulf of Mexico to attain the greatest overall benefits to the Nation with particular reference to food production and recreational opportunities on the basis of maximum sustainable yield (MSY) as modified by relevant economic, social, or ecological factors.” Pursuant to this goal, one of the primary management objectives set forth in the FMP was to rebuild declining reef fish stocks wherever they occur in the fishery.

Gag Management History

The following history of management pertains only to actions that resulted in regulations directly affecting the gag fishery. These regulations and effective dates are summarized in Table 1.

Gag were included in the Reef Fish Fishery Management Unit (FMU), which was established in the Reef Fish FMP. Species initially included in the FMU were snappers, groupers, and sea basses. The FMP established a collective MSY of 51 million pounds (MP) and an optimum yield (OY) of 45 MP for snappers and groupers of the FMU.

Amendment 1 to the Reef Fish FMP, implemented in 1990, set a minimum size of 20-inches total length (TL) for gag and a five grouper recreational bag limit. Charter vessels and headboats on trips extending beyond 24 hours were allowed a two-day possession limit for reef fish, provided the vessel had two licensed operators aboard as required by the U. S. Coast Guard, and each passenger could provide a receipt to verify the length of the trip. Additionally, an 11.0 MP, whole weight (WW) commercial quota for grouper

was established. The quota was divided into a 9.2 MP, WW, shallow-water grouper quota and a 1.8 MP, WW, deep-water grouper quota. The fishing year was defined as January 1 through December 31. The shallow-water grouper complex was defined as black grouper, gag, red grouper, Nassau grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, speckled hind, and scamp. The deep-water grouper complex was defined as misty grouper, snowy grouper, yellowedge grouper, and warsaw grouper. Scamp would be included in the deep-water grouper quota should the shallow-water grouper quota be filled; goliath grouper (jewfish) were not included in the quotas. Also, a commercial reef fish vessel permit and a fish trap permit, with a maximum 100 trap per permit limit, were established. A longline and buoy gear boundary at approximately the 50-fathom depth contour west of Cape San Blas, Florida, and the 20-fathom contour east of Cape San Blas, Florida was established. Vessels fishing with longlines and buoy lines were prohibited from fishing inshore of the 20- and 50-fathom contours. Trawl vessels (other than vessels operating in the unsorted groundfish fishery) were limited to the recreational size and daily bag limits of reef fish. Entangling nets were also prohibited from directly harvesting reef fish and were limited to the recreational bag limit for reef fish caught in entangling nets for other fisheries. Finally, a framework procedure for specification of total allowable catch (TAC) was established to allow for annual management changes. Collectively, these regulations were intended to increase the survival rate of grouper into the stock of spawning age fish to achieve at least 20 percent spawning stock biomass per recruit (SSBR), relative to the SSBR that would occur with no fishing, by January 1, 2000.

A July 1991 regulatory amendment, implemented November 12, 1991, provided a one-time increase in the 1991 quota for shallow-water grouper from 9.2 MP, WW, to 9.9 MP, WW. This quota increase was intended to provide the commercial fishery an opportunity to harvest 0.7 MP that went unharvested in 1990. A November 1991 regulatory amendment, which was implemented June 22, 1992, increased the shallow-water grouper commercial quota to 9.8 MP WW. A 1993 regulatory amendment, implemented January 1, 1994, established an allowable biological catch (ABC) of 15.1 MP WW for grouper harvest and maintained the commercial size limit of 20 inches TL.

The first stock assessment for Gulf of Mexico gag was conducted in 1994 (Schirripa and Goodyear, 1994). The Reef Fish Stock Assessment Panel (RFSAP) reviewed the assessment and concluded the stock was not overfished because the spawning potential ratio (SPR) was estimated at 30 percent, which was above the Council's management objective of 20 percent SPR (RFSAP, 1994).

In August 1998, the RFSAP reviewed the 1997 gag stock assessment (Schirripa and Legault, 1997), and did not consider gag to be overfished based upon the management goals of the time (transitional SPR 20 percent), but overfishing may have been occurring based upon the static SPR values (RFSAP, 1998). The RFSAP recommended the Council consider spatial and/or temporal closures designed to protect spawning aggregations. This recommendation was based on research indicating fishing on spawning aggregations can disrupt spawning (Shapiro, 1987; Coleman et al., 1996), result in a reduction in size of spawning fish (Koenig et al., 1996; Coleman et al., 1996),

and even result in the loss of an entire aggregation (Gilmore and Jones, 1992; Eklund, 1994).

In response, a regulatory amendment, implemented June 19, 2000, increased the commercial size limit for gag from 20 to 24 inches TL, increased the recreational size limit for gag from 20 to 22 inches TL, prohibited commercial harvest and sale of gag, black, and red grouper each year from February 15 to March 15 (during the peak gag spawning season), and established two marine reserves (Steamboat Lumps and Madison-Swanson) closed year-round to fishing for all species under the Council's jurisdiction. The marine reserves were designed to protect gag spawning aggregations and provide locations to assess the efficacy of marine reserves to protect aggregations.

In October 2001, the RFSAP reviewed the 2001 stock assessment (Turner et al., 2001), and found gag not to be overfished or under going overfishing. The RFSAP recommended the ABC be no higher than the average yield of the last three years of data (1997-1999), which is about 5 MP.

Secretarial Amendment 1, implemented July 15, 2004, established a ten-year red grouper rebuilding plan, structured in three-year intervals, which would end overfishing and rebuild the stock to MSY. The rebuilding plan sought to achieve a 9.4-percent reduction in the recreational and commercial harvest of red grouper, relative to the average landings for 1999-2001, during the first three years of the ten-year rebuilding plan. Measures in the final rule to accomplish this reduction equitably for the commercial and recreational sectors of the fishery established a 6.56 MP, gutted weight (GW) ABC for red grouper for the period 2003-2006, including a commercial quota of 5.31 MP, GW, and a 1.25 MP, GW, recreational target catch level. Measures in the final rule also reduced the commercial quota for shallow-water grouper from 9.35 to 8.80 MP GW, and reduced the deep-water grouper commercial quota from 1.35 to 1.02 MP GW. Secretarial Amendment 1 requires closure of the entire shallow-water grouper fishery when either the red grouper or shallow-water quota is reached.

At its November 7-12, 2004 meeting, the Council considered a request from the Southern Offshore Fishing Association (SOFA) and Gulf Fishermen's Association (GFA) for an interim or emergency rule to establish commercial trip limits for shallow-water and deep-water grouper. SOFA and GFA maintained the closure of both the deep-water grouper and shallow-water grouper fisheries, combined with the damaging effects of four hurricanes, severely impacted the Florida economy, especially the west coast and Panhandle. Trip limits were requested to potentially extend the 2005 fishing season and delay an end-of-year closure, thus reducing potential adverse economic consequences for all sectors of the commercial grouper fishery, including those fishing communities dependent upon it. After considerable discussion, the Council voted (14-1) to have NOAA Fisheries Service develop an emergency rule establishing these trip limits for the commercial grouper fishery in the Gulf of Mexico for the 2005 fishing year.

The industry-proposed trip limits were structured as follows: 1) On January 1, all vessels would be limited to a 10,000-pound, GW, trip limit for both deep-water grouper and

shallow-water grouper combined; 2) if on or before August 1, the fishery is estimated to have landed more than 50 percent of either the shallow-water grouper or the red grouper quota, then a 7,500-pound, GW, trip limit would take effect; and 3) if on or before October 1, the fishery is estimated to have landed more than 75 percent of either the shallow-water grouper or the red grouper quota, then a 5,500-pound, GW, trip limit would take effect.

On February 17, 2005, NOAA Fisheries Service published in the *Federal Register* (70 FR 8037), the emergency rule establishing trip limits for the commercial shallow-water grouper and deep-water grouper fishery in the EEZ (effective March 3, 2005). This emergency rule was extended for an additional 180 days, through February 12, 2006. A regulatory amendment changing the commercial trip limit to 6,000 pounds GW for the entire fishing year is currently under review.

During 2003 and 2004, recreational red grouper landings exceeded the 1.25 MP, GW, target catch level. While landings in 2003 were only slightly greater than the target, 2004 landings were nearly 2.5 times greater and totaled 3.1 MP, GW. At its March 2005 meeting, the Council requested NOAA Fisheries Service implement an interim rule to reduce the 2005 recreational red grouper harvest to target catch levels established in Secretarial Amendment 1. Without additional regulations, the Council expected recreational red grouper landings in 2005 to continue exceeding the 1.25 MP, GW, target.

The interim rule, implemented August 9, 2005, reduced the red grouper bag limit from two fish per person per day to one fish per person per day and established a closure of the recreational fishery, from November through December of 2005, for all grouper species. The combined effect of these measures was expected to reduce red grouper recreational harvest by 21.5 percent and was expected to reduce recreational harvest of other grouper by 17.8 percent. Because red grouper are part of a multispecies fishery, prohibiting harvest of all groupers during the seasonal closure would have reduced bycatch of red grouper and subsequent discard mortality. Applying the closure to all groupers would also protect other grouper species from a potential shift of fishing effort from red grouper to other groupers. The interim rule also reduced the aggregate bag limit to three grouper, combined, per person per day. The effect of this reduction in the aggregate bag limit was a 5.2-percent reduction in recreational harvest of groupers other than red grouper. The reduction in the aggregate bag limit would have provided protection of other grouper species from redirected red grouper fishing effort and would have reduced bycatch mortality of red grouper, assuming anglers ceased fishing when the aggregate limit was reached. The intended effects were to reduce overfishing of red grouper in the Gulf of Mexico and to minimize potential adverse impacts on other grouper stocks that could have resulted from a shift in fishing effort from red grouper to other grouper species.

The Coastal Conservation Association and Fishing Rights Alliance sued NOAA Fisheries Service shortly after implementation of the temporary rule, and on October 31, 2005, a court decision concluded interim measures could only be applied to grouper species undergoing overfishing. Therefore the interim regulations were modified as follows: 1) The aggregate grouper bag limit was increased from three to five fish per person per day;

and 2) only red grouper were prohibited from being harvested during November-December 2005. The red grouper bag limit will remain one per person per day after the closure expires.

Amendment 21, implemented on June 3, 2004, continued the Steamboat Lumps and Madison-Swanson reserves for an additional six years, until June 2010. In combination with the initial four-year period (June 2000 - June 2004), this allowed a total of ten years in which to evaluate the effects of these reserves and to provide protection to a portion of the gag spawning aggregations.

Other Management Measures Affecting Gag

The following management measures may have had an indirect effect on gag either by altering fishing practices or causing fishing effort to shift. On November 7, 1989, NOAA Fisheries Service announced anyone entering the commercial reef fish fishery in the Gulf of Mexico and South Atlantic after a control date of November 1, 1989, may not be assured of future access to the reef fish fishery if a management regime is developed and implemented that limits the number of participants in the fishery.

Amendment 2, implemented in 1990, prohibited the harvest of goliath grouper to provide complete protection for this species in federal waters in response to declines in abundance throughout its range. In July 1991, **Amendment 3** was implemented, which provided additional flexibility in the annual framework procedure for specifying TAC by allowing the target date for rebuilding an overfished stock to be changed depending on changes in scientific evidence, except the rebuilding plan can not exceed 1.5 times the generation time of the species under consideration. It revised the FMP's primary objective, definitions of OY and overfishing, and framework procedure for TAC by replacing the 20 percent SSBR target with 20 percent spawning potential ratio (SPR). **Amendment 3** also transferred speckled hind from the shallow-water grouper complex to the deep-water grouper complex.

In May 1992, **Amendment 4** to the reef fish FMP was implemented, establishing a moratorium on the issuance of new commercial reef fish permits for a maximum period of three years. It also changed the time of year when TAC is specified from April to August and included additional species in the reef fish management unit. **Amendment 5**, implemented in February 1994, established restrictions on the use of fish traps in the Gulf of Mexico EEZ, implemented a three-year moratorium on the use of fish traps by creating a fish trap endorsement and issuing the endorsement only to fishermen who submitted logbook records of reef fish landings from fish traps between January 1, 1991, and November 19, 1992, created a special management zone (SMZ) with gear restrictions off the Alabama coast, created a framework procedure for establishing future SMZs, required 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.

Amendment 7, implemented in February 1994, established reef fish dealer permitting and record keeping requirements, allowed transfer of fish trap permits and endorsements between immediate family members during the fish trap permit moratorium, and allowed transfer of other reef fish permits or endorsements in the event of the death or disability of the person who was the qualifier for the permit or endorsement.

Amendment 9, implemented in July 1994, extended the commercial reef fish permit moratorium through December 31, 1995. In January 1996, the approved provisions of **Amendment 11** were implemented, which: (1) Required persons possessing Gulf of Mexico commercial reef fish permits to sell to permitted reef fish dealers; (2) required permitted reef fish dealers purchase reef fish caught in Gulf of Mexico federal waters only from permitted vessels; (3) allowed the transfer of reef fish permits and fish trap endorsements in the event of death or disability; (4) implemented a new commercial reef fish permit moratorium for no more than five years or until December 31, 2000, while the Council considered limited access for the reef fish fishery; (5) allowed permit transfers to other persons with vessels by vessel owners (not operators) who qualified for their reef fish permit; and (6) allowed a one time transfer of existing fish trap endorsements to permitted reef fish vessels whose owners have landed reef fish from traps in federal waters, as reported in logbooks received by the Science and Research Director of NOAA Fisheries Service from November 20, 1992, through February 6, 1994.

A ten-year phase out of the fish trap fishery was implemented in March and April 1997 through **Amendment 14**. It allowed transfer of fish trap endorsements for the first two years, and thereafter only upon death or disability of the endorsement holder to another vessel owned by the same entity, or to any of the 56 individuals who were fishing traps after November 19, 1992, and were excluded by the moratorium. The amendment also prohibited the use of fish traps west of Cape San Blas, Florida, provided the Regional Administrator of NOAA Fisheries Service with authority to reopen a fishery prematurely closed before the allocation was reached, and modified the provisions for transfer of commercial reef fish vessel permits. Additionally, the amendment prohibited the harvest or possession of Nassau grouper in the Gulf of Mexico EEZ, consistent with similar prohibitions in Florida state waters, the South Atlantic EEZ, and the Caribbean EEZ.

Amendment 15, implemented in January 1998, prohibited harvest of reef fish from traps other than permitted reef fish traps, stone crab traps, or spiny lobster traps.

Amendment 16A was partially approved and implemented on January 10, 2000. The approved measures provided: (1) The possession of reef fish exhibiting the condition of trap rash on board any vessel with a reef fish permit fishing for spiny lobster or stone crab is prima facie evidence of illegal trap use and is prohibited except for vessels possessing a valid fish trap endorsement; and (2) fish trap vessels submit trip initiation and trip termination reports. **Amendment 16B**, implemented in January 1999, set a recreational bag limit of one speckled hind and one warsaw grouper per vessel per day, with the prohibition on the sale of these species when caught under the bag limit.

The commercial reef fish permit moratorium was extended another five years to December 31, 2005, with the implementation of **Amendment 17** in September 1999. **Amendment 19** was implemented on August 19, 2002, which affected all FMPs for Gulf of Mexico fisheries, by establishing two marine reserve areas off the Dry Tortugas. Fishing for any species or anchoring by fishing vessels inside the two marine reserves was prohibited.

Amendment 20, also known as the Charter/Headboat Moratorium Amendment, affects the Reef Fish (Amendment 20) and Coastal Migratory Pelagic (Amendment 14) FMPs, and was implemented on July 29, 2002, except some provisions which became effective on December 26, 2002. It established a three-year moratorium on the issuance of charter and headboat vessel permits in the recreational for-hire reef fish and coastal migratory pelagic fisheries in the Gulf of Mexico EEZ. Soon after implementation of the permit moratorium, it was determined the amendments implementing regulations contained an error relating to eligibility criteria. NOAA Fisheries Service published an emergency rule in the *Federal Register* (67 FR 77193, December 17, 2002) until the error could be corrected through normal rulemaking. A final rule was published by NOAA Fisheries Service in the *Federal Register* (68 FR 26230, May 15, 2003) implementing corrected Amendments 14 and 20. Measures in the final rule: 1) Corrected the eligibility criterion; 2) reopened the application process for maintaining a moratorium permit; 3) extended the applicable deadlines for applying for and obtaining a moratorium permit; and 4) extended the expiration date of the moratorium.

Amendment 22, implemented on July 5, 2005, specified bycatch reporting methodologies for the reef fish fishery. **Amendment 24** replaced the commercial reef fish permit moratorium with a permanent limited access system. This amendment was implemented on August 17, 2005.

Future Actions

Amendment 18A, if implemented, would: 1) Prohibit vessels from retaining reef fish caught under the recreational size and possession limits when commercial catches of reef fish are onboard the vessel; 2) adjust the number of crew members allowed onboard when a dually permitted vessel is taking a commercial reef fish trip; 3) prohibit reef fish species, except sand perch and dwarf sand perch, from being used as bait by any gear type in the commercial and recreational fisheries; 4) require vessel monitoring systems onboard all commercially permitted reef fish vessels, including charter vessels with commercial reef fish permits operating in the Gulf of Mexico; 5) adopt rewording changes to the framework procedure and incorporate the Southeast Data, Assessment, and Review process into the TAC framework procedure; and 6) require vessels with commercial or for-hire reef fish vessel permits to comply with sea turtle and smalltooth sawfish release protocols, possess a specific set of release gear, and adopt guidelines for the proper care for incidentally caught sawfish.

Regulatory amendments affecting the commercial and recreational grouper fishery were approved by the Council in October and November 2005, respectively. If implemented,

the commercial amendment will establish a 6,000-pound GW grouper trip limit. The recreational amendment will reduce the red grouper bag limit from two to one fish per person per day, establish a closed season from February 15 to March 15 for gag, red grouper, and black grouper, and prohibit captain and crew from retaining bag limits of grouper while under charter.

Generic Amendment 3 for addressing Essential Fish Habitat (EFH) is currently near implementation. EFH Generic Amendment 3 describes and identifies EFH for each fishery; identifies other actions to encourage the conservation and enhancement of such EFH; and identifies measures to minimize to the extent practicable any adverse effects of fishing on such EFH. Measures to protect EFH from adverse fishing effects include: Prohibit bottom anchoring over coral reefs in habitat areas of particular concern; prohibit use of trawling gear, bottom longlines, buoy gear, and all traps/pots on live coral reefs throughout the Gulf of Mexico EEZ; require a weak link in the tickler chain of bottom trawls on all habitats throughout the Gulf of Mexico EEZ; and establish an educational program on the protection of coral reefs for commercial and recreational fishermen.

Literature Cited

- Coleman, F. C., C. C. Koenig, and L. A. Collins. 1996. Reproductive styles of shallow-water groupers (Pisces: Serranidae) in the eastern Gulf of Mexico and the consequences of fishing spawning aggregations. *Environmental Biology of Fishes* 47:129-141.
- Eklund, A. M.. 1994. Status of the stocks of Nassau grouper, *Epinephelus striatus*, and jewfish, *Epinephelus itajara* - final report. NOAA FISHERIES SERVICE/SEFSC Miami Laboratory Contribution No. MIA – 94/95 – 15.
- Gilmore, R. G. and R. J. Jones. 1992. Color variation and associated behavior in the epinepheline groupers, *Mycteroperca microlepis* (Goode and Bean) and *M. phenax* (Jordan and Swain). *Bull. Mar. Sci.* 51 (1): 83-103.
- Koenig, C. C., F. C. Coleman, L. A. Collins, Y. Sadovy, and P. L. Colin. 1996. Reproduction in gag, *Mycteroperca microlepis*, in the eastern Gulf of Mexico and the consequences of fishing spawning aggregations. In F. Arreguin-Sanchez, J. L. Monro, M. C. Balgos and D. Pauly (eds.) *Biology, Fisheries and culture of tropical groupers and snappers*. ICLARM Conf. Proc. 48, 449 p.
- RFSAP. 2001. October 2001 Report of the Reef Fish Stock Assessment Panel. Gulf of Mexico Fishery management Council. Tampa, FL. 36 p.
- RFSAP. 1998. August 1998. Report of the Reef Fish Stock Assessment Panel. Gulf of Mexico Fishery management Council. Tampa, FL. 19 p.
- RFSAP. 1994. 1994 Report of the Reef Fish Stock Assessment Panel. Gulf of Mexico Fishery Management Council. Tampa, FL. 15 p.

- Schirripa, M.J., and C.P. Goodyear. 1994. Status of gag stocks of the Gulf of Mexico: Assessment 1.0. NOAA FISHERIES SERVICE, SEFSC, Miami Laboratory Contribution No. MIA 93/94-61.
- Schirripa, M.J., and C.M. Legault. 1997. Status of the gag stocks of the Gulf of Mexico: assessment 2.0. 1 October 1997. NOAA FISHERIES SERVICE/SEFSC Miami Laboratory. 113 p. + appendix 1p. + tables 8 P. + fig. 1 p.
- Shapiro, M. J. 1987. Reproduction in groupers. Pp. 295 – 327 in: J. J. Polovina and S. Ralstin (ed.). Tropical Snappers and Groupers: Biology and Fisheries Management. Westview Press, Boulder, Co.
- Turner, S.C., C. E. Porch, D. Heinemann, G. P. Scott and M. Ortiz. 2001. Status of the gag stocks of the Gulf of Mexico: assessment 3.0. August 2001. NOAA FISHERIES SERVICE/SEFSC Miami Laboratory, Sustainable Fisheries Division contribution SFD-01/02-134. 32 p. + tables 25 p. + figs. 84 p.

Table 1. Effective date of regulations for the Gulf of Mexico gag fishery

Effective Date	Gag Management History Action
February 21, 1990	Establish minimum size of 20 inches TL and 5 grouper recreational bag limit; 9.2 MP, WW, shallow-water quota.
June 19, 2000	Commercial size limit for gag increased from 20 to 24 inches TL and recreational size to 22 inches TL; Established a February 15-March 15 commercial closure for gag, red grouper, and black grouper; and established Steamboat Lumps and Madison-Swanson marine reserves.
November 12, 1991	One time increase in shallow-water quota from 9.2 to 9.9 MP, WW.
January 1, 1994	Established a 15.1 MP ABC, and maintained the 20 inch TL commercial size limit.
June 22, 1992	Commercial shallow-water grouper quota increased to 9.8 MP WW
June 19, 2000	Increased the commercial size limit for gag from 20 to 24 inches TL, increased the recreational size limit for gag from 20 to 22 inches TL, prohibited commercial harvest and sale of gag, black, and red grouper each year from February 15 to March 15, and established two marine reserves (Steamboat Lumps and Madison-Swanson) closed year-round to fishing for all species under the Council's jurisdiction..
June 3, 2004	Steamboat Lumps and Madison-Swanson marine reserves were continued for an additional six years.
July 15, 2004	Shallow-water aggregate quota reduced to 8.8 MP, GW; Red grouper quota of 6.56 MP, GW, 5.31 MP, GW commercial quota, and 1.25 MP, GW recreational allocation.
February 17, 2005	Commercial trip limits implemented; 10,000-pound limit to start, 7,500-pound limit when 50 percent of the quota is reached, and 5,500-pound limit when 75 percent of the quota is reached.
August 9, 2005	Aggregate bag limit reduced from 5 to 3 fish per person per day, and closed season for all recreational grouper harvest for November-December 2005. Red grouper recreational bag limit reduced from 2 to 1 fish per person per day.
October 31, 2005	Aggregate bag limit for recreational grouper increased from 3 to 5 fish per person per day, and only a red grouper closure for November-December 2005.