

The Temptation of Red Snapper

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The Magnuson-Stevens Fishery Management Act (MSA) is not unlike the Stanford marshmallow experiment. In the marshmallow experiment, a child is told that she may have the marshmallow (or other treat) that's in front of her now, or if she waits a little while, she can have a larger reward, like twice as many treats. The experiment tests delayed gratification – the ability to get a bigger payoff by resisting temptation for a moment. In the same way, under the MSA, when stocks are overfished, fishers may have to land fewer fish for a while in order to establish sustainable populations in the long run. However, it is not clear anybody has passed the marshmallow test when it comes to red snapper.

1984 Fishery Management Plan

Gulf of Mexico red snapper “is one of the most important recreational fisheries in the world.”¹ Quotas on red snapper are the result of different management approaches to allow red snapper fishing (both commercial and recreational) to continue at levels that would allow the stock to rebound. The Gulf of Mexico Fishery Management Council (the Council) developed a Fishery Management Plan (FMP) for red snapper (and other reef fish) in the Exclusive Economic Zone (EEZ), also known as federal waters. The National Marine Fisheries Service (NMFS) of the Department of Commerce approved the FMP in 1984 – prohibiting, among other things, the use of explosives for taking the fish. The FMP was premised on a stock assessment finding that “reductions in fishing mortality on the order of 60 to 70 percent would be necessary by the year 2000 to restore each species.” (55 Fed. Reg. 2078 (Jan. 22, 1990).) The fishing season was year-round. A minimum size limit was set at 13” total length, but with many exceptions.

Red Snapper Management under the MSA

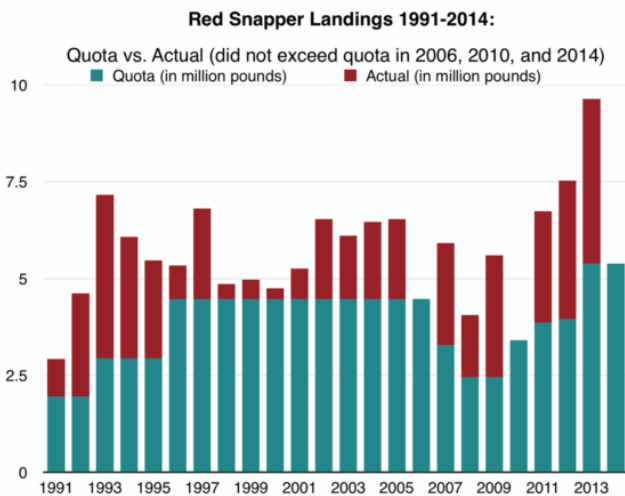
After decades of red snapper management under the MSA, there are neither marshmallows nor a rebuilt population of red snapper in the Gulf of Mexico. In 2005 it was reported

that the population was between three and seven percent of its historic levels.² It could be argued that delayed gratification was not enough of an incentive for recreational fishermen to alter how they land red snapper, even in the face of mandatory limits. While recreational fishermen are not solely to blame for the decline of red snapper stock – blame can also be attributed to juvenile bycatch by shrimpers, and to commercial harvests, which have high mortality rates for undersized snapper bycatch – their behavior is not without stain. Despite yearly limits on red snapper landings, in 21 out of 24 years since 1991, recreational fishermen have over-harvested their red snapper quotas by as much as 250%. The overages occurred even while the quota was gradually increased from 1.96 m lbs in 1991 to 5.39 m lbs in 2014.

Because the number of eggs produced by a red snapper climb exponentially based on age, delaying the harvest of large numbers of snapper has obvious benefits. Gulf red snapper reach full maturity in 6-8 years. A 10-year old red snapper can produce 60 million eggs a year. Significantly, a 30-inch red snapper lays as many eggs per season as 100 13-inch snappers.

Rebuilding Goals

The MSA requires that harvest numbers must be at an optimum yield where fishing does not diminish the stock's ability to replenish itself continually. If too many fish are caught, the population can crash, as stocks are unable to reproduce sufficiently to maintain a sustainable level. Stocks in this situation are termed “overfished,” a status determined by a scientific formula. Red snapper was first declared overfished in 1988, and NMFS found red snapper continued to be overfished each year since then until a 2015 stock assessment determined the stock was “no longer undergoing overfishing.”³ However, that statement may be word-play. The year before and the year after, NMFS declared that red snapper in the Gulf continued to be overfished. (79 Fed. Reg. 28686 (May 19, 2014), 81 Fed. Reg. 47357 (July 21, 2016).)



Because red snapper are overfished, NMFS is required by the MSA to limit harvests in order to rebuild the stock. In 1990 the first amendment to the FMP was adopted with the goal of reducing fishing mortality of reef fish in order to protect and rebuild those stocks. The amendment limited the exceptions to the size limit for red snapper, but NMFS rejected a proposal by an unidentified state marine fisheries commission to set a 2-fish recreational bag limit and a 1.4-m lb commercial quota in order to rebuild the stock. This could be considered a “marshmallow moment” in red snapper management. Instead of fishing less one year to fish more later, the FMP was expanded to allow a 7-fish bag limit and a 3.1-m lb commercial quota, acknowledging that those amounts “exceed the harvest level required to rebuild the red snapper stock, [but] that they are expected to check the rate of decline.” (55 Fed. Reg. 2078, 2079 (Jan. 22, 1990).)

A year later, when the population had not rebounded, NMFS did not change the harvest levels, but changed the rebuilding date – extending it from 2000 to 2007. In 1991 the total allowable catch (TAC) was increased. In 1993 the commercial quota was increased by 50 percent and the rebuild date extended to 2009. In 1996 the rebuild date was extended to 2019. NMFS justified changing the target date that year rather than adjusting the TAC as follows: “The longer the stock recovery time, the less restrictive the TAC must be to ensure stock recovery.” (61 Fed. Reg. 48641, 48642 (Sept. 16, 1996).) Arguably, such a statement violates both the word and spirit of MSA, which requires rebuilding terms to be “as short as possible” and “not exceed 10 years” except where social, economic, or environmental factors dictate otherwise. (16 U.S.C. § 1854(a)(2)(e).) NMFS’ decision does not appear to have been challenged in court.

In 2005 the rebuild date again was changed to 2032, with NMFS acknowledging that it exceeded the MSA 10-year maximum, but pointing to harmful “social and economic impacts” if it employed greater reductions in reducing shrimp bycatch to rebuild more quickly. The Southern District Court of Texas saw things differently. Noting that “stock rebuilding plans must have a fair likelihood of succeeding,” the court rejected this plan finding it was “inconsistent with the scientific data ... and has less than a fifty percent chance of rebuilding red snapper stocks by 2032.”⁴

In 2017 NMFS lowered the minimum stock size threshold (MSST) for red snapper. MSST is an objective standard establishing the quantity of fish needed for a sustainable stock based on the best available science. If stock is below the MSST, meaning the stock is incapable of producing the maximum sustainable yield on a continuing basis, it is considered overfished. NMFS’ decision to lower MSST does not mean the quantity of red snapper in the Gulf has changed; it changes how NMFS interprets that quantity. The finding has the effect of allowing red snapper stock to “be reclassified as not overfished, but rebuilding,” just a year after NMFS stated red snapper “continue to be overfished.” It means that despite a quota overage in 2017, the 2018 quota will not be decreased because the stock is no longer overfished. In other words, it changes the rules of the marshmallow experiment.

Changes to Commercial Fishing

Commercial fishing of red snapper has experienced a sea change in the Gulf since the FMP was issued. For most of the 1990s, the red snapper FMP was amended to alter commercial activities more than recreational. There are approximately 1,020 federally licensed vessels that harvest reef fish, down from 1,200 vessels with red snapper permits in 2006. Unlike recreational fishing, commercial fish must be “landed” only at certain ports. This system allows NOAA to monitor commercial landings and halt fishing when quotas are met.

In 1990 the TAC for red snapper was based on historical landing data from 1979-1987. It allocated 51 percent of TAC to commercial fishing, which could occur year-round. This led to hastily closed fisheries when quotas were harvested more quickly than anticipated: an entire year’s quota would be harvested within months.

NMFS tried closing the season early (1991, 1992, 1994, 1996), opening the season late (1993), or both (1995). But the efforts did not change the quick derby-like harvesting, resulting in very short seasons.

In response, NMFS established an individual transferable quota (ITQ) system in 1997. The ITQ system meant vessels with a valid red snapper permit as of August 29, 1995 could qualify to receive a “share” of the ITQ based on the average of its top two years’ landings from 1990 – 1992. Coupons identified the share amounts held by a vessel (or its owner/captain/operator) and must be carried on board.

This program was revised to an individual fishing quota (IFQ) in 2007, again setting harvest shares based on landing history, from 1999 to 2004 (with one year dropped). In 2010 further changes to the IFQ program took effect, including an electronic reporting system for dealers, allowing for real time data on how many fish were caught. The program requires 3 to 12 hours advance notice of landings, including weight of catch, and place and time of landing. Sales can only be made to authorized dealers. In 2018 the value of those shares of red snapper was \$500,366, according to NMFS.

In 2018 NMFS gave notice that it may take back non-activated IFQ shares from the 81 businesses that hold them. Instead of redistributing the shares to the remaining 669 active IFQ businesses, however, NMFS indicated it might keep them. Because those businesses had not acted to sell or transfer those shares, NMFS reasoned that taking those shares will not hurt those businesses and gave no indication that it would compensate for the withheld shares. It is possible that taking 81 shares out of commission could reduce the commercial share of red snapper below the 51 percent of the TAC set by the FMP.

Changes to Shrimp

Shrimp bycatch, the unintentional catching of red snapper while trying to catch shrimp, contributed to the decline of snapper stock. In the 1980s a burgeoning shrimping industry’s nets scooped up the snapper small fry. However, the Gulf shrimp FMP was amended to require bycatch reduction devices (BRDs) in the late 1990s, and BRDs have dropped shrimp trawling bycatch markedly.⁵ The shrimping industry sued, claiming it was bearing the brunt of rebuilding red snapper, when, instead, NMFS could lower the TAC.⁶ The suit was dismissed on a procedural issue.

Changes to Recreational Fishing

According to NMFS, after it established the IFQ “there is no possibility of a quota overrun for the commercial sector.” No such statement was made for the recreational sector. Over time, as the FMP failed to restore stock numbers, the Council and NMFS changed strategies for recreational fishing, switching from closing the season once quotas were hit to setting shorter seasons at the outset, and by reducing bag limits. The change happened gradually. The bag limit in 1984 was seven per person. In 1994 the bag limit was dropped to five. In 2013 it was two. Year-round seasons ended in 1997.

As mentioned above, recreational quotas were exceeded from 1991 to 2014, except for three years (twice involving seasons affected by an oil spill (2010) or a hurricane (2006)). Despite the overages during that time, the quota was decreased only twice: in 2007 and 2008. Looking at it another way, NMFS’ response to the test subject eating the first marshmallow right away was to give it more marshmallows. In one notable example, NMFS set recreational quotas for 2012 and 2013, permitting an increase in 2013 only if the quota was not exceeded in 2012. A classic Stanford marshmallow experiment set-up. In 2013, following a 2012 recreational season where the recreational harvests exceeded the 3.959 m lbs quota by almost twice as much (a 3.565-m lbs excess), NMFS *increased* the recreational quota for the year.

And then NMFS re-opened the season in the fall of 2013 despite data that the 2013 quota already had been met. Commercial fishermen sued. To justify the decision to re-open the season, NMFS adopted the landings estimate it made *prior* to the season instead of relying on the actual landings data, calling the overage a sampling error. A federal court called NMFS’ decision “egregious.” The court remanded the relevant 2013 rules, saying NMFS “chose to adopt a landings estimate that it knew to be inaccurate, apparently to avoid punishing fishermen who might have been permitted to catch more under a hypothetical prior quota.”⁸

In May 2015 the recreational quota (still 49 percent of the TAC) was modified, allocating the amount between for-hire and private sectors. The for-hire component (i.e. charter boats) was given 42.3 percent and the private sector 57.7 percent. Over the years, the ratio of for-hire vessels to private recreational boats had shifted. In 2004 55 percent of the reported recreational quota was landed by for-hire vessels.

In 2011 it was just 33 percent. The components have separate seasons, beginning in 2015. The Fifth Circuit Court of Appeals upheld the practice, following a lawsuit brought by recreational anglers who wanted more.⁹

The length of the season is tied to the quota, i.e. once a quota is reached, the season is closed. In August 2000, however, the recreational season was changed to April 21 – October 31 (194 days), instead of starting the season on January 1 and ending it whenever the quota was met. According to NMFS, “real-time data are not available soon enough . . . to determine the appropriate closure date and implement it in time to prevent quota overages.” (65 Fed. Reg. 50158, 50160 (Aug. 17, 2000).) The season lengths were dictated in part by the requirement that NMFS must take into account red snapper stock harvests in state waters when determining when the recreational quota is reached, see 50 C.F.R. § 622.8(a). This led to some very short seasons, including a three-day season in 2017, which NMFS later retracted, instead allowing 39 days of fishing across the summer. NMFS was sued by the Environmental Defense Fund and others. The case is on hold pending the results of the 2018 season.

Federal Management

Federal management has been faulted for the increasingly shorter recreational seasons. The stock assessments have been disputed for either undercounting the stock or failing to divide the Gulf into separate management areas. Reefs are red snapper’s habitat, either natural or manmade. Some claim NMFS’ stock assessments failed to consider the numbers of red snapper around oil and gas wells in the Gulf. According to one source, however, manmade reefs account for less than one percent of available habitat in the Gulf for red snapper. Oil and gas platforms offer 12 km² of habitat compared to 1,578 km² of natural reefs (in the northern Gulf).¹⁰ Moreover, NMFS indicates that instead of hiding populations, the reefs give the appearance of more abundance: “This characteristic for aggregating near locatable structures make[s] red snapper particularly vulnerable to exploitation, since fishermen targeting red snapper can maintain their catch rates even with reduced stock abundance.”¹¹

Additionally, some claim that the Gulf should be divided into eastern and western divisions with separate quotas. Following a 2007 stock assessment, NMFS rejected this idea: “The assessment found the eastern

portion of the population to be in better condition than the western portion However, the red snapper population in both the eastern and western Gulf of Mexico is still considered overfished and undergoing overfishing.” (73 Fed. Reg. 5117, 5118 (Jan. 29, 2008).)

State Management

A complicating factor is that the MSA applies only to federal waters – the EEZ. States manage fish in state waters. Until 2016 that gave Florida and Texas an edge in snapper activity, as their state waters extended nine nautical miles into the Gulf rather than three nautical miles for Alabama, Mississippi, and Louisiana. Under federal law effective in 2016, the seaward boundary of each coastal state in the Gulf of Mexico was extended to nine nautical miles for the purpose of managing reef fish. (Pub. L. No. 114-133.)

Rebuilding red snapper stock was problematic because as the FMP was amended to shrink seasons, sizes, and bag limits, states were allowing more and more fishing in state waters. NMFS tried to address the problem. In March 2013 it proposed a rule making the season “contingent upon the estimated landings from states with any inconsistent regulations. The more a state exceeds its apportionment of the annual quota, the greater the Federal season off that state is likely to be reduced to compensate for any quota overage.” (78 Fed. Reg. 20292 (April 4, 2013).) A lawsuit was filed before the rule became final.¹² The court found NMFS’ plan violated the MSA by discriminating against citizens of different states. In response, NMFS closed the entire Gulf recreational season on June 29, 2013, although it reopened it in the fall (see *Guindon v. Pritzker* above). In 2014 NMFS planned to end the recreational season on July 11, but in May issued an emergency rule setting a recreational fishing season of nine days. That year, 2014, is the only year since 1991 in which the recreational harvest was below the quota without a disaster in the Gulf.

In 2018, at the direction of Congress, each state government sets its own recreational season for red snapper in the Gulf of Mexico. A draft environmental impact statement is being prepared on the change, although NMFS issued exempted fishing permits (EFPs) to each state in April 2018. The program originates from the federal FY2017 Consolidated Appropriations Act, which, in part, authorized funding for “pilot programs for state-led fisheries management.” (Pub. L. No. 115-141.)

The EFPs exempt states from complying with some regulations pertaining to recreational seasons. State authority is not unlimited, however. Notably, states do not get to set the quota, which NMFS set at 6.733 m lbs (2.848 m lbs for the for-hire sector, and 3,884,990 lbs for the private angling sector to be allocated per state). The 2-fish per person bag limit remains, and the minimum size is 16 inches. States established the season for recreational private anglers, while NMFS set the for-hire season for federally licensed vessels from June 1 to July 22.

The Council considered five alternate methods of how to allocate the percentages to each state based on historic landing data in its Decision Support Tool. The Council states that using historical data presents “high levels of uncertainty, especially for Mississippi,” perhaps due to inaccurate reporting.¹³ States whose anglers under-reported red snapper landings over the years will feel the effect as their future catch limits are based on those numbers. The allotments and details about each state’s season are provided in the chart below:

State	Pounds	Percent	Season
Florida	1,778,515	45.78%	40 days: June 11 – July 21
Alabama	984,291	25.34%	47 days: Fri-Sun June – Labor Day, plus July 2-5
Mississippi	137,939	3.55%	101 days: starting May 25. Potential close dates of July 9-22, depending on landings by July 4
Louisiana	743,000	19.12%	Starts May 25 through Labor Day, Fri-Sun, plus federal holidays
Texas	241,245	6.21%	82 days: starting June 1
Total:	3,884,990	100%	

Conclusion

Three decades of managing fishing via delayed gratification – trying to limit harvests now with the promise of bigger harvests in the future – appear to have had little effect on recreational fishing quota overages. Even when quotas were increased, recreational anglers exceeded the limits. Recreational fishers who in 1991 were authorized to harvest just 1.96 m lbs with a 7-fish a day bag limit, but allowed to fish every day of the year, are now authorized to harvest 6.733 m lbs but with a 2-fish a day bag limit and only during the summer. NMFS set a large quota year after year in spite of the sector

illegally exceeding limits almost every year while the fishery was being rebuilt.

Arguably, the recreational sector’s behavior contributed to the continued postponement of a rebuilt stock in the Gulf, extending that goal from 2000 to 2032. In comparison, strict accountability measures in the commercial industry severely curtailed over-harvesting, and required shrimp BRDs cut bycatch by up to 50 percent. Thus, while red snapper management in the Gulf since 1984 appears to have brought the stock from the brink of collapse, it may be disputed whether that stock is close to being rebuilt or continues to be overfished. And the anglers who fish for the sheer pleasure of it may be the cause of the extended years of reduced stock. 🐟

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Endnotes

1. C.E. Porch, *et al.* “Estimating the Dependence of Spawning Frequency on Size and Age in Gulf of Mexico Red Snapper,” *Marine and Coastal Fisheries* 7:1, 233-245 (July 2015).
2. *Coastal Conservation Ass’n v. Gutierrez*, 512 F. Supp. 2d 896, 898 (S.D. Tex. 2007).
3. NOAA Fisheries, Southeast Regional Office, “Historical Overview (1800s – present): How has the red snapper fishery changed over time?”
4. *Coastal Conservation Ass’n v. Gutierrez*, 512 F. Supp. 2d 896, 900 (S.D. Texas 2007).
5. Benny J. Gallaway, *et al.*, “A Life History Review for Red Snapper in the Gulf of Mexico with an Evaluation of the Importance of Offshore Petroleum Platforms and other Artificial Reefs,” *Reviews in Fisheries Science*, 17(1):48-67, p 54 (2009) (hereinafter “A Life History Review”).
6. *Texas Shrimp Ass’n v. Daley*, 2000 WL 35938412 (N.D. Fla. April 12, 2000).
7. NMFS, *Final Regulatory Amendment to the Reef Fish Fishery Management Plan to Set Total Allowable Catch for Red Snapper* (Feb. 2010), p. 2.
8. *Guidon v. Pritzker*, 31 F. Supp. 3d 169, 195 (D.D.C. 2014).
9. *Coastal Conservation Ass’n v. U.S. Dept. of Commerce*, 846 F. 3d 99 (5th Cir. 2017).
10. Benny J. Gallaway, “A Life History Review” p. 54 (2009).
11. *Regulatory Amendment to the Reef Fish Fishery Management Plan for Setting the 1991 Red Snapper Total Allowable Catch* (March 1991), p. 8.
12. *Texas v. Crabtree*, 948 F. Supp. 2d 676 (S.D. Tex. 2013).
13. *Gulf of Mexico Fishery Management Council*.