

CCA Positions and Talking Points on Amendment 22 (Red Snapper Rebuilding Plan) to the GMFMC Reef Fish Management Plan

Rebuilding Plan:

CCA supports development of a formal rebuilding plan for red snapper. In particular we are in favor of the proposed preferred alternatives for the maximum fishing mortality threshold, optimum yield at recovery, and minimum stock size threshold detailed in section 4.1.2.2. We concur that MSY should be the yield available at Fmsy, but believe the current estimate of a potential MSY of 41.13 million pounds is overly optimistic and urge the Council to have this value carefully reconsidered during the coming stock assessments in 2004.

CCA supports the preferred alternative 4.2.2.2 to establish a 32 year rebuilding plan and maintain the current TAC at 9.2 million pounds pending 5 year review intervals.

Bycatch Reporting Methodology:

CCA believes that the use of financial and personnel resources to expand monitoring of bycatch in the directed recreational and commercial red snapper fisheries is not warranted given that 99.5% of all red snapper bycatch is taken by the Gulf shrimp fishery. Dramatic reduction of shrimp trawl bycatch should receive the highest priority from the NMFS. CCA opposes the establishment of a Federal recreational fishing permit (Alternative 4.3.3.2.2), noting that the states currently license saltwater anglers and these license adequately identify the universe of anglers in the Gulf. CCA would oppose any licensing scheme wherein the funds collected were not spent directly on conservation science and enforcement.

Bycatch Reduction:

Again, we note that shrimp trawl bycatch must be reduced to afford the hope of a healthy resource in the future. Amendment 22 notes this problem but does not propose any new regulations to further reduce shrimp trawl bycatch. We ask that the Council vigorously pursue this issue in Amendment 14 to the Shrimp FMP. We support a hard bycatch quota for the shrimp fleet based on reductions of 60% to 80% of historical juvenile red snapper bycatch.

CCA asks that the Council and the NMFS review the submitted report by our fisheries scientist, Dr. Russell Nelson, and ask that these ideas be given careful consideration in this year's stock assessment work.

Suggestions for a rationale rebuilding plan for Gulf of Mexico red snapper

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Introduction

The Gulf of Mexico Fishery Management Council (GMFMC) currently manages red snapper under a rebuilding plan based on recovery to the biomass which produces MSY (B_{msy}). Current estimates of B_{msy} are highly uncertain, possibly overly optimistic and require periodic re-evaluation.ⁱ Estimates of MSY directly affect the recovery target, rebuilding timeframe and the annual total allowable catch (TAC) under any potential rebuilding strategy.ⁱⁱ This paper suggests a reconsideration of the estimation of MSY recognizing the differential size-selectivity of the gears impacting the stock and reflecting explicit and implicit policy decisions adopted by the GMFMC in developing a red snapper management plan.

The included suggestions are offered independently of the adoption of any suggested rebuilding scenario from Amendment 22. The suggested analyses would be applicable to any such plan adopted.

Adopting a rebuilding plan and estimating MSY

The estimation of any value of MSY is heavily dependent on the age-specific vulnerability or size selectivity of the gear used for harvest.ⁱⁱⁱ Theoretically it is possible to prosecute a fishery with a single standard gear with constant selection characteristics and set the age (size) at entry to the fishery at the size which maximizes yield-per-recruit (YPR), thus producing a “global MSY” which approximates the maximum potential MSY for the stock.^{iv}

However, in most cases differing gear types impact a given species and the cumulative affect of the size-selection by these gears will interact to produce an MSY below the maximum potential. In the eastern tropical Pacific bigeye tuna fishery the size-selective impacts of purse seine gears fishing on dolphin schools, free-swimming schools and fish aggregating devices and longline gears targeting larger high seas bigeye interact to produce an “average MSY” which is significantly less than the highest potential yield from the fishery.^v

The Gulf of Mexico red snapper fishery is prosecuted by four gear types: shrimp trawls (bycatch), recreational hook-and-line gear, commercial vertical hook gear, and deepwater longline gear. In previous stock assessments the size selective impacts of the later three gear types are taken into account in the calculation of MSY (estimated at 41-66 million pounds per year), but the inevitable continued bycatch by shrimp trawls is not explicitly considered.^{vi}

In developing the management strategy for red snapper the GMFMC chose from a continuum of options ranging from adopting a global MSY approach which maximized the potential MSY to a bycatch fishery approach which would yield the smallest MSY.¹ Figure 1 depicts a hypothetical range of possible MSY values based on management strategies across this continuum.

Maximizing potential MSY would have required eliminating shrimp trawl bycatch (and most of the Gulf shrimp fishery) entirely and setting a minimum size that would maximize yield-per-recruit (18" – 20"^{vii}). At the other end of the continuum was the alternative to allocate all red snapper to trawl bycatch and eliminate the directed fishery.

The GMFMC did not choose either of these extremes as a management strategy, but rather attempted to take into account the relative needs of all sectors in the directed and bycatch fisheries and integrate technologically induced reductions in trawl bycatch with a directed recreational and commercial fishery managed with size limits, bag limits and TACs. The present TAC values are predicated on increasing the bycatch reduction efficiencies of BRDS from 40% to 80% over the next decade.^{viii} Although the GMFMC has not adopted specific bycatch reduction targets to comply with the Magnusson-Stevens Act requirement to eliminate or minimize bycatch "to the maximum extent practical", this range of a 40% to 80% reduction would appear to reflect the GMFMC's range of potential bycatch reduction goals.

Adopting a rebuilding strategy: shrimp trawl red snapper bycatch reduction goal and calculating a new MSY

During the consideration of Amendment 22 the GMFMC should explicitly adopt a goal for red snapper trawl bycatch reduction consistent with legal requirements and based on achieving a reduction in the rate of historical bycatch mortality. This approach recognizes the inevitability of some level of bycatch being taken forever in the Gulf shrimp fishery. The actual goal adopted should be the maximum practicable and reflect the best scientific information on the potential utility of BRDs and their use and operation in the Gulf shrimp fishery. It would appear, based on information available to date, that a goal of reductions somewhere between 60% and 80% would be appropriate, with this reduction achieved by as combination of BRD use and overall reductions in shrimp trawl effort.

This action would, in effect, be a formal allocation of some portion of red snapper mortality to the shrimp fishery. Such an approach would be rational given the continuation of shrimp trawling in the Gulf.

Having adopted a set bycatch reduction goal, the GMFMC should ask that the coming stock assessment efforts recognize the trawl allocation of juvenile red snapper in developing new estimates of MSY. This new estimate will be less than that which

¹ The current legal requirement to reduce bycatch to the maximum extent practicable was not extant in the time period in which the GMFMC first addressed the red snapper trawl bycatch issue.

would be calculated by ignoring the size-selective removal of juvenile red snapper by trawls (Figure 2.), but we would argue that it would be an estimate which was better justified by the expected realities of the continued interactions between bycatch and directed harvest. As the GMFMC has already chosen not to attempt to manage the red snapper fishery at a “global” or maximum potential MSY, this approach would be consistent with previously adopted management policy. By improving the estimation of MSY the GMFMC should be able to proceed with setting directed fishery TACs in a more realistic fashion, and would have developed a rebuilding plan target that was scientifically supportable and more in line with expectations of how the red snapper and shrimp trawl fisheries will continue to interact in a future, more positive management context.

Impacts of differential size limits

If the Gulf Council were to continue to use a smaller minimum size for the commercial harvest of red snapper, the stock assessment effort should calculate what differential impacts this has on survivability. If the commercial size limit were to remain at 15”, then the impact of that smaller size limit should be calculated relative to survivability at a 16” (or such size equivalent to the recreational limit) size limit. Any reduction in survivability attributable to the lesser size should result in adjustments to the TAC allocation so as to retain the present relative contribution of both commercial and recreational sectors to the recovery plan.

Potential for eastern and western Gulf of Mexico red snapper stocks

At the time of this writing there has been no formal consideration of the latest scientific data on stock structure of Gulf red snapper. If future evaluation of this information results in the conclusion that separate stocks do exist and may be managed independently, the previously recommended calculations of MSY should be performed on each stock.

Figure 1. Hypothetical Gulf red snapper yield curves under 4 management strategies: 1. total allocation to trawl bycatch (~ 4.5" size at entry); 2. bycatch reduction and small (~10") minimum size; 3. bycatch reduction and medium (~16") minimum size, and 4. bycatch reduction with maxYPR minimum size (~18" – 20").

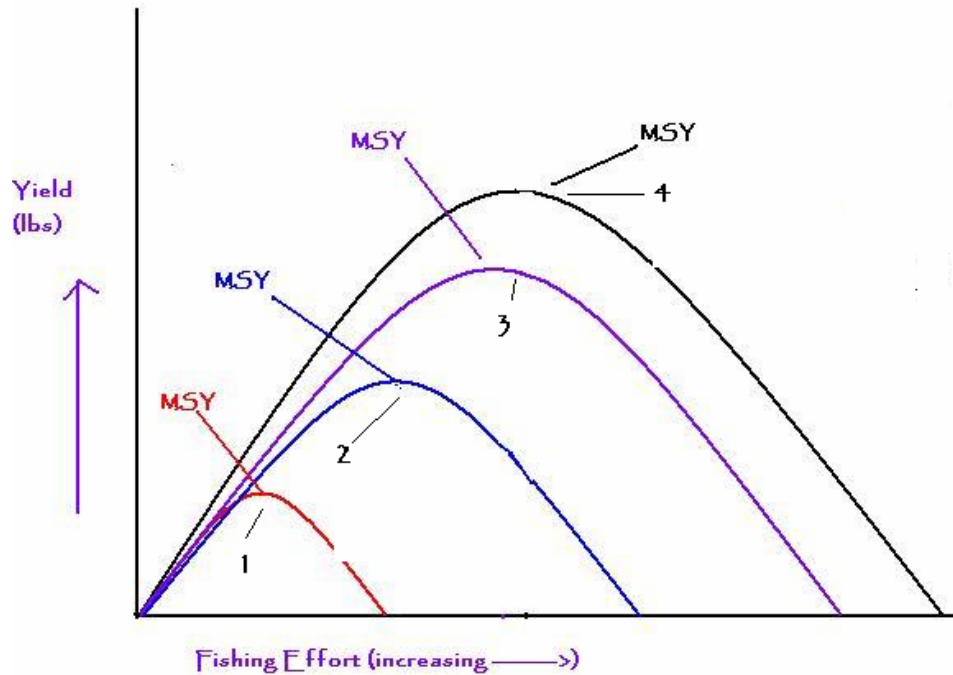
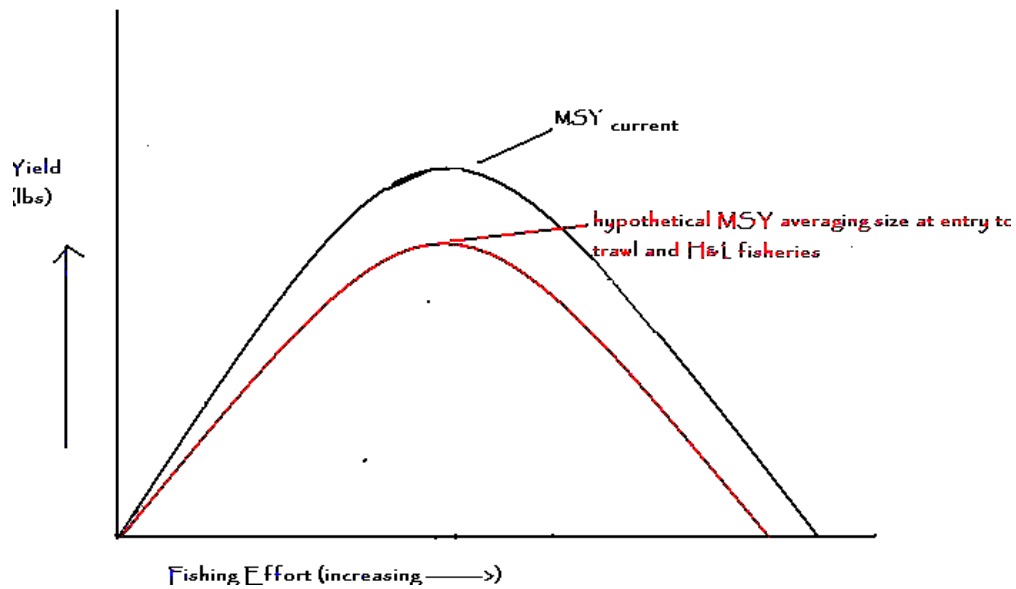


Figure 2. Hypothetical representation of current Gulf red snapper MSY estimate and MSY estimated inclusive of some level of continued shrimp trawl bycatch.



ⁱ Powers, *et al.* 2000. Updated projections for Gulf of Mexico Red Snapper. NMFS, SEFSC & SERO. 15 pp.

ⁱⁱ *Ibid.*

ⁱⁱⁱ Goodyear, P.C. 1996. Variability of fishing mortality by age: consequences for maximum sustainable yield. *North American journal of fisheries Management*. 16:8-13.

^{iv} Maunder, Mark M. 2002. The relationship between fishing methods, fisheries management and the estimation of maximum sustainable yield. *Fish and Fisheries*. 3:251-260.

^v Harley, S. and M.N. Maunder. 2003. Status of Bigeye in the eastern Pacific Ocean in 2002 and outlook for 2003. IATTC, La Jolla. 137 pp.

^{vi} Schirripa, M.J. and C.M. Legault. 1999. Status of the red snapper fishery in the Gulf of Mexico: Updated through 1998. NMFS, SEFSC, SFD-99/00-108.

^{vii} GMFMC Reef Fish Stock Assessment Panel. 1992. Interim Report of the Reef Fish Stock Assessment Panel. 4 pp.

^{viii} GMFMC. 2003. Options paper for Amendment 22 to the Reef Fish Fishery Management Plan to Set red snapper sustainable fisheries act targets and thresholds and to set a rebuilding plan. GMFMC. 129 pp.