Examination of Possible Private Recreational Management Options for Gulf of Mexico Red Snapper

Produced by the Gulf Angler Focus Group Initiative

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Outline

Introduction

Members of the recreational fishing community organized a Gulf Angler Focus Group Initiative to explore improved management options for the conservation and public enjoyment of Gulf of Mexico red snapper. The Gulf Angler Focus Group Initiative gathered together representatives of angler organizations, unaffiliated private anglers, for-hire operators and recreational fishing industry members, in consultation with all five state fisheries managers from the Gulf region. Through this initiative, meetings were held every other month throughout 2016 with the assistance of the FCRC Consensus Center at Florida State University, which facilitated and documented the meetings.

The Gulf Angler Focus Group Initiative was convened and coordinated by a Planning Committee consisting of representatives of the American Sportfishing Association, Coastal Conservation Association, Congressional Sportsmen's Foundation, and Theodore Roosevelt Conservation Partnership.

The purpose of the Gulf Angler Focus Group Initiative was to develop a package of possible management options for further investigation to ensure a healthy red snapper stock while providing equitable and reasonable public access. For the purpose of this review, the term "access" generally refers to the number of days in which red snapper can legally be harvested. The initial phase of the process included a series of meetings to help develop the recreational perspective on management options for the Gulf red snapper fishery and other Gulf reef fish fisheries. This involved discussions with a collection of unaffiliated private anglers, angler groups, recreational fishing industry members and for-hire operators. The five state fisheries managers from the Gulf region provided consultation and input throughout the entire process. In addition, NOAA Fisheries provided information regarding the Gulf reef fish fisheries regulatory framework and responded to questions posed as a result of the meetings. Through this phase, various management options were discussed and deliberated, ultimately resulting in the development of a set of discussed management options with associated pros and cons for each. Feedback on an initial set of management options was solicited from other stakeholders in the red snapper fishery, including environmental NGOs, commercial fishermen and for-hire captains. The final phase of the process involved the Planning Committee reviewing and finalizing a package of alternative recreational fisheries management options.

These options do not necessarily reflect consensus, agreement or recommendations by the group, organizations or individuals as to whether any given option(s) should be considered for management. Most management options will be inherently difficult to implement, and sound decisions cannot be made about their viability without detailed fishery and social analysis that currently are unavailable.

Options Overview

Because many types of necessary data are lacking or nonexistent, there is inherit uncertainty in the social, economic and conservation impacts of any red snapper management options. In addition, future changes in population dynamics and participation could affect the viability of all management options. Recognizing these limitations, the Gulf Angler Focus Group Initiative is not providing management ***recommendations*** at this point, but rather has identified several potential management ***options*** based on current and available information that may warrant further analysis and review by fisheries managers. A determination must be made as to whether these options are allowable under the current confines of the Magnuson-Stevens Act. Of the options that may be feasible, some may not be acceptable or practical for the majority of private recreational anglers in the Gulf. This would need to be determined through a robust process that includes significant stakeholder outreach.

Based on existing information, a list of pros and cons was developed to help inform additional review of possible options. An evaluation of current, "status quo" management was provided and used as a basis to which alternative options could be compared and evaluated. The goal of this comparison was: Would a given option make private recreational fishermen better off than the current management approach by state and federal agencies?

Below is an overview of the management options discussed, followed by an analysis of each.

A. Status Quo: Private recreational fishing effort is managed by a two fish bag limit in federal waters, minimum size restrictions and inconsistent state and federal seasons and regulations.

B. Maximizing Fishing Days Within Current Framework: Private recreational fishing effort would continue to be managed through seasons, size limits and bag limits throughout the Gulf. To provide more days in federal waters, possible management changes include reducing the bag limit, implementing size/slot limits, barotrauma reduction and/or congruent state and federal seasons and regulations.

C. Harvest Tags: Private recreational fishing harvest would be constrained in part or in whole based on a finite number of tags that would be distributed among anglers.

D. Depth/Distance-Based Management: Implement open/closed areas to private recreational fishing harvest of red snapper to protect a portion of the stock from fishing mortality and potentially allow for an increase in the number of fishing days in the open area.

E. Reef Fish Season: Reef fish regulations would be established as a unit as opposed to regulations for individual species.

F. Harvest Rate/Recruitment-Based Management: Management targets would be based on the rate of removals caused by fishing, not a poundage-based ACL rooted in past harvest.

G. Hybrid of Various Options: A combination of two or more of the above options.

A Note on Data

Underlying all management options is a recognition for the need to improve angler harvest and biological data. Each of the Gulf states have put in place systems to collect more timely and accurate angler harvest data, but these are relatively new efforts and calibrating across states and with the Marine Recreational Information Program (MRIP) has not been accomplished. In addition, discussions of reef fish permits/endorsements and other data collection methods (e.g., smartphone apps) that provide more timely and robust data than MRIP were discussed and considered a likely prerequisite to satisfactorily implement some alternatives. These, and other potential data sources, can help improve the timeliness and accuracy of angler harvest data and help define and better understand the universe of red snapper and reef fish anglers – a critically important part of management and an area that is currently causing challenges due to the limitations of MRIP's sampling protocol. Also, through an increase in federal appropriations, approximately $10 million is being provided by Congress to improve the assessment of the red snapper population, which could provide new or improved data to aid in the evaluations of these management options.

Option A: Status Quo

This option considers the current status of red snapper management in the Gulf with inconsistent state regulations and seasons and a very short federal season. Currently, Gulf red snapper are federally managed under a quota system, with 51.5 percent allocated to the recreational sector (7.192 million pounds, including a 20 percent buffer in 2016). The subquotas (component Annual Catch Limits-ACLs) were 3,042,000 lb ww (42.3 percent) to the for-hire sector and 4,150,000 lb ww (57.7 percent) to the private angler component, including state-licensed charter vessels. The Annual Catch Targets (ACTs-subquota minus 20 percent buffer) for 2016 were 2,434,000 lb ww to the federal for-hire component and 3,320,000 lb ww to the private angler component. The private recreational red snapper season in federal waters for 2016 was nine days and began June 1, with two additional days added to the season due to a tropical storm event.

State waters extend to nine miles Gulf-wide in 2016. Previously, Florida and Texas had nine mile boundaries, while Alabama, Mississippi and Louisiana had three mile boundaries. State season lengths are not consistent with the federal season and vary in length from a high of 365 days in Texas to a low of 66 days in Alabama. Anglers are restricted to a two fish bag limit and 16 inch minimum size limit at the federal level, with all states consistent except for Texas, which has a 4 fish bag limit and 15 inch minimum size limit.

Ultimately, status quo management measures may provide the best overall access for private anglers if other management options are found to be unlikely to provide improved access. Thus, current management status should be used as a benchmark for evaluating other alternatives once they have been sufficiently analyzed.

Pros and Cons:

- Pros:
    - Through state seasons that are longer than the federal season, anglers have a longer window of time during which to harvest red snapper. This particularly

benefits anglers who do not have the opportunity to fish during the relatively brief federal season due to weather, personal conflicts, etc.
    - Since implementing a 20 percent buffer for the recreational quota to account for uncertainty in harvest data, private recreational harvest has remained below the ACL. However, it is reported that for 2016 the private angler harvest exceeded its component ACL, but the total recreational ACL (i.e., private recreational plus charter) was not exceeded. This overage was apparently due to an under-estimation of increased recreational effort in state waters due to the extension from 3 to 9 miles in Alabama, Mississippi and Louisiana for 2016.
    - The 20 percent buffer, necessary to constrain the recreational harvest within the ACL, should provide for a quicker stock rebuilding time.
    - Relative to the other options, this is a well-known and familiar approach for managers and anglers. Therefore, there is less risk of significant negative impacts that could result from changing to other management options.
- Cons:
    - Due to regional disparities in habitat, depth and distribution of the red snapper population, some states can take better advantage of fishing in state waters than others. Liberal state seasons come with a tradeoff in reduced federal seasons, which disadvantages anglers in regions with better fishing opportunities in federal waters by limiting their ability to harvest in federal waters.
    - While the 20 percent buffer has kept the private recreational sector within its ACL, it has also sacrificed potential fishing access through unused quota. This appears to have been mitigated for 2016 during which the private angler ACL is estimated to have been exceeded due to underestimates of projected landings when boundaries for Alabama, Mississippi, and Louisiana were extended.
    - This option is likely untenable long-term due to the widespread frustration within the recreational fishing community over the length of the federal season.
    - State and federal inconsistencies create enforcement challenges.
    - Derby fishing and higher participation occur with such short seasons, creating greater difficulty in ensuring that the ACL is not exceeded.
    - Fishing effort occurs during the spawning season, potentially negatively impacting recruitment and future abundance.

Option B: Maximizing Fishing Days Within Current Framework

This option considers maximizing fishing days through standard management practices, including bag limits, seasons, size, and allocation. Possible management changes include reduction of the bag limit from two fish to one, implementation of size/slot limits, barotrauma reduction requirements, consistent state and federal seasons, and improved angler harvest data.

To fully evaluate how many additional days could be gained and at what "cost" to anglers and recreational fishing dependent businesses, extensive analyses of combinations of management options and their resulting season lengths would be required.

The Focus Group considered that a minimum of a 40 day season length might be a reasonable starting threshold to compare the impact of management changes within the existing system (see Appendix 3, questions 9-10). Angler surveys should be conducted to determine what combinations of options to increase access would be most acceptable to the sector, and further analyses should be conducted to determine economic tradeoffs.

Reduction of the 20 percent buffer between the ACL and the ACT has been discussed by the Council in recent meetings and would make more of the quota available for harvest. However, the Science and Statistical Committee has advised that there is too much uncertainty in the long-term data as a result of the recent implementation of sector separation and has recommended waiting until three years of data are recorded before contemplating any reduction in the buffer. In 2015, private recreational harvest exceeded the ACT, but not the ACL, and data for the 2016 season should be available in early 2017 to provide at least two years of data for comparison. Allowing carryover of unused allocation to the subsequent year would complement buffer reduction efforts. This scenario has been temporarily mitigated for 2016 due to projections that the private recreational sector component will exceed its ACL, likely due to an underestimation of the impacts of extended jurisdictions for three states.

Federal season length could also be extended through the enactment of consistent seasons and regulations in state waters. With roughly half of harvest in recent years occurring in state waters according to NOAA estimates, this change could result in roughly a doubling of the federal season (to around 15 days in 2016 - see Appendix 1). Reducing the bag limit from two fish to one fish could further increase the number of fishing days, though would not quite double the season length as one might expect because the current average trip harvest is less than two fish per trip.

Current recreational discard mortality is estimated at 10 percent when venting is implemented and at 21 percent without venting. Some of this mortality is attributable to barotrauma, which is caused by the change in pressure when a fish is caught in deep waters and brought to the surface. In recent years, a variety of tools have been developed that can significantly improve the survival of fish, such as red snapper, suffering from barotrauma[1]. Increased use of barotrauma reduction devices and other tools and techniques that improve the survival of caught and released fish, either through voluntary efforts or mandatory requirements, could reduce the discard mortality estimate and make more quota available for harvest. This could also allow for greater consideration of size and slot limits to increase the number of fishing days, since these options currently have limited utility due to relatively high mortality rates of released fish. Given the rapid advances in the science on barotrauma reduction for Gulf of Mexico species, a current evaluation of the potential impacts of this new information on management may be warranted. For example, NOAA could examine the potential increases in quota and associated fishing days based on different levels of barotrauma reduction. Such analysis could assist in determining the value of updating existing discard mortality estimates and encouraging or mandating the use of barotrauma tools and techniques.

[1] Curtis, J.M., Johnson, M.W., Diamond, S.I., Stunz, G.W., 2015. Quantifying delayed mortality from barotrauma impairment in discarded Red Snapper using acoustic telemetry. Mar. Coast. Fish. 7, 434-449.

Another option to increase available quota for harvest is to reevaluate the biological benchmarks for this species. The surprising resiliency of Gulf red snapper may make it more appropriate to lower spawning potential ratio (SPR) thresholds than are currently in place. Any adjustments to the benchmarks could also provide additional quota, which would potentially result in more fishing days. Adjusting the benchmarks has been asked recently of the SSC, which declined to offer an SPR change below the current 26 percent.

As a final consideration, understanding the correlation between effort and season length could be important in estimating recreational harvest patterns over extended seasons. Under the current truncated seasons, angler trips are concentrated and effort is maximized during the small number of open fishing days. The overall effort (i.e., average catch-per-day) is used to estimate harvest in subsequent seasons; however, it is likely that as season length increases, effort is reduced on a per day basis as it would be distributed over a greater timeframe. These relationships could be factored into allowing longer seasons if it is shown that effort is occurring at lower daily levels when opportunity is lengthened.

In order to make any assessment of viability and make comparisons of the aforementioned approaches and combination of approaches, NOAA will need to assess and model the various scenarios to determine how many fishing days can be realized. These assessments should include the potential of barotrauma reduction to provide for a reduced mortality estimate, combinations of traditional management tools (e.g., bag limits, size and slot limits, etc.) to maximize season lengths, both with and without allocation adjustments. These types of assessments were beyond the capabilities of the Gulf Angler Focus Group.

<u>Pros and Cons:</u>

- Pros
    - Extending private recreational fishing access within the existing management system would require the least amount of change relative to other options and would be a familiar framework for participants in the fishery.
    - Many of these changes (e.g., barotrauma reduction, carrying over unused quota) can increase the quota, which should translate to additional fishing opportunities.
    - Consistent state and federal regulations would provide an incentive against individual states implementing liberal regulations in their own waters to the detriment of other states.
    - Consistent state and federal regulations would facilitate improved understanding, compliance and enforcement.
    - A longer federal season could reduce the degree to which effort compression, which NOAA has reported, occurs.
    - A longer federal season would help those regions (e.g., southern Florida) where snapper are typically found mostly in federal waters.

- Cons
    - While some of these changes (e.g., state-federal consistency, bag limit reduction), could increase the number of days in federal waters, they do not improve the quota and come with tradeoffs.

- State consistency with federal regulations comes with the tradeoff of reduced access to fish in state waters; therefore the net benefit of that change could be neutral or even negative overall.
- A reduction in the bag limit will be difficult for anglers to accept, as many will view the overall value of a fishing trip to not be worth only being able to harvest one fish.
- Even with these changes, it might not be possible to achieve what would be considered an "acceptable" season length (e.g., arbitrarily set at 40 days for the purpose of this exercise) without significant reallocation, which is a challenging process.
- Reaching a consensus among the Gulf Council, NOAA, the states and stakeholders on these various options could be a challenge, particularly on consistent state-federal regulations. In addition, some states would be harmed more than others through the enactment of consistent regulations.

Option C: Harvest Tags

This option considers various ways that harvest tags may be applied to red snapper, but focuses primarily on a private recreational lottery approach, which is reflected in the list of Pros and Cons at the end of the section.

Review of Harvest Tags in Other Fish and Wildlife Management Systems

Harvest tags can be used for several management purposes, including to directly control effort and/or for data collection. Most wildlife tag programs that have been implemented were for the purpose of data collection, and only a few are directed specifically at controlling effort under a regional or statewide quota-type limit, which is the purpose for which harvest tags have been suggested for Gulf red snapper. No examples exist of harvest tags for recreational fish species that fit the same management issues as Gulf red snapper.

Harvest tags are employed for tarpon in several states including Florida and Alabama, primarily for the purpose of promoting catch and release. A $50 pre-purchased tag must be used to harvest each tarpon, and there is no limit on the number of available tags. The cost of the tag discourages cavalier harvest. While this approach could be advantageous for a species managed for catch and release, the motivations behind it are not applicable to fisheries like Gulf red snapper.

Harvest tags are required for salmon and other fish species in Washington and Oregon. While these management systems limit total harvest by an individual angler, there is no limit on how many individuals can receive the harvest tags. The primary purpose of these systems is harvest data collection.

Jackson et al.[2] discuss the efficacy of tags in a single bay in Australia and found reasonable success in controlling effort. However, this system operated with 1,200 tags and a relatively low

[2] Jackson et al., July 2016. Assessing the effectiveness of harvest tags in management of a small scale, iconic marine recreational fishery in Western Australia. ICES Journal of Marine Science, doi:1093/icesjms/fsw093

number of anglers – a much smaller scale than Gulf red snapper and more analogous to managing a wildlife management area for game species, which is discussed further below. Johnston et al.[3] provide an extensive look at harvest tags and individual fishing rights, and provide a litany of thoughts and considerations for tags. This study is a thorough review of the potential role of recreational fish harvest tags. While the researchers suggested tags could play a role in Gulf red snapper and that it should be explored further, they also acknowledged that there are substantial unknowns and potential obstacles on how a successful tag program could be implemented. In addition, the study does not sufficiently consider the current social and political difficulties in implementing a quota-based tag system across five states and made available to all U.S. citizens, and achieving this in a fair and acceptable manner. The researchers assumed a fish-to-angler ratio which has changed over time. Based on current data and demographics, fewer tags would actually be available to anglers than the study assumed at the time.

It is important to understand the possible mechanics of implementing a harvest tag system and the tremendous number of variations in existing wildlife harvest tag systems in which harvest tags are proposed as a means to control overall effort and manage to a quota. Proponents of harvest tags often cite the success of elk harvest tags and their use as an example transferable to Gulf red snapper. However, the nature of those systems and the management issues they are intended to address are fundamentally different than the nature of Gulf red snapper management.

As an example, in Colorado, a restricted number of harvest tags are available to prospective hunters by a lottery, which incorporates a point accumulation system, for "trophy" elk. Through this system, access is restricted to prime public areas for both resident and non-resident hunters. Trophy tags are highly coveted and limit the number of hunters on certain game lands. However, Colorado also has unlimited licenses for elk on numerous game land areas. Thus, the overall tag and license system for elk allows for unlimited access – with seasons and bag limits – to any hunter, while a portion of the lands are managed for more of a trophy experience with increased chances of harvesting an elk, including one of trophy size. Variations to this approach can be found in adjacent states.

Deer hunting in the eastern U.S. is also managed by tags, but not for the purpose of limiting the number of hunters or to manage to a quota. In North Carolina for example, a big game license includes six deer tags. Similar to the salmon tags required in the Pacific Northwest, this system provides an individual quota per hunter, but there is no limit on the number of hunters, therefore no overall cap related to a quota. There appear to be no examples at a state level where there were too many hunters for an abundant species to the point that managers implemented harvest tags to limit the number of hunters having access.

While there are examples of highly controlled hunting access on private lands and some state wildlife management areas which are managed individually for special types of access, these types of management scenarios would be difficult to apply to red snapper due to geographic, statutory and data limitations. It is important to consider that state management of game is not bound by federal constraints such as the Magnuson-Stevens Fishery Conservation and

[3] Johnston, R.J., Holland, D.S., Maharaj, V., Campson, T.W., 2008. Evaluation of Fish Tags as an Attenuated Rights-Based Management Approach for Gulf of Mexico Recreational Fisheries. Connecticut Sea Grant Publication CTSG-08-07

Management Act (MSA) that severely limit the realm of available management strategies. For most game species, each state develops its own set of rules and regulations with no real integration to the adjoining states and without operating off a multistate quota. For waterfowl and some migratory birds it is a little different. Waterfowl hunting management in North America is governed by a broad partnership of international, federal and state agencies that evaluate available data and develop management recommendations which are reevaluated and adapted over time. Like the deer tag example above, however, there is no overall hard limit on the number or pounds of individual waterfowl species that cannot be exceeded.

The South Atlantic Fishery Management Council produced an Option Paper for red snapper harvest tags (see Appendix 2). They outline the challenges of successfully implementing a harvest tag system. It should be noted that the South Atlantic Council determined that harvest tags could only be effective for low ACL species, which Gulf red snapper is not. It should also be noted that the amendment to consider harvest tags was tabled by the South Atlantic Council. New discussions of harvest tags are beginning in the South Atlantic Council but may focus on research and data collection, as the management challenge for that fishery is different than that of Gulf red snapper. Essentially, in the South Atlantic, red snapper catch limits are being exceeded due to by-catch mortality alone. Therefore the South Atlantic Council is exploring harvest tags as a means to create fishing opportunities, not limit them as is being discussed in the Gulf Council.

Challenges of Implementing Harvest Tags for Gulf Red Snapper

Determining the fair distribution of harvest tags for Gulf red snapper poses many substantial challenges. Current or historical information that would be necessary to consider the viability of harvest tags is not available at either the regional or state level, such as the number of offshore private recreational boat trips targeting snapper and the number of individual reef fish anglers (see Appendix 3, questions 2-4). In addition, there is considerable uncertainty about the factors that would need to be considered to determine the "fairness" of implementing a harvest tag system.

For individual fishing quotas (IFQs), such as the commercial Gulf red snapper IFQ, "fairness" in the assignment of individual quotas is determined based on fishing history. While it is known that recreational anglers have varying degrees of harvest and fishing time for red snapper, unfortunately, there is no measure of catch history tied to individual recreational fishermen. Lack of this information would essentially force a harvest tag approach that does not provide for any weighting tied to the individual fisherman. Not accounting for individual recreational fishermen's catch history in a harvest tag determination formula could have dramatic social and economic implications, as local communities will likely have greatly reduced access. In addition, from appendix 3 question 14, NOAA's response suggests significant limitations in how tags could be distributed:

> **Would it be legal to limit access to fish tags based on county residence? state residence?, owns a vessel or not, etc.? How discriminatory can tag access be made…..equate to how IFQs are distributed to commercial fishers.**
>
> - Best to refer to National Standard 4

- *(b) Discrimination among residents of different states. An FMP may not differentiate among U.S. citizens, nationals, resident aliens, or corporations on the basis of their state of residence. An FMP may not incorporate or rely on a state statute or regulation that discriminates against residents of another state.*

- **MSA 303A(c)(1)**
  - *(D) prohibit any person other than a United States citizen, a corporation, partnership, or other entity established under the laws of the United States or any State, or a permanent resident alien, that meets the eligibility and participation requirements established in the program from acquiring a privilege to harvest fish, including any person that acquires a limited access privilege solely for the purpose of perfecting or realizing on a security interest in such privilege;*

- **MSA 303A(c)(5)**
  - *(5) ALLOCATION.—In developing a limited access privilege program to harvest fish a Council or the Secretary shall—*
    (A) establish procedures to ensure fair and equitable initial allocations, including consideration of—
      (i) current and historical harvests;
      (ii) employment in the harvesting and processing sectors;
      (iii) investments in, and dependence upon, the fishery; and
      (iv) the current and historical participation of fishing communities;
    (B) consider the basic cultural and social framework of the fishery, especially through—
      (i) the development of policies to promote the sustained participation of small owner-operated fishing vessels and fishing communities that depend on the fisheries, including regional or port-specific landing or delivery requirements; and
      (ii) procedures to address concerns over excessive geographic or other consolidation in the harvesting or processing sectors of the fishery;
    (C) include measures to assist, when necessary and appropriate, entry-level and small vessel owner-operators, captains, crew, and fishing communities through set-asides of harvesting allocations, including providing privileges, which may include set-asides or allocations of harvesting privileges, or economic assistance in the purchase of limited access privileges;
    (D) ensure that limited access privilege holders do not acquire an excessive share of the total limited access privileges in the program by—
      (i) establishing a maximum share, expressed as a percentage of the total limited access privileges, that a limited access privilege holder is permitted to hold, acquire, or use; and
      (ii) establishing any other limitations or measures necessary to prevent an inequitable concentration of limited access privileges; and
    (E) authorize limited access privileges to harvest fish to be held, acquired, used by, or issued under the system to persons who substantially participate in the fishery, including in a specific sector of such fishery, as specified by the Council.

Accordingly, distributing harvest tags with an element of discrimination would appear to require an IFQ scenario with a referendum and thus require a permit and a certain amount of time to

determine individual fishing histories. This could present almost unsurmountable problems as new histories would have to be developed and would likely not reflect the true fishing histories of anglers prior to this type of data gathering. Consideration of National Standard 4 and MSA section 303 needs significant legal interpretation and evaluation when considering harvest tags, but may present major impediments to applying large scale use of recreational harvest tags for federally managed species in any fair way. The only option would be a national lottery, which would have huge economic and social impacts to the Gulf recreational fishing community.

From 2012-2015, roughly 1.2 million individual angler trips were taken for reef species annually in the Gulf, not including Texas (see Appendix 4). Based on average weight and current quota allocation, NOAA estimates 422,000 private recreational harvest tags could be made available (see Appendix 3, Question 16). Of course, this number could vary to adjust for the range of sizes of fish harvested and not just based on average weights.

Because it is not currently possible to allocate tags based on historic catch of individual anglers, implementation of harvest tags would need to be through a lottery-type system. While it is unclear how many of the estimated 1.2 million annual angler trips (not including Texas) were targeting red snapper, or how many individual anglers this represents, it is reasonable to predict that a current Gulf red snapper angler would have less than a 100 percent chance of receiving one tag annually under a harvest tag lottery approach open to all potential anglers in the United States.

A lottery system that is not tied to recent or existing red snapper fishing participation also has the potential to substantially increase the pool of interested participants. Due to federal law, there is likely no way to discriminate between numbers of state resident and non-resident harvest tags as is the case in many hunting-based harvest tags (see Appendix 3, Question 14). Therefore, a harvest tag under a federal fishery management plan might have to be available equally to the entire U.S. citizenry. As a result, avid recreational fishermen living along the Gulf coast would face the same odds of acquiring a harvest tag as anyone else in the nation. The novelty of applying for a Gulf red snapper harvest tag, or the desire to acquire a tag "just in case," could produce a high number of applicants, therefore reducing the odds of an individual to receive a tag regardless of their avidity or intention to go fishing. While including a "use it or lose it" requirement would ensure tags to not go to waste, it would also add to the costs and complexity of administering the program.

In addition, if the permitted for-hire subsector continues to receive its own quota as a result of sector separation, then anyone receiving a private recreational harvest tag would need to be prevented from using that tag on a for-hire vessel. Such scenarios would likely create a high level of dissatisfaction.

Information needed to fully evaluate harvest tags includes a determination of the constraints applied to tag distribution based on MSA Section 303 and National Standard 4, an analysis of the maximum number of tags that would be made available to the private recreational community, understanding the number of fisherman who would seek those tags and the odds of receiving tags, and an analysis of the economic and social impacts to fishermen, communities, and the

recreational fishing industry of a tag system. Such information was unavailable to the Gulf Angler Focus Group.

Options to Administer Harvest Tags

Adding to the complexity and difficulty in determining whether tags are even legally acceptable or procedurally viable are the various possibilities in which to implement a tag system in a fishery. Below are some of the variations of ways in which fish tags could theoretically be administered for Gulf red snapper.

- Turn the entire Gulf red snapper stock into a commodity similar to current IFQs in the commercial sector. Allow free market trade between sectors via auctions to dictate who receives and who uses harvest tags.
- Turn the entire recreational sector ACL (both private and for-hire) into harvest tags and allow individual anglers, via lottery or auction, to access and determine on what vessel (e.g., rental, private, for-hire, headboat) they would like to use the tag(s). This approach could be coupled with the ability to purchase or lease harvest tags between subsectors.
- Create a lottery of harvest tags for the private recreational subsector only and limit use to non-federally permitted boats. This approach could be coupled with the ability to purchase or lease quota between sectors and subsectors through the form of tags. For example, states could purchase or lease commercial IFQs for recreational fishermen via tags.
- Create a first-come, first-serve private recreational subsector harvest tag system that limits use to non-federally permitted boats. This approach could also be coupled with the ability to purchase or lease quota between sectors and subsectors through the form of tags.
- Implement tags with a portion of an ACL in conjunction with other management strategies. Examples could include:
    - Distributing any unused ACL that exists at the end of the private angler red snapper season via harvest tags.
    - Allowing IFQ holders to lease quota to the private recreational sector, which could be distributed via harvest tags.

Pros and Cons:

The following pros and cons are based on the assumption that harvest tags would be implemented on the entire private recreational sector quota in a lottery-type approach, without implementing a "free market" exchange on the entire fishery.

- Pros:
    - Anglers who acquire a harvest tag may have the flexibility to use their tag whenever it is most convenient for them.
    - A harvest tag system could concretely limit catch and effort and potentially provide a more accurate estimate of harvest, and therefore, help prevent overfishing from occurring.
    - Harvest tags could provide access to small portions of the snapper stock during situations where additional seasonal days cannot be added without likely exceeding the ACL.

  - Enforcement may be easier when compared to the current inconsistent seasons and regulations across federal and state waters, assuming an enforcement-friendly harvest tag system is available.
  - Safety of life at sea could be improved by allowing anglers to fish when sea conditions are favorable.
- Cons:
  - Based on the estimated number of tags that would be made available using the private recreational quota, it is likely that an individual applicant has less (potentially much less) than a 100 percent chance of acquiring a single tag. Under current management in recent years, anglers have the potential to catch ~20 red snapper over the course of the federal season alone. Therefore, some current red snapper anglers have a high likelihood of experiencing a significant decrease in their ability to harvest red snapper, with a chance of not being able to harvest any.
  - It appears that National Standard 4 and MSA 303A (c) (1) and (5) may prevent any equitable distribution other than a national lottery with random draw.
  - As a federally managed stock, the tag system would likely need to be managed by NOAA in order to ensure the American public has equal probability of drawing a tag. However, NOAA has no experience with this form of management.
  - If states are left to administer a tag system, the same challenge that halted progress on regional management – determining an allocation among states – would need to be resolved.
  - While no estimate currently exists, the costs of prerequisite data, testing, and administering a harvest tag system or systems may be cost-prohibitive.
  - With the lack of historical experience in applying a tag system to quota-based management of a fish species as abundant, complex and cross-jurisdictional as Gulf red snapper, there are likely other unforeseeable challenges that will arise. With very few applicable examples of harvest tags being used to regulate recreational fishing to model, managers would have a steep learning curve in the implementation process.
  - There may be an increased tendency by anglers to high grade, which would increase discard mortality.
  - A way to restrict tag use to non-federally permitted vessels would need to be implemented, thus increasing complexity in a national lottery and reducing the opportunities for non-boat owners to harvest red snapper.

Option D: Depth/Distance-Based Management

Depth/distance-based management refers to a management strategy that provides a depth (e.g., 150 feet) or distance-from-shore (e.g., 20 miles) demarcation, creating a zone in which fishing would be allowed. Bag limits, size limits and seasons would apply. Fishing beyond the defined depth or distance would be closed to recreational red snapper fishing, which would create an area where red snapper are protected from recreational fishing pressure. In theory, this would provide increased production offshore to replenish annual fishing within the fishing zone.

This concept has been promoted for several years by former Gulf Council Chairman Dr. Bob Shipp, who recently explained one way to implement the concept in an article in Sport Fishing Magazine[4]:

> *"An alternative would be space restrictions. Let's suppose we restricted harvest of red snapper to 25 fathoms or shallower. The species is abundant to 50 fathoms and thrives to 100 fathoms, and is not migratory, so those deeper stocks would be protected. An initial seasonal bag and/or size limit could be established, and harvest could be monitored on an annual basis. Should fishing pressures be found to seriously deplete the shallower populations, adjustments could be made by moving the harvest limit to some shallower depth. But this concept is only possible if the quota mandate in the Magnuson Act is removed."*

The quota mandate referred to above is Section 407(d) of the MSA, which requires the establishment of quotas for Gulf red snapper for the recreational and commercial sectors. However, a depth/distance-based approach could still be legally implemented as long as regulations are tied back to a quota, albeit with some difficulty in determining the appropriate regulations based on available information. Depth regulations have been successfully implemented on the Pacific coast for various species, including the recreationally important rockfish.

To some degree, the current management scenario for Gulf red snapper has a depth/distance based strategy, albeit unintentionally. For the private recreational fishery, current regulations vary among state and the federal waters, with state seasons substantially longer than the federal season. The cumulative impact is that harvest in state waters accounts for 57 percent of the quota, while harvest in federal waters accounts for the other 43 percent. Given that 57 percent of the harvest is caught within 9 miles of shore from season lengths that vary from 66 to 365 days, it is reasonable to believe that creating a similar nearshore boundary based on depth or distance-from-shore could produce a more satisfactory season length than the current federal season while staying at or under the quota. Such an approach would likely require a high level of consistency and/or compliance among all state and federal regulations.

This approach could also reduce discard mortality attributable to barotrauma by restricting harvest to shallower depths, where the effects of barotrauma are lower. Voluntary or mandatory use of barotrauma-reducing devices could further reduce discard mortality and also allow for potential increases in fishing days.

Modeling analyses are needed to determine what depth/distance could provide maximum fishing days and what variations of depths and distances provide reasonable access across the Gulf fishing communities.

<u>Pros and Cons:</u>

- Pros:
    - This approach would likely result in greater fishing access with longer seasons.

[4] Shipp, R.L. Feb. 2016. The Great Gulf Red Snapper Train Wreck. Sport Fishing Magazine. Available online at: http://www.sportfishingmag.com/great-gulf-red-snapper-train-wreck

  - A portion of the stock would be protected from recreational fishing pressure, thereby potentially improving sustainability.
  - The impacts of barotrauma are less in shallow waters, and the success of barotrauma reduction devices is higher.
  - Consistency across state and federal waters should facilitate understand of regulations and compliance.
  - This approach helps keep smaller boats closer to shore, therefore improving at-sea safety.
  - The current nine nautical mile state boundary and inconsistent state/federal seasons have already created a default spatial management approach.
  - This approach or hybrid of this approach could provide a viable alternative to sector separation and solve the issues of equitable access in both subsectors.

- Cons:
  - Determining the exact boundary of the open and closed areas could create a potential challenge for enforcement, although similar complications exist currently due to inconsistent state and federal regulations.
  - Agreement among all management entities (state and federal agencies) on consistent regulations would be necessary.
  - Because recreational fishing for other species would be allowed in the "closed area," considerations would need to be made to account for incidental red snapper mortality that occurs in these areas.
  - Implementing this management strategy under a quota system requires data/analysis that is not currently in hand, such as the spatial distribution of fishing pressure, the biological impacts of prohibiting harvest in deeper waters and the replenishment rate of the population from unfished into fished waters.
  - Until scenarios for this option are analyzed (i.e., the number of days that would be allowed under various depth/distance-based boundaries) it is difficult to predict whether this is a viable option to pursue.

Option E: Reef Fish Season

Red snapper inhabit areas with other reef fish, making it difficult or impossible for anglers to selectively target an individual species. Some benefits in red snapper management could be seen by grouping together reef fish for the purpose of management and creating a season or seasons where a bag limit is set for a group aggregate. As with all the management concepts proposed, there are many variations and complexities that would require extensive NOAA and Gulf Council staff analyses. It is unknown how many fishing days could be created under this approach, how current size and bag limits could be modified, or whether it could even be applied under MSA. A study funded by the Pew Charitable Trust and being conducted by University of Florida researchers on the viability of the reef fish season approach is expected to be released in the first half of 2017 and could inform further consideration of this approach.

Pros and Cons:

- Pros:
  - Regulations for a species complex has the potential to significantly reduce bycatch mortality that currently occurs by incidentally catching species during their closed season while targeting another species during its open season.
  - A longer season length could better account for bad weather days when managing for a species complex.
- Cons:
  - The season might be set based on the lowest common denominator (i.e., the species with the lowest ACL or highest catch rate), therefore sacrificing fishing opportunities for the remaining stocks.
  - A lowest common denominator species may need to have a SPR reduction to provide for a reasonable season(s) based on a complex of reef species, thus risking the sustainability of the species.
  - Seasonality and geographic differences in fisheries throughout the Gulf creates a challenge in determining appropriate regulations.
  - Inconsistency between state and federal regulations may not be resolved by this approach.

Option F: Harvest Rate/Recruitment-Based Management

This option was briefly discussed but has not been fully evaluated for the purpose of this report due to the long-term data needs and potential limitations due to MSA. Harvest rate management sets management targets based on the rate of removals caused by fishing, rather than a poundage-based ACL rooted in past harvest. For primarily recreational fisheries, a harvest rate approach may be more appropriate because regulations are based on the proportion of fish that are harvested from a stock, which must inherently account for the changing abundance, age structure and size structure of the stock. Harvest rate management would require annual updates on the relative fishing rates, including updating the population abundance estimate. If done correctly, harvest rate management also helps provide stable fishing regulations, which is preferable to anglers and the recreational fishing industry.

A question in Appendix 3 provides a response to the near-term viability of this type of option: "**What would it take to move to a recruitment based data collection effort for reef fish? The purpose would be to set seasons based on some sort of independent monitoring to set annual catch limits on estimated numbers in and entering the fishery for that year?**

- *These are some of the steps that would be required to shift from basing annual catch limits on the outcome of stock assessments to being based on annual updates to a recruitment index:*
  - *Determine what survey methodology, location and protocol provided the most reliable indicator of stock status change for each species of reef fish (this can vary by species based on different life history characteristics).*
  - *Implement those surveys over a sufficiently long time period to understand how they correlate to spawning stock biomass of reef fish species.*
  - *Determine how various catch levels affect future recruitment via an adaptive approach.*

    - *Sample at a level that provides sufficient precision to base management measures on over the long term.*
- *In other words, it would take a significant increase in funding and a great deal of time (several years) to transition to this approach.*

While this approach has potential as a viable management strategy for federal saltwater recreational fisheries management in general and possibly Gulf red snapper specifically, it appears that significant gaps exist in the availability of necessary data and analysis for near-term implementation of this option for Gulf red snapper. Further exploration may be warranted to explore transitions to this approach as a long-term management solution.

Option G: Hybrid of Various Options

The options described previously could be combined in a variety of ways to form hybrid management options. It is quite possible that the best solution to better access is a combination of options. As with the single options, all of the various combinations require significant analyses to determine if they are viable. Examples of possible ways to combine options include, but are not limited to:

- Status quo management coupled with additional quota leased/purchased from another sector designated as harvest tags to be fished in the federal area any time during the year.
- Depth/distance-based management coupled with a portion of the quota designated as harvest tags available to be used outside the depth/distance zone during some portion or all of the year.
- A reef fish season coupled with harvest tags for low ACL species such as triggerfish.
- A reef fish season coupled with depth/distance-based management.
- Increased use of barotrauma reducing devices (either mandatory or voluntary use) could be coupled with any option to provide additional fish to be caught. The science indicates a significant discard mortality reduction when these devices are used, and enough science may be available in the Gulf to enlist this tool and incorporate it in a management strategy.

Appendix 1

Gulf Anglers Focus Group Initiative Meeting
Frequently Asked Questions
April 18, 2016
****These are questions presented to NOAA by the GAFGI with NOAA responses to each question****

What is the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and what are the legal requirements within the act?

- The MSA is the primary law governing marine fisheries management in the United States. First passed in 1976, the Act fosters long-term biological and economic sustainability of our nation's marine fisheries out to 200 nautical miles from shore. The key objectives are to:
    - Prevent overfishing
    - Rebuild overfished stocks
    - Increase long-term economic and social benefits
    - Ensure a safe and sustainable seafood supply
- The act also established the eight fishery management councils. Their primary responsibility is to develop fishery management plans. These plans must comply with a number of conservation and management requirements, including the 10 National Standards (principles that promote sustainable fisheries management).
- Congress has twice made significant revisions to the MSA, first in 1996 with the passage of the Sustainable Fisheries Act, and in 2007 with the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act.
- A scientific analysis of the abundance and composition of a fish stock (stock assessment) evaluates the stock to determine if the stock status is subject to overfishing or overfished. Using this scientific data, Councils set annual catch limits, and if they are exceeded in a fishing year, accountability measures pre-determine the mechanism to respond.
- Since 2011, our domestic fisheries have had measures in place to meet the new requirements, and today, more than 90 percent of fisheries are maintaining harvest levels below their annual catch limits.

What is the composition of a fishery management council and how does the process relate to NOAA Fisheries?

- The councils are composed of both voting and non-voting members representing the commercial and recreational fishing sectors in addition to environmental, academic and government interests.
- Under the MSA, councils are required to: develop and amend Fishery Management Plans; convene committees and advisory panels to conduct public meetings; develop research priorities in conjunction with a Scientific and Statistical Committee; select fishery management options; set annual catch limits based on best available science; develop and implement rebuilding plans.
- Once the council takes final action on a plan or an amendment to a plan, it is submitted to NOAA Fisheries/Commerce Secretary for approval.

- NOAA Fisheries then accepts public comments on the plans/amendments, as well as a proposed rule to implement the management measures within.
- NOAA Fisheries reviews the documents from the council as well as the public comments and addresses them in a final rule. The agency can only approve, disapprove or partially approve the action recommended by the council.

How are stock assessments conducted?

- Stock assessments are conducted through the Southeast Data, Assessment and Review process (SEDAR). It is a cooperative effort to improve stock assessments in the Southeast Region. The purpose of SEDAR is to: improve the quality and reliability of fishery stock assessments in the southeastern United States; increase the relevance of research and monitoring programs in the region; increase participation in the assessment process; and provide the best available science.
- A number of agencies, or "Cooperators," are involved in the SEDAR process. These include NOAA Fisheries, fishery management councils, marine fisheries commissions, state agencies and universities throughout the region for research, data collection and stock assessment expertise.
- There are three approaches to a stock assessment.
    - The first is the *benchmark approach*, which is used to develop first-time assessments for stocks and to incorporate new datasets or new analytical methods into existing assessments and is structured around 3 workshops: a data workshop, assessment workshop and a review workshop. This approach involves consideration of all aspects of the assessment, including its input data and specific analyses. It also includes rigorous peer review by independent experts.
    - The *standard approach* is used to incorporate recent information into existing assessments. It is only used for stocks that have successfully been through the benchmark approach. Existing input datasets are updated, and there is some leeway for consideration of new information and changes in model configuration. Peer review is provided by a Cooperator's technical panel such as a Council Scientific and Statistical Committee.
    - The third approach is the *update approach*, used strictly to incorporate the most recent information into assessment analyses, is the most rapid of the three approaches. Updates only allow for applying additional years of data to an existing assessment.
- Once an assessment is completed, it is passed onto the Council's Scientific and Statistical Committee for further review.

Why do NOAA and the Gulf Council have to reduce the Gulf of Mexico red snapper recreational season?

- The recreational fishing season length is short because higher catch rates and larger fish are causing recreational fishermen to reach their quota much more quickly.
- This situation is compounded when states implement less restrictive fishing regulations in state waters because fish taken in both state and federal waters are counted against the quota (all five Gulf states implemented less restrictive red snapper regulations in state waters during the last two fishing seasons).

- Today, recreational fishermen land fish at three to four times the rate they did in 2007 and many more fish are landed from state waters when the federal season is closed.
- At the same time, the fish are getting bigger.
- On average, each fish weighs twice as much as before with average weights for red snapper increasing from 3.5 lbs. in 2007 to almost 7 lbs. in 2013.
- Overall, for each day of the season, recreational fishermen land eight times as many pounds of red snapper as they did before the population began to recover. So while the fish population is growing rapidly, the rate of catch is growing more rapidly.
- Catch limits increased by 120% from 2009-2013 compared to an 800% increase in recreational landings (lbs.) per day.
- Even though managers have been able to raise the catch limit each year since 2010, they have had to progressively shorten the recreational season to stay within the increasing catch limits.

Will real time reporting yield in increase in days? Is NOAA working with the states on their reporting systems?

- NOAA's Marine Recreational Information Program (MRIP) is the group responsible for collecting recreational fishing landings data. We are working with the regional Fisheries Information Networks, Councils and Commissions, state agencies, and other partners to enhance our estimates to meet the needs of managers, scientists, stock assessors, and stakeholders. This is in response to managers in the states of Alabama, Florida, Mississippi, and Texas, who have specifically asked if there are ways to get more precise catch estimates for red snapper, along with certain other species, across shorter timeframes and for smaller geographic areas.
- Since 2013, MRIP and the states of Alabama, Florida, Mississippi, and Texas have been working together to test solutions to complement the MRIP survey in meeting each state's particular red snapper data needs. Some developments for the future include:
    - In Louisiana, a new general survey design for all recreational fishing, LA Creel, has been developed by the state and has been running alongside MRIP for benchmarking purposes throughout 2015. The Louisiana survey recently underwent an independent peer review, the results of which are being evaluated as part of the MRIP certification process.
    - Four red snapper studies are in the pilot stage in the other Gulf States. Alabama, Mississippi, and Texas will potentially have supplemental red snapper surveys in place by 2016. Florida is expected to conduct its pilot for two seasons and consider implementation in 2017.
    - In mid-2016, NOAA Fisheries and our partners will begin developing methods to integrate data from the supplemental surveys into MRIP estimates.

How did sector separation change regulations for for-hire and private anglers? How would the 2015 season have differed without sector separation?

- In the absence of sector separation, the federal season in 2015 was projected to be 9-21 days (up to 2.3 times longer than 2014. The implementation of sector separation resulted in much longer projected federal seasons for federally-permitted for-hire vessels (40-67 days) and shorter private seasons (5-16 days), depending on catch rates and state compatibility.

- Median projected federal season lengths for 2016 were 48 days for for-hire (range: 38-56 days) and 8 days for private (range: 6-9 days).
- The incompatible seasons assumed for Gulf States in 2016 are projected to land approximately half of the private ACT and reduce the median private federal season length from 15 days to 8 days. In the absence of sector separation, the median projected Gulf-wide season in 2016 was 16 days (range: 12-17 days).
- Thus, assuming incompatible state seasons, sector separation reduced the private federal season length by around half but increased the federal For-Hire season threefold.

Why did the recent reallocation only result in a 2.5% change? What other options were considered and how would they have affected future regulations (based on 2015 regulations)?

- Reef Fish Amendment 28 considered nine alternatives for the reallocation of red snapper quota from the commercial to the recreational sector:
    - *Alternative 1:* Maintain the 51:49 allocation
    - *Alternative 2:* Increase recreational sector allocation by 3%
    - *Alternative 3:* Increase recreational sector allocation by 5%
    - *Alternative 4:* Increase recreational sector allocation by 10%
    - *Alternative 5:* If the red snapper quota is greater than 9.12 mp, allocate 75% of the amount in excess of 9.12 mp to the recreational sector
    - *Alternative 6:* If the red snapper quota is greater than 9.12 mp, allocate 100% of the amount in excess of 9.12 mp to the recreational sector
    - *Alternative 7:* If the red snapper quota is greater than 10 mp, allocate 75% of the amount in excess of 9.12 mp to the recreational sector
    - *Preferred Alternative 8:* The increase in allowable harvest (due to changes in recreational data) from the update assessment will be allocated to the recreational sector. The increase for the recreational sector should be the amount attributable to the recalibration of MRIP catch estimates between 2015 and 2017. Commercial and recreational allocations are based on the average percentages of the red snapper quota that would be allocated to each sector between 2015 and 2017. This alternative reallocated 2.5% to the recreational sector.
    - *Alternative 9:* The increase in allowable harvest (due to changes in recreational data) from the update assessment will be allocated to the recreational sector. The increase for the recreational sector should be the amount attributable to the change in size selectivity and to the recalibration of MRIP catch estimates between 2015 and 2017. Commercial and recreational allocations are based on the average percentages of the red snapper quota that

would be allocated to each sector between 2015 and 2017. This alternative would reallocate 8.5% of the quota to the recreational sector.

Projected median Gulf of Mexico red snapper recreational season lengths, in days, for 2016 under Amendment 28 proposed alternatives. Annual catch limits (ACLs) and annual catch targets (ACTs) specified in millions of pounds, whole weight.

Alternative	Rec ACL	Private ACT	For-Hire ACT	Private Season	For-Hire Season
1	6.840	3.157	2.315	8	45
2	7.259	3.351	2.456	8	48
3	7.538	3.480	2.551	9	50
4	8.236	3.802	2.787	11	55
5	8.009	3.697	2.710	10	53
6	9.309	4.297	3.150	13	62
7	7.87	3.633	2.663	10	52
8	7.192	3.320	2.434	8	48
9	8.027	3.705	2.716	10	53

How does state non-compliance affect the federal season for for-hire and private recreational?

- The federal for-hire quota is not reduced by the state water season because federally permitted vessels are not allowed to fish state seasons. The private recreational federal season is reduced by state non-compliance.
- For 2015, projections showed that states adopting incompatible seasons could reduce the federal season length by 29-45% for private and state-licensed charter vessels.

What would we gain with state compliance?

- For the 2016 season, if states were compliant, the median private recreational federal season length would almost double, from 8 days to 15 days.

Would a longer season result in less fishing pressure?

- Red Snapper fishing seasons were historically longer and resulted in overfishing and the Red Snapper population being overfished. If States become compliant and the red snapper population continues to recover, then seasons may become longer, provided fishing pressure and catch rates do not continue to climb. See below for different scenarios and resulting season lengths.

Can NOAA and the Gulf Council set an arbitrary season length (e.g., 80 days) and see how things go?

- No, this would violate MSA given the current data and information on the red snapper stock and population.
- Overages in harvest by recreational anglers would trigger a payback the following year and could result in a smaller ACL and a shorter season to potentially no season.
- That is why there is a 20% buffer in place now, as ordered by the court, in response to continued overages by the recreational sector prior to 2014. There is potential for giving back some of the uncaught 20% buffer the following year, provided state compliance and no harvest overages. This concept is in initial discussion.

Appendix 2 Amendment 22 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region Options Paper (revised 11/21/13)

"Considerations for Developing Actions and Alternatives

The proposed actions and alternatives should be developed to meet the purpose and need. Each action would contain a range of alternatives, including the no action (the current regulations).

I. Possible Recreational Harvest Tag Program Characteristics

Below is a list of tag program elements that the Council has discussed and agreed upon:

 Any U.S. Citizen may apply for a tag

 Tags would be non-removable, 1-time use tags (i.e., affixed to jaw) that would be issued once per fishing year.

 Tags would be issued through a lottery with replacement (if a fishermen receives a tag in a given year, the recipient should be allowed to participate in the lottery in the next year, and one lottery participant would not be able to receive multiple tags while others receive none).

 If the number of tags is equal to or more than the number of lottery participants, each participant should receive the same number of tags with any remaining tags being allocated to participants via lottery.

II. Additional Issues for Council Discussion

 If the Council wants the states to run the program, should there be tag allocation action added to the document to lay out a framework for how to determine how many tags each state would receive?

 Should the program be administered by one state? Would this require an action in the amendment?

 If states were to implement the program, they have more flexibility in requiring data collection of different types, and could do so on their own.

 Would people of certain ages not be allowed to enter the lottery? In most states you do not need a recreational fishing license if you are under or over certain ages. How would we require them to get state licenses to be able to enter the lottery?

The *purpose* of Amendment 22 is to create a recreational tag program for the South Atlantic region that could be applied to any snapper grouper species with a small ACL as determined by the SAFMC and the Regional Administrator (RA). The *need* for action in Amendment 22 is to achieve OY without overfishing the resource. Such aprogram is intended to maintain harvest at or below the recreational ACLs. A tag program for specieswith small ACLs would constrain the harvest to sustainable levels ensuring fairness and equitability.

Snapper Grouper Amendment 22 November 2013
Options Paper
5

 What is the value in requiring a recreational permit, what will it accomplish? This requirement will be very cumbersome for the permits office to handle if NMFS were to administer the program through the permits office.

 The Permits office requests that the call in system under Action 3 be eliminated. The system should only be web based or mail based. Tracking phone calls can lead to significant record keeping issues, as well as language barrier problems.

 Most states charge a different fee for in state and out of state residents to obtain a fishing license.
Therefore, would it be legal for us to require that every lottery entrant to have a fishing license from the state of which they will be fishing? It is understood that we cannot discriminate between residents of different states.
 Fishing for tag program fish would presumably not be taking place in state waters (otherwise all they would need is a state fishing license) so why would a lottery entrant be required to have a state fishing license?
 If the states were to take this on, all of the programs would have to meet some set of acceptable standards, and MOA's would have to exist between NMFS and the states, correct?
 Is this a catch share program? Determining this makes a huge difference in how costs of administration could be recovered. What would be the MSA requirements for this program if it is determined to be a catch share program?
 Could the Council run the program out of the Charleston office?
 An additional question posed by the IPT and forwarded to Monica was whether or not we can be silent on transferability of tags in the regulations.

III. Main Points of Meeting with Council State Representatives

 All states have some sort of infrastructure in place to be able to support a tag program, although they differ significantly from each other.
 If a fee is charged above and beyond the actual cost for states to implement the program they would all have to go through their legislatures to allow collection of those fees. That would put timing for this program implementation in to 2015.
 If states were to implement the program tags would have to be allocated to each state, which could be controversial.
 GA and SC prefer a centrally managed tag program administered by the federal government especially since tag holders would presumably be fishing in federal waters not state waters.
 Several people expressed concern about requiring a lottery participant to have a state fishing license. States have different license issuance restrictions such as age, residency (determine how much a person pays for a license), and whether or not a person owes child support.
 The states questioned why people fishing in federal waters with a federal tag need to have a state fishing license.
 If states did implement the program they would have more flexibility for data collection requirements than the federal government would."

Appendix 3

General Questions from Gulf Angler Focus Group Initiative to NOAA and NOAA's Responses
July 2016

1. **What data need to be collected and in what timeframe in order to remove the current snapper ACT?**
   - The 20 percent annual catch target buffer was established by the Gulf of Mexico Fishery Management Council in 2014 through a framework action to provide a 15 percent risk of exceeding the annual catch limit. For the projections presented in NOAA's 2016 Gulf of Mexico Red Snapper Recreational Season Length Estimates report (SERO-LAPP-2016-04), the mean risk of exceeding the annual catch limit at a 20 percent annual catch target buffer was estimated at 15 percent for federal for-hire and 17 percent for private angler mode (see Figure 17). Major sources of uncertainty still remain including inconsistent state seasons and delayed delivery of landings data. Some buffer will remain until we can show that the accountability measures and our ability to control harvest have improved.
   - Additionally, near real-time monitoring of landings data and states compliance may allow for a shorter buffer.

2. **How many offshore private recreational boat trips occur for reef fish? Can this be broken down by state? Can it be broken down by number of trips/angler (e.g., 100,000 anglers make > than 20 trips, 200,000 anglers 5-10 trips? This and other information would be needed to understand reef fishing demographics so managers can balance tradeoffs of various red snapper management options. Is this information available for snapper or other reef species?**
   - The recreational data collected reflects numbers of angler trips, rather than numbers of individual anglers.

3. **How many individual anglers fish for reef fish generally, and red snapper specifically? Is this available by state?**
   - This is unknown because the recreational data collected reflects numbers of angler trips, rather than numbers of individual anglers.

4. **How many anglers fish reef fish generally, and red snapper specifically, on for hire boats? By state?**
   - This is unknown because the recreational data collected reflects numbers of angler trips, rather than numbers of individual anglers.

5. **This was sent by Pam and is something that needs concrete response. A general assessment of the data she is using also needs clarification She states "The issue of the Southerland information presentation at a past council keeps coming up and needs to be addressed. If the SPR-spawning potential ratio- was set at 26% in 2000, and scientists then recommended an ACL of 9.12mp with a 30 mp stock and 6 month season and 4 fish bag limit, how could**

we possibly believe or how could they believe the NOAA data today is using the same SPR? That, to me, would be saying the 2 lb average stock in 2000 was producing more eggs than the 5-7 lb stock is today. I have attached the graph that Rep. Steve Southerland's office prepared and the supporting graphs that were supplied by SEFSC in 2014. They are in a power point presentation that was shown to the Gulf Council at that time. [Just a note on the graph... as you can see on the left the graph is 'fish' not pounds of fish. In 2000 it was estimated that the stock had 15 million red snapper and this number represented the stock of the 2# fish or more. The 30 mp I mentioned earlier would be 2# fish * 15 million in stock= 30 mp.] "

- See NOAA presentation attached to email.

6. **What would it take to move to a recruitment based data collection effort for reef fish? The purpose would be to set seasons based on some sort of independent monitoring to set annual catch limits on estimated numbers in and entering the fishery for that year?**
   - These are some of the steps that would be required to shift from basing annual catch limits on the outcome of stock assessments to being based on annual updates to a recruitment index:
     - Determine what survey methodology, location and protocol provided the most reliable indicator of stock status change for each species of reef fish (this can vary by species based on different life history characteristics).
     - Implement those surveys over a sufficiently long time period to understand how they correlate to spawning stock biomass of reef fish species.
     - Determine how various catch levels affect future recruitment via an adaptive approach.
     - Sample at a level that provides sufficient precision to base management measures on over the long term.
   - In other words, it would take a significant increase in funding and a great deal of time (several years) to transition to this approach.

7. **Can stock assessments be contracted out in order to increase the number of assessments to meet management needs?**
   - Carrying out Gulf of Mexico stock assessments first requires several complex steps to prepare input data. Examples include:
     - Processing otoliths and then reading those otoliths to generate age data
     - Processing gonads for fecundity data
     - Assimilation of fishery-independent survey data from multiple sources
     - Generation of indices of abundance
     - Assimilation of recreational landings data
     - Assimilation of commercial landings data
   - Once the data are assembled and quality controlled, the assessment can be conducted via the procedures established by the Southeast Data, Assessment and Review process. Augmenting the current cadre of stock assessment scientists with contract scientists can increase the number of assessments that can be done, but only if an equal or greater investment is made in preparing the data for the assessments. In other words, adding contract assessment scientists alone would further exacerbate the bottleneck at the data preparation work, rather than increasing overall throughput.

8. **Please explain why stock assessment models continually change and what impact that has on the preceding and subsequent assessments.**
   - Stock assessment models can change from one assessment to another. Some examples for why a model would change can be to accommodate the availability of a new source of data or to incorporate a new modeling approach that strengthens the performance of the model. This creates a question – is the difference we see from this year's assessment different because of these changes to the model or modeling technique or is it because the status of the population has changed. To answer that question, a continuity run is conducted, where the model used in the last assessment is simply updated with the new data that has accumulated since then. The results from the continuity run are then compared with those produced by any of the new models (to examine the effects of using new data or other modifications). This helps assign the reasons for change in assessment results from one assessment to the next.
   - Additionally, science progresses and improves over time where data, models and computing abilities become more sophisticated.

9. **Is there any scenario that would produce 40 days for fishing red snapper and what could that scenario be?**
   - Yes, it involves state compliance and some combination of a reduction of the bag limit, some level of reallocation and reduction of the buffer. Closed areas could play into this as well. It's likely some combination of these tools, but it is important to note there has not been recent analysis on these scenarios for the Gulf of Mexico Fishery Management Council.

10. **Is there any scenario that would produce 60 days?**
    - See answer for #9 above.

11. **If the Gulf were managed as an eastern stock and western stock what are the implications? Do genetics suggest two different stocks?**
    - Biological/ecological justification for managing red snapper as eastern and western Gulf of Mexico stocks exists and it is technically feasible to do this. Indications are that the western region is more productive and in better condition than the eastern region. Hence, managing the two regions separately would likely result in less stringent management measures in the western region and more stringent management measures in the eastern region than are currently in place. Other management implications of this approach include the need to establish allocations for the two regions and a requirement to redesign of the commercial individual fishing quota program.

12. **If new Florida data indicating that recreational harvest was twice the level estimated under MRIP are proven to be accurate and useable in the current MRIP system relative to reef fishers and snapper fishers then what are the implications to the stock if that level of fishing pressure has been missed in MRFSS and MRIP?**
    - We do not know the answer to this, it's speculative.

- Suggest reviewing the Marine Recreational Information Program's Transition Plan.

13. How much has the for-hire and commercial fishery separately been under or at their quota for 2015?

- See NOAA's 2016 Gulf of Mexico Red Snapper Recreational Season Length Estimates report (SERO-LAPP-2016-04):
  - Using data from the Marine Recreational Information Program, Louisiana and Texas creel surveys, and the Southeast Region Headboat Survey, 2015 landings were summarized and compared to the 2015 annual catch targets.
  - The total federal for-hire landings for 2015 were 2,005,265 pounds whole weight. These landings were 365,735 pounds whole weight (15 percent) under the component annual catch target and 958,735 pounds whole weight (32 percent) under the annual catch limit.
  - The total private angler and state charter landings for 2015 were 3,850,807 pounds whole weight. These landings were 616,807 pounds whole weight (19 percent) over the annual catch target but 192,193 pounds whole weight (5 percent) under the annual catch limit.
  - The observed federal season catch rates for 2015 were within the range projected in NOAA's 2015 Gulf of Mexico Red Snapper Recreational Season Length Estimate report (SERO-LAPP-2015-04); median values were 6 percent underestimated for private angler mode and 4 percent underestimated for federal for-hire.
  - The private angler mode overage was attributable primarily to underestimation of state catches, due in part to state seasons that were extended or announced following the announcement of the 2015 federal seasons.

Tags

(Note: The Gulf of Mexico Fishery Management Council and NOAA have not analyzed the tag concept)

14. Would it be legal to limit access to fish tags based on county residence? state residence?, owns a vessel or not, etc.? How discriminatory can tag access be made…..equate to how IFQs are distributed to commercial fishers.

- Best to refer to National Standard 4
  - *(b) Discrimination among residents of different states. An FMP may not differentiate among U.S. citizens, nationals, resident aliens, or corporations on the basis of their state of residence. An FMP may not incorporate or rely on a state statute or regulation that discriminates against residents of another state.*
- **MSA 303A(c)(1)**
  - *(D) prohibit any person other than a United States citizen, a corporation, partnership, or other entity established under the laws of the United States or any State, or a permanent resident alien, that meets the eligibility and participation requirements established in the program from acquiring a privilege to harvest fish,*

including any person that acquires a limited access privilege solely for the purpose of perfecting or realizing on a security interest in such privilege;

- **MSA 303A(c)(5)**
  - *(5) ALLOCATION.—In developing a limited access privilege program to harvest fish a Council or the Secretary shall—*
    (A) establish procedures to ensure fair and equitable initial allocations, including consideration of—
      (i) current and historical harvests;
      (ii) employment in the harvesting and processing sectors;
      (iii) investments in, and dependence upon, the fishery; and
      (iv) the current and historical participation of fishing communities;
    (B) consider the basic cultural and socialframework of the fishery, especially through—
      (i) the development of policies to promote the sustained participation of small owner-operated fishing vessels and fishing communities that depend on the fisheries, including regional or port-specific landing or delivery requirements; and
      (ii) procedures to address concerns over excessive geographic or other consolidation in the harvesting or processing sectors of the fishery;
    (C) include measures to assist, when necessary and appropriate, entry-level and small vessel owner-operators, captains, crew, and fishing communities through set-asides of harvesting allocations, including providing privileges, which may include set-asides or allocations of harvesting privileges, or economic assistance in the purchase of limited access privileges;
    (D) ensure that limited access privilege holders do not acquire an excessive share of the total limited access privileges in the program by—
      (i) establishing a maximum share, expressed as a percentage of the total limited access privileges, that a limited access privilege holder is permitted to hold, acquire, or use; and
      (ii) establishing any other limitations or measures necessary to prevent an inequitable concentration of limited access privileges; and
    (E) authorize limited access privileges to harvest fish to be held, acquired, used by, or issued under the system to persons who substantially participate in the fishery, including in a specific sector of such fishery, as specified by the Council.

15. How can we account for ensuring tags to current fishers who have invested already in snapper fishing? Currently we hypothesize that there are way more snapper fishers than accounted for as suggested by state of Florida recent data. At a recent Gulf Council meeting one private recreational angler said he goes snapper fishing 8 times a year and would be happy with 16 tags. Is this even a realistic expectation?

- See above MSA regulations with regards to limited access privilege programs.
- Since the tag concept has not been analyzed, it is unknown if 16 tags per person is realistic.

16. **During the Gulf Angler Focus Group meeting in Biloxi, Roy Crabtree provided an estimated 422,000 private recreational tags that would be available under recent data. How was this estimate derived?**
    - This came from the private subquota divided by average fish size (annual catch target/average fish weight). It's an approximation to give a "ballpark" estimate.

17. **What are the odds of a fisherman winning a fish tag in a lottery if 422,000 are available? If that is unknown how can we get that information?**
    - This is unknown given we do not know how many red snapper anglers are in the Gulf of Mexico, however it's possible a survey or a pilot study could help determine this.

18. **What is the average lb/fish landed for private rec vs for-hire rec? If there is a difference…why?**
    - Average weights in 2015 were 6.85 and 8.44 pounds/fish for Eastern and Western Gulf of Mexico for-hire, 4.92 and 5.66 pounds/fish for Eastern and Western Gulf of Mexico headboats, and 7.68 and 6.91 pounds/fish for Eastern and Western Gulf of Mexico private angler component, respectively.
    - Differences in average weights are due to geographic differences in fishing pressure from each mode, differences in depths fished, differences in gear selectivity, and possible differences by mode in the level of high-grading taking place under the two-fish bag limit.

19. **If tags were issued by lottery, is there a current licensing system available to do this on a national scale or would each state be required to do it? What would be the costs to NOAA or each state? If done by state licensing systems would tags have to be allocated to each state and how would that be done? If done nationally how would that be logistically doable?**
    - These answers are unknown and are something that would be worked out during the design phase of a tag program.

20. **Is a referendum of fishers required to implement tags?**
    - See the Magnuson-Stevens Act, page 84/85 – states only permit holders can vote for an IFQ program.
        - *(D) NEW ENGLAND AND GULF REFERENDUM.— (i) Except as provided in clause (iii) for the Gulf of Mexico commercial red snapper fishery, the New England and Gulf Councils may not submit, and the Secretary may not approve or implement, a fishery management plan or amendment that creates an individual fishing quota program, including a Secretarial plan, unless such a system, as ultimately developed, has been approved by more than 2⁄3 of those voting in a referendum among eligible permit holders, or other persons described in clause (v), with respect to the New England Council, and by a majority of those voting in the referendum among eligible permit holders with respect to the Gulf Council. For multispecies permits in the Gulf of Mexico, only those participants who have substantially fished the species proposed to be included in the individual fishing quota program shall be eligible to vote in such*

a referendum. If an individual fishing quota program fails to be approved by the requisite number of those voting, it may be revised and submitted for approval in a subsequent referendum.

- It is important to note currently the private sector has no "eligible permit holders."

Appendix 4 (This table was created by NOAA NMFS Federal Statistics Division) for GAFGI

GULF OF MEXICO ESTIMATED DIRECTED TRIPS FOR REEFFISH FMU 1
H&L GEAR ONLY, BOAT MODES, OCEAN, STATE AND FEDERAL WATERS DIRECTED = TARGET SPECIES or CAUGHT

		MODE OF FISHING						MODE TOTAL		
		CHARTER BOAT			PRIVATE/RENTAL BOAT					
		TYPE OF TRIP		Total Trips	TYPE OF TRIP		Total Trips	TYPE OF TRIP		Total Trips
		Directed	Other		Directed	Other		Directed	Other	
		Number Trips	Number Trips	Number Trips	Number Trips	Number Trips	Number Trips	Number Trips	Number Trips	Number Trips
YEAR	STATE									
2012	ALABAMA	26,395	17,730	44,125	96,496	169,235	265,730	122,891	186,965	309,856
	FLORIDA	305,048	241,868	546,916	919,621	1,771,567	2,691,188	1,224,669	2,013,435	3,238,104
	LOUISIANA	11,946	11,506	23,452	61,564	143,793	205,357	73,510	155,299	228,809
	MISSISSIPPI	74	1,628	1,702	14,440	27,797	42,237	14,514	29,425	43,939
	SUB-REGION	343,463	272,732	616,195	1,092,121	2,112,392	3,204,513	1,435,584	2,385,124	3,820,708
2013	STATE									
	ALABAMA	54,629	22,131	76,760	262,734	133,533	396,267	317,363	155,664	473,027
	FLORIDA	332,710	186,122	518,832	1,696,808	1,862,316	3,559,124	2,029,519	2,048,438	4,077,956
	LOUISIANA	12,968	5,407	18,375	61,347	86,226	147,573	74,315	91,632	165,947
	MISSISSIPPI	38	1,902	1,940	33,612	26,398	60,010	33,650	28,300	61,950
	SUB-REGION	400,346	215,561	615,907	2,054,500	2,108,473	4,162,974	2,454,846	2,324,035	4,778,881
2014	STATE									
	ALABAMA	46,794	23,012	69,806	126,344	105,341	231,686	173,138	128,353	301,491
	FLORIDA	302,639	226,875	529,514	1,355,022	1,867,604	3,222,625	1,657,660	2,094,479	3,752,139
	MISSISSIPPI	.	3,645	3,645	8,833	42,308	51,141	8,833	45,953	54,786
	SUB-REGION	349,432	253,532	602,964	1,490,199	2,015,253	3,505,452	1,839,631	2,268,785	4,108,416
2015	STATE									
	ALABAMA	52,855	21,614	74,469	188,009	155,008	343,018	240,865	176,622	417,487
	FLORIDA	357,119	261,368	618,487	1,068,304	1,977,006	3,045,310	1,425,424	2,238,374	3,663,798
	LOUISIANA	.	.	.	107,376	122,409	229,784	107,376	122,409	229,784
	MISSISSIPPI	366	6,854	7,220	21,464	99,370	120,834	21,830	106,224	128,054
	SUB-REGION	410,341	289,836	700,177	1,385,153	2,353,793	3,738,946	1,795,494	2,643,629	4,439,123