5 Regulatory Impact Review

5.1 Introduction

The NOAA Fisheries Service requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: (1) it provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action; (2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem; and, (3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way. The RIR also serves as the basis for determining whether the proposed regulations are a "significant regulatory action" under the criteria provided in Executive Order (E.O.) 12866 and provides information that may be used in conducting an analysis of impacts on small business entities pursuant to the Regulatory Flexibility Act (RFA). This RIR analyzes the expected impacts that this action would be expected to have on the commercial and recreational snapper grouper fisheries. Additional details on the expected economic effects of the various alternatives in this action are included in **Section 4.0** and are incorporated herein by reference.

5.2 Problems and Objectives

The purpose and need, issues, problems, and objectives of the proposed amendment are presented in **Section 1.2** and are incorporated herein by reference. In summary, The purpose of Amendment 17A to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region is to implement long-term management measures expected to end overfishing of the red snapper stock in the South Atlantic immediately upon implementation and to rebuild the stock, ultimately achieving optimum yield (OY) while minimizing to the extent practicable adverse social and economic effects.

5.3 Methodology and Framework for Analysis

This RIR assesses management measures from the standpoint of determining the resulting changes in costs and benefits to society. To the extent practicable, the net effects of the proposed measures are stated in terms of producer and consumer surplus, changes in profits, employment in the direct and support industries, and participation by charter boat fishermen and private anglers. In addition, the public and private costs associated with the process of developing and enforcing regulations on fishing for snapper grouper in waters of the U.S. South Atlantic are provided.

5.4 Description of the Fishery

A description of the South Atlantic snapper grouper fishery is contained in **Section 3.8** and is incorporated herein by reference.

5.5 Impacts of Management Measures

Details on the economic impacts of all alternatives are included in Section 4 and are included herein by reference. The following discussion includes only the expected impacts of the preferred alternatives.

5.5.1 Proxy for Maximum Sustainable Yield (MSY) for Red Snapper

The overall impacts of this action are discussed in **Section 4.1.2** of this document, and are hereby incorporated by reference.

In principle, the higher the MSY, the higher would be the expected economic benefits from the fishery so that in the present case, **Alternative 1 (No Action)** would be more economically preferred than **Alternative 2 (Preferred)**. In practice, additional conditions need to be recognized before applying the aforementioned principle. One such condition is the status of the stock. Red snapper is currently considered severely overfished and undergoing overfishing, thus rebuilding the stock has become an overriding concern. Another condition is the probability of successfully rebuilding the stock and ensuring that, once rebuilt, the stock would not slide back to its prior overfished/overfishing status. The first condition necessarily implies imposing restrictive management measures in the short-run, and thus sets the economic issue as one involving the balancing of short-term costs and long-term benefits. The second condition determines the expected economic value derivable from the fishery over the long run.

Alternative 1 (No Action) provides for $F_{30\%SPR}$ as MSY proxy that would produce MSY value of 2.431 MP while **Alternative 2 (Preferred)** provides for $F_{40\%SPR}$ as MSY proxy that would produce MSY value of 2.304 MP. In 2003-2008, the average combined commercial and recreational landings were approximately 474 thousand pounds. This wide gap between current landings and potential landings has at least two implications. First, both MSY proxy definitions would require more stringent management measures to rebuild the red snapper stock. Second, there appears a relatively high likelihood that future benefits from the fishery would outweigh the costs of implementing stringent management measures in the short run.

From the various scenarios considered in Chapter 4, **Alternative 1 (No Action)** may be the economically preferred alternative unless there is a material difference in the success rate of attaining and maintaining MSY between the two alternatives, or the success rate of **Alternative 1 (No Action)** is very low. A very low success rate would likely bring about more stringent regulations over time as well as lengthen the actual rebuilding period. This may result in higher costs over time. **Alternative 2 (Preferred)** would provide an MSY proxy that is biologically more conservative than **Alternative 1**. In general, this would imply that **Alternative 2 (Preferred)** would have a high probability of maintaining the stock at a more sustainable level.

5.5.2 Rebuilding Schedule

The overall impacts of this action are discussed in **Section 4.2.2** of this document, and are hereby incorporated by reference.

Under **Alternative 4 (Preferred)**, the associated costs of regulations would not be as high as in **Alternatives 2 and 3**. In addition, this alternative would provide a timeframe sufficiently long

to rebuild the red snapper stock within the MSA required timeframe. Moreover, this alternative offers fishery managers more flexibility in the type of management measures to implement over time. In this sense, **Alternative 4 (Preferred)** would be accompanied by the least economic costs, among the alternatives, without necessarily sacrificing the long-term benefits from the fishery.

5.5.3 Rebuilding Strategy, Optimum Yield, and Accountability Measures

The overall impacts of this action are discussed in **Section 4.3.2** of this document, and are hereby incorporated by reference.

Alternative 5 (Preferred) identifies an OY level based on the SSC's F_{MSY} proxy. This alternative has the longest rebuilding period and a higher reduction in total removals (83%) than **Alternatives 6, 7,** and **9** but lower than **Alternatives 1, 2, 3, 4,** and **8**. This alternative could be expected to result in smaller long-term economic benefits those alternatives with shorter rebuilding periods but might result in less stringent management measures and smaller short-term negative economic impacts than some of the other alternatives. As stated above, **Alternative 5 (Preferred)** would specify an OY level based on the SSC's recommended F_{MSY} proxy while reducing to the extent practicable negative impacts that would result from management measures needed to manage the stock to a more conservative OY level.

Among alternatives with the same F_{MSY} proxy, larger economic benefits may be associated with alternatives providing F_{OY} closer to F_{MSY}. In this case, **Alternative 5 (Preferred)** would be better than **Alternatives 2-4** and **Alternative 9** would be better than **Alternatives 6-8**. This would be the case if everything else were the same for all alternatives within each set. Some factors that may help validate the potential economic superiority of alternatives with higher OY within each set of F_{MSY} proxy include the probability and speed of attaining SSB_{MSY}. The probability and speed of attaining MSST also play an important role because regulations could be relaxed much further after reaching this threshold, but for the moment the issue involving MSST can be dispensed with but taken up later in the discussion. For a given timeframe, the higher the probability of reaching SSB_{MSY}, the better would be the alternative; conversely, for a given probability, the faster SSB_{MSY} is reached the better would be the alternative.

Among the $F_{30\%SPR}$ alternatives, **Alternative 5 (Preferred)** would provide the highest net present value regardless of the discounting rates used. This would also be the case even if landings were increased after SSB exceeded MSST, although landings were still restricted to the level that would prevent overfishing. The late landing adjustment introduced into **Alternative 5 (Preferred)** did not make a difference in the relative magnitude of results among the alternatives. Landings adjustments were made starting in 2035 for **Alternative 5 (Preferred)**, 2032 for **Alternative 2**, 2029 for **Alternative 3**, and 2028 for **Alternative 4**. The larger landings under **Alternative 5 (Preferred)** in the early years compensated for the later increase in landings relative to the other alternatives. A similar observation may be made of **Alternative 9** relative to the other $F_{40\%SPR}$ alternatives.

The costs and potential benefits of the proposed AMs to the fishing participants would be proportionally the same across **Alternatives 2-9**.

5.5.4 Red Snapper Management Measures

The overall impacts of this action are discussed in **Section 4.4.2** of this document, and are hereby incorporated by reference.

Commercial
The area encompassed in **Preferred Alternative 3C** in combination with **Preferred Alternative 7** represents the core of the snapper-grouper fishery for mid-shelf species, and deviations to encompass shallower depths or deeper depths would generate relatively small additional losses for fishermen, according to the depths recorded on their logbook trip reports. **Preferred Alternative 3C** alone would result in estimated losses of $457,000. When combined with **Preferred Alternative 7**, estimated losses decline to $438,000.

Including the exemption for spearfishing gear, the predicted reductions in net operating revenues for fishermen in northeast Florida and Georgia are expected to average approximately $669,000 (67.9%) for **Preferred Alternative 3C**.

On average, the expected losses in net operating revenues for **Alternatives 4A, 4B, 4C, and 4D** in combination with **Preferred Alternative 7** would be approximately 2.5 times larger than the losses with the corresponding **Alternatives 3A, 3B, 3C (Preferred) and 3D** in combination with **Preferred Alternative 7**.

The potential benefit of a gear exemption is greatest for spearfishing gear (**Preferred Alternative 7)**. Without an exemption, net operating revenue for divers is expected to decline by an average of $155,000 (32.7 percent) for **Alternative 3C (Preferred)**. With an exemption, net operating revenue for divers is expected to decline by only $15,000 (3.3 percent) for **Alternatives 3A-D**. However, the proposed exemption for spearfishing gear is expected to result in an earlier closure for the shallow water grouper fishery than without any gear exemptions, and the indirect result of the exemption would be a reduction in net operating revenue for fishermen with vertical line gear, especially for **Alternatives 3A, 3B, 3C (Preferred) and 3D**. The overall benefit for all gears combined of an exemption for spearfishing gear is expected to average approximately $19,000 (0.2 percent) for **Alternative 3C**.

Alternative 8 is mainly an enforcement measure that would provide commercial fishermen some protection from being penalized when transiting through closed areas. This would also allow commercial fishermen to save on fishing costs by not being compelled to possibly take a longer route to and from a fishing area. The mitigating effects of this alternative would be minimal relative to the economic effects of any of the restrictive management measures discussed above. **Alternatives 8a (Preferred)** and **8b** would affect most commercial fishermen more than **Alternative 8c** given the limited fishing occurring for wreckfish.

Recreational
Alternative 3C (Preferred) would result in the lowest economic effects totaling estimated losses of $17,878,730 in net operating revenues and consumer surplus.

This is probably as expected since **Alternative 3C (Preferred) (Preferred)** would close the smallest areas. If the regulations from these alternatives were permanent, economic losses could top $255 million for **Alternative 3C (Preferred)** at a 7% discount rate.

5.5.5 Require the Use of Circle Hooks

The overall impacts of this action are discussed in **Section 4.5** of this document, and are hereby incorporated by reference.

Under **Alternative 2 (Preferred)**, the general short-term effects of requiring circle hooks if these devices were not used at all by any vessels would be to increase fishing costs. Those vessels that already use these devices would not experience any increase in fishing costs. By reducing bycatch, the use of circle hooks would possibly free up some crew effort that otherwise would be spent culling the vessel's catch of unwanted fish. Freed up labor hours could be devoted to other activities that could generate more catch/revenues. On the other hand, it is possible that intended harvest could be reduced by using circle hooks. Depending on the physical structure of a fish's mouth, and the way that they take bait, circle hooks may make it difficult to harvest desired species, reducing revenues to commercial fishermen and consumer surplus to recreational anglers, as well as potential losses in net operating revenues to for-hire businesses if angler demand for for-hire trips is adversely affected. In general though, requiring the use of circle hooks may not substantially increase the cost of fishing to either the commercial or the recreational sectors, though the potential reduction in the harvest of some important species is noted.

5.5.6 Red Snapper Monitoring Program

The overall impacts of this action are discussed in **Section 4.6** of this document, and are hereby incorporated by reference.

Commercial Fishery
Alternative 2 (Preferred) would not have any expected short-term economic impacts on the commercial fishery since they would not involve the commercial sector in additional data gathering activities. However, the long-term economic impact of **Alternative 2 (Preferred)** is expected to be positive since it would contribute to better management of the fishery in general and aid in actions taken by the Council with regard to rebuilding and allowing for future participation in the red snapper and related fisheries.

Recreational Sector
Alternative 2 (Preferred) would not have any short-term economic effect on the recreational sector, as it would not necessarily require any changes to the current data collection program for the recreational sector. Considering that some vital information on red snapper will no longer be available under the proposed total closure of the red snapper fishery, data collection involving the recreational sector through some other means would be necessary. The data collection approach under **Alternative 2 (Preferred)** may be considered an improvement over that of the No Action. Such data collection; however, would not be able to gather information on the actual

operations of the anglers and for-hire sectors with respect to red snapper fishing and thus, on the possible valuation of red snapper fishing activities.

5.6 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any Federal action involves the expenditure of public and private resources which can be expressed as costs associated with the regulations. Costs associated with this amendment include:

Council costs of document preparation, meetings, public hearings, and information dissemination……...…….. $400,000

NOAA Fisheries administrative costs of document preparation, meetings and review $360,000

Annual law enforcement costs ..... unknown

TOTAL $760,000

Law enforcement currently monitors regulatory compliance in these fisheries under routine operations and does not allocate specific budgetary outlays to these fisheries, nor are increased enforcement budgets expected to be requested to address components of this action. In practice, some enhanced enforcement activity might initially occur while the fishery becomes familiar with the new regulations. However, the costs of such enhancements cannot be forecast. Thus, no specific law enforcement costs can be identified.

5.7 Summary of Economic Impacts

Previous sections compared the effects of proposed alternatives within each Action by assuming the No-Action alternative for other Actions. This section compares the joint effects of the Council's preferred alternatives for all Actions with the Status-Quo alternative for Snapper Grouper Amendment 17A. The Council's preferred alternatives include **Alternative 2 (Preferred)** for a proxy for MSY for red snapper, **Alternative 4 (Preferred)** for rebuilding schedule, **Alternative 5 (Preferred)** for rebuilding strategy, optimum yield, and accountability measures, **Alternatives 3C (Preferred), 7 (Preferred), and 8 (Preferred)** for red snapper management measures, **Alternative 2 (Preferred)** for requiring the use of circle hooks, and **Alternative 2 (Preferred)** for the red snapper monitoring program. The respective status quo alternatives include the simulated effects on the commercial fishery of Snapper Grouper Amendments 13C and 16.

The specifications of MSY, rebuilding schedules, rebuilding strategies, and OY have functional meaning only when translated through the specific management measures, such as trip limits, bag limits, closed areas, and closed seasons, adopted to limit harvests to the allowable quantities. Thus, the relevant effects are those are described in association with the respective management measures discussed above. As such, the proposed red snapper management measures **Preferred Alternatives 3C** and **Preferred Alternative 7** result in an estimated annual loss of $438,000 in net operating revenues to the commercial sector and an estimated annual loss of $17.88 million in net operating revenues and consumer surplus to the recreational sector. **Preferred Alternative**

2 requiring the use of circle hooks is not expected to substantially increase costs to commercial and recreational fishermen. **Alternative 2 (Preferred)** under the red snapper monitoring program action will not require additional data recording activities of commercial or recreational fishermen and will therefore have no economic effect other than long-run benefits resulting from improved management of the fishery.

5.8 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a “significant regulatory action” if it is expected to result in: (1) an annual effect of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this regulatory action was determined to not be economically significant for the purposes of E.O. 12866.