

## SNAPPER GROUPER AMENDMENT 18A

### Appendix A. Alternatives Considered but Eliminated from Detailed Consideration

#### -----Bag Limit Action Only-----

#### Action 10: Modify the Recreational Bag Limit for Black Sea bass

**Alternative 1 (No Action).** Do not modify the current recreational 5-fish bag limit for black sea bass.

**Alternative 2.** Reduce the recreational bag limit

Sub-Alternative 2a. 5 to 3 black sea bass per person per day.

Sub-Alternative 2b. 5 to 2 black sea bass per person per day.

Sub-Alternative 2c. 5 to 1 black sea bass per person per day.

**Alternative 3.** Increase the recreational bag limit

Sub-Alternative 2a. 5 to 8 black sea bass per person per day.

Sub-Alternative 2b. 5 to 10 black sea bass per person per day.

Sub-Alternative 2c. 5 to 15 black sea bass per person per day.

#### 4.10.1 Biological Effects

Regulatory Amendment 9 to the Snapper Grouper FMP, which became effective on June 22, 2011, reduced the black sea bass bag limit from 15 fish per person per day to 5 fish per person per day. Based on 2010 data, it was estimated this bag limit reduction would reduce recreational harvest of black sea bass by about 16% and extend the recreational fishing season through March for the June-May fishing year.

**Alternatives 2-3** would modify the recreational bag limit to a level determined from the results of SEDAR 25 that would allow the recreational fishing season to remain open for the majority of the fishing year. The intent of Action 10 is to increase the social and economic benefits associated with extending the season without having negative biological effects on the black sea bass stock. Adjusting the bag limit would not be expected to have negative biological effects on the stock because an ACL is in place for the recreational sector that would prevent overfishing from occurring. An AM is enacted if the ACL is met or is projected to be met. Furthermore, release mortality is estimated to be very low for black sea bass. The recommended discard mortality for black sea bass being used in SEDAR 25 is 7% for hook and line, 5% for 1½ inch panel black sea bass pots, and 1% for 2 inch panel black sea bass pots. Therefore, alternatives that result in increased discards of black sea bass would not be expected to negatively impact the stock.

A stock assessment is ongoing for black sea bass through SEDAR 25. If the assessment indicates a reduction in harvest is needed for black sea bass, **Alternative 1 (No Action)** could result in a more prolonged seasonal closure than **Alternative 2** and its subalternatives, which

would reduce the bag limit. A long seasonal closure in combination with seasonal closures for shallow water grouper and vermilion snapper could result in cancellation of fishing trips thereby providing an increased biological effect for black sea bass and other snapper grouper species. A prolonged seasonal closure could also provide protection for black sea bass during peak spawning (March-May) off the South Atlantic states.

If SEDAR 25 indicates a reduction in harvest and corresponding ACLs for black sea bass is needed to ensure overfishing does not occur, **Alternative 2** and its subalternatives would help to extend the recreational fishing season for black sea bass. An estimation of the reduction in harvest provided by a decrease in the bag limit is illustrated in **Table 4-26**. This analysis is based on catch information from the 2010 calendar year when the bag limit was 15 fish per person per day, and assumes that fishermen were not catching more than 5 fish per person per day.

**Table 4-26.** Preliminary estimates of reduction in black sea bass harvest provided by reduction in recreational bag limit from 5 fish per person per day. Based on 2010 data. Analysis will be based on 2011 data when they become available.

Bag limit	Headboat	Charter	Private	Total
4	5.22%	8.40%	2.66%	4.42%
3	12.24%	17.89%	8.12%	11.04%
2	21.17%	29.70%	16.64%	20.24%
1	34.19%	43.84%	32.09%	34.70%

**Alternative 3** and its subalternatives would allow for an increase in the bag limit, which would be appropriate if the results from SEDAR 25 demonstrate harvest of black sea bass can be increased without negatively impacting the stock. **Table 4-27** shows an estimate of the increase in harvest in black sea bass that could occur based on data from 2010. These would be underestimates if catch rates of black sea bass have increased.

**Table 4-27.** Preliminary estimates of increase in black sea bass harvest provided by an increase in recreational bag limit from 5 fish per person per day. Based on 2010 data.

Bag limit	Headboat	Charter	Private	Total
6	4.03%	5.48%	1.44%	2.93%
7	7.05%	9.13%	2.59%	5.09%
8	9.38%	12.08%	3.72%	6.90%
9	11.19%	14.56%	4.82%	8.45%
10	11.19%	16.82%	5.89%	9.38%
11	13.07%	18.59%	6.13%	10.39%
12	13.75%	19.95%	6.36%	10.95%
13	14.31%	20.71%	6.59%	11.38%
14	14.79%	21.35%	6.82%	11.75%
15	14.79%	21.35%	6.82%	11.75%

#### 4.10.2 Economic Effects

**Alternatives 2-3** consider a reduction in the daily recreational bag limit in order to prevent or at least reduce the length of a recreational fishing closure. In the 2010-2011 fishing season, the recreational ACL for black sea bass was reached, triggering the application of the sector's AM, and prohibition of recreational black sea bass harvest for slightly more than 3 months. For the following analysis, it is assumed that the same length of closure would occur annually given the current ACL, bag and size limits, and fishing pressure (effort).

In this case, the success of a bag limit reduction is generally judged by the extent it would be expected to lengthen the recreational fishing season. The accompanying economic issue is closely related to but not totally conditioned on the number of days the fishing season is lengthened. A closed fishing season would be expected to result in fewer fishing trips and a loss in economic benefits associated with these trips. Conversely, a longer open season would be expected to result in more trips and increased economic benefits. However, a bag limit reduction, implemented to extend the season, would be expected to result in lower economic benefits per day or per trip because of the potential reduced quality of the fishing trip. Depending on the bag limit, the resulting reduction in benefits associated with the lower quality trips could be less than, equal to, or more than the increase in benefits associated with the increased number of trips (or the trips that were cancelled as a result of the original closure). As a result, the primary economic issue is whether the increase in benefits associated with more trips is greater than, or at least equal to, the reduction in benefits associated with lower quality trips (for all trips, including those that are "recovered" as a result of the shortened closure).

Undoubtedly, the bag limit level, or the amount of bag limit reduction, is crucial in the success of the measure. In terms of lengthening the season, the ideal bag limit is perhaps one that would allow the fishery to remain open year round without leaving a good portion of the ACL unharvested. Given the primary economic issue noted above, a bag limit level does not have to be ideal so long as it results in better economic condition. This means that the bag limit that would result in the greatest economic benefits could leave a portion of the ACL unharvested or still bring about an ACL-based closure, albeit a shorter one.

If all of the alternatives result in the same fishing season length, there is good reason to believe the highest bag limit would be economically best. Very likely, however, the different alternatives would result in different fishing season lengths. It is likely that the lowest bag limit would result in the longest fishing season, but it would not necessarily result in the most economic benefits because the lowest bag limit would be expected to be accompanied by the largest reduction in fishing quality-based economic benefits per trip. The sum of these quality-based reductions in economic benefits could potentially be larger than the benefits from an alternative with a higher bag limit and shorter season.

As currently developed, the bag limit alternatives are not directly comparable because different base years were used to calculate them. Each alternative bag limit has been calculated in such a way that the fishery would remain open throughout the fishing year without exceeding the ACL. In this sense, each alternative would be best if future fishing performance mimics, or closely mimics, the fishing conditions in the relevant year on which the alternative was based. This

nature of the alternatives virtually renders a direct determination of which alternative is economically best infeasible. As a result, the following analysis uses an indirect approach.

In analyzing the alternatives, there are at least three major factors to consider: (1) the bag limit could still lead to an ACL-based closure; (2) different bag limits would be associated with different CS values because of different levels of fishing quality; and, (3) there are possibly some bag limit levels that would result in trip cancellation.

#### **4.10.3 Social Effects**

Although there may be some differential biological effects of the alternative bag limits proposed in **Alternatives 2-4**, for example, lower bag limits may increase discards, longer open seasons allow fish to be retained rather than discarded, cancelled trips may reduce the harvest of multiple species, etc., the intent of lowering the bag limit is to reduce the length of any ACL-related closure that might otherwise occur. The ACL-related closure in the 2010/2011 fishing season will be over three months long. It is expected that any longer open season that may result from a lower bag will result in greater social (and economic) benefits than a shorter open season resulting from a higher bag limit. The intent of the action, therefore, is to increase the social and economic benefits associated with extending the season and not specifically improve the biological condition of black sea bass or any other species, and receive any increased social or economic benefits associated with said improvement. As a result, the context of the following discussion assumes biological neutrality of the alternative bag limits, though the possibility of some biological effects, both positive and negative, with associated social and economic effects, should not be completely dismissed.

Examination of the social effects of changing the black sea bass recreational bag limit is a two-tiered exercise, first comparing the benefits of any reduction in the bag limit with the status quo, followed by comparing the alternative reductions. Although per-trip benefits would be expected to be greater under a higher bag limit (larger harvests result in a higher quality trip), a zero bag limit, combined with prohibitions on the harvest of other species, would be expected to increase the likelihood of trip cancellations, in favor of other recreational activities. Extending the season through a reduction in the bag limit is based on the expectation that the loss of benefits associated with these cancelled trips would be greater than the reduced benefits associated with fishing under the reduced bag limit. Although these results cannot be quantitatively estimated with any degree of certainty with available data, the assumptions are reasonable. As a result, a reduction in the bag limit that results in a longer open season would be expected to generate more social benefits than the status quo. A caveat to this determination, however, should be noted. It is possible that a lower bag limit adopted to extend the season is overly restrictive for some anglers; some anglers may not need a zero bag limit to stop fishing. If trips are cancelled in response to the lower limit, social benefits will be lost from both trips that continue to be taken under the lower limit (lower quality trips) as well as from cancelled trips that would otherwise have been taken under the higher limit. It is also possible that no net change in the number of trips taken occur if the number of cancelled trips equals the number of trips taken during the “re-opened” portion of the season.

Because they would establish the most severe reductions from the current bag limit, **Alternative 2** would be expected to be most likely to result in trip cancellations during the open season. In addition to the loss of benefits associated with the cancelled trips themselves, social benefits may also be lost if the new bag limit is smaller than necessary to extend the season because potential reduced effort (trips cancelled as a result of the reduced limit) was not factored into its calculation. Because **Alternative 2c** would impose the lowest bag limit, it would be expected to be most susceptible to interactions of this type and, subsequently, potentially result in the least social and economic benefits. A limit that is more restrictive than necessary to prevent an ACL-related closure would be expected to result in foregone social and economic benefits, while an insufficiently restrictive limit would also be expected to result in foregone social and economic benefits because the season would not be expected to remain open for the full fishing year.

With regards to the selection of assumed baseline conditions, absent information to suggest otherwise, such as changing environmental, regulatory, or other conditions, it is logical to expect that near-term future conditions will most closely mirror those of the more recent past. From this perspective, 2011/2012 and subsequent years may be more likely to mirror 2010/2011 fishing conditions than conditions from earlier years (i.e., 2008/2009 or 2009/2010). While forecasts based on the earlier fishing years would lower the expected necessary reduction in the bag limit, the adoption of overly optimistic assumptions and associated bag limit could precipitate dissatisfaction with managers and the management process if they prove incapable of achieving the expected goals.

With respect to constituent satisfaction with the management process, while managers are expected to make logical decisions using the information on hand, they have discretion in selecting their goal. As discussed above, the alternative bag limits were all calculated to achieve the same goal of eliminating an ACL-related seasonal closure and vary only by the assumption of baseline fishing conditions. The South Atlantic Council could, however, decide that some ACL-related closure is acceptable, opting for a bag limit that would be expected to shorten, but not necessarily eliminate, an ACL-related closure. This is what might be described as an indirect comparison of season lengths. If all of the alternatives considered would be expected to result in no seasonal closure if the associated baseline conditions occur, logic dictates that “mis-pairing” would result in variable season lengths. While it is certainly possible that a bag limit be so severe as to keep the season open but not allow full harvest of the ACL, the more interesting possibility is deciding some period of closure is acceptable under a higher bag limit. The South Atlantic Council could determine that some, though not full, extension of the season is preferable to no closure under the most restrictive limit. Such a decision would presumably be based on an expectation that the social and/or economic benefits would be increased relative to the more severe bag limit and no closure.

#### **4.10.4 Administrative Effects**

Because there is already a recreational bag limit in place, increasing or decreasing the current bag limit would not result in any significant impacts on the administrative environment. No additional burden would be placed on law enforcement personnel, and not time or cost increases for implementing a bag limit modification are expected.

#### **4.10.5 Council Conclusions**