

#### **4.4.2 Economic Effects of Sale of Recreationally-Caught Fish Alternatives**

Under the status quo (**Alternative 1**), all customary bag-limit sales behavior could continue unchanged. The magnitude of this behavior, in either pounds or value, is unknown and cannot be determined with existing data systems. Bag-limit sales occur by recreational who possess appropriate state permits and commercial fishermen who fish exclusively in state waters and, similarly possess the appropriate state permits. No Federal data program systematically captures bag-limit sales. Some of this sales activity is captured by state reporting systems. Anecdotal information also indicates that additional sales occur by individuals without the appropriate permits and outside standard reporting systems. The magnitude of these sales cannot be determined.

Although a comprehensive examination of potential bag-limit sales using data from the various state data programs has not occurred, an examination of North Carolina trip tickets (Alan Bianchi, North Carolina Division of Marine Fisheries, personal communication) may provide some insights into the potential magnitude of the quantities and value of fish involved. Over the period 2000-2006, an average of approximately 609,000 pounds per year of snapper grouper species valued at approximately \$1.05 million (nominal ex-vessel value) were recorded in the North Carolina trip ticket system by fishermen who did not possess the Federal snapper grouper permit and, thus, are assumed to be bag-limit sales since the purchase of snapper grouper from entities without the Federal permit is limited to bag-limit quantities. Actual annual harvest over this period, however, steadily declined from a high of approximately 934,000 pounds valued at approximately \$1.65 million (2000 dollars) in 2000, to approximately 188,000 pounds valued at approximately \$351,000 (2006 dollars) in 2006. Information has not been assessed on the importance of these landings relative to total commercial harvests by these entities. However, relative to snapper grouper landings by those with the Federal permit, the bag-limit sales have declined from approximately 74 percent of the value of the federal landings in 2000 to approximately 9 percent in 2006. The total number of entities involved in these sales on average or in any given year is unknown. However, using the maximum number of entities that sold any individual species as an approximation of the fleet participating in the activity, 255 entities recorded bag-limit sales in 2000 compared to 225 in 2006 and 215 entities on average over the seven years. Using these vessel totals, the average landings revenue per vessel was approximately \$1,600 in 2006 and approximately \$4,800 over the entire period. It is likely, however, that more vessels than these species maximums actually recorded bag-limit sales and, thus, the per-vessel average would be less.

It is unknown what portion of these North Carolina sales accrued to strictly commercial entities compared to recreational anglers or for-hire vessel operations selling recreational harvests. Nevertheless, although the magnitude of bag-limit sales has steadily declined in recent years in North Carolina, substantial quantities still cross the dock. Presumably, substantial quantities of bag-limit harvested snapper grouper are also sold in the other states as well.

To the extent that recreational trip demand is influenced by the ability to subsidize the cost of a fishing trip through the sales of bag limit-fish, under the status quo, angler trip demand should remain unchanged. However, the increased harvest restrictions contained in Amendment 13C (SAFMC 2006) may induce operational change of for-hire vessels that either operate in the Federal snapper grouper fishery or possess an appropriate state license resulting in increased sales of bag limit fish as they compete for reduced commercial quota. Fish harvested and marketed in this manner, whether harvested by for-hire vessels or private anglers, may be counted as both recreational and commercial harvests, complicating fishery assessments and resulting in accelerated quota closures. These sales reduce the amount and value of harvests allocated to the Federal commercial fishery, resulting in reduced revenues for the sector they were intended for. Accelerated closures impose additional economic losses through market disruption (decreased period of time when fresh domestic product is available) and forced alteration of fishing practices including effort transfer to other resources that may be less valuable and/or more expensive to catch, and fishing in new areas or with other gears to avoid the bycatch of non-marketable species. This effort transfer may result in increased harvest stress to these alternative species, harming the status of these resources, inducing restrictive management, and diminishing the economic value of these fisheries.

**Preferred Alternative 2** would eliminate all snapper grouper bag-limit sales. Sales could only occur from Federal commercial snapper grouper-permitted vessels operating as commercial vessels. For-hire vessels could only sell snapper grouper harvested while operating as a commercial vessel and no private recreational angler could sell their catch. For the recreational angler (non-for-hire customer), **Preferred Alternative 2** would eliminate the ability to subsidize the cost of a fishing trip through the sales of harvested snapper grouper. As a result, some decrease in recreational angler demand may be expected. The magnitude of this decrease cannot be determined. However, no evidence exists to suggest that the incidence of this behavior – selling fish to subsidize the cost of the trip – is a significant component to total recreational demand. Therefore, reduced angler demand is expected to be minimal.

**Preferred Alternative 2** is expected to result in reduced revenues for those commercial and for-hire vessels that sell snapper grouper species but do not have a Federal commercial snapper grouper permit. For-hire vessels that use bag-limit sales as a form of crew payment or a means to offset other operational expenses and/or reduce their charter fee would be expected to experience increased operational costs and lower profits, or be forced to use less crew or increase fees. Fee increases would be expected to induce reduced client demand. As previously stated, the magnitude of bag-limit sales is unknown. In addition to the North Carolina information discussed above, evaluation of Federal snapper grouper logbook data indicate that among vessels that did not have an active Federal snapper grouper commercial permit as of January 11, 2006, 87 vessels landed approximately 39,000 lbs in 2004-05 valued at approximately \$81,000, or approximately \$900 per vessel. The information from North Carolina suggests total bag-limit sales are substantially greater than any estimate that can be garnered from any federal reporting program since any entity without the Federal permit would not be required to participate in the logbook program. Assuming the adoption of compatible

state regulations, all such commercial bag-limit sales would be eliminated. The absence of compatible regulations, however, would allow business as usual for these entities.

Under current permit requirements, entry into the Federal commercial snapper grouper fishery would require acquisition of two commercial snapper grouper permits from current participants. Elimination of the two-for-one requirement is one option considered under the permit transferability action discussed in Section 4.13. The cost of a single permit is estimated to range from \$9,000-\$16,000 (2006 dollars). Since current snapper grouper harvesters that do not possess the commercial permit are limited to selling bag limit-quantities of snapper grouper, a decision to acquire the necessary Federal permit in order to continue selling snapper grouper species would represent a significant change in their business orientation since it would not appear to make financial sense to acquire the permit and limit harvests to bag-limit quantities. A decision to acquire a federal permit would presume a decision to pursue commercial quantities of snapper grouper. Since the opportunity to purchase these permits and enter the fishery currently exists, it is assumed that insufficient economic rationale exists for those businesses that have not done so to enter the fishery. Thus, little to no movement of vessels currently selling recreational limits into the fishery is expected, these vessels will experience net losses in snapper grouper revenues, and no upward demand pressure on permit sales prices from this sector is expected.

**Preferred Alternative 2** is expected to result in unquantifiable positive economic benefits for vessels holding the Federal commercial snapper grouper permit. Harvest pressure from the recreational and non-Federally permitted commercial sector motivated by sales will be eliminated, thereby reducing the possibility of accelerated closures and avoiding the adverse economic impacts of protracted closure. The full commercial quotas and associated revenues can be harvested by Federally permitted vessels, resulting in increased harvests and revenues, on average. Some distributional effects may occur under **Preferred Alternative 2** if current recreational sales enter through different market channels than harvests by vessels that hold the Federal commercial snapper grouper permit. Since the quantities are smaller, bag limit sales may go to smaller markets, such as direct sales to restaurants. These outlets may be required to purchase snapper grouper from fish houses that service the commercial vessels, potentially paying a higher price. Due to avoidance of the adverse economic impacts associated with extended closure, **Preferred Alternative 2** is expected to result in an increase in net economic benefits relative to the status quo.

Under **Alternative 3**, for-hire vessels that possess a Federal charter/headboat snapper grouper permit could continue to sell bag limit quantities of snapper grouper. Thus, some recreational sales would be expected to continue, unlike under **Preferred Alternative 2**, but at less than status quo levels. Economic losses to vessels that currently sell recreational limits would still be expected, but would not be as great as under **Preferred Alternative 2**. **Alternative 3** would not fully eliminate the accelerated closure pressure, and associated adverse economic impacts, of the status quo. **Alternative 3** may induce increased issuance of Federal charter/headboat snapper grouper permits to applicants not currently permitted and wish to accommodate continued bag limit-sales. The current cost

of the permit is \$25, or \$10 if purchased in conjunction with the application for another permit. This should largely simply involve vessels currently operating in the overall snapper grouper fishery (vessels that fish for snapper grouper but only in state waters and do not possess the Federal permit), though new entry and increased harvest pressure cannot be totally dismissed. Due to the reduction in pressure of commercial closure, **Alternative 3** is expected to result in an increase in net economic benefits relative to the status quo, but less than **Preferred Alternative 2** since bag limit sales would not be completely eliminated.

## Prohibition on Bag Limit Sales from the South Atlantic EEZ

1. Presumption/understanding of scope of preferred alternative – prohibit the sale and purchase of all bag limit quantities of snapper grouper harvested from the EEZ. The alternative does not presume to affect fish harvested in state waters.
2. Current federal regulation requires the possession of a federal commercial snapper grouper permit to possess and sell snapper grouper quantities in excess of the bag limit.
3. Bag limit quantities may currently be sold if the fishermen have the appropriate state permits.
4. A formal state-by-state assessment of the allowance/prohibition of bag limit sales as a result of state statute has not been prepared. We have text in a recent memo from North Carolina on the extent to which their system allows bag limit sales and the email communication from the Florida enforcement agent. I have not seen anything approaching similar assessment of the situation in South Carolina or Georgia. This whole process, as well as the amendment, would benefit, I believe, from a systematic request to each state representative to specifically conduct and provide a review of their state statutes and the extent to which bag limit sales are currently allowed. An evaluation of what would be required to adopt compatible regulations would also help (like, if a state has a process that automatically adopts compatible regulations versus a process that requires going before the state legislature). North Carolina might reply that their January 2008 memo should suffice for the first part, which it likely can, but I think the systematic request to all states is the procedurally correct approach.
5. The proposed action would prohibit the sale as well as the purchase of bag limit quantities of snapper grouper harvested in the EEZ. No fish harvested from state waters would be affected. Since both sale and purchase would be affected, but fish harvested from state waters would not, the impacts analysis needs to try to look at:
  - amount/value of snapper grouper harvested by anglers that do not possess the federal commercial snapper grouper permit (assume these are bag limit sales);
  - the proportion of these harvests that occur in state vs. EEZ waters (state harvests would not be restricted);
  - the proportion of the EEZ harvests that are sold to non-federally permitted dealers (a federal purchase prohibition can only apply to federally permitted dealers).
6. Notes on the expected analytical approach:
  - a. the expected data to be used will come from the federal permits database, the Accumulated Landings System (ALS), the federal logbook program, and state trip tickets.
  - b. the ALS is built from trip ticket information and includes all commercial landings, regardless of whether harvested from state or EEZ waters, and regardless of whether sold to federally permitted or only state licensed dealers. The ALS data can be used to determine total snapper grouper harvests. The ALS data may, also, be able to partition harvests by state vs. EEZ waters. However,

this partition may not meet the needs of the exercise (see below). Although the ALS data has dealer codes, it is not known at this time how well these codes can be matched with the federal dealer codes to partition harvests going through federally permitted dealers vs. only state licensed dealers.

c. all federally permitted snapper grouper commercial vessels are required to participate in the federal logbook program, but only the federally permitted vessels are required to submit logbooks. The logbook data can be merged with permit files to determine snapper grouper harvests by federally permitted vessels. It is assumed that all snapper grouper harvests by these vessels are captured by the logbook database. Non-federally permitted snapper grouper harvests are also recorded within the federal logbook program, but not all such harvests are recorded here. Total snapper grouper harvests must come from the ALS data. Therefore, assessing the amount of snapper grouper harvests harvested by vessels that do not have the federal commercial snapper grouper permit requires subtracting the federal permit total from the logbook data from the overall total from the ALS data.

d. because they are harvested outside the federal commercial snapper grouper permit system, it is assumed all such snapper grouper represent bag limit sales. The next task is to determine what portion of these fish were harvested from state vs. EEZ waters (because the proposed action would only apply to EEZ harvests). Although the ALS and logbook program have area fished codes, since the tally of bag limit harvests is “back calculated” (ALS total minus logbook federal), the partitioning of the bag limit harvests cannot be directly calculated from either database. Three alternatives to address this have been identified (current preferred alternative identified in bold): **1) assume all fish are harvested from the EEZ** – this would constitute an upper bound on affected harvests; 2) identify the state vs. EEZ distribution from the ALS data (if possible) for all snapper grouper and impose this ratio on the bag limit harvests – this may under or over estimate the amount of affected harvests; and 3) identify the state vs. EEZ distribution of bag limit fish from the logbook data (if possible; all snapper grouper harvests not associated with a federal permit are assumed to be bag limit harvests) and impose this ratio on the bag limit harvests – this may under or over estimate the amount of affected harvests.

e. once the amount of affected EEZ bag limit harvests is determined, these harvests must be partitioned by whether they are marketed through federally permitted dealers or only those with state licenses. Similar to the partitioning of bag limit harvests by EEZ vs. state waters, because of the way EEZ bag limit harvests are calculated, the dealer codes in the ALS cannot be used to directly partition the harvests by dealer type. Three alternatives to address this have been identified (current preferred alternative identified in bold): **1) assume all harvests are purchased by federal dealers** – this would constitute an upper bound on affected harvests; 2) identify the distribution of sales for all snapper grouper within the ALS data (if possible; note that it is unknown at this time if the dealer codes within the ALS can be adequately matched to the federal permit dealer codes to partition these sales) and impose this ratio on the EEZ bag limit harvests – this may under or over estimate the amount of affected harvests; and 3)

- identify the distribution of sales for all snapper grouper within one or more trip ticket databases (if possible; again, issues of merging with federal dealer permit codes may arise) and impose this ratio on the EEZ bag limit harvests – this may under or over estimate the amount of affected harvests.
- f. the output of the previous two bullets would be the identification of historic EEZ harvested bag limit sales sold to federally permitted dealers. This would be total volume and ex-vessel sales value. The presumption is that these totals can be produced by state. However, data issues may necessitate that the totals be for the entire South Atlantic. To identify the relative importance of these harvests, estimates of all revenues from all fishing activities are required. Although the federal logbook program data is used to create such a profile for federally permitted vessels (noting that the profile only encompasses harvests captured within the logbook program), this data cannot be used for participants making bag limit sales because not all of these entities are required to participate in the federal logbook program. Instead, trip ticket data must be assessed. Federal commercial snapper grouper permit data can be merged with state trip ticket data to identify those entities that do not have the federal commercial permit who harvest snapper grouper (presumed bag limit sales). The state vs. EEZ harvest issue again arises. Two alternatives have been identified to address this issue (current preferred alternative identified in bold): **1) assume all snapper grouper bag limit harvests come from EEZ waters** – this would constitute an upper bound on affected entities; and 2) attempt to impose a state vs. EEZ filter on these entities – in theory, this should reduce the number of affected entities. Once the number of entities is determined, all harvests for all species are totaled to generate an average total gross revenue estimate.
- g. currently, trip ticket data from North Carolina are being evaluated by state personnel to identify the total average production per entity described in the previous bullet, with similar analysis planned in-house (NMFS SERO) for Florida trip ticket data based on possession of and prior experience working with the Florida data. To date, similar analysis has not been requested nor initiated for South Carolina or Georgia data. In the absence of directly analyzing the South Carolina and Georgia data, the averages for North Carolina and Florida could be used as proxies.
- h. not directly assessing South Carolina and Georgia data, however, presents a problem. The total ex-vessel value of EEZ harvested bag limit snapper grouper sold to federally permitted dealers tallied by (d) and (e) above represents a fishery-wide total. Averages per entity are needed for the Regulatory Flexibility Act Analysis, which requires the identification of the number of affected entities. The total number of affected entities can only be generated by the analysis of the trip ticket data. Thus, it would seem analysis of South Carolina and Georgia trip ticket data is required.
7. In the analytical approach, it should be noted that vessel id and permit matching can be a very complicated process and perfect matching is generally not possible without the commitment of an inordinate amount of time. In practice, some mismatches are inevitable, affecting the analysis in an indeterminate direction.