Notes: Economic Analysis of Proposed Management Alternatives in Snapper-Grouper Amendment 17 for the Commercial Fishery

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Snapper-Grouper Amendment 17
Notes for an economic analysis of proposed alternatives for the commercial fishery

Amendment 17 for the Snapper-Grouper fishery management plan proposes management actions for speckled hind and warsaw grouper, (golden) tilefish, snowy grouper, and red snapper. These notes document the results of a simulation analysis of proposed alternatives for the commercial snapper-grouper fishery.

Economic analyses are performed for the alternatives within each Action without accounting for the possible interacting effects of alternatives proposed for other Actions. Additional simulations will be performed later to evaluate the combined effects of the preferred alternatives for all Actions. As of this writing, a preferred alternative has not been identified for all Actions.

Method of Analysis

Fishermen with federal permits to participate in the snapper-grouper fishery have been required since 1993 to submit trip reports of their landings by species. Logbook trip reports from 2005-2007 constitute the source of data used in this analysis. Data for 2008 are preliminary and incomplete as of this writing, and hence were not used in the analysis. Data prior to 2005 did not include information about the depth of water where fish were caught, and hence were not used in the analysis. Several proposed alternatives in Amendment 17 would regulate fishing activity by water depth.

The simulation model uses logbook trip reports to predict the short-term economic effects of proposed management alternatives. The general method of analysis is to hypothetically impose proposed regulations on individual fishing trips as reported to the logbook database, and then calculate their effects on trip catches, revenues and costs. Trip-level results are totaled by year for 2005-2007, and the three-year average of simulated results is interpreted as the expected annual outcome of proposed regulations. The three-year average is used so that anomalies that may have affected fishing success in any one year will be averaged out. The average annual simulated fishing incomes net of trip costs (also referred to as *net operating revenues*) for the proposed alternatives are compared to the no-action alternative to estimate the expected economic effects on commercial fishermen.

Net operating revenues for trip j in year t were calculated as trip revenues from all species minus predicted trip costs, which include fuel, oil, bait, ice, and other supplies, and exclude fixed costs and labor costs. Therefore, net operating revenues represent the return to fixed factors of production, labor (including crew) and boat owner. Net operating revenues were adjusted to constant 2008 dollars with the consumer price index for all items and all urban consumers.

The simulation model examines the effects of proposed management alternatives on trip revenues and trip costs. If trip revenues remain greater than trip costs plus opportunity cost of labor after accounting for the likely effects of proposed restrictions, then the trip is

recorded as taken in the simulation model, and the economic effect of the proposed restriction is measured as the loss in revenues associated with the expected reduction in landings per trip. On the other hand, if the proposed alternatives would cause trip revenues to fall below the sum of trip costs and opportunity cost for labor after accounting for the likely effects of proposed restrictions on trip-level harvests, then the trip is recorded as not taken in the simulation model, and losses are measured as a reduction in net operating revenues, which included the loss in revenues from all species minus the savings of trip costs not incurred.

This method of analysis has advantages and disadvantages. The advantages are that logbook data are reported by fishermen, and are available in sufficient detail to analyze and compare the proposed alternatives. The disadvantage is that logbook data reflect fishing patterns and strategies given regulations that will no longer apply. Fishermen will modify their fishing patterns and strategies to minimize the effects of new regulations, but the simulation model does not account for these changes. Therefore, it can only approximate the true, but unknown, outcomes of proposed regulations. Nevertheless, the approach provides useful insights about the relative magnitudes of change due to proposed alternatives and the distribution of effects among subgroups within the fishery.

The No-Action Alternative

The objective of this analysis is to predict the extra economic effects associated with implementation of Amendment 17. It accomplishes this objective by comparing the predicted outcomes of simulations given proposed regulations for Amendment 17 with the predicted outcome of simulations for the no-action alternative. For purposes of this analysis, the no-action alternative is defined by the predicted outcomes of rules specified in Amendments 13C, 15A and 16 even though Amendment 16 has not yet been implemented.

Historical data do not reflect the effects of regulations recently implemented or that are soon to be implemented by the NMFS and South Atlantic Fishery Management Council. Amendment 13C to the Snapper-Grouper Fishery Management Plan was implemented in October 2006, and Amendment 15A was implemented in March 2008. Both amendments primarily regulated the harvest of deep water groupers, tilefish and black sea bass. Amendment 16 is being reviewed and, if implemented, will impose limits on the harvest of vermilion snapper, gag and other shallow water groupers. In addition, landings of other species, such as red snapper, in the snapper-grouper management unit could change if they are indirectly affected by regulations in Amendments 13C, 15A and 16.

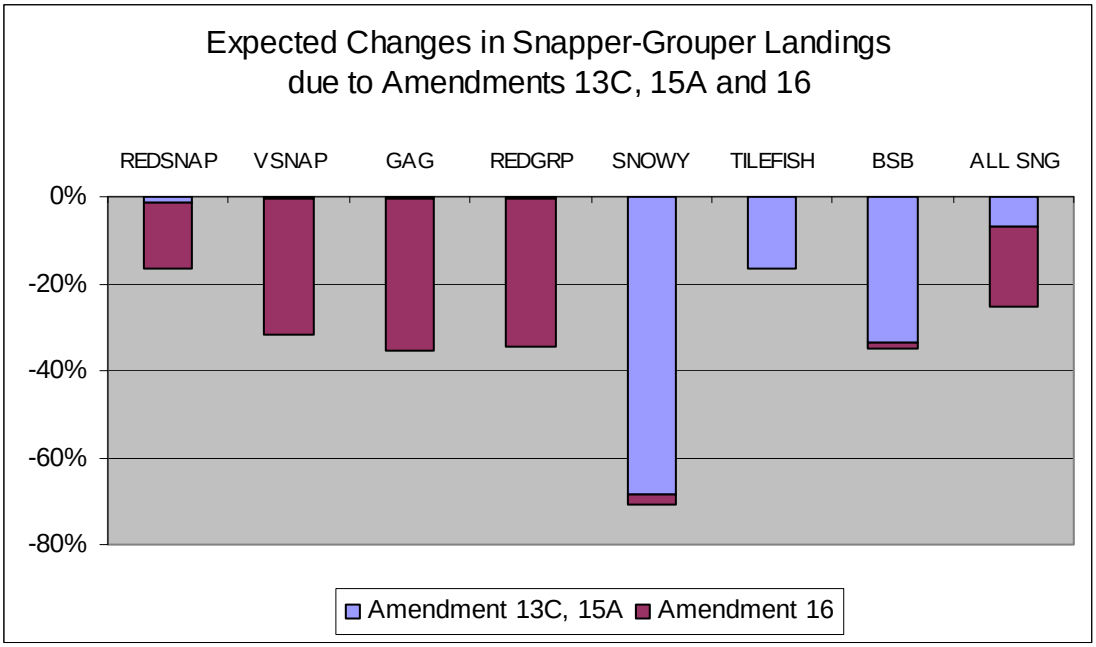
The simulation model was used to predict the effects of Amendments 13C, 15A and 16 on commercial fishing activity for the 2005-2007 study period.

Model Name	*Description of Model*
A13C_NO_ACTION	Fishery without Amendment 13C
A16_NO_ACTION	Fishery prior to Amendment 16, incl. the effects of 13C, 15A
A17_NO_ACTION	Fishery prior to Amendment 17, incl. the effects of 13C, 15A, 16

Model *A13C_NO_ACTION* uses logbook data from 2005-2007 to simulate the fishery prior to the implementation of Amendment 13C. Model *A16_NO_ACTION* uses the same logbook data to simulate the fishery prior to Amendment 16, given the regulations implemented by Amendments 13C and 15A. The difference in outcomes between models *A16_NO_ACTION* and *A13C_NO_ACTION* represents the predicted effects of Amendments 13C and 15A. The light shading in Figure 1 illustrates that Amendments 13C and 15A are expected to affect landings of snowy grouper, golden tilefish and black sea bass.

Model *A17_NO_ACTION* uses the same data to simulate the fishery prior to Amendment 17, and includes the predicted effects of Amendments 13C, 15A and 16. The difference in outcomes between models *A17_NO_ACTION* and *A16_NO_ACTION* represents the predicted effect of Amendment 16. The dark shading in Figure 1 illustrates that Amendment 16 is expected to affect landings of mid-shelf species such as vermilion snapper, gag and red grouper, and to a lesser extent, red snapper.

Figure 1. Percentage change in pounds landed compared to the No-Action alternative for Amendment 13C after accounting for regulations implemented by Amendments 13C and 15A or soon to be implemented by Amendment 16.



Amendments 13C and 16 were predicted to have major economic effects on commercial fishermen (Figure 1). Therefore, although the objective of the current analysis is to predict the extra economic effects of proposed alternatives in Amendment 17, it also is useful to predict the cumulative economic effects of Amendment 17 and previous amendments. For example, the difference in outcomes between models *A17_NO_ACTION* and *A13C_NO_ACTION* represents the cumulative effects of Amendments 13C, 15A and 16. The cumulative effects on landings of selected species

are illustrated by the total length of each bar in Figure 1. The right-most bar in Figure 1 (labeled ALL SNG) illustrates that Amendments 13C, 15A and 16 are expected to reduce the aggregate total landings of all species (including species not shown in Figure 1) in the snapper-grouper management unit by approximately 25 percent compared to reported average annual landings from 2005-2007.

Alternatives for Speckled Hind and Warsaw Grouper

Speckled hind and warsaw grouper are relatively rare, and all proposed alternatives in this Action would prohibit their harvest, possession and sale. The alternatives differ in their restrictions on the harvest of other species so as to reduce the incidental catch and discard of speckled hind and warsaw grouper. See Table 1.

Table 1. Proposed alternatives in Amendment 17 for the management of speckled hind and warsaw grouper. (Table 1 paraphrases rather than includes a verbatim statement of alternatives from Amendment 17.)

Model Name	*Description of Model*
A17_NO_ACTION	*Alternative 1*: No Action. Retain existing regulations for speckled hind and warsaw grouper. (Prohibit purchase and sale of speckled hind and warsaw grouper. Allow one speckled hind and one warsaw grouper per vessel per trip for personal consumption.)
A17_SpHind_ALT2	*Alternative 2*: Prohibit all commercial and recreational fishing for, possession and retention of speckled hind and warsaw grouper.
A17_SpHind_ALT3	*Alternative 3*: Prohibit all commercial and recreational fishing for, possession, and retention of speckled hind, warsaw grouper, snowy grouper, golden tilefish, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper.
A17_SpHind_ALT4	*Alternative 4*: Prohibit all fishing for, possession, and retention of speckled hind, warsaw grouper, snowy grouper, golden tilefish, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper. Allow harvest of golden tilefish in depths from 100m-300m (approx. 330-1000 feet).
A17_SpHind_ALT5	*Alternative 5 (Preferred)*: Prohibit all fishing for, possession, and retention of speckled hind, warsaw grouper, snowy grouper, golden tilefish, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper beyond a depth of 240 feet (40 fathoms; 73 m). Allow harvest of golden tilefish in depths from 100m-300m (approx. 330-1000 feet).

Alternative 2 is the least restrictive because it prohibits the harvest of speckled hind and warsaw grouper only. From an economic perspective, Alternative 2 and the No-Action alternative are equivalent because both specify no sale of either species and without restrictions on the harvest of other species. The simulation results are equivalent by assumption. Hence, no change is shown in Figures 2 and 3 (i.e., the bars for Alternative 2 are coincident with the horizontal axis and do not appear).

Alternative 3 is the most restrictive because it prohibits the harvest and sale of all major deepwater species in the snapper-grouper management unit, including golden tilefish, snowy grouper, yellowedge grouper and other species. Overall, Alternative 3 is expected to reduce net operating revenues in the snapper-grouper fishery about approximately 8.6 percent. The effects of this Action are expected to be incurred primarily by boats that fish with bottom longlines (Figure 2a), which are expected to see net operating revenues reduced by approximately 89 percent (Figure 2b). Boats in central Florida (Figure 3a), where the tilefish fishery primarily occurs, would incur the greatest percentage reductions in net operating revenues (Figure 3b).

Alternative 4 is less restrictive than Alternative 3 because it excludes most of the golden tilefish fishery from the prohibition. Overall, Alternative 4 is expected to reduce net operating revenues in the snapper-grouper fishery about approximately 3.6 percent, while boats with longline gear are expected to see net operating revenues decline by approximately 11 percent (Figure 2b). Boats in North Carolina and the Florida Keys are expected to incur the greatest percentage reductions in net operating revenues (Figure 3b). Boats in central Florida would incur substantially smaller reductions in net operating revenues compared to Alternative 3 because golden tilefish would be exempted from the prohibition (Figure 3a). In aggregate, boats with vertical lines would incur greater absolute losses (Figure 2a), but boats with longlines would incur greater percentage losses (Figure 2b).

Alternative 5 is less restrictive than either Alternatives 3 or 4 because it excludes from the prohibition the harvest of deep water species in waters shallower than 240 feet as well as most of the fishery for golden tilefish. However, it is only slightly less restrictive because most deepwater species are landed in waters of 240 feet or deeper. Overall, Alternative 5 is expected to reduce net operating revenues in the snapper-grouper fishery about approximately 2.7 percent. The incidence of Alternative 5 by gear and state is approximately the same as with Alternative 4 (Figure 2a, 2b, 3a, 3b).

Figure 2a. Change in net operating revenues by gear type for speckled hind-warsaw grouper alternatives compared to the No-Action alternative for Amendment 17.

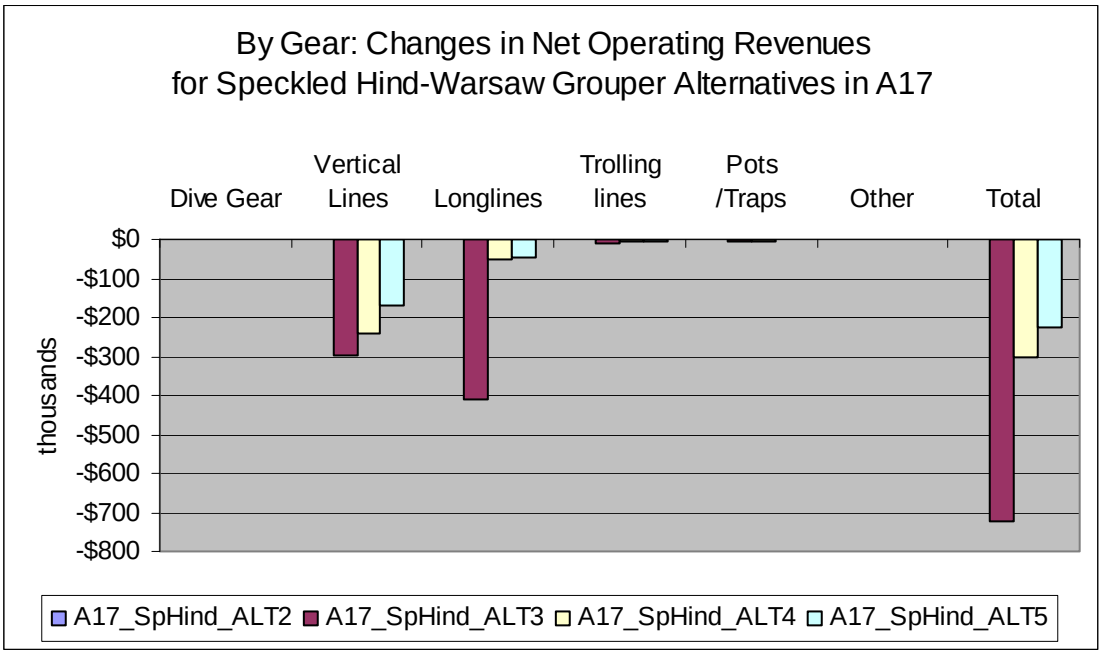


Figure 2b. Percentage change in net operating revenues by gear type for speckled hind-warsaw grouper alternatives compared to the No-Action alternative for Amendment 17.

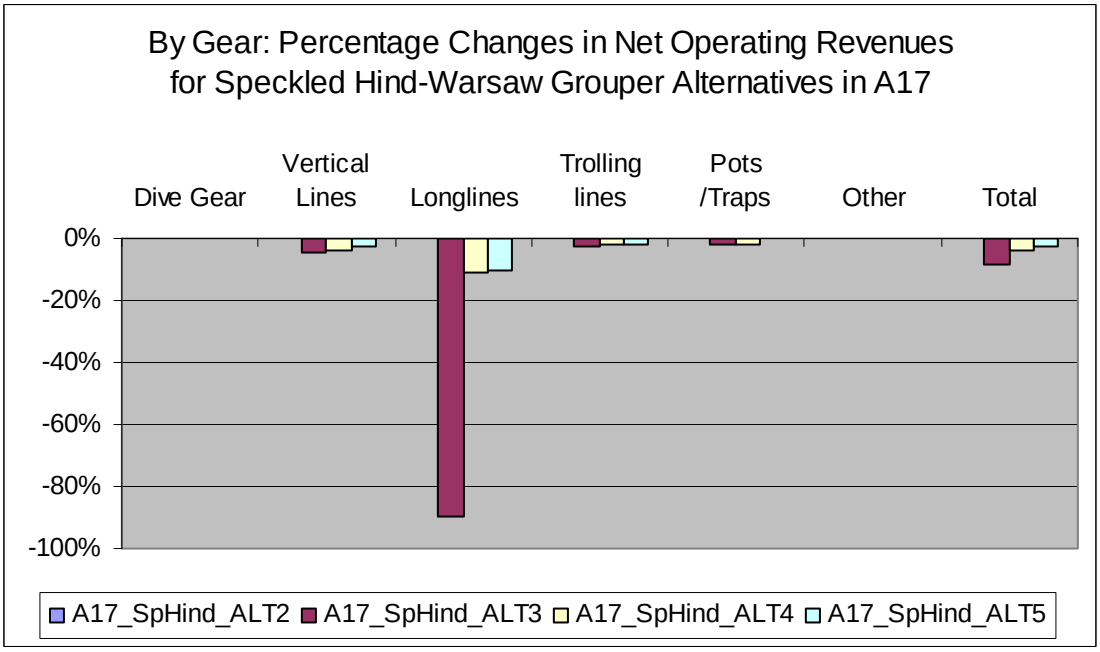


Figure 3a. Change in net operating revenues by state of landing for speckled hind-warsaw grouper alternatives compared to the No-Action alternative for Amendment 17.

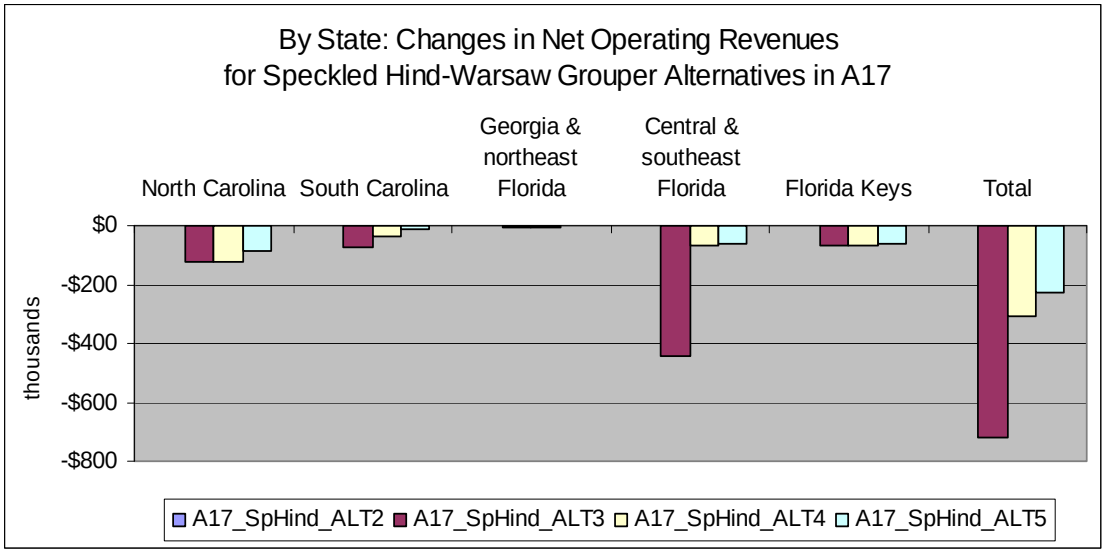
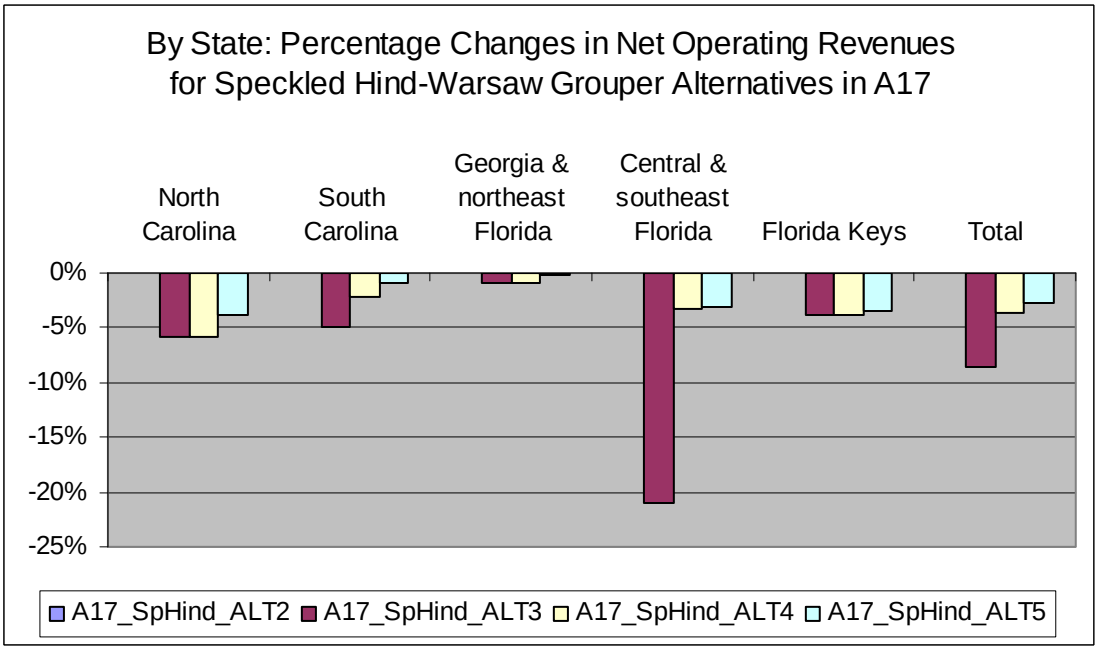


Figure 3b. Percentage change in net operating revenues by state of landing for speckled hind-warsaw grouper alternatives compared to the No-Action alternative for Amendment 17.



Alternatives for Golden Tilefish

The proposed alternatives primarily reflect administrative differences in the way in which the ACLs and AMs for golden tilefish are expressed. The alternatives reflect two levels of harvest available to the commercial fishery. The No-Action alternative would maintain the current commercial quota of 331,000 pounds whole weight, or 295,000 pounds gutted weight, as specified in Amendment 13C. Alternatives 2-5 all would reduce the commercial portion of the ACL to 321,003 pounds whole weight, or 286,609 pounds gutted weight, given the historical commercial share of 98.3 percent. From a modeling perspective, Alternatives 2-5 are identical. Therefore, the simulation analysis compared only preferred Alternative 5 with the No-Action alternative. See Table 2.

Note that alternatives for the management of speckled hind and warsaw grouper have implications for the ability to harvest golden tilefish that are not considered in this discussion of the alternatives about the ACL for tilefish. The simultaneous evaluation of preferred alternatives for the various Actions in Amendment 17 will occur later when preferred alternatives are specified for all Actions.

Table 2. Proposed alternatives in Amendment 17 for the management of golden tilefish. (Table 2 paraphrases rather than includes a verbatim statement of alternatives from Amendment 17.)

Model Name	*Description of Model*
A17_NO_ACTION	*Alternative 1*: No Action. Retain existing regulations for golden tilefish. (The commercial ACL equals the existing quota of 331,000 lbs ww (295,000 lbs gw). Prohibit harvest, possession, and retention of golden tilefish when the quota is met. Purchase and sale of golden tilefish is prohibited when the quota is met. The trip limit is 4,000 lbs (gw) until 75% of quota taken. After 75% of the quota is taken, the trip limit is reduced to 300 lbs (gw). Do not adjust the trip limit unless percent specified is captured on or before September 1.)
A17_Tilefish_ALT5	*Alternative 5 (Preferred)*: The commercial quota at the Foy level would serve as the ACL for the commercial and recreational sectors. The commercial quota would be 321,003 lbs ww (286,609 lbs gw). The trip limit is 4,000 lbs (gw) until 75% of quota taken. After 75% of the quota is taken, the trip limit is reduced to 300 lbs (gw). Do not adjust the trip limit unless percent specified is captured on or before September 1.

The proposed alternatives for golden tilefish would reduce the commercial quota by 3 percent. The simulation model predicts that the lower commercial quota would trigger the smaller trip limit at an earlier date each year and generate an overall reduction in net operating revenues of approximately one-tenth of one percent to the entire snapper-grouper fishery. In aggregate, boats that fish for golden tilefish are predicted to lose approximately 1 percent.

Interestingly, the simulation model predicts that the system of trip limits will prevent the quota from being filled and the fishery from being closed. This contrasts with actual experience because the tilefish fishery was closed on October 23, 2006 and October 3, 2007. The fishery did not close in 2005 because Amendment 13C was not implemented until 2006. Although the simulation analysis did not use data for 2008, we note that the commercial fishery for tilefish was closed on August 17, 2008.

A weakness of the simulation model is its reliance on historical fishery data to predict future fishing patterns when fishermen adjust to regulation over time. The failure of the model to predict closures for the tilefish fishery probably reflects the willingness and ability of fishermen to change their fishing patterns and strategies in response to regulation. In this case, fishermen apparently responded to regulation in Amendment 13C by harvesting tilefish earlier in the fishing year. As a result, the model may underpredict actual losses to the snapper-grouper fishery due to a smaller commercial quota for tilefish, but probably by only a small amount because the landings of tilefish are underpredicted in the simulation of the No-Action alternative as well in the simulation of Alternative 5. Changes in the fishery due to the proposed alternative in Amendment 17 are calculated as the difference between the outcomes of proposed alternative and the No-Action alternative.

Alternatives for Snowy Grouper

The alternatives for management of snowy grouper do not appear to propose any changes in regulations for the commercial sector. Therefore, no simulation analyses were conducted for this Action.

Alternatives for Red Snapper Management Reference Points, Rebuilding Schedules, and Rebuilding Strategies

The alternatives for management reference points, rebuilding schedules and strategies are primarily administrative because the short-term allowable harvest of red snapper is zero pounds regardless of the final choices for these Actions. Therefore, no simulation analyses were conducted.

Alternatives for Red Snapper Management Measures

Red snapper has been determined to be severely overfished, and all proposed alternatives in this Action would prohibit their harvest, possession and sale. The alternatives differ in their restrictions on the harvest of other species so as to reduce the incidental catch and discard of red snapper. See Table 3.

Table 3. Proposed alternatives in Amendment 17 for the management of red snapper. (Table 3 paraphrases rather than includes a verbatim statement of alternatives from Amendment 17.)

Model Name	*Description of Model (preferred alternative not identified yet)*
A17_NO_ACTION	*Alternative 1*: No Action. Retain existing regulations for red snapper, including a 20 inch size limit (commercial & recreational) and a recreational 2 fish bag limit (included in the 10 snapper per person limit).
A17_RedSnap_ALT2	*Alternative 2*: Alternative 2. Prohibit all commercial and recreational harvest, possession, and retention of red snapper year-round in the South Atlantic EEZ.
A17_RedSnap_ALT3	*Alternative 3*: Alternative 3. Prohibit all commercial and recreational harvest, possession, and retention of red snapper year-round in the South Atlantic EEZ. Prohibit commercial and recreational harvest, possession, and retention of other species in the snapper grouper FMU year-round in an area that includes commercial logbook grids 2880, 2980, 3080, and 3180 between a depth of 98 feet (16 fathoms; 30 m) to 240 feet (40 fathoms; 73 m). Allow black sea bass harvest, possession, and retention in the closed area if fish were harvested with black sea bass pots with endorsements. Allow golden tilefish harvest, possession, and retention in the closed area. Allow harvest, possession, and retention of snapper grouper species in the closed area if fish were harvested with spearfishing gear.
A17_RedSnap_ALT4	*Alternative 4*: Alternative 4. Prohibit all commercial and recreational harvest, possession, and retention of red snapper year-round in the South Atlantic EEZ. Prohibit commercial and recreational harvest, possession, and retention of other species in the snapper grouper FMU year-round in an area that includes commercial logbook grids 2880, 2980, 3080, 3179, 3180, 3278, and 3279 between a depth of 98 feet (16 fathoms; 30 m) to 240 feet (40 fathoms; 73 m). Allow black sea bass harvest, possession, and retention in the closed area if fish were harvested with black sea bass pots with endorsements. Allow golden tilefish harvest, possession, and retention in the closed area. Allow harvest, possession, and retention of snapper grouper species in the closed area if fish were harvested with spearfishing gear.
A17_RedSnap_ALT5	*Alternative 5*: Alternative 5. Prohibit all commercial and recreational harvest, possession, and retention of red snapper year-round in the South Atlantic EEZ. Prohibit commercial and recreational harvest, possession, and retention of other species in the snapper grouper FMU year-round in an area that includes commercial logbook grids 2880, 2980, 3080, and 3180. Allow black sea bass harvest, possession, and retention in the closed area if fish were harvested with black sea bass pots with endorsements. Allow golden tilefish harvest, possession, and retention in the closed area. Allow harvest, possession, and retention of snapper grouper species in the closed area if fish were

Model Name	*Description of Model (preferred alternative not identified yet)*
	harvested with spearfishing gear.
A17_RedSnap_ALT6	*Alternative 6.* Prohibit all commercial and recreational harvest, possession, and retention of red snapper year-round in the South Atlantic EEZ. Prohibit commercial and recreational harvest, possession, and retention of other species in the snapper grouper FMU year-round in an area that includes commercial logbook grids 2880, 2980, 3080, 3179, 3180, 3278, and 3279. Allow black sea bass harvest, possession, and retention in the closed area if fish were harvested with black sea bass pots with endorsements. Allow golden tilefish harvest, possession, and retention in the closed area. Allow harvest, possession, and retention of snapper grouper species in the closed area if fish were harvested with spearfishing gear.

Alternative 2 is the least restrictive alternative because it would prohibit the harvest of red snapper only, and is expected to reduce net operating revenues for commercial fishermen by approximately 3 percent per year. The expected loss is relatively small because red snapper is not a high-volume species in the commercial snapper-grouper fishery.

Alternatives 3 and 4 would prohibit the harvest of all species in the snapper-grouper management unit by water depth and area fished, whereas Alternatives 5 and 6 would prohibit harvests by area only (Table 3). Alternatives 3 and 5 would prohibit harvests of snapper-grouper species off northeast Florida and Georgia, while Alternatives 4 and 6 would prohibit harvests off portions of South Carolina in addition to northeast Florida and Georgia. Therefore, Alternative 4 is expected to generate greater losses for the commercial fishery than Alternative 3 because it encompasses a broader range of restricted waters. Alternative 6 is expected to generate greater losses than Alternative 5 for the same reason. In addition, although Alternatives 3 and 5 would restrict fishing in the same areas, Alternative 5 is expected to generate greater losses than Alternative 3 because Alternative 3 would prohibit harvests only in water depths between 98 and 240 feet. Alternative 6 is expected to generate greater losses than Alternative 4 for the same reason.

An unexpected finding of the simulation analysis was that proposed Alternatives 3-6 would increase catches of red grouper and various other species during the fourth calendar quarter of the year compared to the No-Action alternative. Although not yet implemented, the predicted effects of Amendment 16 are included in the No-Action alternative for Amendment 17. Amendment 16 specifies a commercial quota for gag, with the additional provision that the entire shallow water grouper fishery would be closed when the quota for gag is filled. The simulation analysis for Amendment 17 predicts that the proposed restrictions on the harvest of red snapper and other species in the snapper-grouper unit, including gag, would enable the fishery for shallow water groupers to remain open for most of the calendar year. Therefore, while the commercial fishery still would land its quota for gag, landings of other shallow water groupers and

species commonly caught with shallow water groupers could be greater than with No Action.

One implication of this finding is that a longer open season for shallow water groupers would partially offset the overall losses that normally would be expected from the proposed alternatives for red snapper (Figures 4a and 4b). As a result, the simulated reductions in net operating revenues would be approximately 3.3 percent for Alternative 3, 8.1 percent for Alternative 4, 3.6 percent for Alternative 5, and 11 percent for Alternative 6. These estimates represent reductions in net operating revenues to the entire snapper-grouper fishery. Losses would be greater for the sub-set of fishermen who reported landing red snapper between 2005 and 2007.

Losses would be incurred primarily by fishermen who use vertical lines, although fishermen with dive gear could gain with Alternatives 4 and 6 because dive gear would be exempt from the prohibition on harvesting activities within the restricted areas (Figures 5a and 5b).

Fishermen in northeast Florida and Georgia would incur the largest losses in absolute and relative terms because that region represents the center of the red snapper fishery (Figures 6a and 6b). On the other hand, fishermen in North Carolina are predicted to gain if the shallow water grouper fishery remains open longer than with the No-Action alternative. Fishermen in South Carolina are predicted to gain with Alternatives 3 and 5 and lose with Alternatives 4 and 6. Alternatives 3 and 5 would limit the closures to areas off the coast of northeast Florida and Georgia, whereas Alternatives 4 and 6 also would close areas off the coast of South Carolina.

The finding that proposed alternatives for Amendment 17 could result in a longer open season for shallow water groupers and potential increases in net operating revenues for fishermen who land shallow water groupers during the longer open season is intriguing. However, the simulation model is based on historical fishing patterns and strategies, and fishermen probably will respond to Amendments 16 and 17 by redirecting some of their fishing activity to unrestricted areas and unrestricted depths. The redirected fishing effort may not be as productive and profitable, and hence the proposed alternatives in Amendment 17 probably will slow the rate at which gag are harvested. However, the simulation model probably overestimates the likelihood of a significantly shorter season for shallow water groupers because it does not account for changes in fishing patterns as fishermen respond to Amendments 16 and 17. Therefore, the predicted increases in net operating revenues during the fourth quarter and in North Carolina may be overestimated.

Note that alternatives for the management of red snapper could interact with proposed alternatives for tilefish and speckled hind-warsaw grouper that are not considered in these discussions. The simultaneous evaluation of preferred alternatives for the various Actions in Amendment 17 will occur later when preferred alternatives are specified for all Actions.

Figure 4a. Change in net operating revenues by calendar quarter for red snapper alternatives compared to the No-Action alternative for Amendment 17.

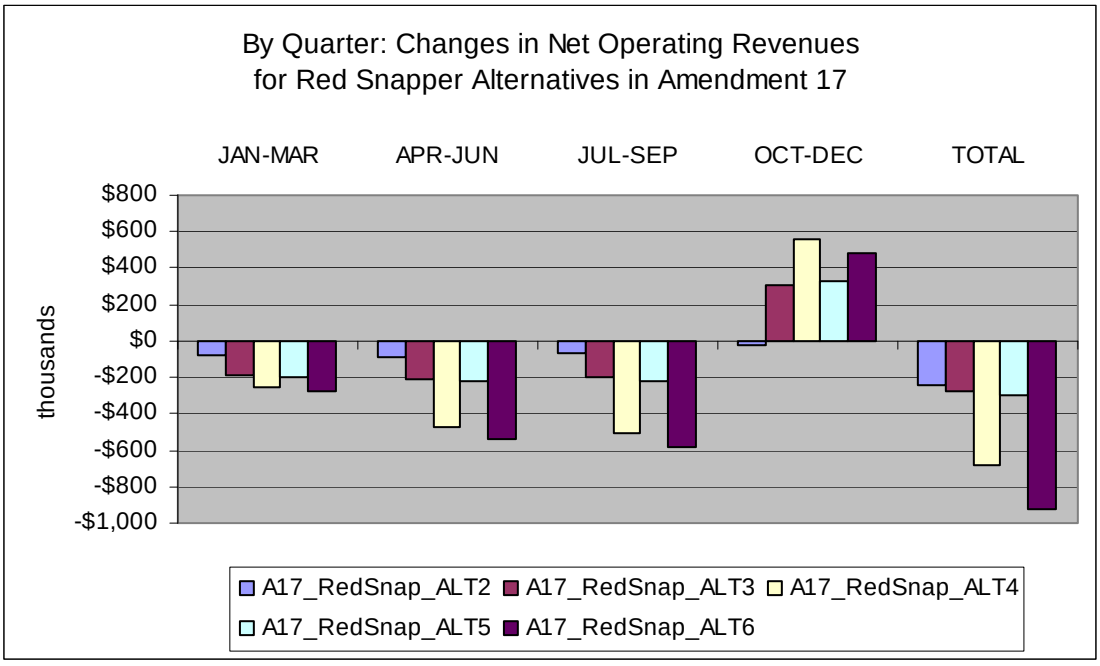


Figure 4b. Percentage change in net operating revenues by calendar quarter for red snapper alternatives compared to the No-Action alternative for Amendment 17.

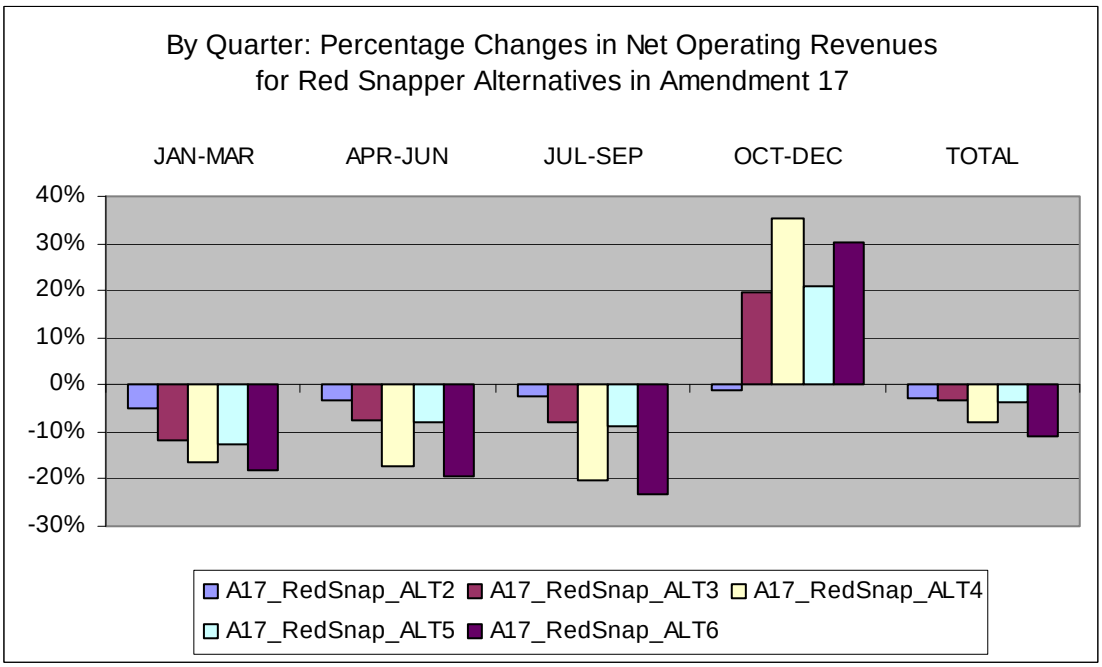


Figure 5a. Change in net operating revenues by gear type for red snapper alternatives compared to the No-Action alternative for Amendment 17.

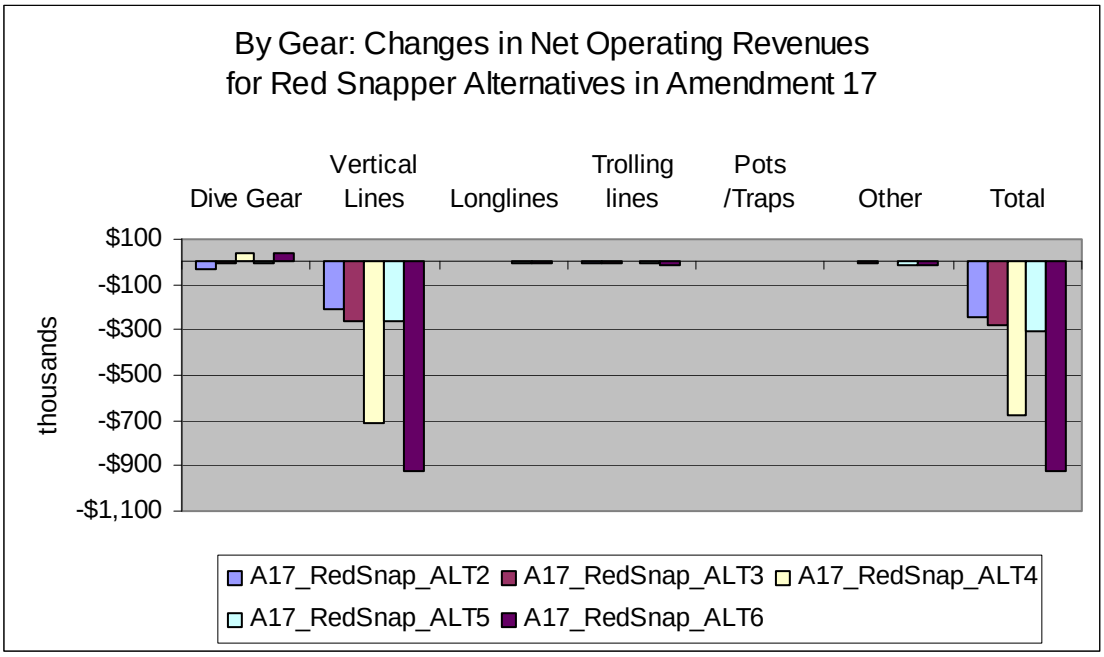


Figure 5b. Percentage change in net operating revenues by gear type for red snapper alternatives compared to the No-Action alternative for Amendment 17.

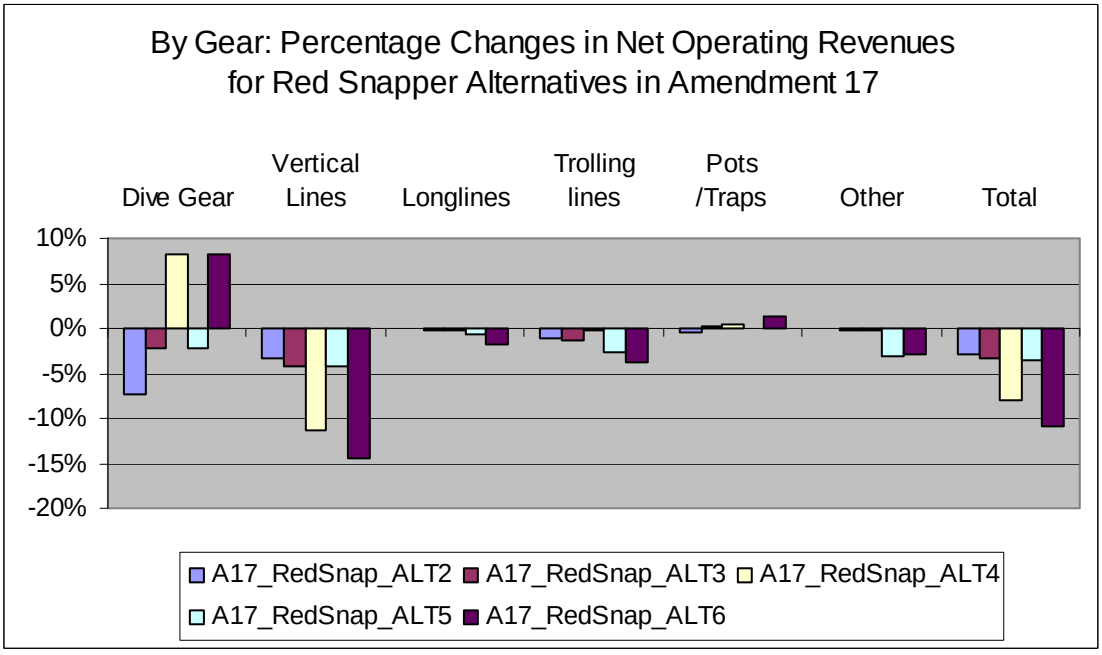


Figure 6a. Percentage change in net operating revenues by state of landing for red snapper alternatives compared to the No-Action alternative for Amendment 17.

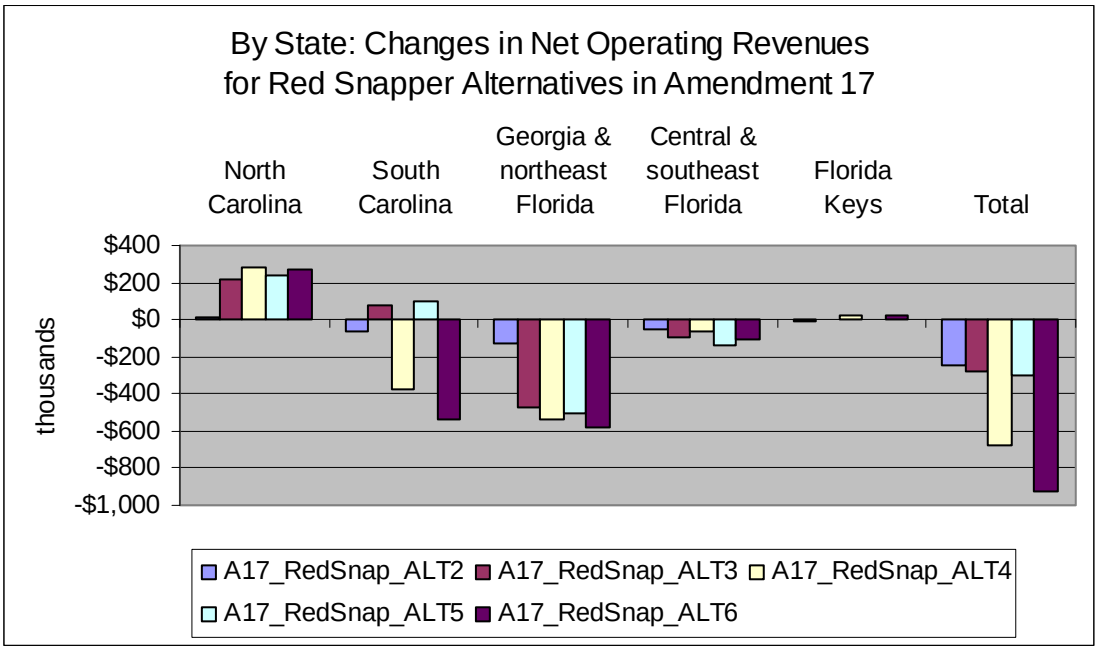


Figure 6b. Percentage change in net operating revenues by state of landing for red snapper alternatives compared to the No-Action alternative for Amendment 17.