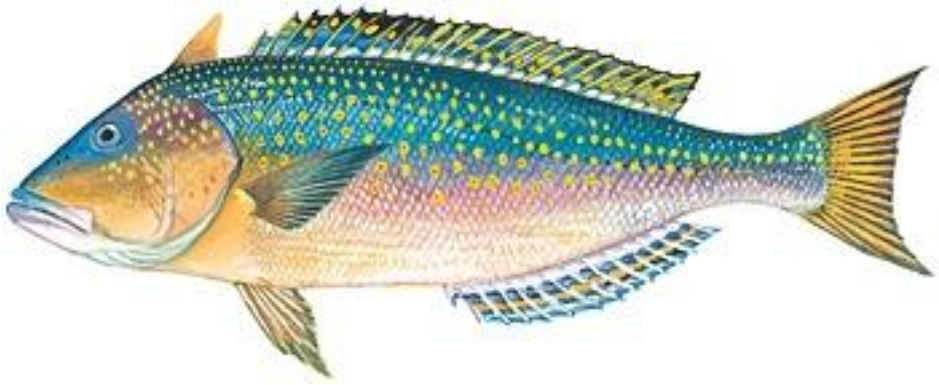

Amendment 18B

to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region

Golden Tilefish Management

Draft Environmental Assessment Initial Regulatory Flexibility Act Analysis Regulatory Impact Review

Social Impact Assessment/Fishery Impact Statement

JANUARY 2012

Definitions of Abbreviations and Acronyms Used in the Amendment

ABC	acceptable biological catch
ACL	annual catch limits
AM	accountability measures
ACT	annual catch target
B	a measure of stock biomass in either weight or other appropriate unit
B_{MSY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{MSY}
B_{OY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{OY}
B_{CURR}	The current stock biomass
CPUE	catch per unit effort
EA	environmental assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
F	a measure of the instantaneous rate of fishing mortality
$F_{30\%SPR}$	fishing mortality that will produce a static SPR = 30%
F_{CURR}	the current instantaneous rate of fishing mortality
F_{MSY}	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}
F_{OY}	the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of B_{OY}
FEIS	final environmental impact statement
FMP	fishery management plan
FMU	fishery management unit
M	natural mortality rate
MARMAP	Marine Resources Monitoring Assessment and Prediction Program
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OY	optimum yield
RIR	regulatory impact review
SAMFC	South Atlantic Fishery Management Council
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SIA	social impact assessment
SPR	spawning potential ratio
SSC	Scientific and Statistical Committee

Amendment 18B

to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region with Draft Environmental Assessment, Initial Regulatory Flexibility Act Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement

Proposed actions:	Limit participation and effort in the golden tilefish portion of the snapper grouper fishery.
Lead agency:	FMP Amendment – South Atlantic Fishery Management Council EA - NOAA Fisheries Service
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NOI for Amendment 18:	January 28, 2009 74 FR 4944
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Abstract

The South Atlantic Fishery Management Council (South Atlantic Council) is concerned that regulations implementing several recent snapper grouper amendments could increase the incentive to fish for golden tilefish. Therefore, the South Atlantic Council is proposing management measures that would limit participation in the golden tilefish sector of the snapper grouper fishery.

Actions in Amendment 18B would:

- Limit participation in the golden tilefish portion of the snapper grouper fishery through an endorsement program
- Establish criteria for transferability of endorsements
- Establish an appeals process for endorsements
- Change the golden tilefish fishing year
- Change golden tilefish commercial trip limits
- Establish trip limits for fishermen who qualify for an endorsement in the hook and line fishery and those who do not qualify

This Draft Environmental Assessment (EA) has been prepared to analyze the effects of implementing regulations to achieve the actions listed above.

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Action 2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement

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Action 4. Establish an Appeals Process

Action 5. Allocate Commercial Golden Tilefish Quota Among Gear Groups

Action 6. Allow for Transferability of Golden Tilefish Endorsements

Action 7. Adjust Golden Tilefish Fishing Year

Action 8. Establish Golden Tilefish Fishing Limits

Action 9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement

Action 10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement

Action 11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish

Action 12. Revise Accountability Measures (AMs) for Golden Tilefish

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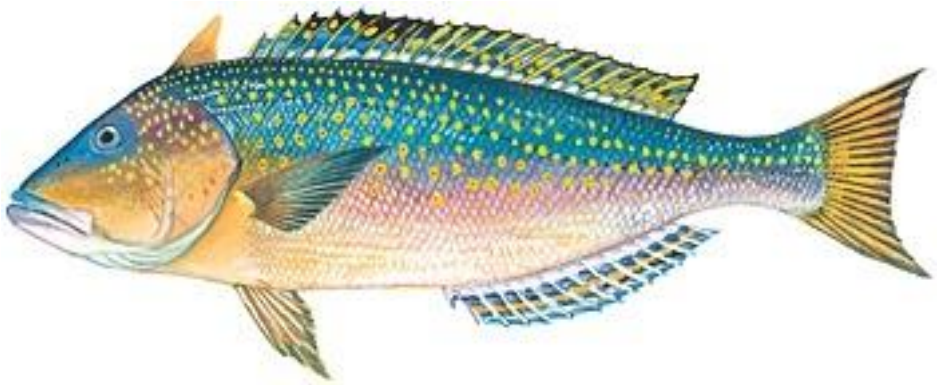
SUMMARY

of
AMENDMENT 18B
to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region



Golden Tilefish, *Lopholatilus chamaeleonticeps*

Why is the South Atlantic Council taking Action?

Recent amendments to the Snapper Grouper FMP have imposed more restrictive harvest limitations on snapper grouper fishermen. In an effort to identify other species to target, a greater number of fishermen may target golden tilefish. An increase in effort on these species would intensify the "race to fish" that already exists, which has resulted in a shortened season. The fishing season for golden tilefish in recent years has already been shortened to such a degree that South Carolina longline fishermen -- who are typically unable to fish until April or May due to weather conditions -- and hook and line fishermen from Florida --who typically do not fish until the fall -- are increasingly unable to participate in the fishery. The South Atlantic Fishery Management Council (Council) is concerned an increase in effort on golden tilefish could deteriorate profits.

Purpose for Action

The ***purpose*** of Amendment 18B is to limit participation in the golden tilefish portion of the snapper grouper fishery through establishment of longline and hook and line endorsements, consider changes to the fishing year, allocate the Annual Catch Limit (ACL) between gear groups, modify existing or establish new golden tilefish trip limits, and update the ACL and other values based on the most recent stock assessment.

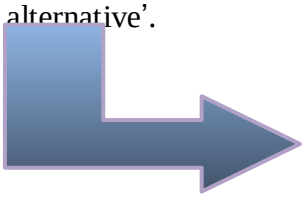
The actions proposed in this amendment will address issues that have arisen as a result of a more stringent regulatory regime in the South Atlantic region and from the most recent stock assessment.

Need for Action

The ***need*** for action in Amendment 18B is to reduce overcapacity in the golden tilefish portion of the snapper grouper fishery and to update the ACL and other values based on the most recent stock assessment.

What Are the Proposed Actions?

There are 12 actions being proposed in Amendment 18B. Each *action* has a range of *alternatives*, including a 'no action alternative' and a 'preferred alternative'.



➡ Indicates the Council's preferred alternative(s)

Proposed Actions in Amendment 18B

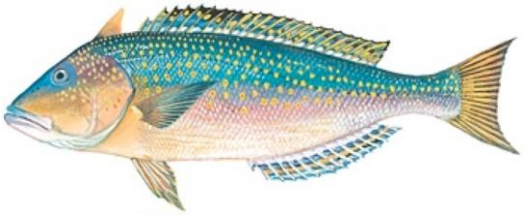
1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Annual Catch Limit (ACL) Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust the Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise the Accountability Measures (AMs) for Golden Tilefish

What Is the Status of the Golden Tilefish Stock?

Golden tilefish were assessed through the Southeast Data, Assessment and Review (SEDAR) process in 2011 using data through 2010.

SEDAR is a cooperative Fishery Management Council process initiated to improve the quality and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and US Caribbean. The Caribbean, Gulf of Mexico, and South Atlantic Fishery Management Councils manage SEDAR in coordination with NOAA Fisheries and the Atlantic and Gulf States Marine Fisheries Commissions. SEDAR seeks improvements in the scientific quality of stock assessments, constituent and stakeholder participation in assessment development, transparency in the assessment process, and a rigorous and independent scientific review of completed stock assessments.

Golden Tilefish Life History
An Overview



- On the Atlantic coast, they occur from Nova Scotia to South Florida.
- Most often found around 600 feet, over mud or sand bottom.
- May live up to 50 years
- Spawn from March to July with peak in April
- Not undergoing overfishing, not overfished.

Following the assessment, the South Atlantic Council's Scientific and Statistical Committee (SSC) reviews the stock assessment information and advises the Council on whether the best available data were utilized and whether the outcome of the assessment is suitable for management purposes.

The stock assessment for golden tilefish (SEDAR 25 2011) indicated that the South Atlantic population is **not overfished nor undergoing overfishing**. The current level of spawning stock biomass (SSB_{2010}) is estimated to be well above the Minimum Stock Size Threshold (MSST) -- $SSB_{2010}/MSST = 2.43$. The current level of fishing is slightly higher than one-third of F_{MSY} ($F_{2008\text{-}2010}/F_{MSY} = 0.36$).

What Are the Alternatives?

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery

Alternative 1 (No Action). Do not limit effort in the golden tilefish portion of the snapper grouper fishery through an endorsement program.

Alternative 2. Limit golden tilefish effort through a golden tilefish gear endorsement program: Distribute golden tilefish gear specific endorsements for snapper grouper permit holders that qualify under the eligibility requirements stated below. Only snapper grouper permit holders with a golden tilefish longline endorsement or a golden tilefish hook and line endorsement associated with their snapper grouper permit will be allowed to possess golden tilefish.

Sub-alternative 2a (Preferred). Individuals that meet the qualifying criteria for both hook and line and longline endorsements may receive both endorsements.

Sub-alternative 2b. Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive one endorsement, chosen by the individual that qualifies.

Proposed Actions in Amendment 18B

1. **Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery**
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Summary of Effects

Biological: **Sub-alternatives 2a** and **2b (Preferred)** address endorsement restrictions for entities that qualify for both hook and line, and long line endorsements. Longline gear is more efficient than hook and line gear in capturing golden tilefish. Yet, allowing more efficient gear to capture golden tilefish would not be expected to negatively impact the stock since ACLs and AMs are in place to prevent overfishing. While it has not been very well documented, longline gear could be more likely to interact with protected species and negatively impact bottom habitat than hook and line gear. Any differences in the biological effects of the Sub-alternatives would be expected to be small.

Economic: **Alternative 2** and its Sub-alternatives would limit participation in the fishery. Reducing the number of fishermen would presumably extend the season, assuming all other factors affecting fishing for golden tilefish remain constant. Lengthening the fishing season would reduce the race to fish, which could have the effect of raising dockside prices for those fishermen that remain in the golden tilefish portion of the snapper grouper fishery.

Social: Although this proposed action would not limit total golden tilefish harvest, restricting participation may affect the total amount of golden tilefish harvested as well as change product flow through the various communities and dealers. If the more significant harvesters receive endorsements, total volume and the communities where most golden tilefish is landed should not be affected. It is possible, however, that smaller harvests of golden tilefish by some fishermen make up a larger portion of total harvest quantities by these fishermen or sales activity by some dealers. As a result, while the proposed endorsement system should preserve, and possibly increase, the social benefits to the more active producers and dealers and associated communities, absent fishermen landing in multiple ports and selling to multiple dealers in the same city, reduced social and economic benefits will be experienced by some communities and dealers as well as the fishermen who do not receive an endorsement.

Sub-alternative 2a (Preferred) would be expected to result in greater fishing effort than **Sub-alternative 2b** because it may result in either continued fishing by the original qualifier under one gear/endorsement when it may not be profitable to do so with the other gear/endorsement, or fishing by another entity upon endorsement transfer. As a result, effort reduction may not be as great under **Sub-alternative 2a (Preferred)** and social benefits would be reduced accordingly.

2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement

Alternative 1 (No Action). Do not establish initial eligibility requirements for a golden tilefish hook and line endorsement

Alternative 2. Establish initial eligibility requirements for a golden tilefish hook and line endorsement based on the following criteria:

Sub-alternative 2a. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gutted weight (gw) (with hook and line gear) when the individual's best three of five years from 2001-2005 are aggregated.

Sub-alternative 2b. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gw (with hook and line gear) when the best 3 of 5 years 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008.

Sub-alternative 2c. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 500 pounds gw (with hook and line gear) when the best 3 of 5 years 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008.

Sub-alternative 2d (Preferred). To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 500 pounds gw (with hook and line gear) when the best 3 of 6 years from 2005-2010 are aggregated.

Sub-alternative 2e. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gw (with hook and line gear) when the best 3 of 6 years from 2005-2010 are aggregated.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. **Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement**
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Summary of Effects

Biological: It is likely that the biological effects of the different Sub-alternatives would be very similar. However, if alternatives that limit the number of participants also result in a reduction in the amount of gear deployed and golden tilefish landed, it is possible the biological benefits would be greater for alternatives that restrict the greater number of participants. **Sub-alternative 2d (Preferred)** would result in the greatest number (39) of hook and line endorsements among the Sub-alternatives considered. Therefore, the biological benefits of **Preferred Sub-alternative 2d** could be less than the other alternatives considered.

Economic: The benefit of a smaller numbers of endorsements is an expectation of higher *average* profits per endorsement holder. Therefore, it can be expected that the highest average profits per hook and line endorsement holder would occur under **Sub-alternatives 2b** and **2c** and the lowest under **Preferred Sub-alternative 2d** (**Table S-1**).

Table S-1. Number of hook and line endorsements for Sub-alternatives under **Action 2**.

Sub-alternatives for Hook and Line Endorsements	Eligibility Requirement	Number of Endorsements
2a	At least 1,000 pounds gw when best 3 of 5 years 2001-05 are aggregated	25
2b	At least 1,000 pounds gw when best 3 of 5 yrs 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008	17
2c	At least 500 pounds gw when best 3 of 5 years 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008	17
2d (Preferred)	**At least 500 pounds gw when the best 3 of 5 years from 2005-2009 are aggregated**	**39**
2e	At least 1,000 pounds gw when the best 3 of 5 years from 2005-2009 are aggregated	30

Social: It should be noted that the two-tiered qualification criteria are not fully complementary in that the second criterion (current participation) may exclude fishermen that the first criterion (historical participation to address current shifts in participation/harvest activity) seeks to benefit; i.e., a fishermen's current lack of harvests could be a result of the functional reallocation of harvests that is the motivating factor for the proposed action. From this perspective, the smaller the current qualifying poundage, the less likely a historical participant will be excluded. All factors considered, in general, the higher the number of endorsements, the less disruption of current harvest patterns and associated social conditions.

Sub-alternatives 2a, **2b**, and **2c** will be more beneficial for fishermen who have historically worked in the fishery, while having negative impacts on fishermen who have more recently entered the fishery. By selecting eligibility criteria to reflect a longer history of participation and/or consistent participation, benefits would be expected for established operations, infrastructure, and communities. **Sub-alternatives 2d (Preferred)** and **2e** will benefit the fishermen who have entered the hook and line portion of the golden tilefish fishery in more recent years and also fishermen who have participated consistently in the last several years. However, under any allocation scenario, fishermen who receive an endorsement will be expected to benefit due to less competition in fishing and in the markets.

Under all Sub-alternatives, Florida would receive the majority of hook and line endorsements, with the largest number of recipients in Florida under **Sub-alternative 2d (Preferred)** and the fewest under **Sub-alternatives 2b** and **2c**. No vessel with a homeport in Georgia would be expected to receive an endorsement under any Sub-alternatives. One South Carolina permit would be expected to qualify for a hook and line endorsement under **Sub-alternatives 2d (Preferred)** and **2e**. One permit associated with a North Carolina home port would be expected to qualify under **Sub-alternatives 2a**, **2b**, **2c**, and **2e**, and an additional permit would qualify under **Sub-alternative 2d (Preferred)**.

3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement

Alternative 1 (No Action). Do not establish initial eligibility requirements for a golden tilefish longline endorsement

Alternative 2. Establish initial eligibility requirements for a golden tilefish longline endorsement based on the following criteria:

Sub-alternative 2a. To receive a golden tilefish longline endorsement, the individual must have a total of 2,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.

Sub-alternative 2b. To receive a golden tilefish longline endorsement, the individual must have a total of 5,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.

Sub-alternative 2c. To receive a golden tilefish longline endorsement, the individual must have an average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.

Sub-alternative 2d. To receive a golden tilefish longline endorsement, the individual must have an average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. **Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement**
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Sub-alternative 2e. To receive a golden tilefish longline endorsement, the individual must have an average of 10,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009.

Sub-alternative 2f (Preferred). To receive a golden tilefish longline endorsement, the individual must have an average of 10,000 pounds gw golden tilefish caught (with longline gear) for the best 3 years within the period 2006 through 2010.

Summary of Effects

Biological: All of the Sub-alternatives under **Alternative 2** would result in a reduction in the number of participants but not necessarily limit the effort or harvest. It is possible that alternatives that limit the number of participants could also result in a reduction in the amount of gear deployed and golden tilefish landed. If this were the case, then biological benefits could be expected for golden tilefish and the chance of interactions with protected species could be reduced. **Sub-alternative 2a** would result in 17 longline endorsements (**Table S-2**). Therefore, the biological benefits of this Sub-alternative could be less than under other Sub-alternatives. However, it is also possible that effort would remain the same regardless of the number of vessels fishing. Therefore the biological effects of **Sub-alternatives 2a-2f (Preferred)** could be very similar.

Table S-2. Number of longline endorsements for sub-alternatives under **Action 3**.

Sub-alternatives for Longline Endorsements	Eligibility Requirement	Number of Endorsements
2a	At least 2,000 pounds gw when landings from 2006-08 are aggregated	17
2b	At least 5,000 pounds gw when landings from 2006-08 are aggregated	12
2c	At least 5,000 pounds gw when landings from 2006-08 are averaged	11
2d	Average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009	12
2e	Average of 10,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009	8
2f (Preferred)	**Average of 10,000 pounds gw golden tilefish caught (with longline gear) for the best 3 years within the period 2006 through 2010**	**14**

Economic: The benefit of a smaller numbers of endorsements is an expectation of higher average profits per endorsement holder. The highest *average* profits per longline endorsement holder would occur under **Sub-alternative 2e** and the lowest under **Sub-alternative 2a**. It is not expected that a smaller number of endorsements would necessarily yield higher *total* or *aggregate* profits compared to a larger number of endorsements. However, theoretically, the expectation is that a smaller number of vessels could be more profitable than a larger number of vessels because a smaller number of vessels would cut costs. However, too few vessels could limit catch and therefore revenues. While a quantitative analysis is theoretically possible, economic data

specific to the golden tilefish gear groups do not exist at this time and therefore, such an analysis cannot be done.

Social: Typically, the fewer eligible individuals may be more likely to result in negative social impacts due to not being allowed to harvest golden tilefish. Under this assumption, **Sub-alternative 2a** would have the least negative social impact by allocating endorsements to the most fishermen, while **Sub-alternative 2e** would be most likely to result in negative impacts on fishermen who do not receive an endorsement. However, under any allocation scenario, fishermen who receive an endorsement will be expected to benefit due to less competition in fishing and in the markets.

Florida would receive the most endorsements under each Sub-alternative. Although the highest number of Florida permits (13) would qualify under **Sub-alternative 2a**, this is less than 60% of the total number of Florida permits with recent golden tilefish landings with longline gear. The other Sub-alternatives would allow less than half of the permits in Florida with recent landings to qualify for a longline endorsement, including **Sub-alternative 2f (Preferred)**. However, of the 22 permits with longline landings, 9 permits had less than 5,000 pounds (gw) total golden tilefish landings from 2006-2010, which suggests that some of the permit holders that do not qualify for a longline endorsement may not be dependent on the longline golden tilefish fishery and will not be impacted by the endorsement program.

No vessel in Georgia would receive an endorsement under any of the Sub-alternatives, while under **Sub-alternatives 2a-2c** three permits with an associated home port in South Carolina would be expected to qualify. Two or one South Carolina permit would be expected to receive a longline endorsement under **Sub-alternatives 2d** and **2e**, respectively, and four South Carolina permits would qualify under **Sub-alternative 2f (Preferred)**. Only one North Carolina permit would receive an endorsement under **Sub-alternative 2a** but not under any other Sub-alternative.

4. Establish an Appeals Process

Alternative 1 (No Action). Do not specify provisions for an appeals process associated with the golden tilefish endorsement program.

Alternative 2 (Preferred). A period of 90 days will be set aside to accept appeals to the golden tilefish endorsement program starting on the effective date of the final rule. The Regional Administrator (RA) will review, evaluate, and render final decisions on appeals. Hardship arguments will not be considered. The RA will determine the outcome of appeals based on NMFS' logbooks. If NMFS' logbooks are not available, the RA may use state landings records. Appellants must submit NMFS' logbooks or state landings records to support their appeal.

Alternative 3. A period of 90 days will be set aside to accept appeals to the golden tilefish endorsement program starting on the effective date of the final rule. The RA will review, evaluate, and render final decisions on appeals. Hardship arguments will not be considered. A special board composed of state directors/designees will review, evaluate, and make individual recommendations to the RA on appeals. Hardship arguments will not be considered. The special board and the RA will determine the outcome of appeals based on NMFS' logbooks. If NMFS' logbooks are not available, the RA may use state landings records. Appellants must submit NMFS' logbooks or state landings records to support their appeal.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. **Establish an Appeals Process**
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Summary of Effects

Biological: Establishing an appeals process is an administrative action. Therefore, it is not anticipated to directly or indirectly affect the physical, biological or ecological environments in a positive or negative manner.

Economic: The number of appeals received largely determines the economic impacts of an appeals program. Fishermen excluded from the endorsement program who decide to appeal may incur costs associated with trying to prove their case. However, access to NMFS' logbook landings or state trip tickets should be at little or no cost to a fisherman. Some complications may arise in the case of transferred permits for the new permit owner may not have access to NMFS logbook landings for the previous owner. Access to state trip tickets in this situation would depend on the respective state's rule on access to trip ticket information.

Social: The absence of an appeals process under **Alternative 1 (No Action)** would be expected to increase the likelihood that one or more appropriate qualifiers would not receive an endorsement, resulting in less social benefits than would occur if an appeals process is established under **Alternative 2 (Preferred)** and **Alternative 3**. There would likely be minimal difference in the social effects between **Alternative 2 (Preferred)** and **Alternative 3**.

5. Allocate Commercial Golden Tilefish Quota Among Gear Groups

Alternative 1 (No Action). Do no allocate the commercial golden tilefish ACL among gear groups (currently commercial ACL = 282,819 pounds gw).

Alternative 2 (Preferred). Allocate the golden tilefish commercial ACL as follows: 75% to the longline sector and 25% to the hook and line sector (currently would be 212,114 pounds gw to longlines and 70,705 pounds gw to hook and line).

Alternative 3. Allocate the golden tilefish commercial ACL as follows: 85% to the longline sector and 15% to hook and line sector (currently would be 240,396 pounds gw to longlines and 42,423 pounds gw to hook and line).

Alternative 4. Allocate the golden tilefish commercial ACL as follows: 90% to the longline sector and 10% to hook and line sector (currently would be 254,537 pounds gw to longlines and 28,282 pounds gw to hook and line).

NOTE: The values stated above would change based on adjustment to the ACL under **Action 11**.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. **Allocate Commercial Golden Tilefish Quota Among Gear Groups**
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

A query of landings data from NMFS logbook collected during 2004-2008 indicates 90% of the golden tilefish landings were taken with longline gear and 10% were taken with hook and line gear. **Table S-3** shows that longline took greater than 92% of the golden tilefish from 1999-2008, and longline gear was the dominant gear used 1995-1997. Logbook data are unavailable or incomplete for golden tilefish prior to 1995. Examination of NMFS Accumulative Landings System (ALS) data indicates that prior to 1977, virtually all golden tilefish landings were reported using hook and line gear (**Table S-3**).

Table S-3. Percentage of golden tilefish landings taken with various gear types based on NMFS Accumulative Landings System. Note: H&L=hook and line; LL=longline; and UNC=unclassified.

YEAR	% H&L	%LL	% OTHER	% UNC
1972	100%	0%	0%	0%
1973	100%	0%	0%	0%
1974	100%	0%	0%	0%
1975	100%	0%	0%	0%
1976	99%	1%	0%	0%
1977	51%	0%	0%	48%
1978	56%	0%	10%	33%
1979	25%	0%	2%	73%
1980	38%	0%	0%	61%
1981	19%	3%	1%	76%
1982	6%	7%	0%	87%
1983	4%	26%	0%	69%
1984	7%	38%	0%	55%
1985	1%	19%	0%	80%
1986	1%	26%	0%	72%
1987	1%	31%	0%	69%
1988	0%	25%	0%	75%
1989	1%	21%	0%	79%
1990	0%	27%	0%	72%
1991	3%	32%	0%	65%
1992	1%	44%	0%	55%
1993	0%	31%	0%	69%
1994	11%	27%	0%	62%
1995	10%	25%	0%	66%
1996	7%	27%	0%	66%
1997	14%	86%	0%	0%
1998	6%	94%	0%	0%

Table S-3. Continued. Percentage of golden tilefish landings taken with various gear types based on NMFS Accumulative Landings System. Note: H&L=hook and line; LL=longline; and UNC=unclassified.

YEAR	% H&L	%LL	% OTHER	% UNC
1999	7%	93%	0%	0%
2000	7%	93%	0%	0%
2001	30%	70%	0%	0%
2002	36%	64%	0%	0%
2003	29%	70%	0%	0%
2004	12%	88%	0%	0%
2005	17%	83%	0%	0%
2006	8%	92%	0%	0%
2007	17%	83%	0%	0%
2008	12%	88%	0%	0%
2009	9%	91%	0%	0%

Summary of Effects

Biological: The biological effect of **Alternatives 1 (No Action)-4** would be similar since it is likely that the ACL would be met regardless of which alternative is selected. However, alternatives allocating a greater portion of the ACL to the hook and line sector could have greater biological benefits for protected species if it decreases the chance of interaction with sea turtles. Furthermore, alternatives that allocate a greater portion of the harvest to the longline gear could have a greater negative impact on habitat since longline gear is considered to do greater damage to hard bottom habitat than vertical hook and line gear. However, damage to bottom habitat with longline gear has not been well documented and golden tilefish habitat is mud bottom.

Economic: Allocation of a relatively low percentage to one of the gear groups compared to the current percentage use of the resource under **Alternative 1 (No Action)** would result in a decrease in profitability for that gear group. Historical catch by gear group is shown in **Table S-3**. **Alternative 2 (Preferred)** would result in an allocation between gear users that is closest to the portion of landings taken by hook and line users prior to involvement of the longline vessels in the golden tilefish fishery.

Social: The allocation specified in **Alternative 2 (Preferred)** would not be consistent with the historical performance of this component of the snapper grouper fishery and would likely impact the longline vessel by limiting the longline quota about 10-15% below what the longline sector has been harvesting in recent years. **Alternatives 3** and **4** would be more consistent with the recent history of the commercial golden tilefish fishery than **Alternative 2 (Preferred)**, and would benefit the longline component of the commercial sector. However **Alternative 2 (Preferred)** would allow the hook and line sector to increase harvest by establishing a hook and line quota that is about two times

larger than hook and line harvest in recent years. **Alternative 2 (Preferred)** and **Alternatives 3** and **4** would also benefit the hook and line sector more than **Alternative 1 (No Action)** by preserving access to the resource through gear allocations.

6. Allow for Transferability of Golden Tilefish Endorsements

Alternative 1 (No Action). Longline and hook and line golden tilefish endorsements cannot be transferred.

Alternative 2 (Preferred). A valid or expired longline golden tilefish endorsement can be transferred between any two individuals or entities that hold, or simultaneously obtain, a valid or renewable unlimited Federal commercial snapper grouper permit.

Sub-alternative 2a (Preferred). Transferability allowed upon program implementation.

Sub-alternative 2b. Transferability not allowed during the first 2 years of the program.

Alternative 3 (Preferred). A valid or expired hook and line golden tilefish endorsement can be transferred between any two individuals or entities that hold, or simultaneously obtain, a valid or renewable unlimited Federal commercial snapper grouper permit.

Sub-alternative 3a (Preferred). Transferability allowed upon program implementation.

Sub-alternative 3b. Transferability not allowed during the first 2 years of the program.

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2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. **Allow for Transferability of Golden Tilefish Endorsements**
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Alternative 4. A valid or expired hook and line and longline golden tilefish endorsement can be transferred between any two individuals or entities that hold, or simultaneously obtain, a valid or renewable unlimited Federal commercial snapper grouper permit, regardless of the gear endorsement category.

Sub-alternative 4a. Transferability allowed upon program implementation.

Sub-alternative 4b. Transferability not allowed during the first 2 years of the program.

Summary of Effects

Biological: The biological effects of **Alternative 2 (Preferred)** and **Alternative 3 (Preferred)** would be very similar, as landings would be constrained by the ACL. Therefore, the effects of these alternatives may be more economic and social than biological.

Economic: Conceptually, the degree of transfer flexibility influences the overall profitability of the fishery and the average profitability for individual fishermen. The greater the degree of transferability, the greater the value of the endorsement is expected. Also, the greater the degree of transferability, the greater the profitability of the individual who owns the endorsement because they have the ability to sell their permit when they need to switch to more profitable fisheries or when they are unable to fish. However, lack of participation could benefit the fishermen remaining in the fishery. Considering the above, **Alternative 2 (Preferred) and Alternative 3 (Preferred)** would enhance profitability for fishermen who qualify for golden tilefish endorsements. **Preferred Sub-alternatives 2a** and **3a** would allow for transferability of permits to take place immediately upon implementation and this is expected to maximize economic benefits. **Sub-alternatives 2b and 3b** would allow for a two-year delay in transferability allowances. While this might allow for people to best assess the value of the gear endorsements and make more accurate permit market transactions, it would delay transfers that could benefit fishermen.

Social: Generally, social and economic benefits are expected to be greater the broader the freedom to manage one's assets (freedom to sell the endorsement without time constraints). This is particularly true as situations can arise where a decision to stop fishing is not discretionary, as may be the case should an adverse health situation or personal financial crisis arise. So, to the extent that reduced ability to transfer the endorsements results in reduced benefits, the longer the restriction applies, the greater the expected reduction in social benefits.

7. Adjust the Golden Tilefish Fishing Year

Alternative 1 (No Action)(Preferred). Retain the existing calendar year as the golden tilefish fishing year (January 1 through December 31).

Alternative 2. Specify the golden tilefish fishing year as September 1 through August 31.

Alternative 3. Specify the golden tilefish fishing year as August 1 through July 31.

Alternative 4. Specify the golden tilefish fishing year as May 1 through April 30.

Summary of Effects

Biological: While there is little biological benefit to changing the fishing year, a shift in the fishing year would allow hook and line fishermen to target golden tilefish in the fall. However, a change in the fishing year would also result in multiple species being open at the same time. Therefore, there could be economic benefit to some fishermen by retaining the January start date **(Preferred Alternative 1 (No Action))** for golden tilefish. It is noted that **Action 5**, which includes alternatives that would allocate portions of the ACL to the longline and hook and line sector, would have a similar effect in ensuring fishermen would be able catch golden tilefish with hook and line gear.

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1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. **Adjust Golden Tilefish Fishing Year**
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Golden tilefish spawn off the southeast coast of the U.S. from March through late July, with a peak in April. Peak spawning is thought to occur from May through September in waters north of Cape Canaveral. **Preferred Alternative 1 (No Action)** would continue to open the season before the start of the spawning season.

Economic: **Preferred Alternative 1 (No Action)** would make golden tilefish available to dealers during January-May, when other snapper grouper species are closed. This could increase the dockside price paid to fishermen for golden tilefish. Even if dockside

prices do not increase in the early part of the year, keeping the start date at January 1st could help dealers maintain supply and therefore keep customers.

Social: Because **Preferred Alternative 1 (No Action)** would not make any regulatory change in the fishing year, no changes in the manner in which the fishery is prosecuted would be expected and, as a result, no changes in the current social benefits of the fishery would be expected to occur. Increased deviation from historic harvest patterns, and associated social and economic benefits, could occur if fishing effort and patterns shift in response to increasingly restrictive management on other snapper grouper species.

8. Modify the Golden Tilefish Trip Limit

Alternative 1 (No Action). Currently there is a commercial trip limit of 4,000 pounds gw until 75% of the quota is taken. The trip limit is then reduced to 300 pounds gw.

Alternative 2 (Preferred). Remove the 300 pound gutted weight trip limit when 75% of the ACL is taken.

Alternative 3. Prohibit longline fishing after 75% of the ACL is taken.

Summary of Effects

Biological: Reducing the 4,000 pounds gw trip limit to 300 pounds gutted gw when 75% of the quota is met was originally intended to allow the fishery to remain open all year and allow for commercial hook and line fishermen to target golden tilefish in the fall. Based on data from 2007 to 2010, the fishery would not remain open all year even when the trip limit is reduced to 300 pounds gw. In addition, existing quota monitoring programs do not provide sufficient notice that 75% of the ACL has been met before the total ACL is also met. The expected biological effect of removing the trip limit reduction when 75% of the ACL is met is expected to be minimal. In the commercial fishery, most golden tilefish (90% during 2004-2010) are taken with longline gear deployed by large vessels that make long trips and depend on large catches (> 3,000 pounds) to make a trip economically feasible. Therefore, a 300-pound gw trip limit when 75% of the ACL is met should shut down the commercial longline sector, and should reduce their potential annual catch.

Economic: **Alternative 2 (Preferred)** removes the 300-pound gw trip limit, thereby, removing preservation of a portion of the commercial ACL for hook and line fishermen. This makes it more likely that longline fishermen would participate after 75% of the ACL has been met since the 4,000-pound gw trip limit would be maintained. Under **Preferred Alternative 1 (No Action)** for **Action 7** and **Alternative 2 (Preferred)** under this action,

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. **Modify the Golden Tilefish Trip Limit**
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

economic benefits would increase for longliners since the 4,000-pound gw trip limit would be extended.

Social: Regardless of the decision on the proposed change in the fishing year under **Action 7**, elimination of the step-down under this action would be expected to accelerate closure of the fishery by not reducing the pace of harvest. The magnitude of impact of accelerated closure on hook and line fishermen would depend on how harvests are affected by the proposed endorsement requirement. Nevertheless, in tandem with the other proposed golden tilefish management changes, it is expected that elimination of the 300-pound gw trip limit would result in increased social and economic benefits relative to **Alternative 1 (No Action)**.

9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and Line Endorsement

Alternative 1 (No Action). Do not establish trip limits for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery.

Alternative 2. Establish trip limits of 300 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 3. Establish trip limits of 400 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 4. Establish trip limits of 500 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. **Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement**
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Alternative 5. Establish trip limits of 100 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 6 (Preferred). Establish trip limits of 200 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish this trip limit.

*(Note: Catches under the trip limits would count towards the hook and line gear group quota established under **Action 2**)*

Summary of Effects

Biological: Under **Action 2**, **Preferred Alternative 2d**, 39 individuals would qualify for hook and line endorsements but 143 individuals who had caught golden tilefish with hook and line during 1999-2010 would not. Under **Action 3**, **Preferred Alternative 2f**, 14 individuals would qualify for longline endorsements but 41 individuals who had caught golden tilefish with longline gear during 1999-2010 would not. Thus, a total of 184 individuals with active federal snapper grouper permits who caught at least 1 pound of golden tilefish during 1999-2010 would not qualify for a hook and line or a longline endorsement and would be eligible to fish under the 200-pound gw trip limit (**Alternative 6 (Preferred)**). In addition, all other commercial snapper grouper permit holders would be eligible to also fish under the 200-pound gw trip limit. The biological effect of **Alternatives 1-6 (Preferred)** would be similar since it is likely that the quota would be met regardless of which alternative is selected. Furthermore, since the same gear would be used under all alternatives, different trip limits for a small amount of hook and line allocation is likely to have little biological effect.

Economic: It is not possible to reliably predict how much would be landed under the trip limits identified in **Alternatives 2-6 (Preferred)** because it is not known how many people would choose to participate or how many trips would be made since any snapper grouper permitted fisherman could target golden tilefish and fish under the trip limit established under this action. Therefore, a range of options for participation and number of trips is assumed. All estimates made are much higher than the hook and line allocation specified in alternatives under **Action 5**. This would result in decreased ability of endorsement holders, who have the greatest amount of historical participation, to continue fishing for golden tilefish because of a possibly much shorter season than anticipated.

Social: The higher the trip limit, the higher the likelihood that endorsed vessels will receive reduced social and economic benefits in favor of non-endorsed vessels. Therefore **Alternative 4** would reduce the social benefits of the endorsed hook and line fishermen, while **Alternative 5** would produce the most benefits for the endorsed fishermen. Overall, the establishment of an endorsement system, which would be expected to be largely biologically neutral to the resource (the endorsement system would not reduce the quota), suggests a determination of expected increased social benefits. Eroding these benefits through allocation of harvests to non-endorsed vessels would appear to be inconsistent with the expectations of the endorsement system and would be expected to result in reduced social and economic benefits.

10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and Line Endorsement

Alternative 1 (No Action). Do not establish trip limits for fishermen who receive hook and line endorsements in the golden tilefish fishery.

Alternative 2. Establish trip limits of 300 pounds gutted weight for fishermen who receive hook and line endorsement in the golden tilefish fishery.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. **Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement**
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. Revise Accountability Measures (AMs) for Golden Tilefish

Summary of Effects

Biological: There is little difference in the biological effects of **Alternatives 1 (No Action)** and **2** on the golden tilefish stock since the fishery would close upon reaching the quota. If the longline sector was closed when 75% of the ACL was met (**Action 8**), the remaining 25% of the quota (70,547 pounds gutted weight) would then be made available to the hook and line sector. The average annual catch of golden tilefish from the longline sector (including those who do not qualify for endorsements) during 2005-2010 based on logbook data was 25,676 pounds gutted weight. Therefore, a trip limit would not be needed to ensure the season remained open all year for the hook and line sector. **Table S-4** below shows the effect of trip limit on the catch of golden tilefish taken with hook and line gear by permits that qualify for hook and line endorsements during 2005-2010.

Table S-4. Effect of trip limit on catch of golden tilefish taken with hook and line gear by permits that qualify for hook and line endorsements during 2005-2010.

Trip Limit gw	Trip limit ww	# Trips	% Trips	Pounds over trip (ww)	Pounds over trip (gw)	Percent Reduction
0	0	823	100.00%	155,917	139,211	100.00%
89	100	508	61.73%	90,041	80,393	57.75%
100	112	486	59.05%	84,090	75,081	53.93%
134	150	412	50.06%	67,247	60,042	43.13%
156	175	364	44.23%	57,522	51,359	36.89%
179	200	294	35.72%	49,215	43,942	31.56%
200	224	251	30.50%	42,692	38,118	27.38%
223	250	183	22.24%	37,069	33,098	23.78%
268	300	127	15.43%	29,417	26,265	18.87%
300	337	71	8.63%	25,440	22,714	16.32%
446	500	28	3.40%	17,538	15,659	11.25%
536	600	16	1.94%	15,415	13,764	9.89%
625	700	12	1.46%	14,047	12,542	9.01%
714	800	7	0.85%	13,116	11,711	8.41%
804	900	6	0.73%	12,432	11,100	7.97%
893	1,000	6	0.73%	11,832	10,564	7.59%

Economic: A trip limit of 300 pounds gutted weight would be expected to reduce the catch of hook and line fishermen with endorsements by 22,714 pounds gw during 2005-2010 for an average of 3,786 pounds gw. This equates to an average annual revenue loss of $9,625. However, this only represents the amount they would have lost on those trips. Had trip limits been in place, it is possible the season would have been extended and the fishermen would have recouped the amount they would have forfeited on the earlier trips. In addition, it is possible the trip limit would be low enough to make it unprofitable for some vessels to undertake more trips to totally recoup landings and revenues forgone per trip. Further, even if those additional trips are taken so as to totally recoup revenue losses, it is likely total costs would be higher since it is likely the cost per trip would remain about the same but more trips taken would mean additional costs.

Social: If trip limits are not implemented along with the proposed golden tilefish hook and line endorsement, as under **Alternative 1 (No Action)**, there would likely be an increase in negative impacts on fishermen and associated businesses and communities as the derby conditions continue for golden tilefish, particularly with increased target and harvest of this species. The 300-pound gw trip limit proposed in **Alternative 2** would be expected to contribute to a longer fishing season, which would likely result in social benefits.

11. Revise the Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish

The assessment of the golden tilefish stock in the South Atlantic, completed in 2011 with data through 2010, indicated the stock is not overfished nor undergoing overfishing. The SSC has recommended establishing the Acceptable Biological Catch (ABC) at a level that would result in a 35% probability of overfishing. Currently there is no ABC or OFL specified for golden tilefish.

In March 2012, the Council will discuss specification of ABC and an adjustment of ACL for golden tilefish via a framework action (as opposed to a plan amendment). The South Atlantic Council has scheduled a public hearing during the March 2012 Council meeting in Savannah, GA to receive comments on a proposed framework action. The hearing begins at 5:30 p.m. on Thursday, March 8th.

It is anticipated that an increase in the ACL from the current levels (commercial: 282,819 pounds gw; recreational: 1,578 fish) will take place in 2012. Note, however, that current Accountability Measures (AMs) for the recreational fishery call for a reduction in the length of the following fishing season based on the current year's overage. **Action 12** in this amendment would consider a modification to the current AMs for golden tilefish.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. **Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish**
12. Revise Accountability Measures (AMs) for Golden Tilefish

Below are current values *when the stock is at equilibrium* for Maximum Sustainable Yield (MSY), ABC, and Overfishing Limit (OFL) from the latest stock assessment based on specifications in Amendment 17B.

MSY = 638,000 pounds ww (596,643 pounds gw)
ACL = 75%Fmsy = 625,000 pounds ww (558,036 pounds gw)
OFL = Yield at Fmsy = 638,000 pounds ww (596,643 pounds gw)

The stock assessment results indicate that the biomass of golden tilefish has increased substantially since the last assessment and is now above B_{MSY}. Catches in 2011 are shown in **Table S-5** below.

Table S-5. Total commercial and recreational landings and overages of golden tilefish in 2011. Values are in pounds whole weight (conversion factor for gutted weight for golden tilefish is 1.12).

	Commercial ACL (ww)	Recreational ACL (No. fish)	Recreational ACL (pounds)	Total Pounds (ww)
Amendment 17B ACL	316,757	1,578	9,799	326,557
Landings in 2011	399,664		62,007	461,671
Overage in pounds	82,907		52,208	135,114
% Overage in 2011	26%		533%	41%

Taking the increase in biomass and overages in 2011 into account, the projected values for ABC and ACL are shown in **Table S-6** below.

Table S-6. Proposed ACL levels for 2012-2020 based on interim projections. Values are in pounds whole weight (conversion factor for gutted weight for golden tilefish is 1.12).

Year	OFL	Total ABC	Alt 1 (No Action) (Am 17B) ACL=75%Fmsy	Alt 2 ACL=OY=ABC	ACL (Am18B) Alt 3 ACL=OY=90%ABC	Alt 4 ACL=OY=80%ABC
2012	1,386,000	789,000	1,062,000	789,000	710,100	631,200
2013	1,242,000	761,000	991,000	761,000	684,900	608,800
2014	1,124,000	737,000	931,000	737,000	663,300	589,600
2015	1,031,000	715,000	880,000	715,000	643,500	572,000
2016	957,000	696,000	839,000	696,000	626,400	556,800
2017	900,000	681,000	805,000	681,000	612,900	544,800
2018	854,000	667,000	777,000	667,000	600,300	533,600
2019	818,000	656,000	753,000	656,000	590,400	524,800
2020	789,000	646,000	734,000	646,000	581,400	516,800

The ABC level is recommended by the SSC based on the Control Rule approved by the Council. The ABC values above are based on interim projections at the level the SSC requested based on their ABC Control Rule (P* = 35%). A more detailed P* analysis will be provided to the Council in early February and will be included in the Council's briefing book for the March 2012 meeting. It is likely, therefore, that the ABC (and therefore ACL) values above will change.

The OFL is recommended by the SSC and for other snapper grouper species the recommendation has been OFL = yield at Fmsy. Values for OFL for 2012-2020 are shown above in **Table S-6**.

The ACL level is chosen by the Council. The Council will consider the alternatives above (**Table S-6**) at their March 2012 meeting. As mentioned previously, action will likely be taken via a framework amendment at that meeting (which will be much quicker than if the action remained in this amendment) and a new (increased) ACL will likely be in place sometime this year. Commercial and recreational values (in pounds ww) of golden tilefish for 1986-2010 are shown in **Table S-7**.

The South Atlantic Council will also consider alternatives that set OY equal to the ACL. The NS1 Guidelines state that if OY is set close to MSY, the conservation and management measures in the fishery must have very good control of the amount of catch in order to achieve the OY without overfishing. By setting the OY equal to the ACL, and below a MSY level, there would be greater assurance that OY could be achieved without overfishing, and the long-term average biomass would be near or above Bmsy.

Table S-7. Commercial and recreational landings (in pounds whole weight) of golden tilefish, 1986-2012. Source: SEDAR 25.

Year	Commercial	Recreational	Total
1986	1,339,354	319	1,339,673
1987	413,546	147	413,693
1988	699,276	3,967	703,243
1989	1,005,085	14	1,005,099
1990	1,007,924	349	1,008,273
1991	1,080,512	390	1,080,902
1992	1,080,482	6,929	1,087,411
1993	1,149,853	0	1,149,853
1994	895,513	12,778	908,291
1995	752,599	0	752,599
1996	374,056	3,499	377,555
1997	404,389	28,986	433,375
1998	405,165	1,238	406,403
1999	565,979	8,137	574,116
2000	805,956	13,789	819,745
2001	438,253	35,179	473,432
2002	396,253	17,598	413,851
2003	247,763	45,419	293,182
2004	288,101	38,348	326,449
2005	305,151	240,240	545,391
2006	451,286	50,743	502,029
2007	336,811	9,538	346,349
2008	350,138	0	350,138
2009	377,986	54,514	432,500
2010	444,108	27,131	471,239

12. Revise Accountability Measures (AMs) for Golden Tilefish

Alternative 1 (No Action). Retain current commercial and recreational AMs for golden tilefish:

1. Commercial: prohibit harvest, possession, and retention when the quota is projected to be met. All purchase and sale is prohibited when the quota is projected to be met.

2. Recreational: If the ACL is exceeded, the Regional Administrator shall publish a notice to reduce the length of the following fishing season by the amount necessary to ensure landings do not exceed the sector ACL for the following fishing season. Compare the recreational ACL with projected recreational landings over a range of years. For 2010, use only 2010 landings. For 2011, use the average landings of 2010 and 2011. For 2012 and beyond, use the most recent three-year running average.

Alternative 2. If the commercial ACL is met or is projected to be met, all subsequent purchase and sale of golden tilefish is prohibited and harvest and/or possession is limited to the bag limit.

Alternative 3. If the commercial ACL is exceeded, and golden tilefish are overfished, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following season by the amount of the overage.
NOTE: Paybacks are not required when new projections are adopted that incorporate ACL overruns and the ACLs are adjusted in accordance with those projections.

Alternative 4. Specify the AM trigger.

Sub-alternative 4a. Do not specify an AM trigger.

Sub-alternative 4b (Preferred). If the annual landings exceed the ACL in a given year.

Alternative 5. Specify the recreational in-season AM.

Sub-alternative 5a. Do not specify an in-season AM.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery
2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement
3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement
4. Establish an Appeals Process
5. Allocate Commercial Golden Tilefish Quota Among Gear Groups
6. Allow for Transferability of Golden Tilefish Endorsements
7. Adjust Golden Tilefish Fishing Year
8. Modify the Golden Tilefish Trip Limit
9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement
10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement
11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish
12. **Revise Accountability Measures (AMs) for Golden Tilefish**

Sub-alternative 5b (Preferred). The Regional Administrator shall publish a notice to close the recreational sector when the ACL is projected to be met.

Alternative 6. Specify the recreational post-season AM.

Sub-alternative 6a (Preferred). Monitor following year and shorten season as necessary. If the ACL is exceeded, the following year's recreational landings would be monitored in-season for persistence in increased landings. The Regional Administrator will publish a notice to reduce the length of the recreational fishing season as necessary.

Sub-alternative 6b. Payback. If the recreational ACL is exceeded, and golden tilefish are overfished, the Regional Administrator shall publish a notice to reduce the recreational ACL in the following season by the amount of the overage.

Summary of Effects

Biological: **Alternative 3** would reduce the commercial sector ACL in the following season by the amount of the overage, if golden tilefish is overfished. The ACL would be reduced by the amount as that taken in excess the year before, and may shorten the season if the lower ACL is met earlier in the year. A shortened season may result in increased regulatory discards if no level of harvest is permitted after the ACL is reached. However, under **Alternative 2**, fishermen would still be able to retain bag limit quantities of golden tilefish, which may reduce the number of regulatory discards that would otherwise result from a shortened season. Under this scenario **Alternative 3** could be expected to provide a moderate biological benefit.

Sub-alternative 5b (Preferred) would allow the RA to publish a notice to close the recreational sector when the ACL is projected to be met. In-season monitoring of recreational landings is difficult, however. Currently, recreational data become available 45 days after the end of a two-month wave. There would likely be some uncertainty associated with imposing in-season AMs for the recreational sector, making post-season AMs more appropriate for the recreational sector. **Sub-alternatives 6a (Preferred)** and **6b** would ensure that the amount of the previous year's ACL overage would be accounted for in the subsequent year's protection via a shortened season or a payback, and thus would be biologically beneficial.

Economic: Both **Alternatives 2** and **3** would result in short-term profit reductions to the commercial sector. Over the long-term, however, these alternatives would provide better economic scenario for the commercial sector by addressing issues related to overfishing of the stock. With a relatively stable stock over time, future harvest would increase or at least would be stable. This stability could benefit the commercial sector financially by paving the way for more confident business planning with more predictable landings that could result in improvements in marketing and reliability of landings to dealers.

Sub-alternative 4a, which does not specify an AM trigger, would economically benefit the recreational sector the most in the short-term but the least in the long-term when more restrictive measures become necessary to maintain landings below the ACL. Between

the two sub-alternatives of **Alternative 5**, **Sub-alternative 5a** would economically benefit the recreational sector more in the short-term than **Sub-alternative 5b (Preferred**) since it would impose no further restrictions. However, it would result in worse long-term economic situation, since lack of an AM could result in further overfishing of the stock that, in turn, would require more restrictive regulations. **Sub-alternative 6a (Preferred)** may yield larger adverse economic impacts than **Sub-alternative 6b** because it would eliminate fishing opportunities during part of the fishing year rather than mainly reduce the fishing experience for part of the fishing year. There is a good possibility that **Sub-alternative 6b** would result in the same fishing season length, although some other measures, like bag limit reduction, may be employed under **Sub-alternative 6b** to effect a longer season that would provide more fishing opportunities. Whichever of these two Sub-alternatives can provide for more fishing opportunities may be considered better than the other for economic reasons.

Social: The setting of AMs can have significant direct and indirect effects on the social environment as they usually impose some restriction on harvest, either during the current season or the next. The long-term effects should be beneficial as they provide protection from further negative impacts on the stock. While the negative effects are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects.

Chapter 1. Introduction

1.1 What Actions Are Being Proposed?

Fishery managers are proposing changes to regulations through Amendment 18B to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 18B). Several actions are being proposed to limit effort in the golden tilefish portion of the snapper grouper fishery.

South Atlantic Fishery Management Council

- Responsible for conservation and management of fish stocks in the South Atlantic Region
- Consists of 13 voting members who are appointed by the Secretary of Commerce
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and Florida
- Develops management plans and recommends regulations to NOAA Fisheries Service for implementation

1.2 Who is Proposing the Actions?

The South Atlantic Fishery Management Council (South Atlantic Council) is proposing the actions. The South Atlantic Council develops the regulations and submits them to the National Marine Fisheries Service (NOAA Fisheries Service) who ultimately approves, disapproves, or partially approves the actions in the amendment on behalf of the Secretary of Commerce. NOAA Fisheries Service is an agency in the National Oceanic and Atmospheric Administration.

1.3 Where is the Project Located?

Management of the Federal snapper grouper fishery located off the South Atlantic in the 3-200 nautical miles (nm) U.S. Exclusive Economic Zone (EEZ) is conducted under the FMP for the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 1983) (**Figure 1-1**). The management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and Florida.

1.4 Why is the Council Considering Action?

Recent amendments to the Snapper Grouper FMP have imposed more restrictive harvest limitations on snapper grouper fishermen. In an effort to identify other species to target, a greater number of fishermen may shift effort to target golden tilefish. An increase in effort on these species would intensify the "race to fish" that already exists, which has resulted in a shortened season. The fishing season for golden tilefish in recent years has already been shortened to such a degree that South Carolina longline fishermen -- who are typically unable to fish until April or May due to weather conditions -- and hook and line fishermen from Florida -- who typically do not fish until the fall -- are increasingly unable to participate in the fishery. The South Atlantic Council is concerned an increase effort on these species will deteriorate profits.

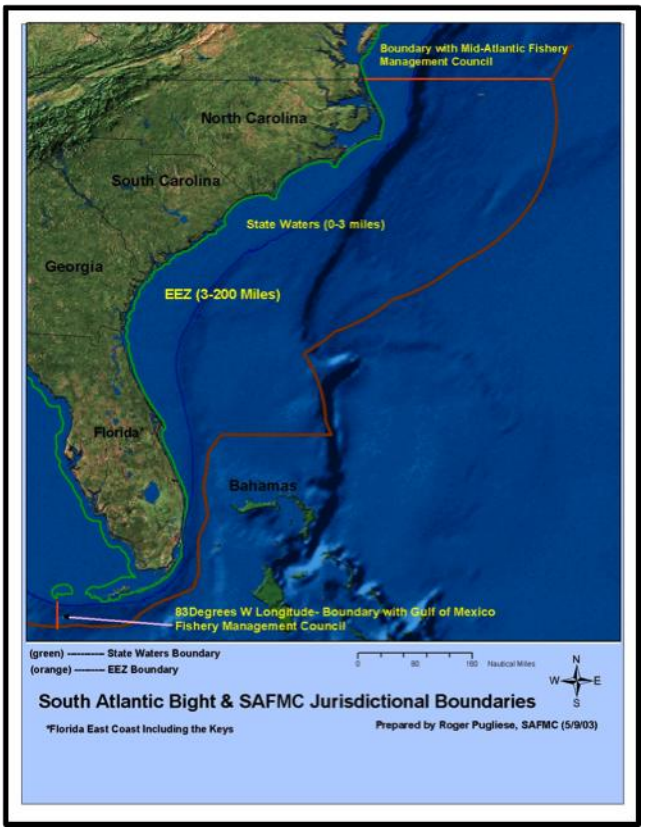


Figure 1-1. Jurisdictional boundaries of the South Atlantic Council

NOTE: Purpose and Need has been revised. Council needs to approve in March.

Purpose for Action

The ***purpose*** of Amendment 18B is to limit participation in the golden tilefish portion of the snapper grouper fishery through establishment of longline and hook and line endorsements, consider changes to the fishing year, allocate the Annual Catch Limit (ACL) between gear groups, modify existing or establish new golden tilefish trip limits, and update the ACL and other values based on the most recent stock assessment.

The actions proposed in this amendment will address issues that have arisen as a result of a more stringent regulatory regime in the South Atlantic region and from the most recent stock assessment.

Need for Action

The ***need*** for action in Amendment 18B is to reduce overcapacity in the golden tilefish portion of the snapper grouper fishery and to update the ACL and other values based on the most recent stock assessment.

Chapter 2. Proposed Actions

This section contains the proposed actions being considered to meet the purpose and need. Each action contains a range of alternatives, including the no action (status-quo). Alternatives the South Atlantic Fishery Management Council (South Atlantic Council) considered but eliminated from detailed study during the development of this amendment are described in **Appendix A**.

Proposed Actions in Amendment 18B

1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery

2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement

3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement

4. Establish an Appeals Process

5. Allocate Commercial Golden Tilefish Quota Among Gear Groups

6. Allow for Transferability of Golden Tilefish Endorsements

7. Adjust the Golden Tilefish Fishing Year

8. Modify the Golden Tilefish Trip Limit

9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement

10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement

11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish

12. Revise Accountability Measures (AMs) for Golden Tilefish

2.1 Action 1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery

Alternative 1 (No Action). Do not limit effort in the golden tilefish portion of the snapper grouper fishery through an endorsement program.

Alternative 2. Limit golden tilefish effort through a golden tilefish gear endorsement program: Distribute golden tilefish gear specific endorsements for snapper grouper permit holders that qualify under the eligibility requirements stated below. Only snapper grouper permit holders with a golden tilefish longline endorsement or a golden tilefish hook and line endorsement associated with their snapper grouper permit will be allowed to possess golden tilefish.

> **Sub-alternative 2a (Preferred)**. Individuals that meet the qualifying criteria for both hook and line and longline endorsements may receive both endorsements.
>
> **Sub-alternative 2b**. Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive one endorsement, chosen by the individual that qualifies.

Comparison of Alternatives

Alternative 1 (No Action) would maintain the current level of participation in the golden tilefish portion of the snapper grouper fishery, and may allow overcapitalization of the fishery in the future. **Sub-alternatives 2a (Preferred)** and **2b** address endorsement restrictions for entities that qualify for both hook and line, and long line endorsements. Longline gear is more efficient than hook and line gear in capturing golden tilefish. Yet, allowing more efficient gear to capture golden tilefish would not be expected to negatively impact the stock since ACLs and AMs are in place to prevent overfishing. While it has not been very well documented, longline gear could be more likely to interact with protected species and negatively impact bottom habitat than hook and line gear. **Sub-alternative 2b** could be considered to have the greatest biological benefit to the stock since there is a greater chance a hook and line endorsement would be chosen, and hook and line gear is less efficient at capturing golden tilefish and is believed to have less impact on protected species and habitat. However, any differences in the biological effects of the sub-alternatives would be expected to be small. Any differences in the biological effects of the sub-alternatives would be expected to be small.

Alternative 2 and its sub-alternatives would limit participation in the golden tilefish portion of the snapper grouper fishery. Reducing the number of fishermen ostensibly would extend the season assuming all other factors affecting golden tilefish remained constant. **Actions 2** and **3** identify how many fishermen would qualify for a hook and line or a longline endorsement, respectively, and describe the associated the economic impacts. Presumably, a hook and line or longline endorsement would lengthen the fishing season and therefore reduce the race to fish, which could have the effect of raising dockside prices for those fishermen that remain in the fishery.

Sub-alternative 2a (Preferred) would be expected to result in greater effort than the other sub-alternatives because it may result in either continued fishing by the original qualifier under one gear/endorsement when it may not be profitable to do so with the other gear/endorsement, or fishing by another entity upon endorsement transfer. As a result, effort reduction may not be as great under **Sub-**

alternative 2a (Preferred) as under **Sub-alternative 2b**, and social benefits would be reduced accordingly.

The least administratively burdensome alternative would be **Alternative 1 (No Action)**, followed by **Alternative 2.** Of **Sub-alternatives 2a and 2b,** the administrative burden would be greatest under **Sub-alternative 2b** as it would require the agency to contact fishermen to determine which endorsement they would like to receive. However, due to the small number of participants that would qualify for an endorsement, the administrative burden is expected to be minimal.

Table 2-1. Summary of effects under **Action 1**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Sub-alternative 2a (Preferred)		
Sub-alternative 2b		

2.2 Action 2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement

Alternative 1 (No Action). Do not establish initial eligibility requirements for a golden tilefish hook and line endorsement

Alternative 2. Establish initial eligibility requirements for a golden tilefish hook and line endorsement based on the following criteria:

Sub-alternative 2a. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gutted weight (gw) (with hook and line gear) when the individual's best three of five years from 2001-2005 are aggregated. (Sub-alternative devised by the GT LAP WG.)

Sub-alternative 2b. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gw (with hook and line gear) when the best 3 of 5 years 2001-2005 are aggregated and at least 1 pound was landed in 2007 or 2008.

Sub-alternative 2c. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 500 pounds gw (with hook and line gear) when the best 3 of 5 years 2001-2005 are aggregated and at least 1 pound was landed in 2007 or 2008.

Sub-alternative 2d (Preferred). To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 500 pounds gw (with hook and line gear) when the best 3 of 6 years from 2005-2010 are aggregated.

Sub-alternative 2e. To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gw (with hook and line gear) when the best 3 of 6 years from 2005-2010 are aggregated.

Comparison of Alternatives

Alternative 1 (No Action) would result in the greatest biological benefit for golden tilefish, when compared to the other alternatives under consideration, because the quota would be met more quickly and gear would be removed from the water for the longest period of time. It is likely that the biological effects of the different sub-alternatives under **Alternative 2** would be very similar because there are limits on the amount of golden tilefish that can be caught and accountability measures are triggered when annual limits are exceeded. However, if alternatives that limit the number of participants also result in a reduction in the amount of gear deployed and golden tilefish landed, it is possible the biological benefits would be greater for alternatives that place more restrictions on number of participants. **Preferred Sub-alternative 2d** would result in the greatest number (39) of hook and line endorsements among **Sub-alternatives 2a-2e.** Therefore, the biological benefits of **Preferred Sub-alternative 2d** could be less than the other alternatives considered.

Among the hook and line sub-alternatives, **Sub-alternative 2d (Preferred)** would implement the *least* restrictive requirement resulting in issuance of 39 hook and line endorsements, and **Sub-alternative 2b** would implement the *most* restrictive endorsement eligibility requirement resulting in 17 permits that qualify for an endorsement. **Sub-alternative 2a** would result in 25 hook and line endorsements whereas **Sub-alternatives 2c** and **2e** would issue 19 and 27 endorsements, respectively (**Table 4-6**).

Which permits benefit economically from each of these sub-alternatives is largely a distributional issue. It is not expected that a smaller number of endorsements will necessarily yield higher *total* or *aggregate* profits compared to a larger number of endorsements. Theoretically, the expectation is that a smaller number of vessels could be more profitable than a larger number of vessels because a smaller number of vessels would cut costs. However, too few vessels could limit catch and therefore revenues. The benefit of a smaller number of endorsements is an expectation of higher *average* profits per endorsement holder. Therefore, it can be expected that the highest average profits per hook and line endorsement holder could occur under **Sub-alternative 2b** and the lowest under **Preferred Sub-alternative 2d**.

In general, the higher the number of endorsements, the less disruption of current harvest patterns, and associated social conditions, but the less likely historic participation and harvest patterns can be recovered. This could result in the continued loss of the social benefits of the historic participation and harvest pattern. The alternative thresholds for endorsement qualification are intended to allow historic participants to recover their historic roles. However, like a catch shares program, such endorsement programs may reduce, but would not eliminate the current problem of shifting the fishing season away from when North Carolina and South Carolina fishermen can safely fish for golden tilefish because providing an endorsement would not eliminate the weather-related seasonal harvest access-issues of the status quo.

The administrative impacts for this action would primarily be borne by the NOAA Fisheries Service Permits Office and the Sustainable Fisheries Division. The administrative time and cost burden associated with this action and **Preferred Sub-alternative 2d** is likely to be moderate. The difference between the administrative burdens associated with each alternative differs only in the number of endorsements that need to be issued under each sub-alternative. This difference is not expected to result in any large disparity among the administrative impacts of **Sub-alternatives 2a-2e**. However, it is likely

that the lower the number of endorsements issued the lower the administrative burden would be in the short-term for initial issuance, and in the long-term for future endorsement transfers.

Table 2-2. Summary of effects under **Action 2**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Sub-alternative 2a		
Sub-alternative 2b		
Sub-alternative 2c		
Sub-alternative 2d (Preferred)		
Sub-alternative 2e		

2.3 Action 3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement

Alternative 1 (No Action). Do not establish initial eligibility requirements for a golden tilefish longline endorsement

Alternative 2. Establish initial eligibility requirements for a golden tilefish longline endorsement based on the following criteria:

Sub-alternative 2a. To receive a golden tilefish longline endorsement, the individual must have a total of 2,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008. (Sub-alternative devised by the GT LAP WG)

Sub-alternative 2b. To receive a golden tilefish longline endorsement, the individual must have a total of 5,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.

Sub-alternative 2c. To receive a golden tilefish longline endorsement, the individual must have an average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.

Sub-alternative 2d. To receive a golden tilefish longline endorsement, the individual must have an average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009.

Sub-alternative 2e. To receive a golden tilefish longline endorsement, the individual must have an average of 10,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009.

Sub-alternative 2f (Preferred). To receive a golden tilefish longline endorsement, the individual must have an average of 10,000 pounds gw golden tilefish caught (with longline gear) for the best 3 years within the period 2006 through 2010.

NOTE: All dates in all alternatives are inclusive of the beginning and end years.

Comparison of Alternatives

Among the longline sub-alternatives, **Sub-alternative 2a** would implement the *least* restrictive requirement resulting in issuance of 17 longline endorsements, and **Sub-alternative 2e** would implement the *most* restrictive endorsement eligibility requirement resulting in 8 permits that qualify for an endorsement. All of the sub-alternatives under **Alternative 2** would result in a cap placed on the number of participants but not necessarily limit the effort or harvest in the golden tilefish portion of the snapper grouper fishery. Therefore, the biological effects of **Sub-alternatives 2a-2f (Preferred)** would be expected to be similar. It is possible that sub-alternatives, which limit the number of participants, could also result in a reduction in the amount of gear deployed and golden tilefish landed. If this were the case, then biological benefits could be expected for golden tilefish and the chance of interactions with protected species could be reduced under some alternatives. The biological benefits of **Sub-alternative 2e**, which result in 8 endorsements, could be greater compared to other sub-alternatives, which result in a larger number of endorsements. However, it is also possible that effort would remain the same regardless of the number of vessels fishing.

Regarding economic benefits, in general, it is expected that any of the sub-alternatives will yield greater economic benefits compared to **Alternative 1 (No Action)** because the sub-alternatives limit the number of participants. Who economically benefits from each of these sub-alternatives is largely a distributional issue. It is not expected that a smaller number of endorsements will necessarily yield higher *total* or *aggregate* profits compared to a larger number of endorsements. Theoretically, the expectation is that a smaller number of vessels could be more profitable than a larger number of vessels because a smaller number of vessels would cut costs. However, too few vessels could limit catch and therefore revenues. The benefit of a smaller number of endorsements is an expectation of higher *average* profits per endorsement holder. The highest average profits per longline endorsement holder would occur under **Sub-alternative 2e** (8 endorsements) and the lowest under **Sub-alternative 2a** (17 endorsements).

Typically, the fewer the eligible individuals the more likely the negative social impacts due to not being allowed to harvest golden tilefish. Under this assumption, **Sub-alternative 2a** would have the least negative social impact by allocating endorsements to the most fishermen, while **Sub-alternative 2e** would be most likely to result in negative impacts on fishermen who do not receive an endorsement. **Preferred Sub-alternative 2f**, would have less negative social effects that all other sub-alternatives except **Sub-alternative 2a**. However, under any allocation scenario, fishermen who receive an endorsement would be expected to benefit due to less competition in fishing and in the markets. **Sub-alternatives 2b-2d**, although based on different qualifying criteria, result in similar numbers of eligible fishermen, and would be expected to have more social benefits overall than **Sub-alternative 2e** but less social benefits overall than **Sub-alternative 2a.**

The administrative time and cost burden associated with this action and **Preferred Sub-alternative 2f (Preferred)** is likely to be moderate. The difference between the administrative burdens associated with each alternative differs only in the number of endorsements that need to be issued under each sub-alternative. This difference is not expected to result in any large disparity among the administrative impacts of **Sub-alternatives 2a-2f (Preferred)**. However, it is likely that the lower the number of endorsements issued the lower the administrative burden would be in the short-term for initial issuance, and in the long-term for future endorsement transfers.

Table 2-3. Summary of effects under **Action 3**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Sub-alternative 2a		
Sub-alternative 2b		
Sub-alternative 2c		
Sub-alternative 2d		
Sub-alternative 2e		
Sub-alternative 2f (Preferred)		

2.4 Action 4. Establish an Appeals Process

Alternative 1 (No Action). Do not specify provisions for an appeals process associated with the golden tilefish endorsement program.

Alternative 2 (Preferred). A period of 90 days will be set aside to accept appeals to the golden tilefish endorsement program starting on the effective date of the final rule. The Regional Administrator (RA) will review, evaluate, and render final decisions on appeals. Hardship arguments will not be considered. The RA will determine the outcome of appeals based on NMFS' logbooks. If NMFS' logbooks are not available, the RA may use state landings records. Appellants must submit NMFS' logbooks or state landings records to support their appeal.

Alternative 3. A period of 90 days will be set aside to accept appeals to the golden tilefish endorsement program starting on the effective date of the final rule. The RA will review, evaluate, and render final decisions on appeals. Hardship arguments will not be considered. A special board composed of state directors/designees will review, evaluate, and make individual recommendations to RA on appeals. Hardship arguments will not be considered. The special board and the RA will determine the outcome of appeals based on NMFS' logbooks. If NMFS' logbooks are not available, the RA may use state landings records. Appellants must submit NMFS' logbooks or state landings records to support their appeal.

Comparison of Alternatives

Establishing an appeals process is an administrative action. Therefore, it is not anticipated to directly or indirectly affect the physical, biological or ecological environments in a positive or negative way. However, by limiting the number of endorsements, and thus the effort in the fishery, risk of bycatch and protected species interactions decreases. There is likely to be no difference between **Preferred Alternative 2** and **Alternative 3** in the level of potential biological impact as a result of their implementation.

The number of appeals received largely determines the economic impacts of an appeals program. Fishermen excluded from the endorsement program who decide to appeal may incur costs associated with trying to prove their case. However, access to NOAA Fisheries Service logbook landings or state trip tickets should be at little or no cost to a fisherman. However, some complications may arise in the case of transferred permits for then the new permit owner may not have access to NOAA Fisheries Service

logbook landings for landings contributed by the previous owner. Access to state trip tickets in this situation would depend on the respective state's rule on access to trip ticket information.

Because a golden tilefish endorsement system is assumed appropriate and would be expected to result in increased social benefits relative to the absence of an endorsement system, social benefits would be expected to be maximized if all appropriate fishermen, i.e., those fishermen whose receipt of an endorsement would best achieve the objectives of the program, receive an endorsement. The exclusion of any appropriate fishermen would be expected to result in decreased social benefits. The absence of an appeals process, as would occur under **Alternative 1 (No Action)**, would be expected to increase the likelihood that one or more appropriate qualifiers would not receive an endorsement, resulting in less social benefits than would occur if an appeals process is established. Both **Alternative 2 (Preferred) and Alternative 3** would establish an appeals process, and would be expected to result in greater social benefits than **Alternative 1 (No Action)**. However, under **Alternative 2** the final appeal decision is made by the RA and under **Alternative 3** the decision is made by an appeals board along with the RA.

The appeals processes, described in **Preferred Alternative 2** would be developed by NOAA Fisheries Service and would be similar to appeals processes developed for other limited access privilege programs. It is expected that any appeals process would be somewhat burdensome to administer. Overall, a moderate short-term impact may be expected as a result of this action depending upon the number of appeals received by NOAA Fisheries Service. Because the appeals process is limited to 90-days, any administrative burden associated with the review of appeals applications would be limited to a finite amount of time that is not likely to extend far beyond the 90-day time period.

Table 2-4. Summary of effects under **Action 4**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)	n/a	Reduced social and economic benefits, reduced administrative burden
Alternative 2 (Preferred)	n/a	Greater social and economic benefits, greater administrative burden.
Alternative 3	n/a	Greater social and economic benefits, greater administrative burden.

2.5 Action 5. Allocate Commercial Golden Tilefish Annual Catch Limit (ACL) Among Gear Groups

Alternative 1 (No Action). Do no allocate the commercial golden tilefish ACL among gear groups (currently commercial ACL = 282,819 pounds gw).

Alternative 2 (Preferred). Allocate the golden tilefish commercial ACL as follows: 75% to the longline sector and 25% to the hook and line sector (currently would be 212,114 pounds gw to longlines and 70,705 pounds gw to hook and line).

Alternative 3. Allocate the golden tilefish commercial ACL as follows: 85% to the longline sector and 15% to hook and line sector (currently would be 240,396 pounds gw to longlines and 42,423 pounds gw to hook and line).

Alternative 4. Allocate the golden tilefish commercial ACL as follows: 90% to the longline sector and 10% to hook and line sector (currently would be 254,537 pounds gw to longlines and 28,282 pounds gw to hook and line).

NOTE: Council guidance at December meeting was to change the poundage values in the alternatives as appropriate once the P* projections are available.

Comparison of Alternatives

Alternatives 1 (No Action)- 4 provide options for dividing the commercial ACL between hook and line and longline gear users. Historical landings indicate that from 2004-08, 90% of the golden tilefish were taken by longline gear while the remaining 10% were taken by hook and line gear users. However, during the 1970s, golden tilefish were only harvested with hook and line gear. **Alternative 4** results in an allocation most similar to recent harvest levels; **Alternative 3** would allocate a greater proportion of the ACL to hook and line users than **Alternative 4**. **Alternative 2 (Preferred)** provides an allocation most benefitting hook and line fishermen and closest to historical catch during 2001-2003 and prior to 1981.

The biological effect of the alternatives would be similar since it is likely the ACL would be met regardless of which alternative is selected. However, alternatives allocating a greater portion of the ACL to hook and line gear users could have greater biological benefits for protected species (e.g., sea turtles) and the benthic habitat.

Availability of economic data for the golden tilefish participants specifically prevents a quantitative analysis. Opportunities for greater profitability for each gear group increase with the ACL portion allocated to them.

The gear allocations specified in **Alternatives 2-4** would be expected to result in social effects consistent with the extent to which the allocations differ from normal harvest patterns. The allocation specified in **Alternative 2 (Preferred)** would not be consistent with the historical performance of this component of the snapper grouper fishery and would likely impact the longline vessel by reducing the longline ACL by about 10-15% below what the longline sector has been harvesting in recent years.

Alternatives 3 or **4** would be more consistent with the recent history of the commercial golden tilefish portion of the snapper grouper fishery than **Alternative 2 (Preferred)**, and would benefit the longline component of the commercial sector. However **Alternative 2 (Preferred)** would allow the hook and line sector to increase harvest by establishing a hook and line ACL that is about two times larger than hook and line harvest in recent years. **Alternative 2 (Preferred)** and **Alternatives 3** and **4** would also benefit the hook and line sector more than **Alternative 1 (No Action)** by preserving access to the resource through gear allocations.

Establishing any of the allocation scenarios through **Alternatives 2 (Preferred)-4** would involve minor administrative impacts in the form of rulemaking, monitoring quota, and developing education and outreach materials. However, the administrative impacts between the alternatives are minimal.

Table 2-5. Summary of effects under **Action 5**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)	Status quo.	Status quo.
Alternative 2 (Preferred)	Increase due to increased hook and line sector allocation-increase protection to benthic habitat and sea turtles.	Increased social and economic benefits for hook and line sector from status quo. Administrative impacts minimal.
Alternative 3	Slight increase due to increased hook and line sector allocation-increase protection to benthic habitat and sea turtles.	Increased social and economic benefits for hook and line sector from status quo. Administrative impacts minimal.
Alternative 4	Similar to status quo-No change in biological impacts.	No change in social and economic benefits from status quo. Administrative impacts minimal.

2.6 Action 6. Allow for Transferability of Golden Tilefish Endorsements

Alternative 1 (No Action). Longline and hook and line golden tilefish endorsements cannot be transferred.

Alternative 2 (Preferred). A valid or expired longline golden tilefish endorsement can be transferred between any two individuals or entities that hold a valid or simultaneously obtains a valid, meaning not expired, South Atlantic Unlimited Snapper Grouper Permit. The endorsement and associated landings history of golden tilefish can be transferred regardless of whether or not the South Atlantic Unlimited Snapper Grouper Permit is transferred.

Sub-alternative 2a (Preferred). Transferability allowed upon program implementation.

Sub-alternative 2b. Transferability not allowed during the first 2 years of the program.

Alternative 3 (Preferred). A valid or expired hook and line golden tilefish endorsement can be transferred between any two individuals or entities that hold a valid or simultaneously obtains a valid, meaning not expired, South Atlantic Unlimited Snapper Grouper Permit. The endorsement and associated

landings history of golden tilefish will be transferred only if the South Atlantic Unlimited Snapper Grouper Permit is transferred.

Sub-alternative 3a (Preferred). Transferability allowed upon program implementation.

Sub-alternative 3b. Transferability not allowed during the first 2 years of the program.

Alternative 4. A valid or expired hook and line and longline golden tilefish endorsement can be transferred between any two individuals or entities that hold a valid or simultaneously obtains a valid, meaning not expired, South Atlantic Unlimited Snapper Grouper Permit. The endorsement and associated landings history of golden tilefish will be transferred only if the South Atlantic Unlimited Snapper Grouper Permit is transferred.

Sub-alternative 4a. Transferability allowed upon program implementation.

Sub-alternative 4b. Transferability not allowed during the first 2 years of the program.

Comparison of Alternatives

Alternative 1 (No Action) would not allow for transferability of golden tilefish endorsements and could result in decreased participation in the golden tilefish portion of the snapper grouper fishery over time as fishermen with endorsements exit the fishery permanently. Decreased participation could result in a corresponding decrease in effort and landings of golden tilefish. However, it is also possible that effort would not decrease with decreased participation and the same amount of golden tilefish would be caught, albeit with fewer participants. Therefore, among **Alternative 1 (No Action)-4**, **Alternative 1 (No Action)** could have the greatest biological benefit for the golden tilefish stock if it results in decreased landings of golden tilefish. However, a recent stock assessment indicates golden tilefish is no longer experiencing overfishing and stock biomass is well above B_{MSY}. Therefore, there is not a biological need to decrease landings of golden tilefish.

Alternatives 2-4, which would allow transferability of golden tilefish endorsement, would not be expected to negatively impact the golden tilefish stock. The biological effects of **Alternatives 2-4** would likely be very similar. Among **Sub-alternatives a-b**, **Sub-alternative b** could have the greatest positive effect for golden tilefish because it would delay the transferability of endorsements. However, as stated under **Alternative 1 (No Action)**, effort might not show a corresponding decrease with the number of participants in the fishery.

Under **Alternative 1 (No Action)** fishermen would be able to sell their snapper grouper permit but they would not be able to sell their golden tilefish gear endorsement which could result in difficultly selling their permit, vessel, and gear since permits are often sold with the vessel and gear. Since longline gear is restricted in many of the South Atlantic fisheries, sale of the gear and a larger vessel suitable for longlining for golden tilefish would be difficult without sale of the golden tilefish longline endorsement. **Alternatives 2 (Preferred)-4** would provide the opportunity for new entrants without an increase in the overall number of participants. **Alternative 4** would provide the greatest amount of endorsement transfer flexibility. The degree of transfer flexibility could influence the aggregate profitability of the fishery and the average individual profitability. If participation remains steady over the years of the program during which transferability is not allowed, aggregate profitability of the fishery could remain steady. If, however, landings drop due to people leaving the fishery and not transferring the endorsement due to restrictions, aggregate profitability would decline. However, at the same time, individual average profitability could increase because there would be less people sharing the same amount of landings as under **Alternative 1 (No Action)**.

Under each alternative, are various options for when transferability would be allowed. The rationale behind delaying transferability of catch privilege assets, like endorsements, is to allow people time to develop an understanding of the value of the endorsements before selling them. **Sub-alternative 2a (Preferred) and Sub-alternative 3a (Preferred)** would allow for transferability of permits to take place immediately upon implementation and this is expected to maximize economic benefits. **Sub-alternatives 2b, 3b and 4b** would require waiting for two years before transferability could occur. While this might allow for people to best assess the value of the gear endorsements and make more accurate permit market transactions, it would delay transfers that could benefit fishermen.

Any ability to transfer endorsements may result in equity criticisms, similar to complaints associated with transferable catch share programs. Although the golden tilefish endorsement would not contain an entitlement to a specific harvest quantity, it would bestow asset rights to the recipient because endorsement possession would enable harvest, and the recipient would possess a new marketable asset. The value of this asset (the endorsement) would represent a windfall profit for the endorsement recipient, in addition to any benefits from actual harvests, a circumstance that may seem inequitable to entities denied an endorsement upon their initial issuance. While transferability would allow those denied an endorsement, or others in the snapper grouper fishery who previously did not harvest golden tilefish, an opportunity to acquire and endorsement and harvest this species, they could do so only if they purchased the endorsement, the value of which is unknown at this time. The market price would be expected to increase the lower the total number of endorsements and the higher the total value of harvests. The absence of specific harvest entitlements (catch shares) may keep transfer prices lower than they otherwise may be, even if the harvest history is also transferred, while speculation on the potential development of a catch share program may increase transfer prices (if the transfer includes the harvest history).

The least administratively burdensome alternative would be **Alternative 1 (No Action),** which would not allow endorsement transferability. **Preferred Alternatives 2** and **3** and **Alternative 4** would allow some form of transferability between users. These alternatives are expected to have similar administrative impacts. **Sub-alternatives a-d** under the main alternatives specify waiting periods before transferability will be allowed. **Preferred Sub-alternatives 2a** and **3a** would allow for endorsement transferability immediately and would have a moderate increase in administrative burden due to tracking endorsements. An administrative burden will also be felt by fishermen through all of the alternatives, through the process of transferring the endorsements.

Table 2-6. Summary of effects under **Action 6**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)	Increase biological benefits to stock if endorsements are not used.	Decrease in social and economic benefits to the fishery due to unused endorsements.
Alternative 2 (Preferred)	Reduced biological benefits as there will be less chance of endorsements to go unused.	Increased flexibility result in increased economic and social benefits to fishermen. Increased administrative burden.
Alternative 3 (Preferred)	Reduced biological benefits as there will be less chance of endorsements to go unused.	Increased flexibility result in increased economic and social benefits to fishermen. Increased administrative burden.
Alternative 4	Reduced biological benefits as	Greatest flexibility will result in

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
	there will be less chance of endorsements to go unused.	increased economic and social benefits to fishermen. Increased administrative burden.

2.7 Action 7. Adjust Golden Tilefish Fishing Year

Alternative 1 (No Action) (Preferred). Retain the existing calendar year as the golden tilefish fishing year (January 1 through December 31).

Alternative 2. Specify the golden tilefish fishing year as September 1 through August 31.

Alternative 3. Specify the golden tilefish fishing year as August 1 through July 31.

Alternative 4. Specify the golden tilefish fishing year as May 1 through April 30.

Comparison of Alternatives

Preferred Alternative 1 (No Action) would retain the January 1 fishing year start date. Retention of **Alternative 1 (No Action)**, would allow fishermen to target golden tilefish when other snapper grouper species such as shallow water grouper are closed. **Alternative 2** would begin the fishing year for golden tilefish in September, the period of time when the greatest commercial hook and line catches of golden tilefish have historically occurred. **Alternative 3** would begin the fishing year in August and also allow hook and line fishermen to fish during the period of time when their catches have been greatest. **Alternative 4** would start the fishing year in May but would still allow hook and line fishermen to fish for golden tilefish in the fall but there is a greater chance the quota would be met sometime during September through November.

The biological effects of **Alternatives 1 (No Action; Preferred)-4** would be very similar. Changing the fishing year is unlikely to increase landings or decrease the number of months the fishery operates due to the small amount of landings taken by the hook and line sector historically. **Preferred Alternative 1 (No Action)** would continue to open the season before the start of the spawning season. **Alternative 2** would move the opening until after the bulk of the spawning season. **Alternative 3** would move the opening until near the end of the spawning season. **Alternative 4** would move the opening to the peak of the spawning season. **Alternative 2** would provide the most biological protection, followed by **Alternative 3**, **Alternative 4**, and **Preferred Alternative 1 (No Action)**.

The economic impacts of **Alternatives 1 (No Action; Preferred)-4** are distributional and could benefit hook and line users and Carolina fishermen primarily. However, as stated above, since **Preferred Alternative 1 (No Action)** allows fishing for golden tilefish during months when other species are closed, **Alternative 1 (No Action)** could result in higher dockside prices for golden tilefish than in the past and could help dealers maintain customers.

As discussed in previous sections, the golden tilefish component of the snapper grouper fishery has been reduced to less than a full-year harvest activity. Further, in recent years, the trip limits and subsequent early closure have resulted in North Carolina and South Carolina fishermen, who are not able to fish for golden tilefish until spring due to weather conditions, having access to a shorter season, and Florida hook and line fishermen not being able to fish for golden tilefish at all because of quota closure. As discussed in **Section 4.3.3**, deviation from these historic patterns is assumed to have resulted in declines in social and economic benefits to the fishery, associated businesses, and communities. Both **Alternative 2** and **Alternative 3** would be expected to result in similar fishing opportunities for Florida fishermen, and improved opportunities relative to **Alternative 4**, whereas Carolina fishermen should face better opportunities under **Alternative 3** relative to **Alternative 2**, but reduced opportunities relative to **Alternative 4**.

Preferred Alternative 1 (No Action), would result in no new administrative burden. **Alternatives 2-4** would adjust golden tilefish management measures to change the start date of the fishing year. Implementing a change in the fishing year would incur minor adverse administrative impacts in the form of developing outreach materials such as fishery bulletins.

Table 2-7. Summary of effects under **Action 7**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action) (Preferred)	Unlikely to increase or decrease pressure on stock.	Improved economic and social impacts.
Alternative 2	Unlikely to increase or decrease pressure on stock.	Improved economic and social impacts.
Alternative 3	Unlikely to increase or decrease pressure on stock.	Improved economic and social impacts.
Alternative 4	Unlikely to increase or decrease pressure on stock.	Slightly reduced economic and social impacts.

2.8 Action 8. Modify the Golden Tilefish Trip Limit

Alternative 1 (No Action). Retain the 300 pound gutted weight trip limit when 75% of the ACL is taken.

Alternative 2 (Preferred). Remove the 300 pound gutted weight trip limit when 75% of the ACL is taken.

Alternative 3. Prohibit longline fishing after 75% of the ACL is taken.

Comparison of Alternatives

Alternative 1 (No Action) would retain the trip limit reduction from 4,000 pounds gw to 300 pounds gw when 75% of the ACL was met. **Alternative 2 (Preferred)** would remove the step-down. The latter was originally intended to allow the fishery to remain open all year and allow for commercial hook and line fishermen to target golden tilefish in the fall. The advantage of retaining the 300-pound gw trip limit when 75% of the ACL is met is that it slows the rate of fishing and increases the chance the ACL will not be exceeded. The expected biological effect of **Alternative 2 (Preferred)** would be minimal. In the commercial fishery, most golden tilefish (92%) are taken with longline gear deployed by large vessels that make long trips and depend on large catches (> 3,000 pounds) to make a trip economically feasible. Therefore, a 300-pound gw trip limit when 75% of the ACL is met would theoretically shut down commercial longline sector and might reduce their potential annual catch. **Alternative 3** would close the longline fishery once 75% of the ACL is taken. This would allow a slower rate of harvest of the remaining ACL for the hook and line sector. The South Atlantic Council is considering alternatives for a hook and line endorsement in **Action 2** that would enable hook and line fishermen to harvest golden tilefish during the fall.

The economic effects of **Alternatives 1-3** are largely distributional. **Alternative 2 (Preferred)** benefits longline fishermen while **Alternative 3** benefits hook and line fishermen compared to the status quo. If social and economic benefits are being reduced under the status quo, this would be expected to be corrected under **Alternative 2 (Preferred)**, particularly if considered in combination with other proposed actions for golden tilefish. In tandem with the other proposed golden tilefish management changes, it is expected that the elimination of the 300-pound gw step-down limit would result in increased social and economic benefits relative to **Alternative 1 (No Action)**. While **Alternative 3** would attempt to help recover the historic golden tilefish harvest patterns of Florida hook and line vessels by closing the longline fishery if the 300-pound gw trip limit is triggered, **Alternative 3** may not have any substantive effect on either the longline or hook and line sectors because it is generally assumed that longlining for golden tilefish is no longer profitable at the lower trip limit.

Of the alternatives, **Alternative 1 (No Action)** is the most administratively burdensome. **Alternative 1 (No Action)** requires the monitoring of the ACL, rulemaking when 75% of the ACL is reached, and rulemaking when the fishery is closed. Associated with the rulemaking is the development of fishery bulletins and other outreach materials to fishermen. **Preferred Alternative 2**, which would remove the 300-pound gw trip limit once 75% of the ACL is reached, would be less administratively burdensome.

Table 2-8. Summary of effects under **Action 8**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)	Slight increase in biological impacts.	Economic benefits to hook and line sector. Social benefits to fishery.
Alternative 2 (Preferred)	Minimal biological impacts.	Economic benefits to longline fishermen. Social impacts may increase.
Alternative 3	Minimal biological impacts.	Economic benefits to hook and line sector. Social impacts may increase.

2.9 Action 9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement

Alternative 1 (No Action). Do not establish trip limits for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery.

Alternative 2. Establish trip limits of 300 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 3. Establish trip limits of 400 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 4. Establish trip limits of 500 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 5. Establish trip limits of 100 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 6 (Preferred). Establish trip limits of 200 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish this trip limit.

(Note: Catches under the trip limits would count towards the hook and line gear group quota established under Action 2.)

Comparison of Alternatives

Alternatives 2-6 (Preferred) would provide fishermen who do not qualify for an endorsement under **Action 1** the opportunity to still participate in the golden tilefish portion of the snapper grouper fishery. The biological impacts would be similar for all of the alternatives and would not increase or decrease the biological impacts from the status quo. Economic impacts of the action alternatives would be positive for fishermen who did not qualify for an endorsement under **Action 1** but because catches under the trip limits would count towards the hook and line quota, the economic impacts would be negative on the hook and line historical participants with significant landings.

The biological effect of **Alternatives 1-6 (Preferred)** would be similar since it is likely that the quota would be met regardless of which alternative is selected. Furthermore, since the same gear would be used under all alternatives, different trip limits for a small amount of hook and line quota is likely to have little biological effect.

Because it is not possible to reliably predict how much would be landed under the trip limits identified in **Alternatives 2-6 (Preferred)**, it is not possible to determine how many people would choose to participate or how many trips would be made; however, a range of options for participation and number of trips was assumed. All estimates are much higher than the hook and line allocation. Therefore, **Alternatives 2-6 (Preferred)** would result in decreased ability of endorsement holders, who have the greatest amount of historical participation, to continue fishing for golden tilefish because of a possibly much shorter season than anticipated. Again, an analysis to quantify any decrease in profits cannot be done due to the small sample size from the economic cost logbook program and the unknown number of future participants in the fishery under **Alternatives 2-6 (Preferred)**.

Alternatives 2-6 (Preferred) would be expected to result in progressively increased harvests by non-endorsed vessels, with accompanying increased social and economic benefits, the higher the trip limit, and accompanying increased losses in social and economic benefits to endorsed vessels. Overall, the establishment of an endorsement system suggests a determination of expected increased social and economic benefits of said endorsement system. Eroding these benefits through allocation of harvests to non-endorsed vessels would appear to be inconsistent with the expectations of the endorsement system and would be expected to result in reduced social and economic benefits overall.

Administrative impacts would be greater under **Alternatives 2-6 (Preferred)** due to enforcement and increase in the number of possible participants. Quota monitoring duties would also increase under the action alternatives.

Table 2-9. Summary of effects under **Action 9**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)	Status quo.	Status quo.
Alternative 2	Little biological impact from status quo.	Moderate economic/social benefits for hook and line sector. Increased administrative burden.
Alternative 3	Little biological impact from status quo.	Moderate economic/social benefits for hook and line sector. Increased administrative burden.
Alternative 4	Little biological impact from status quo.	Greatest economic/social benefits for hook and line sector. Increased administrative burden.
Alternative 5	Little biological impact from status quo.	Least economic/social benefits for hook and line sector. Increased administrative burden.
Alternative 6 (Preferred)	Little biological impact from status quo.	Moderate economic/social benefits for hook and line sector. Increased administrative burden.

2.10 Action 10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement

Alternative 1 (No Action). Do not establish trip limits for fishermen who receive hook and line endorsements in the golden tilefish portion of the snapper grouper fishery.

Alternative 2. Establish trip limits of 300 pounds gw for fishermen who receive hook and line endorsements in the golden tilefish fishery.

Comparison of Alternatives

There is little difference in the biological effects of **Alternatives 1-2** on the golden tilefish stock since golden tilefish would close upon reaching the ACL. The average annual catch of golden tilefish from the longline sector (including those who do not qualify for endorsements) during 2005-2010 based on logbook data was 25,676 pounds gw. Therefore, a trip limit would not be needed to ensure the season remained open all year for the hook and line sector.

A trip limit of 300 pounds gw would be expected to reduce the catch of hook and line fishermen with endorsements by 25,440 pounds ww (22,714 pounds gw) during 2005-2010 for an average of 3,786 pounds gw (4,240 pounds ww). This equates to an average annual revenue loss of $9,625. However, this only represents the amount they would have lost on those trips. Had trip limits been in place, it is possible the season would have been extended and the fishermen would have recouped the amount they would have forfeited on the earlier trips. In addition, it is possible the trip limit would be low enough to make it unprofitable for some vessels to undertake more trips to totally recoup landings and revenues forgone per trip. Further, even if those additional trips are taken so as to totally recoup revenue losses, it

is likely total costs would be higher since it is likely the cost per trip would remain about the same but more trips taken would mean more additional costs.

In general, trip limits may result in some short-term negative social effects for fishermen receiving an endorsement in that they would not be able to maximize a trip's harvest to the greatest potential. The social impacts would be most evident for larger operations, which may find that the costs are too high for a trip that has a limit on how much golden tilefish may be harvested. However, long-term social benefits would be expected to accrue because the trip-limited harvest is intended to reduce derby conditions and requiring fishermen to spread out the season over more time. Additionally, trip limits may contribute to more stability in the fishery and improve business plans for fishermen, dealers, and other associated businesses.

There would be no administrative impacts incurred under **Alternative 1 (No Action)**. **Alternative 2** would establish a 300-pound gw trip limit for fishermen who qualify for a hook and line endorsement under **Action 2**. The establishment of the trip limits would require some administrative impacts associated with rule-making, enforcement, and outreach and education.

Table 2-10. Summary of effects under **Action 10**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		

2.11 Action 11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish

Alternative 1 (No Action). ACL and OY = yield at 75%F_{MSY}.
Alternative 2. ACL = OY = ABC.
Alternative 3. ACL = OY = 90% of the ABC.
Alternative 4. ACL = OY = 80% of the ABC.

Comparison of Alternatives

Alternative 1 (No Action) would retain the definition of ACL = yield at 75% of F_{MSY} for golden tilefish. Examination of values in **Table 4-20** reveals the yield at 75%F_{MSY} is greater than the ABC recommended by the South Atlantic Council's SSC. The values in **Table 4-20** are projections at the level the SSC requested based on their ABC Control Rule (Probability of Overfishing (P*) = 35%). The National Standard 1 (NS1) Guidelines indicate that the ACL cannot exceed the ABC recommendation provided by a fishery management council's SSC.

Alternative 2 would set the ACL/OY equal to the ABC. **Alternatives 3** and **4** would have a greater positive biological effect than **Alternative 2 (Preferred)** because they would create a buffer between the ACL/OY and ABC, with **Alternative 4** setting the most conservative ACL at 80% of the ABC. Creating a buffer between the ACL/OY and ABC would provide greater assurance that overfishing is prevented, and the long-term average biomass is near or above B_{MSY}. However, the South Atlantic Council's SSC ABC control rule takes into account scientific uncertainty with the use of P*. As can be seen in **Table 4-**

20, there is a substantial buffer between the OFL and the ABC. The NS1 guidelines indicate ACL may typically be set very close to the ABC. Setting a buffer between the ACL and ABC would be appropriate in situations where there is uncertainty in whether or not management measures are constraining fishing mortality to target levels.

The magnitude of effects of the ACL/OY alternatives on business activity would directly correlate with the level of ACL. **Alternative 2** would provide the largest ACL, and would also result in the largest positive impacts on business activity for all states combined. The estimated economic effects of the various ACL/OY alternatives on the recreational sector would directly correlate with the level of ACL as a percent of ABC. That is, the closer the ACL would be to ABC, the higher the consequent effects on the recreational sector.

Alternative 2 sets the ACL equal to the ABC, the highest possible ACL, and would result in fewer short-term social impacts than under **Alternatives 3** and **4**, which each set the ACL at a percentage of the ABC.

Establishing sector ACLs and OY for golden tilefish would not have direct impacts on the administrative environment. ACLs are already in place for golden tilefish and commercial and recreational closures have taken place in the past. In general, the lower the ACL is set the more likely it is to be met or exceeded, and the more likely an AM would be triggered, and therefore would have the greatest administrative impact.

Table 2-11. Summary of effects under **Action 11**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		
Alternative 3		
Alternative 4		

2.12 Action 12. Revise Accountability Measures (AMs) for Golden Tilefish

Alternative 1 (No Action). Retain current commercial and recreational AMs for golden tilefish:

- Commercial: prohibit harvest, possession, and retention when the quota is projected to be met. All purchase and sale is prohibited when the quota is projected to be met.

- Recreational: If the ACL is exceeded, the Regional Administrator shall publish a notice to reduce the length of the following fishing season by the amount necessary to ensure landings do not exceed the sector ACL for the following fishing season. Compare the recreational ACL with projected recreational landings over a range of years. For 2010, use only 2010 landings. For 2011, use the average landings of 2010 and 2011. For 2012 and beyond, use the most recent three-year running average.

Alternative 2. If the commercial ACL is met or is projected to be met, all subsequent purchase and sale of golden tilefish is prohibited and harvest and/or possession is limited to the bag limit.

Alternative 3. If the commercial ACL is exceeded, and golden tilefish are overfished, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following season by the amount of the overage.
NOTE: Paybacks are not required when new projections are adopted that incorporate ACL overruns and the ACLs are adjusted in accordance with those projections.

Alternative 4. Specify the AM trigger.

Sub-alternative 4a. Do not specify an AM trigger.

Sub-alternative 4b (Preferred). If the annual landings exceed the ACL in a given year.

Alternative 5. Specify the recreational in-season AM.

Sub-alternative 5a. Do not specify an in-season AM.

Sub-alternative 5b (Preferred). The Regional Administrator shall publish a notice to close the recreational sector when the ACL is projected to be met.

Alternative 6. Specify the recreational post-season AM.

Sub-alternative 6a (Preferred). Monitor following year and shorten season as necessary. If the ACL is exceeded, the following year's recreational landings would be monitored in-season for persistence in increased landings. The Regional Administrator will publish a notice to reduce the length of the recreational fishing season as necessary.

Sub-alternative 6b. Payback. If the recreational ACL is exceeded, and golden tilefish are overfished, the Regional Administrator shall publish a notice to reduce the recreational ACL in the following season by the amount of the overage.

Comparison of Alternatives

Alternative 1 (No Action) would not change the current system of AMs to employ more appropriate methods for determining ACL overages and modify the corrective actions taken if the ACL is projected to be met or is exceeded. The biological impacts of the proposed suite of AMs for the commercial sector would be beneficial relative to the status quo since restricting the commercial harvest to the bag limit once the commercial ACL is met or projected to be met would reduce regulatory discards. Hence a moderate biological benefit would result from implementation of **Alternatives 2** and **3**.

The primary modification to the system of recreational AMs for golden tilefish under **Alternatives 4-6** is the elimination of the use of the three-year running average to determine ACL overages. Eliminating the three-year average would result in a reduced risk of implementing overly conservative AMs when they are not needed. The three-year running average could be heavily influenced by a single year's anomalously high or low landings, which may or may not be due to actual increased harvest or statistical variation. Variability in recreational data is accounted for under **Alternative 6** because corrective post-season action would ensure that any recreational ACL overage is taken into consideration when establishing the ACL for the following season either via a shortened season or a payback provision.

Accountability measures would have direct economic effects on fishing participants, because they would affect the allowed harvest or fishing opportunities for golden tilefish. These economic effects would generally be immediate with in-season AMs and would be delayed if only post-season AMs were implemented.

The setting of AMs can have significant direct and indirect effects on the social environment as they usually impose some restriction on harvest, either during the current season or the next. The long-term effects should be beneficial as they provide protection from further negative impacts on the stock. While the negative effects are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects.

In-season AMs **(Alternative 5)** for the recreational sector are the most administratively difficult to implement in a timely manner because of the time lags between when the landings are reported and when the data are processed, reviewed, and ready for use by fishery managers. In-season recreational AMs for golden tilefish would rely heavily on projections of when the ACL would be met during the fishing season, which would be associated with a high degree of uncertainty. The remaining alternatives and sub-alternatives proposed under this action would have similar administrative impacts to the status quo.

Table 2-12. Summary of effects under **Action 12**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		
Alternative 3		
Sub-alternative 4a		
Sub-alternative 4b (Preferred)		
Sub-alternative 5a		
Sub-alternative 5b (Preferred)		
Sub-alternative 6a (Preferred)		
Sub-alternative 6b		

Chapter 3. Affected Environment

This section describes the affected environment in the proposed project area. The affected environment is divided into four major components:

- **Habitat environment** (Section 3.1)

  Examples include coral reefs and sea grass beds

- **Biological environment** (Section 3.2)

  Examples include populations of golden tilefish, corals, turtles

- **Human environment** (Sections 3.3 & 3.4)

  Examples include fishing communities and economic descriptions of the fisheries

- **Administrative environment** (Section 3.5)

  Examples include the fishery management process and enforcement activities

3.1 Habitat Environment

3.1.1 Inshore/Estuarine Habitat

Many deepwater snapper grouper species utilize both pelagic and benthic habitats during several stages of their life histories; larval stages of these species live in the water column and feed on plankton. Most juveniles and adults are demersal (bottom dwellers) and associate with hard structures on the continental shelf that have moderate to high relief (e.g., coral reef systems and artificial reef structures, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings). Juvenile stages of some snapper grouper species also utilize inshore seagrass beds, mangrove estuaries, lagoons, oyster reefs, and embayment systems. In many species, various combinations of these habitats may be utilized during daytime feeding migrations or seasonal shifts in cross-shelf distributions. More detail on these habitat types can be found in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b).

3.1.2 Offshore Habitat

Predominant snapper grouper offshore fishing areas are located in live bottom and shelf-edge habitats, where water temperatures range from 11º to 27º C (52º to 81º F) due to the proximity of the Gulf Stream, with lower shelf habitat temperatures varying from 11º to 14º C (52º to 57º F). Water depths range from 16 to 27 meters (54 to 90 feet) or greater for live-bottom habitats, 55 to 110 meters (180 to 360 feet) for the shelf-edge habitat, and from 110 to 183 meters (360 to 600 feet) for lower-shelf habitat areas.

The exact extent and distribution of productive snapper grouper habitat on the continental shelf north of Cape Canaveral is unknown. Current data suggest from 3 to 30% of the shelf is suitable habitat for these species. These live-bottom habitats may include low relief areas, supporting sparse to moderate growth of sessile (permanently attached) invertebrates, moderate relief reefs from 0.5 to 2 meters (1.6 to 6.6 feet), or high relief ridges at or near the shelf break consisting of outcrops of rock that are heavily encrusted with sessile invertebrates such as sponges and sea fan species. Live-bottom habitat is scattered irregularly over most of the shelf north of Cape Canaveral, Florida, but is most abundant offshore from northeastern Florida. South of Cape Canaveral, the continental shelf narrows from 56 to 16 kilometers (35 to 10 miles) wide, thence reducing off the southeast coast of Florida and the Florida Keys. The lack of a large shelf area, presence of extensive, rugged living fossil coral reefs, and dominance of a tropical Caribbean fauna are distinctive benthic characteristics of this area.

Rock outcroppings occur throughout the continental shelf from Cape Hatteras, North Carolina to Key West, Florida (MacIntyre and Milliman 1970; Miller and Richards 1979; Parker et al. 1983), which are principally composed of limestone and carbonate sandstone (Newton et

al. 1971), and exhibit vertical relief ranging from less than 0.5 to over 10 meters (33 feet). Ledge systems formed by rock outcrops and piles of irregularly sized boulders are also common. Parker et al. (1983) estimated that 24% (9,443 km^2) of the area between the 27 and 101 meters (89 and 331 feet) depth contours from Cape Hatteras, North Carolina to Cape Canaveral, Florida is reef habitat. Although the bottom communities found in water depths between 100 and 300 meters (328 and 984 feet) from Cape Hatteras, North Carolina to Key West, Florida is relatively small compared to the whole shelf, this area, based upon landing information of fishers, constitutes prime reef fish habitat and probably significantly contributes to the total amount of reef habitat in this region.

Artificial reef structures are also utilized to attract fish and increase fish harvests; however, research on artificial reefs is limited and opinions differ as to whether or not these structures promote an increase of ecological biomass or merely concentrate fishes by attracting them from nearby, natural un-vegetated areas of little or no relief.

The distribution of coral and live hard bottom habitat as presented in the Southeast Marine Assessment and Prediction (SEAMAP) Bottom Mapping Project is a proxy for the distribution of the species within the snapper grouper complex. The method used to determine hard bottom habitat relied on the identification of reef obligate species including members of the snapper grouper complex. The Florida Fish and Wildlife Research Institute (FWRI), using the best available information on the distribution of hard bottom habitat in the south Atlantic region, prepared ArcView maps for the four-state project. These maps, which consolidate known distribution of coral, hard/live bottom, and artificial reefs as hard bottom, are available on the South Atlantic Fishery Management Council's (South Atlantic Council) Internet Mapping System website: http://ocean.floridamarine.org/efh_coral/ims/viewer.htm.

Plots of the spatial distribution of offshore species were generated from the Marine Resources Monitoring, Assessment, and Prediction Program (MARMAP) data. The plots serve as point confirmation of the presence of each species within the scope of the sampling program. These plots, in combination with the hard bottom habitat distributions previously mentioned, can be employed as proxies for offshore snapper grouper complex distributions in the south Atlantic region. Maps of the distribution of snapper grouper species by gear type based on Marine Assessment Monitoring and Prediction Program (MARMAP) data can also be generated through the Council's Internet Mapping System at the above address.

3.1.3 Essential Fish Habitat

Essential fish habitat (EFH) is defined in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S. C. 1802(10)). Specific categories of EFH identified in the South Atlantic Bight, which are utilized by federally managed fish and invertebrate species, include both estuarine/inshore and marine/offshore areas. Specifically,

estuarine/inshore EFH includes: Estuarine emergent and mangrove wetlands, submerged aquatic vegetation, oyster reefs and shell banks, intertidal flats, palustrine emergent and forested systems, aquatic beds, and estuarine water column. Additionally, marine/offshore EFH includes: Live/hard bottom habitats, coral and coral reefs, artificial and manmade reefs, *Sargassum* species, and marine water column.

EFH utilized by snapper grouper species in this region includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs and medium to high profile outcroppings on and around the shelf break zone from shore to at least 183 meters [600 feet (but to at least 2,000 feet for wreckfish)] where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical fish complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for survival of larvae and growth up to and including settlement. In addition, the Gulf Stream is also EFH because it provides a mechanism to disperse snapper grouper larvae.

For specific life stages of estuarine- dependent and near shore snapper grouper species, EFH includes areas inshore of the 30 meter (100-foot) contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom habitats.

3.1.3.1 Habitat Areas of Particular Concern

Areas which meet the criteria for Essential Fish Habitat-Habitat Areas of Particular Concern (EFH-HAPCs) for species in the snapper grouper management unit include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; near shore hard bottom areas; The Point, The Ten Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump (South Carolina); mangrove habitat; seagrass habitat; oyster/shell habitat; all coastal inlets; all state-designated nursery habitats of particular importance to snapper grouper(e.g., Primary and Secondary Nursery Areas designated in North Carolina); pelagic and benthic *Sargassum*; Hoyt Hills for wreckfish; the *Oculina* Bank Habitat Area of Particular Concern; all hermatypic coral habitats and reefs; manganese outcroppings on the Blake Plateau; and Council-designated Artificial Reef Special Management Zones (SMZs).

Areas that meet the criteria for EFH-HAPCs include habitats required during each life stage (including egg, larval, postlarval, juvenile, and adult stages).

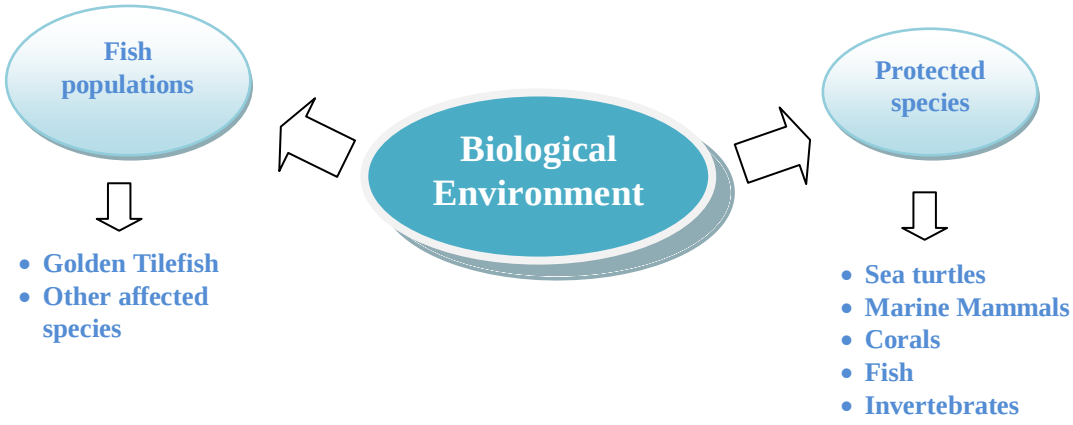
In addition to protecting habitat from fishing related degradation though fishery management plan (FMP) regulations, the South Atlantic Council, in cooperation with NOAA Fisheries Service, actively comments on non-fishing projects or policies that may impact essential fish

habitat. With guidance from the Habitat Advisory Panel, the South Atlantic Council has developed and approved policies on: energy exploration, development, transportation and hydropower re-licensing; beach dredging and filling and large-scale coastal engineering; protection and enhancement of submerged aquatic vegetation; alterations to riverine, estuarine and near shore flows; offshore aquaculture; marine invasive species and estuarine invasive species.

3.2 Biological and Ecological Environment

The reef environment in the South Atlantic management area affected by actions in this amendment is defined by two components (**Figure 3-1**). Each component will be described in detail in the following sections.

Figure 3-1. Two components of the biological environment described in this amendment.



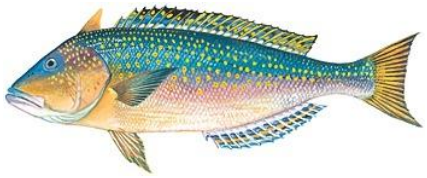
3.2.1 Fish Populations

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit currently contains 73 species of fish, many of them neither "snappers" nor "groupers". These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (black sea bass, red grouper) while the tropical variety's core residence is in the waters off south Florida waters, Caribbean Islands, and northern South America (black grouper, mutton snapper).

These are reef-dwelling species that live amongst each other. These species rely on the reef environment for protection and food. There are several reef tracts that follow the southeastern coast. The fact that these fish populations congregate together dictates the nature of the fishery (multi-species) and further forms the type of management regulations proposed in this amendment.

Snapper grouper species commonly taken with red grouper could be affected by actions in this amendment. Snapper grouper species most likely to be affected by the proposed actions include many species that occupy the same habitat at the same time. Therefore, snapper grouper species are likely to be caught when regulated since they will be incidentally caught when fishermen target other co-occurring species.

Golden Tilefish Life History
An Overview



- On the Atlantic coast, they occur from Nova Scotia to South Florida.
- Most often found around 600 feet, over mud or sand bottom.
- May live up to 50 years
- Spawn from March to July with peak in April
- Not undergoing overfishing, not overfished.

3.2.1.1 Golden Tilefish,

Golden tilefish (*Lopholatilus chamaeleonticeps*) are distributed throughout the Western Atlantic, occurring as far north as Nova Scotia, to southern Florida, and in the eastern Gulf of Mexico (Robins and Ray 1986). According to Dooley (1978), golden tilefish occurs at depths of 80-540 meters (263-1,772 feet). Robins and Ray (1986) report a depth range of 82-275 meters (270-900 feet) for golden tilefish. It is most commonly found at about 200 meters (656 feet), usually over mud or sand bottom but, occasionally, over rough bottom (Dooley 1978).

Maximum reported size is 125 centimeters (50") total length and 30 kilograms (66 pounds) (Dooley 1978; Robins and Ray 1986). Maximum reported age is 40 years (Harris et al. 2001).

Radiocarbon aging indicates golden tilefish may live for at least 50 years (Harris, South Carolina Department of Natural Resources, personal communication). A recent Southeast Data Assessment and Review (SEDAR) assessment estimated natural mortality (M) at 0.08 (SEDAR 4 2004). Golden tilefish spawn off the southeast coast of the U.S. from March through late July, with a peak in April (**Table 3-1**; Harris et al. 2001). Grimes et al. (1988) indicate peak spawning occurs from May through September in waters north of Cape Canaveral. Golden tilefish primarily prey upon shrimp and crabs, but also eat fishes, squid, bivalves, and holothurians (Dooley 1978).

3.2.1.2 Stock Status of Golden Tilefish

Golden tilefish were assessed through the Southeast Data, Assessment and Review (SEDAR) process in 2011 with data through 2010.

SEDAR is a cooperative Fishery Management Council process initiated to improve the quality and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and U.S. Caribbean. The Caribbean, Gulf of Mexico, and South Atlantic Fishery Management Councils manage SEDAR in coordination with NOAA Fisheries and the Atlantic and Gulf States Marine Fisheries Commissions. SEDAR seeks improvements in the scientific quality of stock assessments, constituent and stakeholder participation in assessment development, transparency in the assessment process, and a rigorous and independent scientific review of completed stock assessments.

SEDAR is organized around three workshops. First is the Data Workshop, during which fisheries, monitoring, and life history data are reviewed and compiled. Second is the Assessment process, which may be conducted via a workshop and several webinars, during which assessment models are developed and population parameters are estimated using the information provided from the Data Workshop. Third and final is the Review Workshop, during which independent experts review the input data, assessment methods, and assessment products. The completed assessment, including the reports of all three workshops and all supporting documentation, is then forwarded to the Council Scientific and Statistical Committee (SSC). The SSC considers whether the assessment represents the Best Available Science and develops fishing level recommendations for Council consideration.

SEDAR workshops are public meetings organized by SEDAR. Workshop participants appointed by the lead Council are drawn from state and federal agencies, non-government organizations, Council members, Council advisors, and the fishing industry with a goal of including a broad range of disciplines and perspectives. All participants are expected to contribute to this scientific process by preparing working papers, contributing data, providing assessment analyses, evaluating and discussing information presented and completing the workshop report.

Assessment History

The golden tilefish stock has been assessed for the 1988, 1990 and 1999 fishing years (Staff 1991; Huntsman et al. 1992; Potts and Brennan 2001). The assessments of 1988 and 1990 fishing year data used limited age information from Georgia and reproductive biology data were not available. The assumption of ½ $L\infty$ as the age of maturity was used for estimating the static SPR. Static SPR values were 31% and 21% for 1988 and 1990, respectively. The assessment of the 1999 fishing year used age and reproductive biology data from North Carolina and South Carolina. The resulting static SPR was 27%.

In 2004 tilefish was assessed as part of SEDAR 4, using landings, age, length, and abundance index data through 2002. For this assessment two models were considered: (1) a statistical catch-at-age (SCAA) model and (2) an age-aggregated production model. The results of the primary SCAA model indicated overfishing of the resource post-1988 with spawning stock biomass hovering right around the value corresponding to MSY for that same time period. The terminal 2002 model estimates suggested the tilefish stock was overfishing and that the stock was very close to the overfished definition. Static SPR in this assessment was estimated to be about 31% in 2002.

Current Status

The SEDAR 25 (2011) assessment of the golden tilefish stock indicated that the U.S. southeast stock of tilefish is currently **not overfished** and **overfishing is not occurring**.

Estimated time series of stock status (SSB/MSST) shows decline in the early 1980s, and then increase since the mid-2000s. Estimates of spawning biomass have remained below MSST throughout the 1990s and early 2000s. Current stock status was estimated to be $SSB_{2010}/MSST$ = 2.43. If this ratio is greater than one, then the stock is not overfished. The uncertainty analysis suggested that the estimate of a stock that is not overfished (i.e., SSB > MSST) is robust. Age structure estimated by the model shows fewer older fish than the (equilibrium) age structure expected at MSY. However, in the terminal year (2010), ages 1-7 approached the MSY age structure.

The estimated time series of F/F_{MSY} suggests that overfishing has occurred throughout some of the assessment period. Spikes in the early 1980s through 2004 are due primarily to the longline fleet. Current fishery status in the terminal year, with current F represented by the geometric mean from 2008-2010, is estimated to be

$F_{2008\text{-}2010}/F_{MSY}$ = 0.36. If this ratio is below one, then the stock is undergoing overfishing. This estimate indicates that overfishing is not occurring and appears robust across the uncertainty analyses.

3.2.1.3 Other Fish Species Affected

Golden tilefish are primarily taken with longline gear over mud habitat where no other snapper grouper species commonly occur. However, longline gear is also deployed in mud and rock habitat where snowy grouper (*Epinephelus niveatus*), blueline tilefish (*Caulolatilus microps*), and yellowedge grouper (*Epinephelus flavolimbatus*) will be caught along with golden tilefish.

A detailed description of the life history of these species is provided in the snapper grouper SAFE report (NMFS 2005) and the Fishery Ecosystem Plan (SAFMC 2008).

3.2.2 Protected Species

There are 31 different species of marine mammals that may occur in the EEZ of the South Atlantic region. All 31 species are protected under the Marine Mammal Protection Act (MMPA) and six are also listed as endangered under the ESA (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales). In addition to those six marine mammals, five species of sea turtle (green, hawksbill, Kemp's ridley, leatherback, and loggerhead); the smalltooth sawfish; and two Acropora coral species (elkhorn [*Acropora palmata*] and staghorn [*A. cervicornis*]) are protected under the ESA. Portions of designated critical habitat for North Atlantic right whales and *Acropora* corals also occur within the South Atlantic Council's jurisdiction. Descriptions of the life history characteristics of the protected species can be found in the FEP (SAMFC 2008) and in Comprehensive ACL Amendment (under review), and are herein incorporated by reference.

3.3 Human Environment

NOTE: This section is being updated

3.3.1 Economic Description of the Commercial Fishery

Additional information on the commercial snapper grouper fishery is contained in previous amendments [Amendment 13C (SAFMC 2006), Amendment 15A (SAFMC 2007), Amendment 15B (SAFMC 2008), and Amendment 16 (SAFMC 2008)] and is incorporated herein by reference.

3.3.1.1 Gear and Fishing Behavior, South Atlantic Commercial Snapper Grouper Fishery

The commercial snapper grouper fishery utilizes vertical lines, longlines, black sea bass pots/traps, spears, and powerheads (i.e., spears with spring-loaded firearms). Vertical lines are used from the North Carolina/Virginia border to the Atlantic side of Key West, Florida. The majority of hook and line fishermen use either electric or hydraulic reels (bandit gear) and generally have 2-4 bandit reels per boat. The majority of the bandit fleet fishes year round for snapper grouper with the only seasonal differences in catch associated with the regulatory spawning season closures in March and April for gag. Most fluctuations in fishing effort in this fishery are a result of the weather. Trips can be limited during hurricane season and also during the winter months from December through March. Some fishermen stop bandit fishing to target king mackerel when they are running.

The Council allows the use of bottom longlines north of St. Lucie Inlet, Florida, in depths greater than 50 fathoms. Bottom longline gear is used to target snowy grouper and golden tilefish. Longline boats are typically bigger than bandit boats, their trips are longer, and they cost more to operate because they operate farther offshore. A longline spool generally holds about 15 miles of cable. Longlines are fished from daylight to dark because sea lice eat the flesh of hooked fish at night. The fishery is operated year long with little or no seasonal fluctuation barring hurricane disruption.

Spears or powerheads are most commonly used off Florida and are illegal for killing snapper grouper species in South Carolina and in Special Management Zones.

For the tables in this section, the following notes apply: (1) Data Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of September 22, 2008, and Accumulated Landings System database as of September 17, 2008. NOAA Fisheries Service, Southeast Regional Office permits database. (2) CPI Data Source: The BLS Consumer Price Index (CPI) for urban dwellers was used to adjust for the effects overall price inflation in the U.S. economy at the consumer level. Dollar values were adjusted to 2009 year-equivalent dollars. (3) Within all tables, "---" within a cell indicates zero landings, effort, etc., for that cell. (4) In order to maintain individual vessel and dealer confidentiality, in some cases, state specific data has been combined with other states. In all cases, landings from other states outside of North Carolina, South Carolina, Georgia, and Florida have been removed for confidentiality reasons.

3.3.1.2 Economic Activity

Estimates of the average annual economic activity (impacts) associated with the commercial harvest of the species or species groups addressed in this proposed amendment were derived using the model developed for and applied in NMFS (2009c) and are provided in Table 3-3. Business activity for the commercial sector is characterized in the form of full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors). Estimates are provided for the economic activity associated with the commercial ex-vessel (dockside) revenues for individual species or species groups that generated an annual average of approximately $300,000 (2008 dollars) or more per year in ex-vessel revenues during 2005-2009. All dollar values are in 2008 dollars in order to be consistent with the economic impact model. As a result, the estimates of average annual ex-vessel revenues may be slightly different than those provided in previous tables depicting commercial revenues, which are in 2009 dollars. Row values should not be added, with the exception of "All Snapper Grouper" and "Dolphin" because the group totals include the values of the appropriate individual snapper grouper species and "All Snapper Grouper" includes the smaller snapper grouper species groups.

Table 3-3. Average annual economic activity associated with the harvest of the respective species. All dollar values are in 2008 dollars.

Species	Average Ex-vessel Value (millions)	Total Jobs	Harvester Jobs	Output (Sales) Impacts (millions)1	Income Impacts (millions)1
All Snapper Grouper	$13.44	2,526	336	$176.91	$75.39
Shallow Water Grouper	$4.49	845	112	$59.15	$25.21
Shallow Water Snapper	$0.45	85	11	$5.95	$2.53
Deepwater Grouper/Tilefish	$0.40	75	10	$5.23	$2.23
Snowy Grouper	$0.32	61	8	$4.26	$1.82
Gag	$2.13	400	53	$28.01	$11.94
Red Grouper	$1.18	221	29	$15.51	$6.61
Scamp	$1.13	212	28	$14.87	$6.34
Black Sea Bass	$1.64	309	41	$21.64	$9.22
Yellowtail Snapper	$0.30	56	7	$3.91	$1.66
Red Snapper	$0.67	125	17	$8.78	$3.74
Vermilion Snapper	$2.90	546	73	$38.21	$16.28
Dolphin	$0.60	115	16	$7.91	$3.37

12008 dollars.

3.3.1.3 Landings, Vessels, Dealers, Effort (Trips), Ex-vessel Price, and Ex-vessel Revenue,

The landings of snapper from a high of 8.6 million pounds in 1997 to 6.5 million pounds (gutted) in 2009, while effort declined by 26% from 19,860 trips to 14,702. The number of boats fell from a high of 1,301 in 1998 to a low of 856 in 2006, but increased again to 929 by 2009. From 2005 to 2009 (Table 3-4), the average inflation-adjusted (2009 dollars) dockside (ex-vessel) price received per gutted pound of snapper grouper landings increased from $2.60 in 2005 to $2.84 in 2007 before returning to $2.61 by 2009, averaging $2.70 over the five year period. From 2005 to 2009, the inflation-adjusted (2009 dollars) annual dockside (ex-vessel) revenues received for snapper grouper landings increased from $12.1 million in 2005 to $15 million in 2007 before declining a bit to $14.8 million by 2009, averaging $13.8 million per year. Over the 2005-2009 period, vermilion snapper was the largest volume species in the fishery, followed by yellowtail snapper and greater amberjack. The recession of 2007-2008 does not appear to have stopped steady growth in snapper grouper landings or participating vessels, although it may have moderately reduced effort/trips for one year (2008) and likely contributed to lower ex-vessel prices and revenues in 2008 and 2009.

Table 3-4. Snapper grouper landings (not including wreckfish), vessels, dealers, effort (trips by species), price, and revenue, 2005-2009.

	Year Landed					Average
	2005	2006	2007	2008	2009	2005-2009

	Year Landed					Average
	2005	2006	2007	2008	2009	2005-2009
Pounds (Gutted)	5,453,614	5,217,993	5,636,077	6,101,203	6,472,263	5,776,230
Vessels1	865	856	897	912	929	892
Dealers	263	306	323	304	309	301
Effort (Trips)2	12,809	12,317	13,937	13,881	14,702	13,529
Hook & Line (Trips)3	12,207	11,749	13,226	13,390	14,116	12,938
Longline (Trips)3	117	143	248	199	257	193
Trap (Trips)3	601	755	612	555	747	654
Other (Trips)3	1,668	1,570	1,658	1,557	1,747	1,640
Ex-Vessel Price (2009 $) per Pound Gutted	2.60	2.75	2.84	2.70	2.61	2.70
Ex-Vessel Revenue (2009 $)	12,125,282	12,581,212	15,008,354	14,567,472	14,803,406	13,817,145

1 May include double-counting of vessels that land snapper grouper in more than one state in a given year.
2 A single trip using multiple gears is counted only once.
3 A single trip using multiple gears counted in multiple categories, once for each gear.

3.3.1.4 Economic Impacts of the South Atlantic Commercial Snapper Grouper Fishery

Estimates of the economic impacts of the commercial snapper grouper fishery are derived using the model developed for and applied in USDOC (2009). Based on the average annual ex-vessel revenues for all snapper grouper species in the South Atlantic over the period 2003-2007 of $13.8 million (2007 dollars), the commercial snapper grouper fishery is estimated to support 2,679 full time equivalent (FTE) jobs and generate approximately $182 million in output (sales) impacts and approximately $77 million in income impacts per year to the U.S. economy. Among the jobs supported, 350 FTE jobs are estimated to be in the harvesting sector and 213 FTE jobs are in the dealer/processor sector. Approximately two-thirds of the jobs supported by the commercial snapper grouper fishery are estimated to accrue to the restaurant sector. The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors).

In addition to these snapper grouper harvests, the vessels that harvested snapper grouper also harvested other species on the trips where snapper grouper were harvested, as well as on other trips on which no snapper grouper were harvested. All revenues from all species on all these trips contributed towards making these vessels economically viable and contributed to the economic activity associated with these vessels. The average annual total ex-vessel revenues from all species (including snapper grouper) harvested during this period (2003-2007) by vessels that harvested snapper grouper species was approximately $22.8 million (2007 dollars). The economic activity associated with these revenues is estimated to support 4,426 FTE jobs (578 in

the harvesting sector and 352 in the dealer/processor sector) and generate approximately $300 million in output (sales) impacts and approximately $128 million in income impacts.

For the individual species addressed by this amendment, black sea bass generated the largest average annual ex-vessel revenues, approximately $937,000 (2007 dollars) per year from 2003-2007. The economic activity associated with black sea bass is estimated to support 182 FTE jobs (24 in the harvest sector and 14 in the dealer/processor sector), approximately $12 million in output (sales) impacts, and approximately $5 million in income impacts. All harvests by the vessels that harvest black sea bass support approximately 1,860 FTE jobs (243 in the harvest sector and 148 in the dealer/processor sector) and approximately $126 million in output (sales) impacts and approximately $54 million in income impacts.

One further caveat to these estimates should be noted. The species composition of other harvests by vessels that harvested snapper grouper has not been evaluated. For the assessment above, all revenues, regardless of the species harvested, were treated the same from an impact modeling perspective. However, in reality, not all species, and associated revenues, flow through harvesters, dealers/processors, and the consuming public in the same way. As a result, the estimates of economic effects provided above for all revenues by vessels with recorded snapper grouper harvest may be greater than or less than actual effects.

3.3.1.5 South Atlantic Commercial Snapper Grouper Fishery by State

Table 3-5. Landings (gutted weight) of snapper grouper species (not including wreckfish) by state and year, 2005-2009.

	Year Landed					Average 2005-2009
State Landed:	2005	2006	2007	2008	2009	
FL (east coast) and GA	1,282,145	1,133,110	1,491,152	1,606,513	1,998,482	1,502,280
FL (west coast)	1,402,262	1,117,701	1,000,608	1,148,555	1,424,174	1,218,660
NC	1,444,859	1,595,626	1,709,500	2,118,081	1,941,698	1,761,953
SC	1,324,348	1,371,556	1,434,817	1,228,053	1,107,909	1,293,337
Total All States	5,453,614	5,217,993	5,636,077	6,101,203	6,472,263	5,776,230

Table 3-6. Number of trips landing snapper grouper species (not including) by state, 2005-2009.

State Landed:	Year Landed					Average 2005-2009
	2005	2006	2007	2008	2009	
FL (east coast) and GA	4,309	4,066	5,347	5,195	5,957	4,975
FL (west coast)	5,397	4,815	4,830	4,886	4,885	4,963
NC	2,288	2,550	2,749	2,886	2,938	2,682
SC	814	886	1,011	914	922	909
Total All States	12,809	12,317	13,937	13,881	14,702	13,529

Table 3-7. Average annual landings (gutted weight) of snapper grouper species (not including wreckfish, warsaw grouper, or speckled hind) by state and species, 2005-2009.

Species:	State Landed: FL (east coast) and GA	FL (west coast)	NC	SC	All States Combined
Atlantic Spadefish	CONF	CONF	CONF	CONF	307
Black Grouper	17,370	37,687	34,099	37,407	126,564
Blue Runner	80,643	14,329	3,398		98,369
Black Sea Bass	15,529		284,685	116,540	416,753
Deepwater Grouper & Tilefish Complex	9,058	14,536	197,772	19,745	241,170
Greater Amberjack	222,095	335,458	58,312	---	690,725
Gag	134,846	1,297	131,125	165,265	432,533
Gray Triggerfish	56,511	1,694	137,854	82,892	278,951
Golden Tilefish	254,257	1,497	2,310	45,892	303,956
Hogfish	5,893	5,116	5,514	16,123	32,646
Jacks	73,284	18,657	56,097	67,523	215,562
Mutton Snapper	15,640	27,314	1,436	4,060	48,449
Grunts & Hinds Complex	7,950	7,703	59,284	63,993	138,929
Red Grouper	13,618	12,407	227,725	92,044	345,794
Red Porgy	18,687		45,682	31,944	96,313
Red Snapper	128,819	1,989	6,546	23,131	160,486
Scamp	32,712	752	67,736	166,559	267,759
Snowy Grouper	15,625	33,968	45,854	37,234	132,781
Snappers	3,722	2,457	237	1,614	8,030
Vermilion Snapper	305,899	3,868	393,127	242,823	945,717
Yellowtail Snapper	89,883	697,747	2,913	1,481	792,024

Note: "---" indicates zero landings.

Table 3-8. Average annual price and ex-vessel revenues of snapper grouper species (not including wreckfish) by state, 2005-2009.

State Landed:		Year Landed					Average 2005-2009
		2005	2006	2007	2008	2009	
FL (east coast) and GA	Deflated Price (2009 $) per Pound Gutted	2.39	2.40	2.50	2.32	2.32	2.39

State Landed:		Year Landed					Average 2005-2009
		2005	2006	2007	2008	2009	
	Deflated Ex-Vessel Revenue (2009 $)	2,362,648	2,383,784	3,751,787	3,406,498	4,189,472	3,218,838
FL (west coast)	Deflated Price (2009 $) per Pound Gutted	2.49	2.65	2.78	2.56	2.43	2.58
	Deflated Ex-Vessel Revenue (2009 $)	2,988,509	2,704,610	2,422,232	2,627,941	3,208,701	2,790,399
NC	Deflated Price (2009 $) per Pound Gutted	2.66	2.75	2.95	2.87	2.83	2.81
	Deflated Ex-Vessel Revenue (2009 $)	3,320,179	3,786,195	4,559,345	4,988,849	4,324,496	4,195,813
SC	Deflated Price (2009 $) per Pound Gutted	3.08	3.29	3.23	3.13	2.98	3.14
	Deflated Ex-Vessel Revenue (2009 $)	3,453,946	3,706,623	4,274,990	3,544,184	3,080,737	3,612,096
Total All States	Deflated Price (2009 $) per Pound Gutted	2.60	2.75	2.84	2.70	2.61	2.70
	Deflated Ex-Vessel Revenue (2009 $)	12,125,282	12,581,211	15,008,354	14,567,472	14,803,406	13,817,145

3.3.1.6 South Atlantic Commercial Snapper Grouper Fishery by Gear

Table 3-9. Average annual landings (gutted weight) of snapper grouper species (not including wreckfish) by major gear type, 2005-2009.

Gear Type:	Year Landed					Average 2005-2009
	2005	2006	2007	2008	2009	
Hook & Line	4,795,175	4,405,848	5,003,711	5,429,731	5,638,439	5,054,581
Longline	233,020	331,461	245,624	279,312	290,667	276,017
Trap	338,057	398,380	311,153	332,159	475,943	371,138
Other	87,362	82,305	75,590	60,002	67,214	74,495
Total All Gears	5,453,614	5,217,994	5,636,078	6,101,204	6,472,263	5,776,230

Table 3-10. Number of trips landing snapper grouper species (not including wreckfish) by gear, 2005-2009.

Gear Type:	Year Landed					Average 2005-2009
	2005	2006	2007	2008	2009	
Hook & Line1	12,207	11,749	13,226	13,390	14,116	12,938
Longline1	117	143	248	199	257	193
Trap1	601	755	612	555	747	654
Other1	1,668	1,570	1,658	1,557	1,747	1,640
All Gears2	12,809	12,317	13,937	13,881	14,702	13,529

1 A single trip using multiple gears is counted in multiple categories, once for each gear. As a result, adding trips across the individual gears gives a value larger than the "All Gears" value for the year.

2 A single trip using multiple gears is counted only once in the "All Gears" results.

Table 3-11. Average annual price and ex-vessel revenue of snapper grouper species (not including wreckfish) by gear and year, 2005-2009.

Gear Type:		Year Landed					Average 2005-2009
		2005	2006	2007	2008	2009	
Hook & Line	Deflated Price (2009 $) per Pound Gutted	2.61	2.75	2.84	2.71	2.61	2.70
	Deflated Ex-Vessel Revenue (2009 $)	10,631,128	10,691,781	13,274,715	12,877,740	12,731,912	12,041,455
Longline	Deflated Price (2009 $) per Pound Gutted	2.72	2.69	2.83	2.58	2.49	2.66
	Deflated Ex-Vessel Revenue (2009 $)	477,042	607,076	626,441	675,840	666,470	610,574

Gear Type:		Year Landed					Average
		2005	2006	2007	2008	2009	2005-2009
Trap	Deflated Price (2009 $) per Pound Gutted	2.41	2.72	2.92	2.63	2.61	2.66
	Deflated Ex-Vessel Revenue (2009 $)	805,346	1,080,289	898,018	868,121	1,235,720	977,499
Other	Deflated Price (2009 $) per Pound Gutted	2.39	2.64	2.82	2.55	2.55	2.59
	Deflated Ex-Vessel Revenue (2009 $)	211,766	202,065	209,180	145,771	169,304	187,617
Total All Gears	Deflated Price (2009 $) per Pound Gutted	2.60	2.75	2.84	2.70	2.61	2.70
	Deflated Ex-Vessel Revenue (2009 $)	12,125,282	12,581,211	15,008,354	14,567,472	14,803,406	13,817,145

3.3.1.7 The Commercial Fishery for Golden Tilefish

Table 3-12. Annual landings, dockside revenues and fishing effort, trips and boats with landings of at least one pound of golden tilefish, 2003-2007.

Item	2003	2004	2005	2006	2007	Average
	Trips or boats with at least one pound of golden tilefish					
Number of trips with at least one pound of golden tilefish	391	336	359	331	593	402
Landings of golden tilefish, thousand pounds, whole weight	344	272	307	410	320	330
Dockside revenue from golden tilefish, thousand current $	$658	$511	$664	$827	$748	$682
Dockside revenue from golden tilefish, thousand 2007 $	$741	$561	$702	$849	$753	$721

Dockside price, current $ / pound	$1.92	$1.88	$2.17	$2.02	$2.34	$2.06
Landings of all species, same trips, thousand pounds	686	504	497	691	408	557
Dockside revenue, all species, same trips, thousand 2007 $	$1,287	$930	$1,068	$1,336	$905	$1,105
Dockside revenue, all species, all trips, same boats, thousand 2007 $	$2,668	$2,264	$2,627	$2,801	$2,578	$2,588
Number of boats that landed golden tilefish	63	65	65	60	65	64
Number of boats landing 1-100 pounds per year of golden tilefish	23	20	16	25	18	20
Number of boats landing 101-1000 pounds per year of golden tilefish	21	21	25	16	19	20
Number of boats landing 1,001-5,000 pounds per year of golden tilefish	3	13	16	9	18	12
Number of boats landing more than 5,000 pounds per year of golden tilefish	15	11	8	10	10	11

Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of September 22, 2008, and Accumulated Landings System data base as of September 17, 2008. The BLS Consumer Price Index for all Urban Consumers was used to adjust dockside revenues and average annual prices for inflation.

Table 3-13. Annual landings and dockside revenues on trips with golden tilefish as the top source of trip revenue, 2003-2007.

Item	2003	2004	2005	2006	2007	Average
	Trips with golden tilefish as the top source of trip revenue					
Trips	240	233	247	216	481	283
Boats	40	43	45	33	47	42
Landings of golden tilefish, thousand pounds	307	243	276	378	312	303
Dockside revenue for golden tilefish, thousand 2007 $	$671	$505	$639	$786	$735	$667
Landings of other species on trips where golden tilefish is the top source of trip revenue, thousand pounds	140	81	40	78	27	73
Dockside revenue for other species on trips where golden tilefish is the top source of trip revenue, thousand 2007 $	$188	$116	$64	$123	$40	$106

Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of September 22, 2008, and Accumulated Landings System data base as of September 17, 2008. The BLS Consumer Price Index for all Urban Consumers was used to adjust dockside revenues and average annual prices for inflation.

Table 3-14. Annual landings and dockside revenues on trips with golden tilefish as a lesser source of trip revenue, 2003-2007.

Item	2003	2004	2005	2006	2007	Average
	Trips with golden tilefish as a lesser source of trip revenue					
Trips	151	103	112	115	112	119
Boats	50	45	46	45	39	45
Landings of golden tilefish on trips with golden tilefish as a lesser source of revenue, thousand pounds	36	30	30	32	7	27
Dockside revenues for golden tilefish on trips with golden tilefish as a lesser source of revenue, thousand 2007 $	$70	$56	$63	$63	$18	$54
Landings of other fish on trips with golden tilefish as a lesser source of revenue, thousand pounds	203	150	150	203	61	153
Dockside revenues for other fish on trips with golden tilefish as a lesser source of revenue, thousand 2007 $	$357	$253	$301	$365	$112	$278

Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of September 22, 2008, and Accumulated Landings System data base as of September 17, 2008. The BLS Consumer Price Index for all Urban Consumers was used to adjust dockside revenues and average annual prices for inflation.

Table 3-15. Annual number of golden tilefish for trips with at least one pound of golden tilefish, by region and primary gear, 2003-2010.

Item	2003	2004	2005	2006	2007	Average
	Trips with at least one pound of golden tilefish					
Golden tilefish caught off North Carolina, thousand pounds	17	40	1	2	2	12
Golden tilefish caught off South Carolina, thousand pounds	128	105	62	122	27	89
Golden tilefish caught off Georgia and northeast Florida, thousand pounds			0		0	0
Golden tilefish caught off central and southeast Florida, thousand pounds	191	126	240	283	289	226
Golden tilefish caught off Florida Keys, thousand pounds	8	1	4	2	1	3
Golden tilefish caught with vertical lines, thousand pounds	18	25	38	35	44	32
Golden tilefish caught with dive gear, thousand pounds		0	0		0	0
Golden tilefish caught with other gear, thousand pounds	325	248	269	374	296	302

Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of October 14, 2011.

3.3.1.8 Imports

Imports have been a major source of seafood supply in the U.S., and the domestic snapper grouper market is not an exception. For the period 2003-2006, imports of fresh and frozen snappers and groupers have stayed at relatively high levels, averaging 44.7 million pounds (Table 3-17). Compared with the average overall landings of snapper grouper in the South Atlantic for the same period of 6.43 million pounds (whole weight; Table 3-5), the dominance of imports in the snapper grouper market is apparent. At an annual average of $79.2 million for the years 2003-2006, imports dwarf the $12.99 million ex-vessel value of South Atlantic snapper grouper landings. Dominance of imports in the snapper grouper market would be expected to limit the movement of domestic ex-vessel prices resulting from changes in domestic landings of snappers and groupers.

Table 3-16. U.S. imports of snappers and groupers, 2003-2006.

YEAR	Pounds of imports by product form Millions of pounds*			Value of imports by product form Millions of dollars		
	FRESH	FROZEN	TOTAL	FRESH	FROZEN	TOTAL
2003	31.1	8.4	39.4	$51.7	$10.6	$62.3
2002	33.4	9.2	42.6	$57.1	$12.3	$69.5
2003	34.3	10.2	44.5	$58.9	$14.4	$73.3
2004	33.3	9.8	43.1	$61.7	$13.9	$75.6
2005	35.9	13.8	49.7	$72.0	$21.0	$93.0
2006	35.2	13.4	48.6	$78.8	$22.9	$101.7
Average	33.9	10.8	44.7	$63.4	$15.9	$79.2

Source: NOAA Fisheries, Foreign Trade Database.
*Weights are not converted to equivalent whole weights.

3.3.2 Economic Description of the Recreational Fishery

Additional information on the recreational sector of the snapper grouper fishery contained in previous or concurrent amendments is incorporated herein by reference [see Amendment 13C (SAFMC 2006), Amendment 15A (SAFMC 2008a), Amendment 15B (SAFMC 2008b), Amendment 16 (SAFMC 2009a), Amendment 17A (SAFMC 2010a), Amendment 17B (SAFMC 2010b), Regulatory Amendment 9 (SAFMC 2011b), Regulatory Amendment 10 (SAFMC 2011a), Comprehensive ACL Amendment for the South Atlantic Region (under review), Amendment 24 (under development)]. The following description of the recreational sector focuses on golden tilefish as this is the main species considered in this amendment.

The recreational sector is comprised of the private sector and for-hire sector. The private sector includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire sector is composed of the charterboat and headboat (also called partyboat) sectors.

Charterboats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person.

3.3.2.1 Harvest

Recreational golden tilefish harvest in the South Atlantic was variable during the period 2005-2010. For this period, only Florida and North Carolina reported some harvest of the species, although there were years when no harvests were reported by these two states. On average, the private/shore mode of fishing accounted for the largest harvests at approximately 22,000 pounds (whole weight), or 5,000 fish (**Table 3-15**). Average charter harvests were approximately 41,000 pounds (whole weight), or 11,000 fish. Headboats did not report any harvests of the species for the period.

Recreational harvests of golden tilefish also fluctuated from year to year for the period 2005-2010. On average, North Carolina accounted for most of the golden tilefish harvest in the South Atlantic at approximately 47,000 pounds whole weight, or 14,000 fish (**Table 3-16**). Florida accounted for harvests of approximately 17,000 pounds whole weight, or 3,000 fish. Georgia and South Carolina reported no harvest of the species during the period.

Table 3-15. Average harvest (whole weight) of golden tilefish in the South Atlantic, by mode, 2005-2010.

Harvest Type	Charterboat	Headboat	Shore and Private/Rental Boat	Total
Pounds (WW)	41,681	0	22,211	63,892
No. of Fish	11,444	0	4,842	16,286

Table 3-16. Average harvest (whole weight) of golden tilefish in the South Atlantic, by state, 2005-2010.

Harvest Type	Florida	Georgia	South Carolina	North Carolina
Pounds (WW)	17,106	0	0	46,786
No. of Fish	2,675	0	0	13,611

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab and MRFSS database, NOAA Fisheries, NMFS, SERO.

On average, overall harvest of golden tilefish peaked in June-July and troughed in January-February (**Table 3-17**). May and June were the peak months for charterboat harvests of golden tilefish harvest while July and August were the peak months for golden tilefish harvest by the shore/private mode. The lowest harvest occurred in January/February and November/December for charterboats and May/June for the shore/private mode.

There are observable differences between Florida and North Carolina on the specific months with recorded highest and lowest harvest of golden tilefish (**Table 3-18**). North Carolina had the

highest harvest in July/August and lowest in January/February and November/December. Florida had its highest harvest in November/December and lowest in May/June.

Table 3-17. Average monthly distribution of golden tilefish harvest in the South Atlantic, by mode across all states, 2005-2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Pounds (Whole Weight)											
Charter	0	0	467	467	10,072	10,072	9,428	9,428	873	873	0	0
Headboat	0	0	0	0	0	0	0	0	0	0	0	0
Shore/Priv.	585	585	1,672	1,672	399	399	4,012	4,012	1,547	1,547	2,891	2,891
Total	585	585	2,140	2,140	10,471	10,471	13,440	13,440	2,420	2,420	2,891	2,891
	Number of Fish											
Charter	0	0	93	93	2,940	2,940	2,425	2,425	265	265	0	0
Headboat	0	0	0	0	0	0	0	0	0	0	0	0
Shore/Priv.	143	143	130	130	79	79	1,309	1,309	172	172	588	588
Total	143	143	223	223	3,018	3,018	3,734	3,734	437	437	588	588

Table 3-18. Average monthly distribution of golden tilefish harvest in the South Atlantic, by state across all modes, 2005-2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Pounds (Whole Weight)											
NC	0	0	467	467	9,947	9,947	12,106	12,106	873	873	0	0
SC	0	0	0	0	0	0	0	0	0	0	0	0
GA	0	0	0	0	0	0	0	0	0	0	0	0
FL	585	585	1,672	1,672	524	524	1,335	1,335	1,547	1,547	2,891	2,891
TOTAL	585	585	2,140	2,140	10,471	10,471	13,440	13,440	2,420	2,420	2,891	2,891
	Number of Fish											
NC	0	0	93	93	2,903	2,903	3,544	3,544	265	265	0	0
SC	0	0	0	0	0	0	0	0	0	0	0	0
GA	0	0	0	0	0	0	0	0	0	0	0	0
FL	143	143	130	130	115	115	189	189	172	172	588	588
TOTAL	143	143	223	223	3,018	3,018	3,734	3,734	437	437	588	588

3.3.2.2 Effort

Recreational effort derived from the MRFSS database can be characterized in terms of the number of trips as follows:

1. Target effort - The number of individual angler trips, regardless of trip duration, where the intercepted angler indicated that the species was targeted as either the first or the second primary target for the trip. The species did not have to be caught.
2. Catch effort - The number of individual angler trips, regardless of trip duration and target intent, where the individual species was caught. The fish caught did not have to be kept.
3. All recreational trips - The total estimated number of recreational trips taken, regardless of target intent or catch success.

Estimates of annual golden tilefish recreational effort in terms of target and catch trips are provided in **Tables 3-19** through **3-22**. Noticeable in these tables is the low levels of target and catch trips for golden tilefish. In addition, target trips are significantly lower than catch trips. While some angler trips recorded harvest of golden tilefish, much fewer angler trips recorded golden tilefish as a target species.

The private/rental mode recorded higher target and catch trips than the charter mode (**Table 3-19**), although both types of trips are relatively low which is consistent with the relatively low harvest of golden tilefish. Moreover, Florida recorded higher target and catch trips than North Carolina (**Table 3-20**). This effort distribution does not quite match with the harvest distribution described earlier. The shore mode did not report any target or catch trips.

Table 3-19. Average recreational effort (trips) for golden tilefish in the South Atlantic, by mode across all states, 2005-2010.

Type of Trips	Charterboat	Private/Rental Boat	Shore	Total
Target Trips	105	1,635	0	1,740
Catch Trips	1,975	2,719	0	4,694

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

Table 3-20. Recreational effort (trips) for golden tilefish in the South Atlantic, by state across all modes, 2005-2010.

Type of Trips	Florida	Georgia	South Carolina	North Carolina
Target Trips	1,595	0	0	145
Catch Trips	2,432	0	0	2,262

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

On average, target trips and catch trips for golden tilefish peaked in November/December (**Table 3-21**). There were no target trips in July/August. Catch trips had their lowest level in February. Very low levels of charter target trips were recorded, with non-zero entries only in May/June and September/October. Although private target trips were higher than charter target trips, they were still relatively low and in fact were zero in May/June and July/August. A good portion of private target trips occurred in November/December. There were no charter catch trips in January/February and November/December, with most of the trips occurring in the summer months. Private catch trips were distributed throughout the year with relatively high levels in November/December and low levels in May/June.

The very low level of target trips in North Carolina took place only in May/June and September/October (**Table 3-21**). Target trips in Florida were substantially higher in November/December than in other months; there were no target trips in May through August. Catch trips in North Carolina were substantially higher in July/August than in other months;

there were no catch trips in January/February and November/December. Catch trips in Florida were spread throughout the year, with peaks in November/December and troughs in July/August.

Table 3-21. Average monthly distribution of recreational effort (trips) for golden tilefish in the South Atlantic, by mode across all states, 2005-2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Target Trips												
Charter	0	0	0	0	35	34	0	0	18	19	0	0
Private	113	102	95	92	0	0	0	0	58	60	549	567
Shore	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	113	102	95	92	35	34	0	0	76	79	549	567
Catch Trips												
Charter	0	0	19	19	425	411	496	496	54	56	0	0
Private	158	142	134	130	80	77	275	275	131	135	581	600
Shore	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	158	142	154	149	505	488	771	771	184	190	581	600

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

Table 3-22. Average monthly distribution of recreational effort (trips) for golden tilefish in the South Atlantic, by state across all modes, 2005-2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Target Trips												
NC	0	0	0	0	35	34	0	0	37	39	0	0
SC	0	0	0	0	0	0	0	0	0	0	0	0
GA	0	0	0	0	0	0	0	0	0	0	0	0
FL	113	102	95	92	0	0	0	0	39	40	549	567
TOTAL	113	102	95	92	35	34	0	0	76	79	549	567
Catch Trips												
NC	0	0	19	19	364	353	699	699	54	56	0	0
SC	0	0	0	0	0	0	0	0	0	0	0	0
GA	0	0	0	0	0	0	0	0	0	0	0	0
FL	158	142	134	130	140	136	72	72	131	135	581	600
TOTAL	158	142	154	149	505	488	771	771	184	190	581	600

Source: MRFSS, NOAA Fisheries, NMFS, SERO.

Similar analysis of recreational effort is not possible for the headboat sector because the headboat data are not collected at the angler level. Estimates of effort in the headboat sector are provided in terms of angler days, or the number of standardized 12-hour fishing days that account for the different half-, three-quarter-, and full-day fishing trips by headboats. **Table 3-23** displays the annual angler days and **Table 3-24** displays their average monthly distribution. Confidentiality issues required combining Georgia estimates with those of Northeast Florida.

Headboat angler days varied from year to year but generally declined since 2007 (**Table 3-23**). Southeast Florida registered the highest number of angler trips, followed by Georgia/Northeast Florida, South Carolina, and North Carolina. Clearly Florida dominated all other states in terms of headboat angler days.

On average, overall angler days peaked in June and troughed in December (**Table 3-24**). North Carolina and South Carolina had similar peaks and troughs as the overall average. Angler days in Georgia/Northeast Florida peaked in June and troughed in November while those in Southeast Florida peaked in April and troughed in September.

Table 3-23. South Atlantic headboat angler days, by state, 2005-2010.

	NC	SC	GA/NEFL	SEFL	TOTAL
2005	40,916	52,036	74,663	82,870	250,485
2006	25,736	56,074	48,908	126,614	257,332
2007	29,002	60,729	53,762	103,388	246,881
2008	16,982	47,287	52,521	71,598	188,388
2009	19,468	40,919	66,447	69,973	196,807
2010	21,071	44,951	53,676	69,986	189,684
Average	25,529	50,333	58,330	87,405	221,596

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab.

Table 3-24. Average monthly distribution of headboat angler days in the South Atlantic, by state, 2005-2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NC	220	194	813	1,647	2,740	4,640	5,118	4,440	2,309	2,273	1,062	75
SC	153	272	1,828	3,791	5,201	9,772	12,245	8,949	3,603	3,031	1,337	153
GA/NEFL	2,668	3,423	5,672	6,380	6,056	8,402	8,229	5,688	3,175	3,173	2,637	2,826
SEFL	7,432	8,517	9,647	9,764	7,962	8,635	9,609	7,006	4,112	4,135	4,829	5,758
TOTAL	10,473	12,405	17,960	21,582	21,958	31,449	35,202	26,082	13,199	12,612	9,864	8,811

Source: The Headboat Survey, NOAA Fisheries, SEFSC, Beaufort Lab.

3.3.2.3 Permits

For-hire vessels are required to have a for-hire snapper grouper permit to fish for or possess snapper grouper species in the South Atlantic EEZ. The number of vessels with for-hire snapper grouper permits for the period 2005-2010 is provided in **Table 3-25**. This sector operates as an open access fishery and not all permitted vessels are necessarily active in the fishery. Some vessel owners obtain open access permits as insurance for uncertainties in the fisheries in which they currently operate.

The number of for-hire permits issued for the South Atlantic snapper grouper fishery increased from 1,904 permits in 2005 to 2,104 permits in 2008, but subsequently decreased to 2,091 in 2009 and 1,815 in 2010. The majority of snapper grouper for-hire permitted vessels were home-ported in Florida; a relatively high proportion of these permitted vessels were also home-ported in North Carolina and South Carolina. Many vessels with South Atlantic for-hire snapper-grouper permits were homeported in states outside of SAFMC's area of jurisdiction, particularly in the Gulf states of Alabama through Texas. Although the number of vessels with South Atlantic for-hire snapper grouper permits homeported in states outside of SAFMC's area of jurisdiction increased from 2005 to 2009, they still accounted for approximately the same

proportion (9-10%) of the total number of permits. For-hire snapper-grouper permits in these other areas fell in 2010.

Table 3-25. Number of South Atlantic for-hire snapper-grouper vessel permits, 2005-2010.

HomePort State	2005	2006	2007	2008	2009	2010	Avg.
North Carolina	294	317	353	399	391	333	348
South Carolina	136	142	152	160	167	147	151
Georgia	37	36	37	35	36	28	35
Florida	1,267	1,304	1,312	1,310	1,280	1,110	1,264
Gulf States (AL-TX)	102	84	79	84	87	84	87
Other States	68	84	93	116	130	113	101
Total	1,904	1,967	2,026	2,104	2,091	1,815	1,985

For hire permits do not distinguish charterboats from headboats. Based on a 1997 survey, Holland *et al.* (1999) estimated that a total of 1,080 charter vessels and 96 headboats supplied for-hire services in all South Atlantic fisheries during 1997. By 2010, the estimated number of headboats supplying for-hire services in all South Atlantic fisheries had fallen to 85, indicating a decrease in fleet size of approximately 11% between 1997 and 2010 (K. Brennan, Beaufort Laboratory, SEFSC, personal communication, Feb. 2011).

There are no specific permitting requirements for recreational anglers to harvest snapper grouper. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions.

3.3.2.4 Economic Value and Expenditures

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus. The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips.

While anglers receive economic value as measured by the consumer surplus associated with fishing, for-hire businesses receive value from the services they provide. Producer surplus is the measure of the economic value these operations receive. Producer surplus is the difference between the revenue a business receives for a good or service, such as a charter or headboat trip, and the cost the business incurs to provide that good or service. Estimates of the producer surplus associated with for-hire trips are not available. However, proxy values in the form of net operating revenues are available (David Carter, NMFS SEFSC, personal communication, August 2010). These estimates were culled from several studies – Liese *et al.* (2009), Dumas *et al.*

(2009), Holland *et al.* (1999), and Sutton *et al.* (1999). Estimates of net operating revenue per angler trip (2009 dollars) on representative charter trips (average charter trip regardless of area fished) are $146 for Louisiana through east Florida, $135 for east Florida, $156 for northeast Florida, and $128 for North Carolina. For charter trips into the EEZ only, net operating revenues are $141 in east Florida and $148 in northeast Florida. For full-day and overnight trips only, net operating revenues are estimated to be $155-$160 in North Carolina. Comparable estimates are not available for Georgia, South Carolina, or Texas.

Net operating revenues per angler trip are lower for headboats than for charterboats. Net operating revenue estimates for a representative headboat trip are $48 in the Gulf of Mexico (all states and all of Florida), and $63-$68 in North Carolina. For full-day and overnight headboat trips, net operating revenues are estimated to be $74-$77 in North Carolina. Comparable estimates are not available for Georgia and South Carolina.

The foregoing value estimates should not be confused with angler expenditures or the economic activity (impacts) associated with these expenditures. While expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

Estimates of the economic activity (impacts) associated with recreational fishing for any species could be derived using average coefficients for recreational angling across all fisheries (species), as derived by an economic add-on to the MRFSS, and described and utilized in NMFS (2009). Business activity is characterized in the form of FTE jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. Job and output (sales) impacts, however, may be added across sectors.

The current model to derive business activity is based on the number of recreational trips for a species. Because these trips for golden tilefish are relatively sparse (see **Tables 3-19** through **3-22**), estimates of economic activity generated by the recreational sector for the golden tilefish portion of the snapper grouper fishery reflect such sparse data. Estimates of the average golden tilefish recreational effort (2005-2010) and associated economic impacts (2008 dollars) are provided in **Table 3-26**. Target trips were used as the measure of recreational effort. As previously discussed, more trips may catch a species than target the species. Where such occurs, estimates of the economic activity associated with the average number of catch trips can be calculated based on the ratio of catch trips to target trips because the average output impact and jobs per trip cannot be differentiated by trip intent.

It should be noted that output impacts and value added impacts are not additive and the impacts for individual species should not be added because of possible duplication (some trips may target multiple species). Also, the estimates of economic activity should not be added across states to generate a regional total because state-level impacts reflect the economic activity expected to occur within the state before the revenues or expenditures "leak" outside the state, possibly to another state within the region. Under a regional model, economic activity that "leaks" from, for example, Florida into Georgia would still occur within the region and continue to be tabulated. As a result, regional totals would be expected to be greater than the sum of the individual state totals. Regional estimates of the economic activity associated with golden tilefish recreational fishing are unavailable at this time.

Table 3-26. Summary of golden tilefish target trips (2005-2010 average) and associated economic activity (2008 dollars). Output and value added impacts are not additive.

	North Carolina	South Carolina	Georgia	East Florida
	Shore Mode			
Target Trips	0	0	0	0
Output Impact	$0	$0	$0	$0
Value Added Impact	$0	$0	$0	$0
Jobs	0	0	0	0
	Private/Rental Mode			
Target Trips	40	0	0	1595
Output Impact	$2,183	$0	$0	$60,315
Value Added Impact	$1,231	$0	$0	$36,042
Jobs	0	0	0	1
	Charter Mode			
Target Trips	105	0	0	0
Output Impact	$40,875	$0	$0	$0
Value Added Impact	$22,939	$0	$0	$0
Jobs	1	0	0	0
	All Modes			
Target Trips	145	0	0	1595
Output Impact	$43,058	$0	$0	$60,315
Value Added Impact	$24,170	$0	$0	$36,042
Jobs	1	0	0	1

Source: Effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009).

Because the headboat sector in the Southeast is not covered by the MRFSS, the current model used in deriving estimates could not provide this sector's estimates of economic activity. In the particular case of golden tilefish, estimating economic activity of the headboat sector is also unnecessary because this sector did not report any landings of the species during the period considered.

3.3.2.5 Financial Operations of the Charter and Headboat Sectors

Holland *et al.* (1999) estimated that the charterboat fee in the South Atlantic ranged from $292 to $2,000. The actual cost depended on state, trip length, and the variety of services offered by the charter operation. Depending on the state, the average fee for a half-day trip ranged from $296 to $360, for a full day trip the range was $575 to $710, and for an overnight trip the range was $1,000 to $2,000. Most (>90%) Florida charter operators offered half-day and full-day trips and about 15% of the fleet offered overnight trips. In comparison, only about 3% of operations in the other South Atlantic states offered overnight trips.

For headboats, the average fee in Florida was $29 for a half-day trip and $45 for a full day trip. For North and South Carolina, the average base fee was $34 per person for a half-day trip and $61 per person for a full day trip. Most of these headboat trips operated in Federal waters in the South Atlantic (Holland *et al.* 1999).

Capital investment in charter vessels averaged $109,301 in Florida, $79,868 for North Carolina, $38,150 for South Carolina and $51,554 for Georgia (Holland *et al.* 1999). Charterboat owners incur expenses for inputs such as fuel, ice, and tackle in order to offer the services required by their passengers. Most expenses incurred in 1997 by charter vessel owners were on crew wages and salaries and fuel. The average annual charterboat business expenditures incurred was $68,816 for Florida vessels, $46,888 for North Carolina vessels, $23,235 for South Carolina vessels, and $41,688 for vessels in Georgia in 1997. The average capital investment for headboats in the South Atlantic was approximately $220,000 in 1997. Total annual business expenditures averaged $135,737 for headboats in Florida and $105,045 for headboats in other states in the South Atlantic.

The 1999 study on the for-hire sector in the Southeastern U.S. presented two sets of average gross revenue estimates for the charter and headboat sectors in the South Atlantic (Holland *et al.*, 1999). The first set of estimates were those reported by survey respondents and were as follows: $51,000 for charterboats on the Atlantic coast of Florida; $60,135 for charterboats in North Carolina; $26,304 for charterboats in South Carolina; $56,551 for charterboats in Georgia; $140,714 for headboats in Florida; and $123,000 for headboats in the other South Atlantic states (Holland *et al.*, 1999). The authors generated a second set of estimates using the reported average trip fee, average number of trips per year, and average number of passengers per trip (for the headboat sector) for each vessel category for Florida vessels. Using this method, the resultant average gross revenue figures were $69,268 for charterboats and $299,551 for headboats. Since the calculated estimates were considerably higher than the reported estimates (22% higher for charterboats and 113% higher for headboats), the authors surmised that this was due to sensitivity associated with reporting gross receipts, and subsequent under reporting. Alternatively, the respondents could have overestimated individual components of the calculated estimates. Although the authors only applied this methodology to Florida vessels, assuming the same degree of under reporting in the other states results in the following estimates in average gross revenues: $73,365 for charterboats in North Carolina, $32,091 for charterboats in South Carolina; $68,992 for charterboats in Georgia; and $261,990 for headboats in the other South Atlantic states.

It should be noted that the study's authors were concerned that while the reported gross revenue figures may be underestimates of true vessel income, the calculated values could overestimate gross income per vessel from for-hire activity (Holland *et al.*, 1999). Some of these vessels are also used in commercial fishing activities and that income is not reflected in these estimates.

A more recent study of the North Carolina for-hire fishery provides some updated information on the financial status of the for-hire fishery in the state (Dumas et al., 2009). Depending on vessel length, regional location, and season, charter fees per passenger per trip ranged from $168.14 to $251.59 for a full-day trip and from $93.63 to $123.95 for a half-day trip; headboat fees ranged from $72.50 to $81.78 for a full-day trip and from $38.08 to $45 for a half-day trip. Charterboats generated a total of $55.7 million in passenger fees, $3.2 million in other vessel income (e.g., food and beverages), and $4.8 million in tips. The corresponding figures for headboats were $9.8 million in passenger fees, $0.2 million in other vessel income, and $0.9 million in tips. Non-labor expenditures (e.g., boat insurance, dockage fees, bait, ice, fuel) amounted to $43.6 million for charterboats and $5.3 million for headboats. Summing across vessel lengths and regions, charter vessels had an aggregate value (depreciated) of $120.4 million and headboats had an aggregate value (depreciated) of $10.2 million.

3.4 Social and Cultural Environment

Descriptions of the social and cultural environment of the snapper grouper fishery are contained in Jepson *et al.* (2005) and Amendment 17B (SAFMC 2010), and are incorporated herein by reference. Because so many communities in the South Atlantic benefit from snapper-grouper fishing, discussion of affected communities focuses on "indicator communities," defined as communities thought to be most heavily impacted by snapper grouper regulations.

Indicator communities were identified primarily based on permit and employment activity using data obtained from the U.S. Bureau of the Census (Census) and from state and federal permitting agencies. Census data must be used with caution because it is collected every ten years and may not reflect shifting community demographics or key changes in business activity. Further, census estimates do not include seasonal visitors and tourists, those that live less than half the year in the surveyed area, and some types of labor, such as day laborers, undocumented crew members, or family members that help with bookkeeping responsibilities.

To help fill information gaps, members of the South Atlantic Council's Snapper-grouper Advisory Panel, Council members, and representatives from the angling public identified communities they believed would be most impacted by the management measures proposed in Amendment 13C on the species addressed by this amendment. Details of their designation of particular communities, and the factors considered in this designation, can be found in Amendment 13C (SAFMC 2006).

3.4.1 North Carolina

Overview

Of the four states in the South Atlantic region, North Carolina (**Figure 3-2**) is often recognized as possessing the most "intact" commercial fishing industry; that is, it is more robust in terms of viable fishing communities and fishing industry activity than the other three South Atlantic states. North Carolina offers a wide variety of fishing opportunities, including sound fishing, trolling for tuna, bottom fishing, and shrimping. Perhaps because of the wide variety of fishing opportunities, fishermen have been better able to adapt to regulations and coastal development pressures, adjusting their annual fishing patterns as times have changed. More detailed information on North Carolina fishing communities can be found in Amendment 17B (SAFMC 2010).

Many fishermen in North Carolina work under the dual jurisdiction of the Mid-Atlantic Fishery Management Council and the South Atlantic Fishery Management Council.

Figure 3-2. North Carolina communities with substantial fishing activity, as identified by South Atlantic Advisory Panels.

Commercial Fishing

There has been a steady decline in the number of federal commercial snapper grouper permits North Carolina since 1999, with 194 unlimited commercial permits in 1999, but only 157 in 2010. Limited permits similarly declined from 36 to10 over the same period. Brunswick County and Carteret County have the largest number of permits, making up over half of all federal permits in North Carolina. The counties of New Hanover, Dare, Onslow, Pender, Beaufort, and Hyde are also homeports for vessels with snapper grouper permits in 2010 (**Table 3-27**).

Table 3-27. Federal commercial snapper grouper permits in North Carolina (2010).

Home Port (County)	Unlimited SG Permits	225 pound limit SG Permits	Total SG permits
Beaufort	6	0	6
Brunswick	43	2	45
Carteret	32	0	32
Dare	17	4	21
Hyde	2	1	3
New Hanover	19	1	20
Onslow	16	1	17
Pender	11	1	12
Total	**147**	**10**	**157**

North Carolina fishermen demographics are detailed in Cheuvront and Neal (2004). Ninety-eight percent of surveyed fishermen were white and 58% had completed some college or had graduated from college. Of those who chose to answer the question, 27% of respondents reported a household income of less than $30,000 per year, and 21% made at least $75,000 per year. On average, respondents had been fishing for 18 years, and had lived in their communities for 27 years.

Cheuvront and Neal (2004) also provided an overview of how North Carolina commercial snapper grouper fishermen carry out their fishery. Approximately 65% of surveyed fishermen indicated year-round fishing. Golden tilefish is harvested by commercial fishermen, but on a smaller scale than the two dominant species, black sea bass and vermilion snapper. Fishermen also target gag grouper, king mackerel, red grouper, scamp, snowy grouper, grunts, and triggerfish. Non-snapper/grouper complex species landed by at least 5% of the fishermen in any given month included Atlantic croaker, yellowfin tuna, bluefin tuna, dolphin, and shrimp.

From 2005-2007, only two North Carolina counties reported commercial golden tilefish landings: Brunswick (117, 658 pounds, cumulative) and Dare (13,526 pounds, cumulative) (Data source: SEFSC Logbook data 2009). In general, commercial communities targeted black sea bass and vermilion snapper, with cumulative landings between 1-2 million pounds for Dare, Brunswick, New Hanover, Onslow and Carteret Counties.

Recreational Fishing

Recreational fishing is well developed in North Carolina and, due to natural geography, is not limited to areas along the coast. Golden tilefish is recreationally harvested on charter trips, although private anglers also target and catch the species (see **Section 3.7.2** for more detail on recreational landings and effort). Because golden tilefish lives in deepwater and in muddy habitat, special gear and knowledge are required to deep-drop fish for tilefish.

North Carolina offers several types of private recreational licenses for residents and visitors, and for different durations (10-day, annual, and lifetime). Non-resident recreational license sales are high, indicating how coastal recreational fishing is tied to coastal tourism in the state. In

general recreational license sales have remained stable or increased, with the exception of annual non-resident license sales, which have declined in recent years (**Table 3-28**)

Table 3-28. Coastal recreational fishing license sales by year and type.

License Type	2007	2008	2009	2010
Annual Resident	23,793	19,222	19,398	20,254
Annual non-Resident	179,923	143,810	142,569	141,475
10-day Resident	40,255	39,110	45,724	47,619
10-day Non-Resident	131,105	125,564	132,193	137,066

Source: NC Division of Marine Fisheries

Golden tilefish are also important to the for-hire recreational sector, and are targeted along with other deepwater snapper grouper species on deep-drop charter trips. In 2010 there were 335 South Atlantic federal charter permits for snapper grouper registered to vessels homeported in North Carolina (**Table 3-29**). A majority of the charter permits are from Dare County, Brunswick County, and Carteret County, while a lesser quantity are in Hanover and Onslow counties.

Table 3-29. Federal charter permits for snapper grouper in North Carolina (2010).

Home Port (County)	Charter SG Permits
Beaufort	5
Brunswick	72
Carteret	64
Chowan	1
Currituck	1
Dare	118
Guilford	1
Hyde	4
Mecklenburg	1
NA	1
New Hanover	35
Onslow	20
Pender	7
Rockingham	1
Rowan	1
Wake	3
Total	**335**

3.4.2 South Carolina

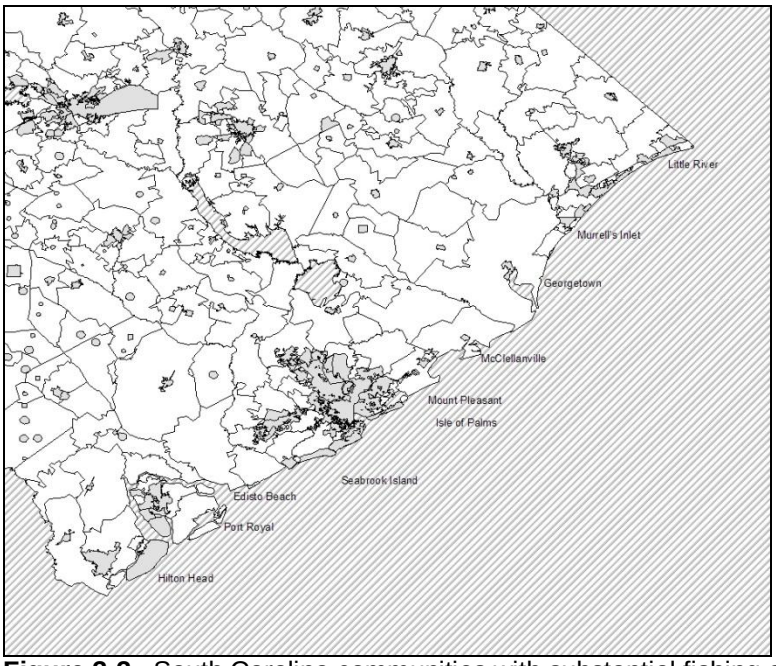


Figure 3-3. South Carolina communities with substantial fishing activity, as identified by South Atlantic Advisory Panels.

Overview

South Carolina communities with substantial fishing activity are less developed than those in North Carolina and, over the past 20 to 30 years, the state has seen much more tourist-oriented development along its coasts than Georgia or North Carolina. In Horry County, the urban area of Myrtle Beach has expanded greatly in the past few decades, and much of the coastal area has been developed as vacation homes, condominiums, and golf courses. The communities most impacted by this development are Little River, Murrells Inlet, Pawleys Island, and Georgetown, although the latter three are located in Georgetown County (**Figure 3-3**). The same is true of rapid developing Charleston County, and the cities and communities of McClellanville, Mt. Pleasant, Sullivans Island, Wadmalaw and Edisto Islands feel the impact of urban sprawl from the city of Charleston. Further south along the coast, the Hilton Head Island resort development has been the impetus for changing coastal landscapes in the small towns of Port Royal, Beaufort, St. Helena Island, and Bluffton. More information about South Carolina fishing communities can be found in Amendment 17B (SAFMC 2010).

Commercial Fishing

While pockets of commercial fishing activities remain in the state, most are being displaced by the development forces and associated changes in demographics. The number of unlimited commercial permits, however, increased from 74 in 1999 to 87 in 2004, but declined to 71 in

2010. The number of limited commercial permits decreased by over 75% from 12 to 3 since 1999 (**Table 3-30**).

Table 3-30. Federal commercial snapper grouper permits in South Carolina (2010).

Home Port (County)	Unlimited SG Permits	225 pound limit SG Permits	Total SG permits
Beaufort	2	1	3
Berkeley	1	0	1
Charleston	8	1	9
Georgetown	31	0	31
Hampton	1	0	1
Horry	28	1	29
Total	**71**	**3**	**74**

Recreational Fishing

Many areas that used to be dedicated to commercial fishing endeavors are now geared towards the private recreational angler and for hire sector. The number of federal charter/headboat permits held by South Carolina residents increased from 41 in 1999 to 111 in 2004, and in 2010 there were 144 charter permits registered to vessels with home ports in South Carolina (**Table 3-31**). Most of the permits were based in Charleston or Georgetown County, with some permits also in the counties of Horry and Beaufort.

Table 3-31. Federal charter permits for snapper grouper in South Carolina (2010).

Home Port (County)	Charter SG Permits
Beaufort	18
Charleston	44
Georgetown	42
Horry	36
Other	4
Total	144

The majority of saltwater anglers fish for coastal pelagic species such as king mackerel, Spanish mackerel, tunas, dolphins, and billfish. A lesser number focus primarily on bottom fish such as snapper and groupers and often these species are the specialty of the headboats that run out of Little River, Murrells Inlet, and Charleston. There are 35 coastal marinas in the state and 34 sportfishing tournaments. South Carolina offers private recreational licenses for residents and visitors, and sales of all license types has nearly doubled since 2006 (**Table 3-32**).

Table 3-32. Sales of all saltwater recreational license types in South Carolina

Year	Number of Licenses Sold
2006	106,385
2007	119,255
2008	132,324
2009	124,193
2010	208,204

Source: SC DNR

3.4.3 Georgia

Overview

Only one community in Georgia (Townsend) lands a substantial amount of snapper grouper species but in general golden tilefish is not a significant part of the commercial harvest. Other parts of the state involved in the commercial harvest of seafood are focused on penaeid shrimp, blue crabs, and other finfish such as flounder, shad, croaker, and mullet. For more detailed information on Georgia fishing communities, see Amendment 17B (SAFMC 2010).

Commercial Fishing

Unlike the pattern observed in many other areas, the number of unlimited commercial permits and limited commercial permits held by Georgia residents did not decrease from 1999 to 2004, with eight permits and one permit, respectively. In 2010, there were no limited commercial permits registered to Georgia vessels, and only 8 unlimited permits (**Table 3-33**). Many Georgia fishermen target shrimp or hold state commercial fishing permits.

Table 3-33. Federal commercial snapper grouper permits in Georgia (2010).

Home Port (County)	Unlimited SG Permits
Chatham	2
Dodge	1
McIntosh	5
Total	**8**

Recreational Fishing

As observed in other areas, the number of charter/headboat permits held by Georgia residents increase markedly from five permits in 1999 to 28 permits in 2010 (**Table 3-34**). However, the number of charter vessels is small relative to other states in the South Atlantic. Most of the charter operations are based in Savannah, Tybee Island, and around St Simons. For-hire fishing services and private recreational fishing are tied to coastal tourism in Georgia.

Table 3-34. Federal charter permits for snapper grouper in Georgia (2010).

Home Port (County)	Charter SG Permits
Bryan	4
Chatham	12
Clinch	1
Glynn	9
McIntosh	2
Total	**28**

3.4.4 Florida

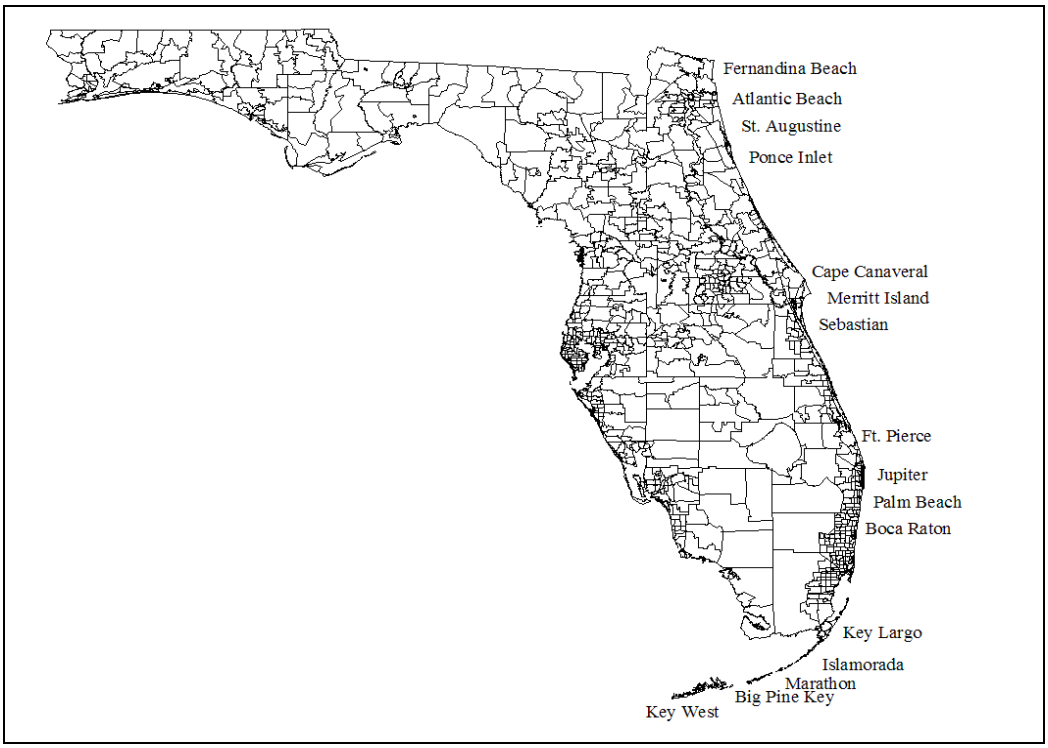


Figure 3-4. Florida communities with substantial fishing activity. Identified by South Atlantic Advisory Panels.
Source: Jepson et al. (2005).

Overview

Florida stands apart from other states in the South Atlantic region in fishing behaviors, history, and demographics. Florida has one of the fastest growing populations in the United States, estimated to increase each day by 750 to 1,000 new immigrants. Twenty-five percent of all vacation homes in the United States are located in Florida's coastal counties (Coastal Ocean Resource Economics 2005).

Along with being heavily populated on land, coastal waters off Florida are also heavily used by recreational users of all kinds. This growth of a leisured class occupying coastal areas has led, in part, to conflicts over natural resource access and use-rights. One example of this type of struggle was the conflict over the use of gillnets in state waters. The conflict culminated in a state-wide ban on the use of gillnets, which dealt a resounding blow to many Florida fishermen, ending in the loss of many commercial fishing properties and the displacement of many fishermen. There have also been conflicts between the "environmental community" and commercial fishermen over the closing of the *Oculina* Bank off of Florida's central coast, and the creation of both the Florida Keys National Marine Sanctuary and the Tortugas Sanctuary, both in the Florida Keys.

The natural geography of Florida also sets it apart from other South Atlantic states, particularly in the area from central Florida through the Keys. The weather is amenable to fishing almost year round, though hurricanes in 2004 and 2005 were particularly devastating and took a toll on all fisheries in the state, both east and west coast. There was also a cold water event that started near West Palm Beach in 2003, which moved up the east coast causing a substantial decline in snapper grouper fishing that year. The continental shelf is much narrower in Florida than elsewhere in the region, allowing fishermen to access deep waters quickly and return the same day. Finally, the species of snapper grouper available to fishermen in southern Florida are different than further north, with yellowtail snapper, gag and black grouper, and other alternative species such as stone crab, spiny lobster, dolphin, kingfish, and billfish allow a greater variety of both commercial and recreational fishing opportunities. These fisheries are important to many Florida communities identified by the Snapper grouper Advisory Panel as shown in **Figure 3-4**.

Commercial and recreational fishermen in the Florida Keys commonly fish both Gulf and Atlantic sides, and work under dual jurisdiction of the South Atlantic Fishery Management Council and the Gulf of Mexico Fishery Management Council.

Commercial Sector

Despite the high population growth rates and emphasis on a tourism economy in Florida, the commercial fishing sector in Florida is still robust in some areas. There are several important communities that target snapper grouper species such as Mayport, Jacksonville, and Cocoa Beach, along with Key West and Tavernier in the Florida Keys. Additional detailed information about Florida fishing communities can be found in Amendment 17B (SAFMC 2010).

Commercial harvest of golden tilefish is increasing in Florida in recent years (see **Section 3.7.1**). In 2010, 589 federal snapper grouper commercial permits were registered to vessels with home ports in Florida (**Table 3-35**). Monroe County (Florida Keys) has the most unlimited and limited permits. Miami-Dade, Palm Beach, Duval, Volusia and Brevard Counties are also home ports for snapper grouper vessels in the state.

Table 3-35. Federal commercial snapper grouper permits in Florida (2010).

Home Port (County)	Unlimited SG Permits	225 pound limit SG Permits	Total SG permits
Brevard	23	4	27
Broward	6	7	13
Duval	35	1	36
Indian River	9	5	14
Martin	10	1	11
Miami-Dade	56	11	67
Monroe	244	68	312
Nassau	2	0	2
Palm Beach	38	18	56
St Johns	12	3	15
St Lucie	8	5	13
Volusia	23	0	23
Total	**466**	**123**	**589**

Recreational Sector

Similar to North Carolina and South Carolina, recreational fishing for golden tilefish is growing in popularity as specialty type of fishing known as deep-dropping, which targets deepwater fish such as tilefish and snowy grouper. Golden tilefish are caught by private anglers and recreational fishermen on charter trips due to the specific gear and knowledge required to deep drop.

In 2010 there were 813 federal charter permits for snapper grouper issued to vessels with home ports in Florida (**Table 3-36**). Similar to federal commercial permits, Monroe County held the majority on charter permits, followed by Brevard, Palm Beach, Miami-Dade, Volusia and Broward Counties.

Table 3-36. Federal charter permits for snapper grouper in Florida (2010).

Home Port (County)	Charter SG Permits
Brevard	85
Broward	52
Duval	20
Flagler	1
Indian River	26
Martin	20
Miami-Dade	63
Monroe	373
Nassau	11
Palm Beach	78

Putnam	2
Seminole	1
St Johns	24
St Lucie	16
Volusia	41
Total	**813**

In 2009, sales of marine recreational fishing license included 646,000 resident licenses and 384,000 non-resident licenses, totaling over $29 million in revenue (FWRI 2010). Florida Fish and Wildlife Conservation Commission also reverts that in 2008, eastern Florida recreational anglers took 11 million fishing trips: 6.4 million by private/rental boats, 4.6 million from shore, and 161,000 by party/charter boat.

3.5 Administrative Environment

3.5.1 The Fishery Management Process and Applicable Laws

3.5.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the U.S. Exclusive Economic Zone (EEZ), an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the U.S. EEZ.

Responsibility for Federal fishery management decision-making is divided between the U.S. Secretary of Commerce and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary of Commerce (Secretary) is responsible for collecting and providing the data necessary for the councils to prepare fishery management plans and for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act and with other applicable laws. In most cases, the Secretary has delegated this authority to NOAA Fisheries Service.

The South Atlantic Council is responsible for conservation and management of fishery resources in Federal waters of the U.S. South Atlantic. These waters extend from 3 to 200 miles offshore from the seaward boundary of the States of North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has thirteen voting members: one from NOAA Fisheries Service; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and eight public members appointed by the Secretary. On the South Atlantic Council, there are two public members from each of the four South Atlantic States. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard, State Department, and Atlantic States Marine Fisheries Commission (ASMFC). The South Atlantic Council has adopted procedures whereby the non-voting members serving on the Council Committees have full voting rights at the Committee level but not at the full Council level. South Atlantic Council members serve three-year terms and are recommended by State Governors and appointed by the Secretary of Commerce from lists of nominees submitted by State governors. Appointed members may serve a maximum of three consecutive terms.

Public interests also are involved in the fishery management process through participation on Advisory Panels and through council meetings, which, with few exceptions for discussing personnel matters, are open to the public. The South Atlantic Council uses a Scientific and Statistical Committee to review the data and science being used in assessments and fishery

management plans/amendments. In addition, the regulatory process is in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking.

3.5.1.2 State Fishery Management

The state governments of North Carolina, South Carolina, Georgia, and Florida have the authority to manage fisheries that occur in waters extending three nautical miles from their respective shorelines. North Carolina's marine fisheries are managed by the Marine Fisheries Division of the North Carolina Department of Environment and Natural Resources. The Marine Resources Division of the South Carolina Department of Natural Resources regulates South Carolina's marine fisheries. Georgia's marine fisheries are managed by the Coastal Resources Division of the Department of Natural Resources. The Marine Fisheries Division of the Florida Fish and Wildlife Conservation Commission is responsible for managing Florida's marine fisheries. Each state fishery management agency has a designated seat on the South Atlantic Council. The purpose of state representation at the Council level is to ensure state participation in Federal fishery management decision-making and to promote the development of compatible regulations in state and Federal waters.

The South Atlantic States are also involved through the Atlantic States Marine Fisheries Commission (ASMFC) in management of marine fisheries. This commission was created to coordinate state regulations and develop management plans for interstate fisheries. It has significant authority, through the Atlantic Striped Bass Conservation Act and the Atlantic Coastal Fisheries Cooperative Management Act, to compel adoption of consistent state regulations to conserve coastal species. The ASFMC also is represented at the Council level, but does not have voting authority at the Council level.

NOAA Fisheries Service' State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation Act) programs. Additionally, it works with the ASMFC to develop and implement cooperative State-Federal fisheries regulations.

3.5.1.3 Enforcement

Both the National Oceanic and Atmospheric Administration (NOAA) Fisheries Office for Law Enforcement (NOAA/OLE) and the United States Coast Guard (USCG) have the authority and the responsibility to enforce South Atlantic Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

Neither NOAA/OLE nor the USCG can provide a continuous law enforcement presence in all areas due to the limited resources of NOAA/OLE and the priority tasking of the USCG. To supplement at sea and dockside inspections of fishing vessels, NOAA entered into Cooperative Enforcement Agreements with all but one of the States in the Southeast Region (North Carolina), which granted authority to State officers to enforce the laws for which NOAA/OLE has jurisdiction. In recent years, the level of involvement by the States has increased through Joint Enforcement Agreements, whereby States conduct patrols that focus on Federal priorities and, in some circumstances, prosecute resultant violators through the State when a state violation has occurred.

NOAA General Counsel issued a revised Southeast Region Magnuson-Stevens Act Penalty Schedule in June 2003, which addresses all Magnuson-Stevens Act violations in the Southeast Region. In general, this Penalty Schedule increases the amount of civil administrative penalties that a violator may be subject to up to the current statutory maximum of $120,000 per violation. NOAA General Counsel requested public comment through December 20 2010, on a new draft policy.

Chapter 4. Environmental Consequences

4.1 Action 1. Limit Participation in the Golden Tilefish Portion of the Snapper Grouper Fishery

Alternative 1 (No Action). Do not limit effort in the golden tilefish portion of the snapper grouper fishery through an endorsement program.

Alternative 2. Limit golden tilefish effort through a golden tilefish gear endorsement program: Distribute golden tilefish gear specific endorsements for snapper grouper permit holders that qualify under the eligibility requirements stated below. Only snapper grouper permit holders with a golden tilefish longline endorsement or a golden tilefish hook and line endorsement associated with their snapper grouper permit will be allowed to possess golden tilefish.

> **Sub-alternative 2a (Preferred)**. Individuals that meet the qualifying criteria for both hook and line and longline endorsements may receive both endorsements.
>
> **Sub-alternative 2b**. Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive one endorsement, chosen by the individual that qualifies.

4.1.1 Biological Effects

Alternative 1 (No Action) would not limit effort in the golden tilefish portion of the snapper grouper fishery. Due to recently implemented regulations for snapper grouper and shark species, there could be an increased incentive to target golden tilefish. An increase in participation in the golden tilefish portion of the snapper grouper fishery would intensify the "race to fish" that already exists and has resulted in a shortened season. Since the reduced quota was put into place in October 2006, the fishing seasons for golden tilefish have been shortened to such a degree that South Carolina longline fishermen--who are typically unable to fish until April or May due to weather conditions--and commercial hook and line fishermen from Florida--who typically do not fish until the fall--are increasingly unable to fish for golden tilefish (**Table 4-1**).

During 2004 to 2010, an average of 15 vessels with active snapper grouper permits used longline gear to catch golden tilefish, while an average of 39 vessels with active snapper grouper permits used hook and line gear. The number of vessels that used longline gear was highest in 2004 and 2010 (20 vessels) and lowest in 2006 (11 vessels). The number of vessels with active snapper grouper permits that caught golden tilefish with hook and line gear was highest in 2007 (49 vessels) and lowest in 2009 and 2010 (29 vessels) (**Table 4-2**). Consistently more golden tilefish were taken with longline gear than hook and line gear. During 2004-2010, 93% of the

golden tilefish landings from vessels with active snapper grouper permits were from longline gear and 7% were from hook and line gear.

Current regulations for golden tilefish include a 4,000-pound gutted weight trip limit until 75% of the quota is caught, after which a 300-pound gutted weight trip limit is imposed. The South Atlantic Council is concerned an increase in participation in this portion of the snapper grouper fishery could deteriorate profits for current golden tilefish fishermen. In addition, more participants could make it more difficult to track the commercial quota in a timely fashion and prevent overages.

Table 4-1. Golden tilefish quota (pounds gw), quota monitoring system landings (pounds gw), date 300 pound gw trip limit went into effect, and date quota met.

Year	Quota	QMS Landings	Date 300-pound trip limit went into effect	Date Quota Met
2004	1,001,663	254,921	N/A	Not met
2005	1,001,663	270,894	N/A	Not met
2006	295,000	299,566	13C Effective 10/23/06	10/23/06
2007	295,000	296,221	5/17/07	10/3/07
2008	295,000	290,815	5/28/08	8/17/08
2009	295,000	295,974	4/21/09	7/15/09
2010	295,000	333,312	3/18/10	4/12/10
2011	282,819	361,415	Was not implemented	3/10/11

Source: http://sero.nmfs.noaa.gov/quotas/southatlantic/saq.htm.

Table 4-2. Number of vessels that caught golden tilefish with longline (LL) or hook and line (H&L) gear during 2004-2010. Data linked to active permits.

Year	# LL	# H&L
2004	20	39
2005	13	42
2006	11	44
2007	16	49
2008	12	41
2009	12	29
2010	20	29
Average	15	39

Table 4-3. Percentage of golden tilefish taken with longline and hook and line gear. Based on vessels with active permits.

Year	# LL	# H&L
2004	92%	8%
2005	88%	12%
2006	90%	10%
2007	93%	7%
2008	96%	4%
2009	96%	4%
2010	93%	7%
Total	93%	7%

Sub-alternatives 2a (Preferred) and **2b** address endorsement restrictions for entities that qualify for both hook and line, and long line endorsements. Longline gear is more efficient than hook and line gear in capturing golden tilefish. Yet, allowing more efficient gear to capture golden tilefish would not be expected to negatively impact the stock since ACLs and AMs are in place to prevent overfishing. While it has not been very well documented, longline gear could be more likely to interact with protected species and negatively impact bottom habitat than hook and line gear.

Sub-alternative 2a (Preferred) would allow individuals who meet qualifying criteria to receive both endorsements and to either use both endorsements, if that was their preference, or sell the endorsement of their choice. **Sub-alternative 2a (Preferred)** could be expected to result in greater effort than **Sub-alternative 2b** because it may result in either continued fishing by the original qualifier under one gear/endorsement when it may not be profitable to do so with the other gear/endorsement, or fishing by another entity upon endorsement transfer. **Sub-alternative 2b** would allow for individuals that meet qualifying criteria to receive only one endorsement. Under **Sub-alternative 2b** an individual who qualifies for both endorsements could choose between a hook and line or a longline endorsement. **Sub-alternative 2b** could be considered to have the greatest biological benefit to the stock since there is a greater chance a hook and line endorsement would be chosen, and hook and line gear is less efficient at capturing golden tilefish and is believed to have less impact on protected species and habitat. However, any differences in the biological effects of the sub-alternatives would be expected to be small.

4.1.2 Economic Effects

Alternative 1 (No Action) would not limit participation or effort in the golden tilefish portion of the snapper grouper fishery. As a result, an increase in the number of fishermen targeting golden tilefish could occur. This could result in a decrease in the profitability of fishing for golden tilefish to historical participants and an increasingly shortened commercial season. An increase in the race for fish would likely occur over time, possibly resulting in safety concerns due to gear conflicts and less time and investment in vessel maintenance. A decrease in

the quality of golden tilefish landed could also occur due to decreased time spent on storing the fish for transport to shore. This could decrease dockside prices and marketing opportunities.

Alternative 2 and its sub-alternatives would limit participation in the golden tilefish portion of the snapper grouper fishery. Reducing the number of fishermen ostensibly would extend the season assuming all other factors affecting golden tilefish remained constant. **Actions 2** and **3** identify how many fishermen would qualify for a hook and line or a longline endorsement, respectively, and describe the associated the economic impacts. Presumably, a hook and line or longline endorsement would lengthen the fishing season and therefore reduce the race to fish, which could have the effect of raising dockside prices for those fishermen that remain in the fishery. The vast majority of the endorsements (both hook and line and longline) would go to Florida fishermen. This would likely constrain the golden tilefish portion of the snapper grouper fishery to participation off Florida and would not allow for expansion into other areas, such as North Carolina, where a longline fishery has begun to develop in recent years. However, a number of North Carolina fishermen do not have enough history of participation in the fishery to qualify for an endorsement.

4.1.3 Social Effects

Alternative 1 (No Action) would not make any changes to the current management of golden tilefish. As a result, all current fishing practices would be allowed to continue and no changes in status quo social benefits would be expected. As discussed in **Section 3.3**, however, these status quo conditions are expected to continue a functional reallocation of the golden tilefish commercial quota to Florida fishermen at the expense of fishermen in North Carolina and South Carolina. This is due to recent management restrictions and traditional fishing patterns where weather is a key determinant of when fishermen from different states are able to participate in this component of the snapper grouper fishery. While Florida has traditionally recorded the majority of golden tilefish harvests (see **Section 3.7.1**), recent harvest restrictions have resulted in shortened seasons and reduced harvests by North Carolina and South Carolina fishermen.

Increased target effort by fishermen in response to increased restrictions on other species could exacerbate this circumstantial reallocation as well as displace fishermen that have not been adversely affected by the recent regulations. While annual catch limits (ACLs) and accountability measures (AMs) should be effective in protecting the biological health of the resource, from the perspective that traditional fishing participation and patterns results in greater social benefits, shift of harvests away from these traditional users, businesses, and communities would be expected to result in lower social benefits than protection and preservation of the more traditional participation and harvest patterns.

The intent of the adoption of one of the sub-alternatives under **Alternative 2** in addition to the eligibility criteria in **Action 2** and **Action 3** is to return golden tilefish harvests to the more traditional/historical participation and harvest patterns through the establishment of an endorsement program, limiting endorsement eligibility on alternative minimum harvest

performance histories (transfer considerations are the subject of **Action 6**). **Table 4-4** shows the number of permits that qualify for both endorsements under the sub-alternatives in **Actions 2** and **3**. Under **Action 2-Sub-alternative 2d (Preferred)** and **Action 3-Sub-alternative 2f (Preferred)**, only two permits are expected to meet the criteria to receive both endorsements. The associated vessels have homeports in Volusia County and Brevard County. The largest number of permits that qualify for both endorsements would be under **Action 2-Sub-alternatives 2d (Preferred)** and **2e** and **Action 3-Sub-alternative 2a**; all six of these permits are associated with vessels with a homeport in Florida (Volusia, Martin, Brevard, and St. Lucie Counties).

Table 4-4. Permits that would qualify for both a hook and line endorsement and a longline endorsement under different alternatives under **Actions 2** and **3.**

	Hook and Line Endorsement (Action 2)					
Longline Endorsement (Action 3)		2a	2b	2c	**2d (Pref)**	2e
	2a	1	0	0	6	6
	2b	1	0	0	3	3
	2c	1	0	0	3	3
	2d	1	0	0	2	2
	2e	0	0	0	1	1
	2f (Pref)	1	0	0	**2**	2

Data source: SERO 2011

Sub-alternative 2a (Preferred) under this action would allow the most fishermen to qualify for both hook and line and longline endorsements. While eligible commercial harvesters would benefit from receiving both types of endorsements, some long-term social impacts may accrue if participation in the golden tilefish portion of the snapper grouper fishery is not sufficiently limited. **Sub-alternative 2a (Preferred)** would be expected to result in greater effort than the other sub-alternatives because it may result in either continued fishing by the original qualifier under one gear/endorsement when it may not be profitable to do so with the other gear/endorsement, or fishing by another entity upon endorsement transfer. As a result, effort reduction may not be as great under **Sub-alternative 2a (Preferred)** as under **Sub-alternative 2b**, and social benefits would be reduced accordingly. **Sub-alternative 2b** would be expected to result in the next highest benefits from the individual entity perspective because qualifiers could choose to receive the endorsement from which the greatest social and economic benefits are expected. **Sub-alternative 2b** would also be expected to result in less effort, with associated changes in benefits. It cannot be determined whether the gains in benefits from increased reductions in effort would be sufficient to compensate for the reduced benefits associated with not being able to retain and use, or transfer, both endorsements.

Although this proposed action would not limit total golden tilefish harvest, restricting participation may affect the total amount of golden tilefish harvested as well as change product flow through the various communities and dealers. If the more significant harvesters receive endorsements, total volume and the communities where most golden tilefish is landed should not be affected. As shown in **Tables 3-10** and **3-11**, most golden tilefish are harvested on trips where golden tilefish are the top source of revenue. It is possible, however, that smaller harvests of golden tilefish by some fishermen make up a larger portion of total harvest quantities by these fishermen or sales activity by some dealers. As a result, while the proposed endorsement system should preserve, and possibly increase, the social benefits to the more active producers and dealers and associated communities, absent fishermen landing in multiple ports and selling to multiple dealers in the same city, reduced social and economic benefits will be experienced by some communities and dealers as well as the fishermen who do not receive an endorsement.

4.1.4 Administrative Effects

Establishing an endorsement program would have some level of administrative burden on the agency related to developing and administering the program as well as providing information to the fishing community on the program. The least administratively burdensome alternative would be **Alternative 1 (No Action)**, followed by **Alternative 2.** Of **Sub-alternatives 2a and 2b,** the administrative burden would be greatest under **Sub-alternative 2b** as it would require the agency to contact fishermen to determine which endorsement they would like to receive. However, due to the small number of participants that would qualify for an endorsement, the administrative burden is expected to be minimal.

4.2 Action 2. Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement

Alternative 1 (No Action). Do not establish initial eligibility requirements for a golden tilefish hook and line endorsement

Alternative 2. Establish initial eligibility requirements for a golden tilefish hook and line endorsement based on the following criteria:

> **Sub-alternative 2a.** To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gutted weight (gw) (with hook and line gear) when the individual's best three of five years from 2001-2005 are aggregated. (Sub-alternative devised by the GT LAP WG.)
>
> **Sub-alternative 2b.** To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gw (with hook and line gear) when the best 3 of 5 years 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008.
>
> **Sub-alternative 2c.** To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 500 pounds gw (with hook and line gear) when the best 3 of 5 years 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008.
>
> **Sub-alternative 2d (Preferred).** To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 500 pounds gw (with hook and line gear) when the best 3 of 6 years from 2005-2010 are aggregated.
>
> **Sub-alternative 2e.** To receive a golden tilefish hook and line endorsement, the individual must have a harvest level of 1,000 pounds gw (with hook and line gear) when the best 3 of 6 years from 2005-2010 are aggregated.

4.2.1 Biological Effects

Alternative 1 (No Action) would result in the greatest biological benefit for golden tilefish, when compared to the other alternatives under consideration, because the quota would be met more quickly and gear would be removed from the water for the longest period of time. Sub-alternatives under **Alternative 2** would establish golden tilefish hook and line endorsements for federal commercial snapper grouper permit holders who qualify under certain eligibility requirements.

All of the sub-alternatives under **Alternative 2** would result in a reduction in the number of participants but not necessarily limit the effort or harvest in the golden tilefish segment of the snapper grouper fishery. **Sub-alternatives 2a-2e** would require a certain harvest level averaged or aggregated during various years to receive a hook and line endorsement. **Sub-alternative 2d (Preferred)** would implement the least restrictive requirement resulting in issuance of 39 hook and line endorsements. Furthermore, **Sub-alternative 2d (Preferred)** would place greater emphasis on recent landings (2005-2010) and would be more likely to capture current participants using hook and line gear in the commercial golden tilefish sector. To receive a golden tilefish hook and line endorsement, **Preferred Sub-alternative 2d** would require the individual to have a harvest level of 500 pounds gutted weight (gw) with hook and line gear when the individual's best three of six years 2005-2010 are aggregated. The permits that qualify for a golden tilefish hook and line endorsement represent 95% of the hook and line landings of golden tilefish during 2005-2010 (**Table 4-5**). **Sub-alternative 2b,** based on aggregate landings for the best 3 of 5 years from 2001-2005 and at least 1 pound from 2007 or 2008, would implement the most restrictive endorsement eligibility requirement resulting in 17 permits that qualify (**Table 4-6**).

Table 4-5. Total and average landings (2005-2010) of golden tilefish taken with hook and line gear by permits that qualify for a golden tilefish endorsement under **Sub-alternative 2d** along with the total number of snapper-grouper permits that landed golden tilefish using hook and line gear during 2005-2010.

# of Permits	Total	Average	
39	145,989	24,331	94.76%
106	154,055	25,676	

It is likely that the biological effects of the different sub-alternatives would be very similar because there are limits on the amount of golden tilefish that can be caught and accountability measures are triggered when annual limits are exceeded. However, if alternatives that limit the number of participants also result in a reduction in the amount of gear deployed and golden tilefish landed, it is possible the biological benefits would be greater for alternatives that restrict the greater number of participants. **Preferred Sub-alternative 2d** would result in the greatest number (39) of hook and line endorsements among **Sub-alternatives 2a-2e.** Therefore, the biological benefits of **Preferred Sub-alternative 2d** could be less than the other alternatives considered. By limiting the number of participants in the golden tilefish commercial sector, the race for fish could be reduced allowing for a longer fishing season and greater participation by individuals who met the endorsement requirements.

Alternative 1 (No Action) would likely perpetuate the existing level of risk for interactions between Endangered Species Act (ESA)-listed species and the fishery. **Sub-alternatives 2a-2e** are unlikely to have adverse effects on listed *Acropora* species. Previous ESA consultations determined the snapper grouper fishery was not likely to adversely affect these species. These alternatives are unlikely to alter fishing behavior in a way that would cause new adverse effects to *Acropora* species. The impacts from **Alternative 2** and associated sub-alternatives on sea

turtles and smalltooth sawfish are unclear. Ultimately, the degree of risk reduction to ESA-listed species is relative to overall effort reduction. If **Alternative 2** and the associated sub-alternatives reduce fishing effort in the fishery, the risk of interaction between sea turtles and smalltooth sawfish will likely decrease.

4.2.2 Economic Effects

Alternative 2 and its sub-alternatives describe eligibility requirements to obtain a golden tilefish hook and line endorsement. The sub-alternatives would limit the number of participants in the fishery but not necessary limit the effort or harvest. The sub-alternatives identify how many pounds are needed to qualify for an endorsement and in what years those landings need to have been made. This would be based on logbook data associated with an individual's permit at the time of implementation. **Sub-alternative 2d (Preferred)** would implement the *least* restrictive requirement resulting in issuance of 39 hook and line endorsements. **Sub-alternative 2b** would implement the *most* restrictive endorsement eligibility requirement resulting in 17 permits that qualify for a hook and line endorsement. **Sub-alternative 2a** would result in 25 hook and line endorsements. **Sub-alternative 2c** would issue 19 endorsements and **2e** would implement 27 endorsements (**Table 4-6**).

Table 4-6. Number of permits that qualify for hook and line endorsements under each sub-alternative.

Hook and Line Sub-alternatives	Eligibility Requirement	Number of Endorsements
Sub-alternative 2a	At least 1,000 pounds gw when best 3 of 5 yrs 2001-05 are aggregated	25
Sub-alternative 2b	At least 1,000 pounds gw when best 3 of 5 yrs 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008	17
Sub-alternative 2c	At least 500 pounds gw when best 3 of 5 yrs 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008	19
Sub-alternative 2d (Preferred)	**At least 500 pounds gw when the best 3 of 6 yrs from 2005-2010 are aggregated**	**39**
Sub-alternative 2e	At least 1,000 pounds gw when the best 3 of 6 yrs from 2005-2010 are aggregated	27

The benefit of a smaller numbers of endorsements is an expectation of higher *average* profits per endorsement holder. Therefore, it can be expected that the highest average profits per hook and line endorsement holder would occur under **Sub-alternative 2b** and the lowest under **Sub-alternative 2d (Preferred)**.

4.2.3 Social Effects

It should be noted that the two-tiered qualification criteria are not fully complementary in that the second criterion (current participation) may exclude fishermen that the first criterion (historical participation to address current shifts in participation/harvest activity) seeks to benefit; i.e., a fisherman's current lack of harvests could be a result of the functional reallocation of harvest that is the motivating factor for the proposed action. From this perspective, the smaller the current qualifying poundage, the less likely a historical participant will be excluded. All factors considered, in general, the higher the number of endorsements, the less disruption of current harvest patterns and associated social conditions.

Although the alternative thresholds for endorsement qualification are intended to allow historic participants to maintain harvest, an endorsement program may reduce but likely not eliminate the current problem of shifting the season away from when North Carolina and South Carolina fishermen can safely fish for golden tilefish. This is because providing an endorsement would not eliminate the weather-related seasonal harvest access-issues of the status quo.

Alternative 1 (No Action) would not establish endorsement eligibility criteria, and no hook and line endorsements would be distributed. This would allow current participation to continue, which would have some short-term social benefits, but is likely to result in long-term negative social impacts by continuing current hook and line effort in the golden tilefish commercial sector. **Alternative 2** establishes eligibility criteria to receive an endorsement and in general, the higher the landings requirements over a longer period of time, the fewer fishermen who will be eligible for hook and line endorsements. While social effects of not qualifying for an endorsement would likely be negative at an individual level, there would be some long-term social benefits for the fishery as a whole if fewer fishermen qualified for an endorsement as this would allow the stock to rebuild and for eligible fishermen to continue to harvest. However, this would only be to a certain degree (a threshold for number of endorsed fishermen), as if the number of fishermen eligible to harvest golden tilefish was too small, the resource could be underutilized.

Sub-alternatives 2a, **2b**, and **2c** would be more beneficial for fishermen who have historically worked in the fishery, while having negative impacts on fishermen who have more recently entered the fishery. By selecting eligibility criteria to reflect a longer history of participation and/or consistent participation, benefits would be expected for established operations, infrastructure, and communities. **Sub-alternatives 2d (Preferred)** and **2e** will benefit the fishermen who have entered the hook and line sector in more recent years and also fishermen who have participated consistently in the last several years. However, under any allocation scenario, fishermen who receive an endorsement will be expected to benefit due to less competition in fishing and in the markets.

The estimated numbers of permits that would qualify under each sub-alternative under **Alternative 2** are shown in **Table 4-7** along with a column that provides information about the number of permits that reported golden tilefish landings by hook and line in 2008-2010, to show a baseline for the estimated number of fishermen who are currently harvesting golden tilefish

with hook and line gear. Under all sub-alternatives, Florida would receive the majority of hook and line endorsements, with the largest number of recipients under **Sub-alternative 2d (Preferred)** and the fewest under **Sub-alternatives 2b** and **2c.** No vessel with a homeport in Georgia would be expected to receive an endorsement under any sub-alternative. One South Carolina permit would be expected to qualify for a hook and line endorsement under **Sub-alternatives 2d (Preferred)** and **2e.** One permit associated with a North Carolina home port would be expected to qualify under **Sub-alternatives 2a**, **2b, 2c**, and **2e**, and an additional permit would qualify under **Sub-alternative 2d (Preferred)**.

Table 4-7. Number of Snapper Grouper permits with golden tilefish landings with hook and line from 2008-2010 and estimated number of permits that would qualify for a hook and line endorsement based on homeport of associated vessel.

	Number of permits					
	With any landings 2008-2010	**Sub-Alt 2a**	**Sub-Alt 2b**	**Sub-Alt 2c**	**Sub-Alt 2d (Pref)**	**Sub-Alt 2e**
FLORIDA	51	24	16	16	**36**	28
Brevard County	6	1	1	1	**3**	3
Indian River County	2	1	1	1	**4**	2
Martin County	6	1	1	1	**7**	6
Miami-Dade County	5	1	1	1	**1**	1
Monroe County	13	6	2	2	**3**	1
Palm Beach County	13	9	8	8	**12**	9
St Lucie County	2	2	1	1	**3**	3
Volusia County	1	3	1	1	**2**	2
Other FL Counties	3	0	0	0	**1**	1
GEORGIA	1	0	0	0	**0**	0
McIntosh County	1	0	0	0	**0**	0
SOUTH CAROLINA	6	0	0	0	**1**	1
Charleston County	2	0	0	0	**1**	1
Horry County	3	0	0	0	**0**	0
Georgetown County	1	0	0	0	**0**	0
NORTH CAROLINA	4	1	1	1	**2**	1
Beaufort County	1	0	0	0	**0**	0
Carteret County	1	0	0	0	**0**	0
Dare County	1	1	1	1	**2**	1
Onslow County	1	0	0	0	**0**	0
TOTAL	**63**	**25**	**17**	**17**	**39**	**30**

Source: SERO 2011

Table 4-7 also shows the estimated number of permits in associated homeports for each sub-alternative under **Alternative 2** to provide detail of impacts at the community level. Communities in Florida will likely experience the most social impacts from an endorsement program for the golden tilefish hook and line sector. In general, Monroe County and Palm Beach County have the largest number of permits with recent landings, although not as many Monroe County fishermen would qualify under the sub-alternatives as Palm Beach County fishermen.

Although the largest number of Monroe County permits would be expected to qualify for a hook and line endorsement under **Sub-alternative 2a**, less than half of Monroe County permits with recent landings would receive a hook and line endorsement. Under **Sub-alternatives 2b** and **2c**, only two would be expected to qualify and under **Sub-alternative 2d (Preferred)** it is estimated that two Monroe County permits would qualify for the endorsement. Only one permit for the county would receive an endorsement under **Sub-alternative 2e**. It would be expected that this would have a significant impact on Monroe County fishermen, because although the reported landings are not as high as other areas, it is common for Monroe County fishermen to frequently change fisheries throughout the year. Although annual landings are not high, golden tilefish could be an important fishery for a few months out of the year.

Palm Beach County has the most fishermen with recent golden tilefish landings, although not as many would be denied an endorsement as in Monroe County. Under **Sub-alternative 2a** nine out of thirteen permits with recent golden tilefish landings would be expected to qualify for hook and line endorsements. Almost all of the permits in this county with recent landings would be expected to qualify for an endorsement under **Sub-alternative 2d (Preferred)** (12 out of 13). Eight permits would be expected to qualify under **Sub-alternatives 2b** and **2c**, and nine are estimated to qualify under **Sub-alternative 2e**.

Brevard, Martin, and Miami-Dade Counties have fewer fishermen with recent landings than Monroe or Palm Beach Counties, and would also receive fewer endorsements under the sub-alternatives. In reference to the number of permits in each county with recent landings compared to the expected number of qualifying permits, Martin County, Brevard County and Indian River County in particular would benefit most from **Sub-alternative 2d (Preferred)** or **Sub-alternative 2e**. St Lucie and Volusia Counties would benefit more from **Sub-alternatives 2a-2c**. Other Florida counties are similar in that most permits would not qualify for a hook and line endorsement.

4.2.4 Administrative Effects

Alternative 1 (No Action) would result in the least administrative impact as it would not change the level of participation or the distribution of golden tilefish hook and line endorsements. **Sub-alternatives 2a-2e** would issue a golden tilefish hook and line endorsement to individuals with active federal snapper grouper commercial permits who caught golden tilefish with hook and line gear between January 1, 2001, and December 31, 2010, with some minimum level of average or aggregate annual landings between 500 and 1,000 pounds gw. The

administrative impacts for this action would primarily be borne by the NOAA Fisheries Service Permits Office and the Sustainable Fisheries Division.

If approved, Sustainable Fisheries Division staff would identify the 39 qualifying South Atlantic Snapper Grouper Unlimited Snapper Grouper Permit holders that would receive an endorsement. The Permits Office would then notify each permit holder of their eligibility and issue the endorsement. The administrative time and cost burden associated with this action and **Preferred Sub-alternative 2d** is likely to be moderate. The difference between the administrative burdens associated with each alternative differs only in the number of endorsements that need to be issued under each sub-alternative. This difference is not expected to result in any large disparity among the administrative impacts of **Sub-alternatives 2a-2e**. However, it is likely that the lower the number of endorsements issued the lower the administrative burden would be in the short-term for initial issuance, and in the long-term for future endorsement transfers.

General characteristics of the golden tilefish hook and line endorsement

Golden tilefish hook and line endorsements would be limited entry and independently transferable under the preferred transferability alternative under **Action 6**. In other words, the golden tilefish hook and line endorsement must be associated with a valid South Atlantic Unlimited Snapper Grouper Permit in order for it to be effective. Each golden tilefish hook and line endorsement would be assigned a unique number and endorsements would be issued with an expiration date to coincide with the expiration date of the South Atlantic Unlimited Snapper Grouper Permit issued to the same vessel. The South Atlantic Council will discuss general characteristics of the golden tilefish hook and line endorsement in March 2012.

Initial issuance of golden tilefish hook and line endorsements

The list of qualified vessels would be established as of the publication date of the final rule. NOAA Fisheries Service Permits Office would then determine which of those vessels still had a valid South Atlantic South Atlantic Unlimited Snapper Grouper Permit at the start date of the fishing season. This may require prioritizing renewal or transfer requests for qualified South Atlantic Unlimited Snapper Grouper Permits in advance of the effective date of the final rule. Upon publication of the final rule in the *Federal Register*, all transfers of South Atlantic Unlimited Snapper Grouper Permits among qualifying vessels would be frozen for a period of time in order to establish a stable universe of qualified vessels and permits to which golden tilefish hook and line endorsements would automatically be issued via United States Postal Service. The freeze on transfers for this group of vessels would not exceed a 45-day period, until endorsements are issued to all qualified vessels. NOAA Fisheries Service Permits Office would automatically issue golden tilefish hook and line endorsements to the qualified South Atlantic Unlimited Snapper Grouper Permit holders along with a letter of explanation prior to the endorsements becoming effective. South Atlantic Unlimited Snapper Grouper permit holders of qualified but expired permits would be issued a letter to notify them of the need to renew their South Atlantic Unlimited Snapper Grouper Permit in order to receive the golden tilefish hook

and line endorsement. The Office of Sustainable Fisheries would conduct some form of outreach, possibly in the form of letters, to non-qualifying South Atlantic Unlimited Snapper Grouper Permit holders with golden tilefish landings using hook and line gear to notify them of their ineligibility for the endorsement program. Instructions for the appeals process, outlined under **Action 4** of this document, would be included in the non-eligibility outreach materials.

Renewal details for golden tilefish hook and line endorsements

The process for renewing a golden tilefish hook and line endorsement will be discussed by the South Atlantic Council.

4.3 Action 3. Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement

Alternative 1 (No Action). Do not establish initial eligibility requirements for a golden tilefish longline endorsement

Alternative 2. Establish initial eligibility requirements for a golden tilefish longline endorsement based on the following criteria:

> **Sub-alternative 2a.** To receive a golden tilefish longline endorsement, the individual must have a total of 2,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008. (Sub-alternative devised by the GT LAP WG)
>
> **Sub-alternative 2b.** To receive a golden tilefish longline endorsement, the individual must have a total of 5,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.
>
> **Sub-alternative 2c.** To receive a golden tilefish longline endorsement, the individual must have an average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2006 and 2008.
>
> **Sub-alternative 2d.** To receive a golden tilefish longline endorsement, the individual must have an average of 5,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009.
>
> **Sub-alternative 2e.** To receive a golden tilefish longline endorsement, the individual must have an average of 10,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2009.
>
> **Sub-alternative 2f (Preferred).** To receive a golden tilefish longline endorsement, the individual must have an average of 10,000 pounds gw golden tilefish caught (with longline gear) for the best 3 years within the period 2006 through 2010.

NOTE: All dates in all alternatives are inclusive of the beginning and end years.

4.3.1 Biological Effects

Alternative 1 (No Action) would result in the greatest biological benefit for golden tilefish, when compared to the other alternatives under consideration, because the quota would be met more quickly and gear would be removed from the water for the longest period of time. **Sub-alternatives 2a-2f (Preferred)** would require certain harvest levels in aggregate or average during various years to receive a longline endorsement. **Sub-alternative 2a** would implement the least restrictive requirement resulting in issuance of 17 longline endorsements. The permits

that qualify for a golden tilefish longline endorsement represent 92% of the longline landings of golden tilefish during 2005-2010 (**Table 4-8**). **Sub-alternative 2e** would implement the most restrictive endorsement eligibility requirement resulting in issuance of 8 longline endorsements (**Table 4-9**).

Table 4-8. Total and average landings (2005-2010) of golden tilefish taken with longline gear by permits that qualify for a golden tilefish endorsement under **Sub-alternative 2f** along with the total number of snapper-grouper permits that landed golden tilefish using longline gear during 2005-2010.

# of Permits	Total	Average	
14	1,565,851	264,648	92.22%
31	1,697,489	282,915	

All of the sub-alternatives under **Alternative 2** would result in a reduction in the number of participants but not necessarily limit the effort or harvest in the golden tilefish segment of the snapper grouper fishery. It is possible that alternatives, which limit the number of participants, could also result in a reduction in the amount of gear deployed and golden tilefish landed. If this were the case, then biological benefits could be expected for golden tilefish and the chance of interactions with protected species could be reduced. **Sub-alternative 2a** would result in the most longline endorsements (17). Therefore, the biological benefits of this sub-alternative could be less than under other sub-alternatives. However, it is also possible that effort would remain the same regardless of the number of vessels fishing. Therefore the biological effects of **Sub-alternatives 2a-2f (Preferred)** could be very similar (**Table 4-9**). By limiting the number of participants in the golden tilefish commercial sector, the race for fish could be reduced allowing for a longer fishing season and greater participation by individuals who met the endorsement requirements.

Alternative 1 (No Action) would likely perpetuate the existing level of risk for interactions between Endangered Species Act (ESA)-listed species and the fishery. **Sub-alternatives 2a-2f (Preferred)** are unlikely to have adverse effects on listed *Acropora* species. Previous ESA consultations determined the snapper grouper fishery was not likely to adversely affect these species. These alternatives are unlikely to alter fishing behavior in a way that would cause new adverse effects to *Acropora* species. The impacts from **Alternative 2** and associated sub-alternatives on sea turtles and smalltooth sawfish are unclear. Ultimately, the degree of risk reduction to ESA-listed species is relative to overall effort reduction. If **Alternative 2** and the associated sub-alternatives reduce fishing effort in the fishery, the risk of interaction between sea turtles and smalltooth sawfish will likely decrease.

4.3.2 Economic Effects

The number of expected longline endorsements under each of the alternatives is shown in **Table 4-9**. The benefit of a smaller numbers of endorsements is an expectation of higher *average* profits per endorsement holder. The highest average profits per longline endorsement holder would occur under **Sub-alternative 2e** and the lowest under **Sub-alternative 2a**.

Table 4-9. Number of permits that qualify for longline endorsements under each sub-alternative.

Longline Sub-alternatives	Eligibility Requirement	Number of Endorsements
Sub-alternative 2a	At least 2,000 pounds gw when landings from 2006-08 are aggregated	17
Sub-alternative 2b	At least 5,000 pounds gw when landings from 2006-08 are aggregated	12
Sub-alternative 2c	At least 5,000 gw pounds when landings from 2006-08 are averaged	11
Sub-alternative 2d	Average of 5,000 pounds gw golden tilefish caught between 2007 and 2009	12
Sub-alternative 2e	Average of 10,000 pounds gw golden tilefish caught between 2007 and 2009	8
Sub-alternative 2f (Preferred)	**Average of 10,000 pounds gw golden tilefish caught (with longline gear) for the best 3 years within the period 2006 through 2010**	**14**

Permits that benefit economically from each of these sub-alternatives is a distributional issue and it is not expected that a smaller number of endorsements would necessarily yield higher *total* or *aggregate* profits compared to a larger number of endorsements. However, theoretically, the expectation is that a smaller number of vessels could be more profitable than a larger number of vessels because a smaller number of vessels would cut costs. However, too few vessels could limit catch and therefore revenues.

4.3.3 Social Effects

General social effects in establishing eligibility criteria and the resulting endorsement program are discussed in **Section 4.2.3**. **Alternative 1 (No Action)** would not establish longline endorsement eligibility criteria, and no endorsements would be distributed. This would allow current participation to continue, which would have some short-term social benefits, but is likely to result in long-term negative social impacts by continuing current longline effort in the golden tilefish commercial sector. **Alternative 2** establishes eligibility criteria to receive an endorsement and, in general, the higher the landings requirements over a longer period of time, the fewer the fishermen who will be eligible for hook and line endorsements. Typically, the fewer eligible individuals may be more likely to result in negative social impacts due to not

being allowed to harvest golden tilefish. Under this assumption, **Sub-alternative 2a** would have the least negative social impact by allocating endorsements to the most fishermen, while **Sub-alternative 2e** would be most likely to result in negative impacts on fishermen who do not receive an endorsement (**Table 4-10**). However, under any allocation scenario, fishermen who receive an endorsement will be expected to benefit due to less competition in fishing and in the markets.

Table 4-10 shows the estimated number of permits that would qualify for a longline endorsement in each state, based on the reported home port along with a column showing the number of permits with golden tilefish landings with longline from 2006 through 2010, to provide a baseline for comparison. Florida would receive the most endorsements under each sub-alternative. Although the highest number of Florida permits (13) would qualify under **Sub-alternative 2a**, this is less than 60% of the total number of Florida permits with recent golden tilefish landings by longline. The other sub-alternatives would allow less than half of the permits in Florida with recent landings to qualify for a longline endorsement, including **Sub-alternative 2f (Preferred)**. However, of the 22 permits with longline landings, 9 permits had less than 5,000 pounds (gw) total golden tilefish landings from 2006-2010, which suggests that some of the permit holders that do not qualify for a longline endorsement may not be dependent on the longline golden tilefish portion of the snapper grouper fishery and will not be impacted by the endorsement program.

No vessel in Georgia would receive an endorsement under any of the sub-alternatives, while under **Sub-alternatives 2a-2c** three permits with an associated home port in South Carolina would be expected to qualify. Two and one South Carolina permit would be expected to receive a longline endorsement under **Sub-alternatives 2d** and **2e**, respectively, and four South Carolina permits would qualify under **Sub-alternative 2f (Preferred)**. Only one North Carolina permit would receive an endorsement under **Sub-alternative 2a** but not under any other sub-alternative.

Table 4-10 also includes the estimated number of permits in associated home ports for each sub-alternative to provide detail of the impacts at the community level. In general there are fewer fishermen with reported golden tilefish landings by longline when compared to hook and line, but these landings make up a significant proportion of the commercial harvest. Brevard County and Martin County would receive only two and three endorsements, respectively, under **Sub-alternative 2f (Preferred)**. For the fishermen that do not qualify for an endorsement, this could be a significant impact. Volusia County will likely experience the least significant impacts because all recent participants qualify for an endorsement under **Sub-alternatives 2a-2c** and three out of four recent participants are expected to qualify for an endorsement under **Sub-alternative 2f (Preferred)**. Fishermen in Horry County (South Carolina) will receive fewer endorsements than the number of recent participants under **Sub-alternatives 2a-2d** and none will likely qualify under **Sub-alternative 2e**, but all recent participants are expected to qualify under **Sub-alternative 2f (Preferred)**. In North Carolina, the fishermen in Dare County with recent landings by longline are not expected to qualify under **Sub-alternatives 2b-2f (Preferred)**, which may have an impact on the communities in that county in that the fishermen

will have to stop longline fishing for golden tilefish or purchase an endorsement from another fisherman.

Table 4-10. Number of Snapper Grouper permits with golden tilefish landings with longline from 2006-2010 and estimated number of permits that would qualify for a long line endorsement based on homeport of associated vessel.

	With any landings 2006-2010	Sub-alt 2a	Sub-alt 2b	Sub-alt 2c	Sub-alt 2d	Sub-alt 2e	Sub-alt 2f (Pref)
FLORIDA	22	13	9	8	10	7	**10**
Brevard County	4	2	2	2	2	2	**3**
Indian River County	1	0	0	0	0	0	**0**
Martin County	4	3	1	0	1	0	**1**
Miami-Dade County	3	2	1	1	3	2	**2**
Monroe County	2	0	0	0	0	0	**0**
Palm Beach County	2	0	0	0	0	0	**0**
St Lucie County	2	2	1	1	1	1	**1**
Volusia County	4	4	4	4	3	2	**3**
NORTH CAROLINA	3	1	0	0	0	0	**0**
Dare County	3	1	0	0	0	0	**0**
SOUTH CAROLINA	4	3	3	3	2	1	**4**
Georgetown County	1	1	1	1	1	1	**1**
Horry County	3	2	2	2	1	0	**3**
TOTAL	**29**	**17**	**12**	**11**	**12**	**8**	**14**

4.3.4 Administrative Effects

Alternative 1 (No Action) would result in the least administrative impact, as it would not change the level of participation or the distribution of golden tilefish longline endorsements. **Sub-alternatives 2a-2f (Preferred)** would limit participation in the golden tilefish longline sector to individuals with active federal snapper grouper commercial permits who caught golden tilefish with hook and line gear between January 1, 2006, and December 31, 2010 with some minimum level of average or aggregate annual landings between 2,000 and 10,000 pounds gw. The administrative impacts for this action would primarily be borne by the NOAA Fisheries Service Permits Office and the Sustainable Fisheries Division.

If approved, Sustainable Fisheries Division staff would identify the qualifying South Atlantic Snapper Grouper Unlimited Snapper Grouper Permit holders that would receive an endorsement.

The Permits Office would then notify each permit holder of their eligibility and issue the endorsement. The administrative time and cost burden associated with this action and **Preferred Sub-alternative 2f (Preferred)** is likely to be moderate. The difference between the administrative burdens associated with each alternative differs only in the number of endorsements that need to be issued under each sub-alternative. This difference is not expected to result in any large disparity among the administrative impacts of **Sub-alternatives 2a-2f (Preferred)**. However, it is likely that the lower the number of endorsements issued the lower the administrative burden would be in the short-term for initial issuance, and in the long-term for future endorsement transfers.

General characteristics of the golden tilefish longline endorsement

Golden tilefish longline endorsements would be limited entry and independently transferable under the preferred transferability alternative under **Action 6**, though fishery participants would not be allowed to fish for golden tilefish with longline gear without also having a valid (not expired) South Atlantic Unlimited Snapper Grouper Permit. In other words, the golden tilefish longline endorsement must be associated with a valid South Atlantic Unlimited Snapper Grouper Permit in order for it to be effective. Each golden tilefish longline endorsement would be assigned a unique number and endorsements would be issued with an expiration date to coincide with the expiration date of the South Atlantic Unlimited Snapper Grouper Permit issued to the same vessel. The South Atlantic Council will discuss general characteristics of the golden tilefish hook and line endorsement in March 2012.

Initial issuance of golden tilefish longline endorsements

The list of qualified vessels would be established as of the publication date of the final rule. NOAA Fisheries Service Permits Office would then determine which of those vessels would still have a valid South Atlantic Unlimited Snapper Grouper Permit at the start date of the fishing season. This may require prioritizing renewal or transfer requests for qualified South Atlantic Unlimited Snapper Grouper Permits in advance of the effective date of the final rule. Upon publication of the final rule in the *Federal Register*, all transfers of South Atlantic Unlimited Snapper Grouper Permits among qualifying vessels would be frozen for a period of time in order to establish a stable universe of qualified vessels and permits to which golden tilefish longline endorsements would automatically be issued via United States Postal Service. The freeze on transfers for this group of vessels would not exceed a 45-day period, until endorsements are issued to all qualified vessels. NOAA Fisheries Service Permits Office would automatically issue golden tilefish longline endorsements to the qualified South Atlantic Unlimited Snapper Grouper Permit holders along with a letter of explanation prior to the endorsements becoming effective. South Atlantic Unlimited Snapper Grouper permit holders of qualified but expired permits would be issued a letter notify them of the need to renew their South Atlantic Unlimited Snapper Grouper Permit in order to receive the golden tilefish longline endorsement. The Office of Sustainable Fisheries would conduct some form of outreach, possibly in the form of letters, to non-qualifying South Atlantic Unlimited Snapper Grouper Permit holders with golden tilefish landings using longline gear to notify them of their ineligibility for the endorsement program.

Instructions for the appeals process, outlined under **Action 4** of this document, would be included in the non-eligibility outreach materials.

Renewal details for golden tilefish longline endorsements

The process for renewing a golden longline endorsement will be discussed by the South Atlantic Council.

4.4 Action 4. Establish an Appeals Process

Alternative 1 (No Action). Do not specify provisions for an appeals process associated with the golden tilefish endorsement program.

Alternative 2 (Preferred). A period of 90 days will be set aside to accept appeals to the golden tilefish endorsement program starting on the effective date of the final rule. The Regional Administrator (RA) will review, evaluate, and render final decisions on appeals. Hardship arguments will not be considered. The RA will determine the outcome of appeals based on NMFS' logbooks. If NMFS' logbooks are not available, the RA may use state landings records. Appellants must submit NMFS' logbooks or state landings records to support their appeal.

Alternative 3. A period of 90 days will be set aside to accept appeals to the golden tilefish endorsement program starting on the effective date of the final rule. The RA will review, evaluate, and render final decisions on appeals. Hardship arguments will not be considered. A special board composed of state directors/designees will review, evaluate, and make individual recommendations to RA on appeals. Hardship arguments will not be considered. The special board and the RA will determine the outcome of appeals based on NMFS' logbooks. If NMFS' logbooks are not available, the RA may use state landings records. Appellants must submit NMFS' logbooks or state landings records to support their appeal.

4.4.1 Biological Effects

Establishing an appeals process is largely an administrative action. Therefore, it is not anticipated to directly affect the physical, biological or ecological environments in a positive or negative manner. **Alternative 1 (No Action)** would indirectly benefit the biological environment because it would not allow any additional golden tilefish effort in that portion of the snapper grouper fishery after the initial endorsements are distributed to eligible South Atlantic Unlimited Snapper Grouper Permit holders. By limiting the number of endorsements and thus the effort in the fishery, risk of bycatch and protected species interactions decreases. There is likely to be no difference between **Preferred Alternative 2** and **Alternative 3** in the level of potential biological impact that could occur as a result of their implementation. In theory, the RA would reach the same conclusion regardless of how the appeals process is executed because both alternatives do not allow for consideration of hardship claims and the decision to issue an endorsement would be based on logbook data and landings records.

Indirect effects on the biological environment may be caused if additional South Atlantic Unlimited Snapper Grouper Permit holders are issued golden tilefish endorsements as a result of implementing an appeals process. Though golden tilefish effort could potentially increase above the expected number of qualifying vessels due to issuance of endorsements through appeals, those impacts on the biological environment including target and non-target species, and critical habitat are not likely to be significant. Furthermore, overall harvest of golden tilefish would be

constrained by the sector ACLs and AMs established for the species. Therefore, regardless of how many endorsements are issued through appeals, the only discernable biological impact could be reaching the commercial quota earlier in the fishing season, which could help protect spawning individuals, and protected species. The more endorsements that are issued through the appeals process the earlier the commercial season is likely to close.

4.4.2 Economic Effects

The adoption of **Alternative 1 (No Action)** would not include establishment of an appeals process for the endorsement program. **Preferred Alternative 2** serves to provide a mechanism to appeal exclusion from the endorsement program.

The number of appeals received largely determines the economic impacts of an appeals program. Fishermen excluded from the endorsement program who decide to appeal may incur costs associated with trying to prove their case. However, access to NOA Fisheries Service logbook landings or state trip tickets should be at little or no cost to a fisherman. However, some complications may arise in the case of transferred permits for then the new permit owner may not have access to NOAA Fisheries Service logbook landings for landings contributed by the previous owner. Access to state trip tickets in this situation would depend on the respective state's rule on access to trip ticket information.

4.4.3 Social Effects

Because a golden tilefish endorsement system is assumed appropriate and would be expected to result in increased social benefits relative to the absence of an endorsement system, social benefits would be expected to be maximized if all appropriate fishermen, i.e., those fishermen whose receipt of an endorsement will best achieve the objectives of the program, receive an endorsement. The exclusion of any appropriate fishermen would be expected to result in decreased social benefits. The absence of an appeals process under **Alternative 1 (No Action)** would be expected to increase the likelihood that one or more appropriate qualifiers would not receive an endorsement, resulting in less social benefits than would occur if an appeals process is established under **Alternative 2 (Preferred)** and **Alternative 3**. There would likely be minimal difference in the social effects between **Alternative 2 (Preferred)** and **Alternative 3**.

4.4.4 Administrative Effects

Alternative 1 (No Action) could cause administrative difficulties by failing to provide a formal process to use in resolving the complaints of those who challenge eligibility or initial allocation decisions. The appeals processes, described in **Preferred Alternative 2** would be developed by NOAA Fisheries Service and would be similar to appeals processes developed for other limited access privilege programs. It is expected that any appeals process would be somewhat burdensome to administer. Directions on how potential appellants should peruse requesting an appeal consideration by the RA would need to be disclosed to fishery participants via fishery bulletin on in a letter issued to those fishery participants who had previously landed

golden tilefish but did not qualify for an endorsement, which would be distributed by the Office of Sustainable Fisheries. When an application for an appeal is received by the agency, a certain amount of staff time, dependent upon the nature of the appeal, would be required to review logbook records and verify the eligibility of the applicant. Additional time would be required by the RA for making the final determination as to whether or not each appeal applicant should or should not be issued a golden tilefish endorsement. Overall, a moderate short-term impact may be expected as a result of this action depending upon the number of appeals received by NOAA Fisheries Service. Because the appeals process is limited to 90-days, any administrative burden associated with the review of appeals applications would be limited to a finite amount of time that is not likely to extend far beyond the 90-day time period.

4.5 Action 5. Allocate Commercial Golden Tilefish Quota Annual Catch Limit (ACL) Among Gear Groups

Alternative 1 (No Action). Do no allocate the commercial golden tilefish ACL among gear groups (currently commercial ACL = 282,819 pounds gw).

Alternative 2 (Preferred). Allocate the golden tilefish commercial ACL as follows: 75% to the longline sector and 25% to the hook and line sector (currently would be 212,114 pounds gw to longlines and 70,705 pounds gw to hook and line).

Alternative 3. Allocate the golden tilefish commercial ACL as follows: 85% to the longline sector and 15% to hook and line sector (currently would be 240,396 pounds gw to longlines and 42,423 pounds gw to hook and line).

Alternative 4. Allocate the golden tilefish commercial ACL as follows: 90% to the longline sector and 10% to hook and line sector (currently would be 254,537 pounds gw to longlines and 28,282 pounds gw to hook and line).

NOTE: Council guidance at December meeting was to change the poundage values in the alternatives as appropriate once the P* projections are available.

4.5.1 Biological Effects

Alternative 1 (No Action) would not allocate portions of the 282,819 pounds gw commercial quota (commercial ACL) to a specific gear type. Currently, about 90% of the golden tilefish are taken with longline gear and the remaining 10% are caught with hook and line gear. Prior to the reduction in the golden tilefish quota through Amendments 13C and 17B to the Snapper Grouper FMP, some Florida vessels targeted golden tilefish in the fall with bandit reels. Longline vessels typically fish for golden tilefish at the start of the year when the trip limit is 4,000 pounds gw. In recent years, effort for golden tilefish has increased with longline gear due to restrictions in the shark longline fishery. As a result, the golden tilefish quota has been reached by late summer and the trip limit has been reduced even sooner in the year. Therefore, hook and line fishermen in Florida have been unable to participate since the season closes before they enter in September.

Action 5 includes alternatives that would change the golden tilefish fishing year from January- December to a fishing year that would start later in the year, which would enable hook and line fishermen to catch golden tilefish in the fall. If the South Atlantic Council decides to take no action on changing the fishing year, **Alternatives 2-4 (Preferred)** of **Action 3** would allocate a portion of the golden tilefish quota to the hook and line sector to ensure some portion of the golden tilefish harvest could be taken by that sector.

A query of landings data from NOAA Fisheries Service logbook collected during 2004-2008 indicates 90% of the golden tilefish landings were taken with longline gear and 10% were taken with hook and line gear. **Table 4-11** shows that, based on Accumulative Landings System (ALS) data, longline took greater than 92% of the golden tilefish from 1999-2008, and longline gear was the dominant gear used 1995-1997. Examination of ALS data indicates that prior to 1977, nearly all golden tilefish landings were reported using hook and line gear (**Table 4-11**). Low et al. (1983) confirm that hook and line gear was the predominant gear used to capture golden tilefish prior to 1981.

Beginning in 1977 through 1995, ALS data show a large increase in landings with unclassified gear types; however, Low et al. (1983) reported that prior to August 1981, almost all golden tilefish landings in the South Atlantic were by snapper reel boats. Therefore, a large portion of these unclassified gear types is likely to be longline gear. A sudden spike in golden tilefish landings was observed in the early 1980s (**Figure 4-1**) suggesting increased effort and/or ability of longline gear to capture golden tilefish. After 1995, longline landings represented 80-90% of the annual harvest.

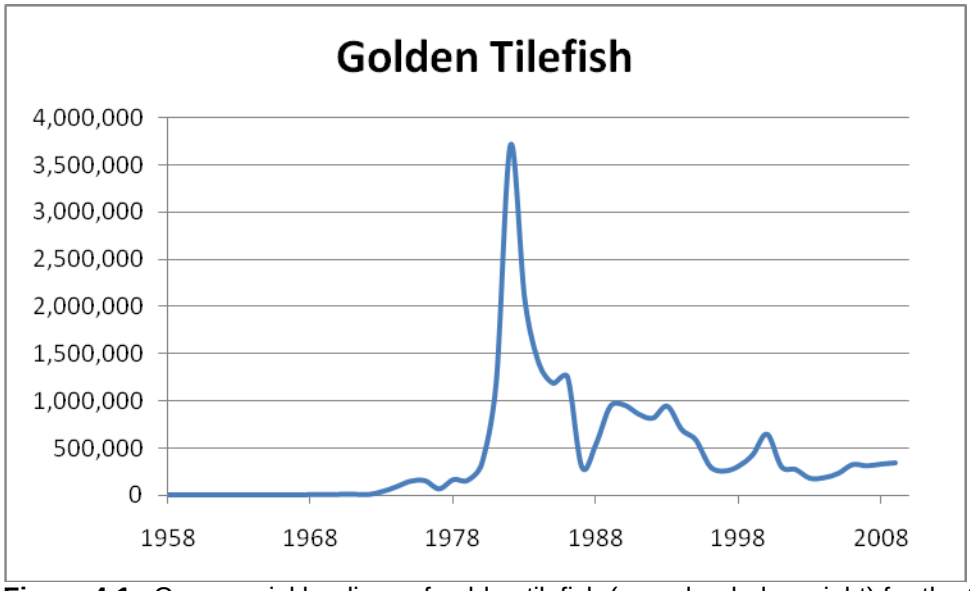


Figure 4-1. Commercial landings of golden tilefish (pounds whole weight) for the South Atlantic. Source: NOAA Fisheries Service Web site.

Alternative 2 (Preferred) would allocate 75% of the ACL to longline gear and 25% of the ACL to hook and line gear. **Alternative 3** would allocate 85% of the ACL to longline gear and 15% of the ACL to hook and line gear. Therefore, **Alternatives 2 (Preferred)** and **3** would allocate a greater portion of the ACL to hook and line gear than has been taken since the early 1980s. **Alternative 4** which would allocate 90% of the ACL to longline gear and 10% to hook and line gear would match what has been taken with the gear types in recent years.

The biological effect of **Alternatives 1 (No Action)-4** for golden tilefish would be similar since it is likely that the quota would be met regardless of which alternative is selected.

However, alternatives allocating a greater portion of the ACL to the hook and line sector could have greater biological benefits for protected species if it decreases the chance of interaction with sea turtles. Furthermore, alternatives that allocate a greater portion of the harvest to longline gear could have a greater negative impact on habitat since longline gear is considered to do greater damage to hard bottom habitat than vertical hook and line gear (SAFMC 2007). However, damage to bottom habitat with longline gear has not been well documented.

Table 4-11. Percentage of golden tilefish landings taken with various gear types based on NMFS Accumulative Landings System. H & L = hook and line; LL = longline; UNC = unclassified.

YEAR	% H&L	%LL	% OTHER	% UNC
1972	100%	0%	0%	0%
1973	100%	0%	0%	0%
1974	100%	0%	0%	0%
1975	100%	0%	0%	0%
1976	99%	1%	0%	0%
1977	51%	0%	0%	48%
1978	56%	0%	10%	33%
1979	25%	0%	2%	73%
1980	38%	0%	0%	61%
1981	19%	3%	1%	76%
1982	6%	7%	0%	87%
1983	4%	26%	0%	69%
1984	7%	38%	0%	55%
1985	1%	19%	0%	80%
1986	1%	26%	0%	72%
1987	1%	31%	0%	69%
1988	0%	25%	0%	75%
1989	1%	21%	0%	79%
1990	0%	27%	0%	72%
1991	3%	32%	0%	65%
1992	1%	44%	0%	55%
1993	0%	31%	0%	69%
1994	11%	27%	0%	62%
1995	10%	25%	0%	66%
1996	7%	27%	0%	66%
1997	14%	86%	0%	0%
1998	6%	94%	0%	0%
1999	7%	93%	0%	0%
2000	7%	93%	0%	0%
2001	30%	70%	0%	0%

YEAR	% H&L	%LL	% OTHER	% UNC
2002	36%	64%	0%	0%
2003	29%	70%	0%	0%
2004	12%	88%	0%	0%
2005	17%	83%	0%	0%
2006	8%	92%	0%	0%
2007	17%	83%	0%	0%
2008	12%	88%	0%	0%
2009	9%	91%	0%	0%

4.5.2 Economic Effects

The economic effects resulting from allocation of the golden tilefish commercial ACL among the longline, and hook and line gear groups, assuming implementation of a gear endorsement program, are not quantifiable at this time. To compare the economic effects in a quantitative way among **Alternatives 1 (No Action)-4**, revenue and cost information would be needed to estimate the profitability of various endorsement holders. The economic costs logbook program does not hold sufficient data to differentiate between longline and hook and line gear users that catch golden tilefish specifically. However, there are likely to be economic profitability differences between longline and hook and line gear users and therefore differences between the alternatives. Allocation of a relatively low percentage to one of the gear groups compared to the current percentage use of the resource under **Alternative 1 (No Action)** would result in a decrease in profitability for that gear group. Historical catch by gear group using logbook data is shown in **Table 4-12**. Longline gear took an average of 92.3% of the landings recorded in logbooks from 1999-2008 while hook and line gear (hook and line, electronic reel, bandit) took 7.5% of landings. The highest percentage taken by hook and line gear was 12.1% in 2007. However, in recent years, hook and line gear users have been unable to fish because the season ended before they began fishing, typically in September. **Alternative 4** would result in a decrease in the recent high of 12% taken by hook and line gear users while **Alternative 3** would result in a slight increase. **Alternative 2 (Preferred)** would result in an allocation between gear users that is closest to the portion of landings taken by hook and line users prior to involvement of the longline vessels in the golden tilefish portion of the snapper grouper fishery.

The ACL identified for golden tilefish in Amendment 17B is 282,819 pounds gw. The commercial allocation is 97% of the ACL or 274,334 pounds gw. The hook and line allocation under **Alternatives 2 (Preferred)**, **3**, and **4** would be 68,584 pounds gw, 41,150 pounds gw, and 27,433 pounds gw, respectively.

Table 4-12. Historical landings by gear group, 1999-2008.

	Year									
Landings by Gear	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Longline	391,205	556,275	363,553	333,363	288,536	220,740	230,422	327,314	245,636	279,044
	94.3%	94.7%	95.2%	89.2%	95.0%	92.2%	88.9%	92.1%	87.9%	93.8%
Hook and Line	20,550	28,522	18,197	39,752	15,103	18,671	28,157	28,113	33,805	17,899
	5.0%	4.9%	4.8%	10.6%	5.0%	7.8%	10.9%	7.9%	12.1%	6.0%
OTHER	3,158	2,480	239	444	-	-	484	100	116	683
	0.8%	0.4%	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%
TOTAL	**414,913**	**587,277**	**381,989**	**373,558**	**303,639**	**239,412**	**259,063**	**355,527**	**279,556**	**297,626**

Source: ?

4.5.3 Social Effects

Alternative 1 (No Action) would not establish any gear allocations for the golden tilefish commercial ACL. As a result, all current fishing practices would be allowed to continue and no changes in status quo social benefits would be expected.

The gear allocations specified in **Alternatives 2-4** would be expected to result in social effects consistent with the extent to which the allocations differ from normal harvest patterns. Unless it can be demonstrated that other management measures, such as trip limits or gear controls (i.e., limiting the number of vessels using a particular gear that is more effective in harvesting golden tilefish), the most recent historical harvest distribution rates can be argued to represent the distribution rates that best meet the total needs of the participants from a social and economic perspective because these rates have not been artificially or externally determined. Although practical limitations, such as the effects of the cost of vessel or gear conversion, considerations of differences in where the use of different gear are practical, and distance from these areas should not be ignored in the decision of what size vessel or gear to fish, absent regulatory control (e.g., limits on the number of vessels of certain sizes or using certain gears, or restrictions on who can fish where), these are individual choice decisions, based on personal considerations, and are outside regulatory control and result in distributions of harvest activity that reflect these individual decisions. In such a case, absent an additional specific social or economic management goal that can be best achieved by deviation from the historic distribution of harvests, it is assumed that the further an imposed allocation deviates from the historic distribution, the greater the reduction in social and economic benefits. With respect to golden tilefish, a specific social and economic goal has been advanced. The goal is to preserve access to the resource by vertical line fishermen when they have historically harvested golden tilefish (late summer to early fall) and avoid the quota being taken by longline fishermen before vertical line fishermen traditionally switch over to this species.

Based on the information in **Table 4-11** the longline sector has historically harvested, on average, over 90% of the golden tilefish quota and the hook and line sector between 7% and 12%. Thus, the allocation specified in **Alternative 2 (Preferred)** would not be consistent with the historical performance of this component of the snapper grouper fishery and would likely impact the longline vessel by limiting the longline quota about 10-15% below what the longline sector has been harvesting in recent years. **Alternatives 3** or **4** would be more consistent with the recent history of the commercial golden tilefish portion of the snapper grouper fishery than **Alternative 2 (Preferred)**, and would benefit the longline component of the commercial sector. However **Alternative 2 (Preferred)** would allow the hook and line sector to increase harvest by establishing a hook and line ACL that is about two times larger than hook and line harvest in recent years. **Alternative 2 (Preferred)** and **Alternatives 3** and **4** would also benefit the hook and line sector more than **Alternative 1 (No Action)** by preserving access to the resource through gear allocations.

Tables 3-10 and **3-11** provide additional information useful for generating insights into the potential effects of the proposed alternatives. Although the information in these tables is not disaggregated by gear sector, it is assumed that most trips where golden tilefish are the top source of trip revenue have been longline trips (golden tilefish were likely the target species on these trips and average annual landings for these trips, approximately 303,000 pounds, were almost identical to the total average annual landings by the longline gear sector, approximately 302,000 pounds). For trips where golden tilefish were the top source of trip revenue, golden tilefish accounted for approximately 86% of all trip revenues (**Table 3-10**). For trips on which golden tilefish were caught but were not the top revenue species, golden tilefish accounted for only approximately 16% of all trip revenues. This suggests that golden tilefish revenues are more important to trips where golden tilefish are the top revenue species, and associated vessels, which are assumed to be longline vessels. If true, by extension, significant deviation from historic harvest patterns, as would occur under **Alternatives 2 (Preferred)** and **3**, may be expected to result in greater reductions in social benefits to these longline vessels than the gains to the recipient hook and line sector. However, it should be noted that, total (across all species) average revenue by vessels taking trips where golden tilefish were not the top revenues species was only approximately $7,400 per vessel ($54,000 total per year from golden tilefish plus $278,000 from other species divided by 45 vessels; **Table 3-11**), whereas the respective revenue for vessels taking trips where golden tilefish was the top revenue species was approximately $18,400 per vessel ($667,000 from golden tilefish plus $106,000 for other species divided by 42 vessels; **Table 3-10**). As a result, preserved access, which would occur under each of **Alternatives 2 (Preferred)**, **3** and **4**, or increased access, which would occur under **Alternative 2 (Preferred)**, by the lesser revenue group (assumed to be hook and line vessels) could result in greater relative social benefits.

4.5.4 Administrative Effects

Alternative 1 (No Action) would result in no new administrative burden. **Alternatives 2 (Preferred)-4** would allocate golden tilefish ACL between the longline and hook and line

sectors. Establishing any of the allocation scenarios through **Alternatives 2 (Preferred)-4** would involve minor administrative impacts in the form of rulemaking, monitoring quota, and developing education and outreach materials. However, the administrative impacts between the alternatives are minimal.

4.6 Action 6. Allow for Transferability of Golden Tilefish Endorsements

Alternative 1 (No Action). Longline and hook and line golden tilefish endorsements cannot be transferred.

Alternative 2 (Preferred). A valid or expired longline golden tilefish endorsement can be transferred between any two individuals or entities that hold a valid or simultaneously obtain a valid, meaning not expired, South Atlantic Unlimited Snapper Grouper Permit. The endorsement and associated landings history of golden tilefish can be transferred regardless of whether or not the South Atlantic Unlimited Snapper Grouper Permit is transferred.

Sub-alternative 2a (Preferred). Transferability allowed upon program implementation.

Sub-alternative 2b. Transferability not allowed during the first 2 years of the program.

Alternative 3 (Preferred). A valid or expired hook and line golden tilefish endorsement can be transferred between any two individuals or entities that hold a valid or simultaneously obtain a valid, meaning not expired, South Atlantic Unlimited Snapper Grouper Permit. The endorsement and associated landings history of golden tilefish will be transferred only if the South Atlantic Unlimited Snapper Grouper Permit is transferred.

Sub-alternative 3a (Preferred). Transferability allowed upon program implementation.

Sub-alternative 3b. Transferability not allowed during the first 2 years of the program.

Alternative 4. A valid or expired hook and line and longline golden tilefish endorsement can be transferred between any two individuals or entities that hold a valid or simultaneously obtain a valid, meaning not expired, South Atlantic Unlimited Snapper Grouper Permit. The endorsement and associated landings history of golden tilefish will be transferred only if the South Atlantic Unlimited Snapper Grouper Permit is transferred.

Sub-alternative 4a. Transferability allowed upon program implementation.

Sub-alternative 4b. Transferability not allowed during the first 2 years of the program.

4.6.1 Biological Effects

Alternative 1 (No Action) would not allow for transferability of golden tilefish endorsements and could result in decreased participation in the golden tilefish portion of the snapper grouper fishery over time as fishermen with endorsements exit the fishery permanently. Decreased participation could result in a corresponding decrease in effort and landings of golden tilefish, and could extend fishing opportunities further into the fishing season. However, it is also possible that effort would not decrease with decreased participation and the same amount of golden tilefish would be caught, albeit with fewer participants. Therefore, among **Alternatives 1-4**, **Alternative 1 (No Action)** could have the greatest biological benefit for the golden tilefish stock if it results in decreased landings of golden tilefish. However, a recent stock assessment

indicates golden tilefish is no longer experiencing overfishing and stock biomass is well above B_{MSY}. Therefore, there is not a biological need to decrease landings of golden tilefish.

Preferred Alternative 2 and **Preferred Alternative 3**, which would allow transferability of golden tilefish longline and hook and line endorsements, respectively, would not be expected to negatively impact the golden tilefish stock. The biological effects of **Preferred Alternative 2** and **Preferred Alternative 3** would be very similar as landings would be constrained by the ACL. Therefore, the effects of **Preferred Alternative 2** and **Preferred Alternative 3** may be more economic and administrative than biological.

Preferred Alternative 2 would allow transfer of golden tilefish longline endorsements among individuals who hold South Atlantic Unlimited Snapper Grouper Permits independent of each other. For example, the endorsement could be transferred to another person holding a valid (not expired) South Atlantic Unlimited Snapper Grouper Permit without also transferring the permit, and vice versa. **Preferred Alternative 3** would allow transfer of a golden tilefish hook and line endorsement among individuals who hold South Atlantic Unlimited Snapper Grouper Permits independent of each other.

Under all alternatives, it is the South Atlantic Council's intent that all landings of golden tilefish be associated with the South Atlantic Unlimited Snapper Grouper Permit, rather than the endorsement. The subject endorsement would simply entitle its holder to harvest golden tilefish. Those without the endorsement would not be allowed to do so. Any landings of golden tilefish by individuals who hold an endorsement would be added to the landings of the South Atlantic Snapper Grouper Permit to which the endorsement is linked. If the endorsement is transferred the landings of golden tilefish that were made using the endorsement would not transfer with the endorsement. The endorsement would have no associated landings value.

Sub-alternatives 2a (Preferred)-2b and **3a (Preferred)-3b** would place a time constraint on when transfer of endorsements could begin. **Sub-alternatives 2a (Preferred)** and **3a (Preferred)** would allow for transferability of permits to take place immediately upon implementation of the endorsement program and this is expected to maximize economic benefits but have the least amount of biological benefit for golden tilefish since endorsements would most likely be transferred to entities planning to fish them as opposed to the endorsement possibly not being fished for two or more years after implementation. **Sub-alternatives 2b** and **3b** could have positive biological effect because they would involve a longer time period before an endorsement could be transferred, and may result in several endorsements not being used until the transfer time limit has been reached. It is possible that an individual might not be able to go fishing in a particular year and since fishermen would not be able to transfer an endorsement, there could be a resulting benefit to the resource. However, as stated under **Alternative 1 (No Action)**, effort might not show a corresponding decrease with the number of participants in the fishery. Allowing golden tilefish endorsements to be transferred under conditions outlined for each of the action alternatives would not be expected to increase or decrease interactions with protected species.

4.6.2 Economic Effects

Alternative 1 (No Action) would not allow for transferability of golden tilefish endorsements and would therefore result in decreased participation in the golden tilefish portion of the snapper grouper fishery over time as fishermen with endorsements exit the fishery permanently. While they will be able to sell their federal commercial snapper grouper permit, they would not be able to sell their golden tilefish gear endorsement which could result in difficultly selling their permit, vessel, and gear since permits are often sold with the vessel and gear. Since longline gear is restricted in many of the South Atlantic fisheries, sale of the gear and a larger vessel suitable for longlining for golden tilefish would be difficult without sale of the golden tilefish longlining endorsement.

Preferred Alternatives 2 and 3 and **Alternative 4** would provide the opportunity for new entrants without an increase in the overall number of participants. **Alternative 4** would provide the greatest amount of endorsement transfer flexibility relative to **Alternative 1 (No Action)** in that it would allow transferability of all permits between any two permit holders (regardless of permit gear category). **Sub-alternatives a** through **b** under the main alternatives would put a time constraint on when transfer of endorsements could begin. The rationale behind delaying transferability of catch privilege assets, like endorsements, is to allow people time to develop an understanding of the value of the endorsements before selling them. In general, the value of an asset under a catch share program increases over time as people come to understand the possibilities for improved management of the fishery and the impact that might have on the asset. That is, if catch shares appear to be resulting in better stock management or greater dockside prices, quota share tends to increase. However, an endorsement program does not have the same characteristics as quota share and therefore a two-year delay (**Sub-alternatives 2b**, **3b**, and **4b**) in transferability allowances might not be necessary. An endorsement program would decrease the race to fish that is expected to occur under **Alternative 1 (No Action)**. Therefore, there could be an increase in dockside price (and therefore the value of an endorsement) if loss of quality has been a result of the race to fish occurring in recent years and dockside prices have declined. However, there is no known anecdotal or other information to support this at this time. Increases in the precision of stock management are possible due to a cap on the number of participants but not to the same degree as that expected under a catch share program, which is often accompanied by increases in monitoring and enforcement that enable better stock management.

Conceptually, the degree of transfer flexibility influences the aggregate profitability of the fishery and the average individual profitability. The greater the degree of transferability allowed, the greater the value of the permit is expected. Also, the greater the degree of transferability allowed, the greater the profitability of the individual who owns the permit because they have the ability to sell their permit when they need to switch to more profitable fisheries or when they are unable to fish. However, lack of participation could benefit the fishermen remaining in the fishery. Considering the above, **Alternative 4** is expected to produce the greatest aggregate and individual profitability over time for the golden tilefish portion of the snapper grouper fishery. **Alternative 2 (Preferred)** would enhance profitability for longline unlimited permit holders. **Alternative 3 (Preferred)** would enhance profitability for hook and line unlimited permit

holders. However, **Sub-alternatives a** and **b** will likely influence the degree of enhancement to possible profitability. **Sub-alternatives 2a (Preferred), 3a (Preferred)** and **4a** would allow for transferability of permits to take place immediately upon implementation and this is expected to maximize economic benefits. **Sub-alternatives 2b, 3b** and **4b** would allow for the longest delay in transferability allowances. While this might allow for people to best assess the value of the gear endorsements and make more accurate permit market transactions, it would delay transfers that could benefit fishermen.

If participation remains steady over the years of the program during which transferability is not allowed, aggregate profitability of the fishery could remain steady. If, however, landings drop due to people leaving the fishery and not transferring the endorsement due to restrictions, aggregate profitability would decline. However, at the same time, individual average profitability could increase because there would be less people sharing the same amount of landings as under **Alternative 1 (No Action)**.

4.6.3 Social Effects

The trade-off of social benefits associated with transferability options relates to consideration of whether social benefits would be enhanced if participation in this component of the snapper grouper fishery can only decrease over time (**Alternative 1 (No Action)**), would be higher under no restrictions other than requiring possession of a valid commercial unlimited snapper grouper permit, and how delay in allowing transfer may affect the social benefit stream. An underlying assumption for the proposed endorsement requirement to harvest commercial quantities of golden tilefish is that social benefits will increase relative to the current management system. None of the endorsement qualification alternatives encompass eliminating all participation and harvest. As such, the implied conclusion is that some level of non-zero participation (and harvest) will maximize social and economic benefits (as long as the resource is not severely overfished).

Although it would take time for such to occur, an inability to transfer golden tilefish endorsements, as would be the case under **Alternative 1 (No Action)**, would mean that, absent subsequent action, the number of entities harvesting golden tilefish would decrease over time as fishermen retire or cease harvesting golden tilefish for other reasons, eventually ending in no participants or legal commercial harvest. This would be inconsistent with the expectation that active participation, at some unspecified level, and harvest would be expected to result in greater social and economic benefits. As a result, **Alternative 1 (No Action)** would be expected to result in reduced social benefits relative to the other alternatives. In all likelihood, however, the adoption of **Alternative 1 (No Action)** would result in subsequent future management action to allow new participation in this component of the snapper grouper fishery.

Generally, it can be argued that social and economic benefits would be maximized with the fewest constraints placed on the transfer of an asset. Unencumbered transfer allows the largest pool of recipients, which would be expected to result in the payment of the highest price for the asset. The requirement of the recipient to hold a valid commercial unlimited snapper grouper

permit under **Alternatives 2 (Preferred), 3 (Preferred)** and **4** would be expected to reduce social benefits relative to placing no restrictions on transfer by not allowing anyone to purchase an endorsement. The social benefits of allowing transferability of the endorsements would be expected to be equal to or greater than the benefits of continuing to harvest golden tilefish under the endorsement, otherwise the endorsement would be sold/transferred to someone who expected to harvest golden tilefish.

Although not explicitly stated in the wording of the alternatives, it is assumed that endorsement transfers would be limited to vessels that use the same gear, e.g., a longline endorsement could only be transferred to a vessel with longline gear or, alternatively, could be transferred to a vessel with any gear, but could only be "fished" with longline gear (the endorsement could be transferred to a vessel without longline gear, but the vessel would have to be fitted with longline gear in order to harvest golden tilefish). The presumed motivation for such a restriction would be to preserve participation levels using a particular gear. If stabilizing the number of participants by gear and individual harvest performance are the goals of the endorsement system, allowing cross-gear transfers without re-gearing would not be consistent with the second goal. Allowing additional longline fishermen to acquire endorsements from vessels with hook and line gear would provide a substantial opportunity to disrupt the harvest patterns for this species, at the expense of current harvesters. As a result, while the total number of participants (across both endorsement categories) would not be affected, because of the potential change in performance (distribution on harvests across vessels and gear sectors) and associated product flow through dealers and communities, **Alternative 4** would be expected to result in lower social benefits than **Alternatives 2 (Preferred)** and **3 (Preferred)**. It should be clearly understood, however, that this conclusion is based on the assumption that preservation of the number of endorsements across gear sectors that results from initial endorsement distribution results in the greatest social benefits.

Allowing endorsement transfers upon program implementation under **Sub-alternatives 2a (Preferred)**, **3a (Preferred)**, and **4a** would be expected to result in more social benefits than **Sub-alternatives 2b**, **3b**, and **4b**. Immediate transferability would simply allow the endorsements to flow to the fishermen who value them the most, which is expected to maximize the efficiency and value of the golden tilefish portion of the snapper grouper fishery. Additionally, under **Sub-alternatives 2a (Preferred)**, **3a (Preferred)**, and **4a**, a fisherman who chooses to sell an endorsement would not have to delay gaining benefits of selling an endorsement (and conversely, the buyer would not have to wait to gain the benefits of buying the privilege to harvest golden tilefish).

Any ability to transfer endorsements may result in equity criticisms, similar to complaints associated with transferable catch share programs. Although the golden tilefish endorsement would not contain an entitlement to a specific harvest quantity, it would bestow asset rights to the recipient because endorsement possession would enable harvest, and the recipient would possess a new marketable asset. The value of this asset (the endorsement) would represent a windfall profit for the endorsement recipient, in addition to any benefits from actual harvests, a circumstance that may seem inequitable to entities denied an endorsement upon their initial

issuance. While transferability would allow those denied an endorsement, or others in the snapper grouper fishery who previously did not harvest golden tilefish, an opportunity to acquire and endorsement and harvest this species, they could do so only if they purchased the endorsement. The market price would be expected to increase with fewer available endorsements to purchase, and endorsement price should increase as the total value of harvest increases.

4.6.4 Administrative Effects

Establishing an endorsement program (**Action 1**) would have some level of administrative burden on the agency related to developing and administering the program as well as providing information to the fishing community on the program. Adding transferability (**Action 6**) to the endorsement program would increase the administrative burden, requiring the tracking of endorsements, once transferred. The least administratively burdensome alternative would be **Alternative 1 (No Action),** which would not allow endorsement transferability. **Preferred Alternatives 2** and **3** and **Alternative 4** would allow some form of transferability between users. These alternatives are expected to have similar administrative impacts. **Sub-alternatives a-d** under the main alternatives specify waiting periods before transferability will be allowed. **Preferred Sub-alternatives 2a** and **3a** would allow for endorsement transferability immediately and would have a moderate increase in administrative burden due to tracking endorsements. The addition of the waiting periods as described in **Sub-alternatives 2b, 3b,** and **4b** would not increase or decrease the administrative burden in the long term. **Sub-alternatives 2b, 3b,** and **4b** allow for a period of time in which transferability is not allowed, which may alleviate some of the administrative burden in the short term. However, once the waiting period is over, the administrative burden related to endorsement transfers will resume. An administrative burden will also be felt by fishermen through all of the alternatives, through the process of transferring the endorsements.

4.7 Action 7. Adjust Golden Tilefish Fishing Year

Alternative 1 (No Action)(Preferred). Retain the existing calendar year as the golden tilefish fishing year (January 1 through December 31).

Alternative 2. Specify the golden tilefish fishing year as September 1 through August 31.

Alternative 3. Specify the golden tilefish fishing year as August 1 through July 31.

Alternative 4. Specify the golden tilefish fishing year as May 1 through April 30.

4.7.1 Biological Effects

Preferred Alternative 1 (No Action) would retain regulations for golden tilefish implemented through Amendments 13C, 15A, and 17B to the Snapper Grouper FMP. Golden tilefish is experiencing not experiencing overfishing and is not overfished. Regulations for golden tilefish implemented through Amendment 13C to the Snapper Grouper FMP established a commercial quota of 295,000 pounds gutted weight with a 4,000-pound gw trip limit, which is reduced to 300 pounds gutted weight if 75% of the quota is met on or before September 1. In addition, regulations limited recreational catch to 1 fish per person per day. The commercial catch was based on historic landings during 1999-2003, when commercial fishermen captured 98% of the total catch. The commercial portion (98%) was applied to the yield at F_{MSY} to determine the commercial quota. Amendment 17B to the Snapper Grouper FMP changed the commercial quota for golden tilefish to 282,819 pounds gw.

Alternatives 2-4 would change the fishing year for golden tilefish. Public testimony on Amendment 13C to the Snapper Grouper FMP (SAFMC 2006) indicated some Florida based commercial hook and line fishermen are concerned an early closure could prevent them from harvesting golden tilefish from September through November, which is the time they have historically participated in the fishery. As the golden tilefish quota was met in the summer of 2007, 2008, 2009, and spring 2010 and 2011 this concern has been realized. Consequently, the South Atlantic Council is considering modifying the start date of the fishing year and the stepped trip limit strategy, as appropriate, to ensure the golden tilefish regulations imposed in October 2006 through Amendment 13C to the Snapper Grouper FMP do not unnecessarily disproportionately impact select fishermen. However, regulations implemented through Amendment 16 to the Snapper Grouper FMP (SAFMC 2009) have resulted in a seasonal closure for shallow water grouper species during January-April and early closures for vermilion snapper and black sea bass. As a result, one of the only fisheries open during early 2010 and 2011 was golden tilefish. Thus, commercial fishermen were able to target golden tilefish and generate some income when other fisheries, which fishermen historically targeted, were closed.

Preferred Alternative 1 (No Action) would retain the January 1 fishing year start date and allow the trip limit to be reduced from 4,000 pounds gutted weight to 300 pounds gutted weight if 75% of the quota was met on or before September 1. Although the commercial hook and line catch of golden tilefish is minor (~8% during 1999-2004 and ~10% during 2004-2008), 35% of the catch occurred during September and October 1999-2004. After implementation of Amendment 13C to the Snapper Grouper FMP in 2006, the quota was met before September and the golden tilefish closed before the period of time when the greatest commercial hook and line catches of golden tilefish have historically occurred. The expected biological effects of retaining or modifying the fishing year are expected to be minimal because hook and line landings are small and total mortality is constrained by the commercial ACL. A change in the fishing year would affect how and when fishing effort (longline versus hook and line) is applied to the stock throughout the year.

Alternative 2 would begin the fishing year for golden tilefish in September, the period of time when the greatest commercial hook and line catches of golden tilefish have historically occurred. **Alternative 3** would begin the fishing year in August and also allow hook and line fishermen to fish during the period of time when their catches have been greatest. **Alternative 4** would start the fishing year in May but would still allow hook and line fishermen to fish for golden tilefish in the fall but there is a greater chance the ACL would met sometime during September through November.

The biological effects in terms of level of harvest of **Preferred Alternative 1 (No Action)** and **Alternatives 2-4** would be very similar. The commercial hook and line catch of golden tilefish is small (~8-10%). Therefore, changing the fishing year is not likely to substantially increase the commercial hook and line catch. Furthermore, a change in the fishing year probably will not alter the number of months the commercial longline fishery operates as the percentage of golden tilefish landed was evenly distributed among all months before more restrictive regulations were implemented. Although the fishery has closed before the end of the year from 2007 to 2011, it is unlikely that golden tilefish would be taken incidentally as bycatch since the majority of the catch is targeted with longline gear. Furthermore, golden tilefish do not occupy the same habitat of other deepwater species (e.g., snowy grouper, blueline tilefish, blackbelly rosefish, etc.). Golden tilefish prefer a mud habitat whereas the other deepwater species occur in a rocky habitat. While there is little biological benefit to changing the fishing year, a shift in the fishing year would allow hook and line fishermen to target golden tilefish in the fall; however, a change in the fishing year would also result in multiple species being open at the same time. Therefore, there could be economic benefit to some fishermen of retaining the January start date (**Preferred Alternative 1 (No Action)**) for golden tilefish. It is noted that **Action 5**, which includes alternatives that would allocate portions of the ACL to the longline, and hook and line sectors, would have a similar effect in ensuring fishermen would be able catch golden tilefish with hook and line gear.

Golden tilefish spawn off the southeast coast of the U.S. from March through late July, with a peak in April (Harris et al. 2001). Grimes et al. (1988) indicate peak spawning occurs from May through September in waters north of Cape Canaveral. **Preferred Alternative 1 (No**

Action) would continue to open the season before the start of the spawning season. **Alternative 2** would move the opening until after the bulk of the spawning season. **Alternative 3** would move the opening until near the end of the spawning season. **Alternative 4** would move the opening to the peak of the spawning season. **Alternative 2** would provide the most biological protection, followed by **Alternative 3**, **Alternative 4**, and **Preferred Alternative 1 (No Action)**.

Preferred Alternative 1 (No Action) would perpetuate the existing level of risk for interactions between ESA-listed species and the fishery. **Preferred Alternative 1 (No Action)** and **Alternatives 2-4** are unlikely to have adverse effects on ESA-listed *Acropora* species. Previous ESA consultations determined the snapper grouper fishery was not likely to adversely affect these species. These alternatives are unlikely to alter fishing behavior in a way that would cause new adverse effects to *Acropora*. The impacts from **Preferred Alternative 1 (No Action)** and **Alternatives 2-4** on sea turtles and smalltooth sawfish are unclear. Sea turtle abundance in the South Atlantic changes seasonally. Even if **Preferred Alternative 1 (No Action)** and **Alternatives 2-4** perpetuate the existing amount of fishing effort, but causes a temporal or spatial effort redistribution, any potential effort shift is unlikely to change the level of interaction between sea turtles and smalltooth sawfish and the fishery as a whole. If these alternatives reduce the overall amount of fishing effort for golden tilefish, the risk of interaction between sea turtles and smalltooth sawfish would likely decrease.

4.7.2. Economic Effects

Alternatives 2-4 address a possible change in the fishing year for the golden tilefish portion of the snapper grouper fishery. Under current regulations, the golden tilefish fishing year begins on January 1 with a 4,000-pound gutted weight trip limit. Once 75% of the quota is taken, a 300-pound gutted weight trip limit goes in to place. Currently, a derby fishery exists for golden tilefish with a small number of longline participants, who take the majority of the catch (92%), and a larger number of hook and line participants. Longline participants begin fishing in January in Florida. By April or May when the weather improves, Carolina longliners begin fishing. In September and October, hook and line fishermen begin to fish for golden tilefish. This is the time of year when they are not participating in other fisheries.

Alternatives 2-4 would all benefit hook and line golden tilefish fishermen in Florida in the fall months when they are not participating in other fisheries. In recent years, hook and line fishermen have not been able to fish for golden tilefish, as they have in the past, in the months of September and October due to earlier closures. Likewise, Carolina fishermen may be able to fish for more months of the year under these alternatives because they will be able to fish at the beginning of the season when weather is amenable to fishing. In past years when the season began in January, Carolina fishermen were not able to begin fishing until April or May. They could only fish for a couple of months sometimes before the 4,000-pound gw trip limit dropped. A May start date (**Alternative 4**) would benefit Carolina longline fishermen most compared to **Alternatives 2 and Alternative 3**. A September 1 start date (**Alternative 2**) would perhaps benefit them the least. Under current regulations, the fishery starts January 1. Carolina

fishermen may be able to start fishing May 1 and then fish for four months. A September 1 start date (**Alternative 2**) may not even provide four months of fishable weather.

One significant drawback to a later start date (**Alternatives 2-4**), however, is that under **Preferred Alternative 1 (No Action)**, very little landings are available to dealers as a result of the red snapper closure, shallow water grouper January-April seasonal closure, red porgy January-April seasonal closure, and quota closures for black sea bass and vermilion snapper imposed through Amendments 16, 17A, and 17B to the Snapper Grouper FMP. Having golden tilefish available during January to May when other species are closed, could increase the dockside price paid to fishermen for golden tilefish. Even if dockside prices do not increase in the early part of the year, keeping the start date at January 1st could help dealers maintain supply and therefore keep customers. **Action 5**, which includes alternatives that would allocate portions of the ACL to the longline and hook and line sector, would ensure fishermen would be able catch golden tilefish with hook and line gear.

4.7.3 Social Effects

This action attempts to respond to the disruption, and presumed adverse social and economic consequences, of historic participation and harvest patterns as a result of recent management measures, specifically the 4,000-pound trip limit that is reduced to 300 pounds once 75% of the ACL is taken on or before September 1. As discussed in the previous sections, the golden tilefish component of the snapper grouper fishery has been reduced to less than a full-year harvest activity. Further, in recent years, the trip limits and subsequent early closure have resulted in North Carolina and South Carolina fishermen, who are not able to fish for golden tilefish until spring due to weather conditions, having access to a shorter season, and Florida hook and line fishermen not being able to fish for golden tilefish at all because of quota closure. As discussed in **Section 4.3.3**, deviation from these historic patterns is assumed to have resulted in declines in social and economic benefits to the fishery, associated businesses, and communities.

Because **Alternative 1 (Preferred)** would not make any regulatory change in the fishing year, no changes in the manner in which the fishery is prosecuted would be expected and, as a result, no changes in the current social benefits of the fishery would be expected to occur. Any decline in social benefits resulting from shifting harvest patterns away from historic/traditional harvest pattern, as discussed in the previous paragraph, would be expected to continue. Increased deviation from historic patterns, and associated social and economic benefits, could occur if fishing effort and patterns shift in response to increasingly restrictive management on other snapper grouper species. Seasonal closures for other species in recent years have resulted in golden tilefish being one of the few species that could be harvested during the winter months. While such shift may compensate for social and economic losses, this shift would increase the losses in social and economic benefits to historic golden tilefish commercial harvesters, and associated businesses and communities.

Alternatives 2-4 attempt to recover these reduced benefits, and prevent further losses, by adjusting the start of the fishing year. While adjusting the start of the fishing year, in conjunction with the ACL and AMs, would not affect the total available ACL, commencement of the fishing year in September (**Alternative 2**), August (**Alternative 3**), or May (**Alternative 4**) would be expected to allow increased participation and recovery of historic harvests. The earlier the start (May), the greater the opportunity for participation by North Carolina and South Carolina fishermen, with continued potential jeopardy for Florida hook and line vessels (quota management could still close the fishery in the fall). The later the start (September) the reverse would occur; Florida hook and line fishermen should be able to fish the entire fall whereas North Carolina and South Carolina fishermen could face abbreviated fishing opportunities depending on fall and winter weather conditions and the pace at which the ACL is harvested. The step-down trip limit would still apply, and the earlier the season began, the greater the likelihood that longline vessels, particularly Florida vessels, may lose traditional winter fishing time as these vessels would not be expected to be able to profitably fish under 300-pound trip limits. Both **Alternative 2** and **Alternative 3** would be expected to result in similar fishing opportunities for Florida fishermen, and improved opportunities relative to **Alternative 4**, whereas Carolina fishermen should face better opportunities under **Alternative 3** relative to **Alternative 2**, but reduced opportunities relative to **Alternative 4**.

4.7.4 Administrative Effects

Preferred Alternative 1 (No Action), would result in no new administrative burden. **Alternatives 2-4** would adjust golden tilefish management measures to change the start date of the fishing year. Implementing a change in the fishing year would incur minor adverse administrative impacts in the form of developing outreach materials such as fishery bulletins.

4.8 Action 8. Modify the Golden Tilefish Trip Limit

Alternative 1 (No Action). Retain the 300-pound gutted weight trip limit when 75% of the ACL is taken.

Alternative 2 (Preferred). Remove the 300-pound gutted weight trip limit when 75% of the ACL is taken.

Alternative 3. Prohibit longline fishing after 75% of the ACL is taken.

4.8.1 Biological Effects

Alternative 1 (No Action) would retain regulations for golden tilefish implemented through Amendments 13C, 15A, and 17B to the Snapper Grouper FMP. Golden tilefish is not experiencing overfishing and is not overfished. Regulations for golden tilefish established a commercial ACL of 295,000 pounds gutted weight with a 4,000-pound gw trip limit that is reduced to 300 pounds gw if 75% of the ACL is met on or before September 1. In addition, regulations limited recreational catch to 1 fish per person per day. The commercial catch was based on historic landings during 1999-2003, when commercial fishermen captured 97% of the total catch. The commercial portion (97%) was applied to the yield at F_{MSY} to determine the commercial ACL. Amendment 17B to the FMP changed the commercial ACL for golden tilefish to 282,819 pounds gutted weight.

Commercial longline fishermen are concerned a 300-pound gutted weight trip will not be profitable given the size of their operations. Furthermore, hook and line fishermen are concerned the ACL is being met quickly and before fall when they have historically fished for golden tilefish. Consequently, the South Atlantic Council is considering modifying the stepped trip limit strategy, as appropriate, to ensure the golden tilefish regulations imposed in October 2006 through Snapper Grouper Amendment 13C (SAFMC 2006) do not unnecessarily disproportionately impact select fishermen.

Alternative 1 (No Action) would retain the trip limit reduction from 4,000 pounds gw to 300 pounds gw if 75% of the ACL was met on or before September 1. Although the commercial hook and line catch of golden tilefish is minor (~8% during 1999-2004 and ~10% during 2004-2008), 35% of the hook and line catch occurred during September and October 1999-2004. After implementation of Amendment 13C to the Snapper Grouper FMP, the quota was met before September and the fishery closed before the period of time when the greatest commercial hook and line catches of golden tilefish have historically occurred.

Preferred Alternative 2 would remove the 300-pound gw trip limit when 75% of the ACL is met. Reducing the 4,000 pounds gw trip limit to 300 pounds gutted gw when 75% of the ACL

is met was originally intended to allow the fishery to remain open all year and allow for commercial hook and line fishermen to target golden tilefish in the fall. Based on data from 2007 to 2011, the fishery would not remain open all year even when the trip limit was reduced 300 pounds gw. However, the current advantage of retaining the 300-pound gw trip limit when 75% of the ACL is met is that it slows the rate at which the ACL is filled and increases the chance the ACL will not be exceeded. The expected biological effect of removing the trip limit reduction when 75% of the ACL is met is expected to be minimal. In the commercial fishery, most golden tilefish (90% during 2004-2010) are taken with longline gear deployed by large vessels that make long trips and depend on large catches (> 3,000 pounds gw) to make a trip economically feasible. Therefore, a 300-pound gw trip limit when 75% of the ACL is met should shut down the commercial longline sector, and might reduce their potential annual catch.

Alternative 3 would close the longline fishery when 75% of the ACL is met. Therefore, this alternative would further slow the rate at which the ACL is met and reduce the chance that there would be regulatory discards. As longline fishermen deploy a large amount of gear, there is a chance they could exceed the 300-pound gw trip limit and would have to discard golden tilefish. However, it is unlikely that many fishermen are using longline gear to target golden tilefish once the trip limit is reduced because it is not profitable. Therefore, the expected biological effects of closing the longline fishery when 75% of the ACL is met are expected to be minimal. The intent of this alternative is to slow down the rate of fishing to allow hook and line fishermen to have access to the fishery in the fall. The South Atlantic Council is considering alternatives in **Action 2** for a hook and line endorsement, which would enable hook and line fishermen access for golden tilefish during the fall months.

Alternative 1 (No Action) would perpetuate the existing level of risk for interactions between Endangered Species Act (ESA)-listed species and the fishery. **Preferred Alternative 2** and **Alternative 3** are unlikely to have adverse effects on ESA-listed *Acropora* species. Previous ESA consultations determined the snapper grouper fishery was not likely to adversely affect these species. These alternatives are unlikely to alter fishing behavior in a way that would cause new adverse effects to *Acropora*. The impacts from **Preferred Alternative 2** and **Alternative 3** on sea turtles and smalltooth sawfish are unclear. Sea turtle abundance in the South Atlantic changes seasonally. Even if **Preferred Alternative 2** or **Alternative 3** perpetuate the existing amount of fishing effort, but cause a temporal or spatial effort redistribution, any potential effort shift is unlikely to change the level of interaction between sea turtles and smalltooth sawfish and the fishery as a whole. If these alternatives reduce the overall amount of fishing effort in the fishery, the risk of interaction between sea turtles and smalltooth sawfish will likely decrease.

4.8.2 Economic Effects

Under **Alternative 1 (No Action)**, the 300-pound gw trip limit that is implemented each year once 75% of the ACL is taken under a 4,000-pound gw trip limit, would be maintained. This alternative, which preserves a portion of the commercial ACL for hook and line fishermen, was

established by the South Atlantic Council to benefit hook and line fishermen who often start fishing later in the year. **Alternative 2 (Preferred)** removes the trip limit, thereby, removing preservation of a portion of the commercial ACL for hook and line fishermen. This makes it more likely that longline fishermen would continue to fish after 75% of the ACL has been met since the 4,000-pound gw trip limit would be maintained. **Alternative 3** ensures that longliners do not fish once the 300-pound gw trip limit goes into place each year.

Action 7 includes alternatives that change the golden tilefish fishing year to potentially enable longline fishermen from northern areas and hook and line fishermen to participate in the fishery more easily. If a change in the fishing year occurred under **Action 7**, there would be less need for the existing 300-pound gw trip limit. Under **Alternative 1 (No Action)** for **Action 7** and **Alternative 2 (Preferred)** under this action, economic benefits would increase for longliners since the 4,000-pound gw trip limit would be extended. Hook and line fishermen would doubly benefit from a change in the start of the fishing year (**Action 7**) and **Alternative 3** under this action. The two actions, **Action 7** (**Alternatives 2-4**) and **Action 8** (**Alternative 3**), could be seen as substitutes for each other in that both have options that result in protection for hook and line fishermen. Likewise, **Action 2** (endorsement program) has options that protect hook and line fishermen.

4.8.3 Social Effects

Alternative 1 (No Action) would result in the continuation of the current step-down trip limit for golden tilefish when 75% of the ACL is taken. As a result, no change in customary fishing performance, as affected by this management measure, would be expected to occur. In the absence of other management change on golden tilefish harvests, all current fishing behaviors, harvests, and associated social and economic benefits could continue. However, continuation of the step-down trip limit may be unnecessarily restricting the golden tilefish harvests by longline vessels, particularly if other proposed management changes are effective in returning harvests to historic patterns. If so, **Alternative 1 (No Action)** would be expected to result in reduced social and economic benefits relative to corrective action.

If social and economic benefits are being reduced under the status quo, this would be expected to be corrected under **Alternative 2 (Preferred)**, particularly if considered in combination with other proposed actions for golden tilefish. **Alternative 2 (Preferred)** would eliminate the step-down and should allow longline vessels to continue to harvest profitable quantities of golden tilefish. Regardless of the decision on the proposed change in the fishing year, elimination of the step-down would be expected to accelerate quota closure of the fishery by not reducing the pace of harvest. The magnitude of impact of accelerated quota closure on vertical line fishermen would depend on how harvests are affected by the proposed endorsement requirement and change in the fishing year. Nevertheless, in tandem with the other proposed golden tilefish management changes, it is expected that the elimination of the 300-pound gw step-down limit would result in increased social and economic benefits relative to **Alternative 1 (No Action)**.

While **Alternative 3** would attempt to help recover the historic golden tilefish harvest patterns of Florida hook and line (vertical line) vessels by closing the longline fishery if the 300-pound gw trip limit is triggered, **Alternative 3** may not have any substantive effect on either the longline or hook and line sectors because it is generally assumed that longlining for golden tilefish is no longer profitable at the lower trip limit. As a result, the harvest of golden tilefish with longline gear may already currently effectively end under the status quo. If this is true, regulatory closure of this gear sector would neither increase benefits for hook and line fishermen nor impose any adverse effects on longline fishermen.

4.8.4 Administrative Effects

Under **Alternative 1 (No Action)**, the 300-pound gw trip limit when 75% of the ACL is reached, will remain. Of the alternatives, **Alternative 1 (No Action)** is the most administratively burdensome. **Alternative 1 (No Action)** requires the monitoring of the ACL, rulemaking when 75% of the ACL is reached, and rulemaking when the fishery is closed. Associated with the rulemaking is the development of fishery bulletins and other outreach materials to fishermen. **Preferred Alternative 2**, which would remove the 300-pound gw trip limit once 75% of the ACL is reached, would be less administratively burdensome. Under **Preferred Alternative 2**, the golden tilefish would be closed when the ACL is reached thus requiring one rulemaking and fishery bulletin. In order to make sure that the ACL is not exceeded, **Preferred Alternative 2** may require increased frequency of monitoring, which may be more administratively burdensome. **Alternative 3** would be expected to have similar impacts on law enforcement as **Preferred Alternative 2**.

4.9 Action 9. Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement

Alternative 1 (No Action). Do not establish trip limits for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery.

Alternative 2. Establish trip limits of 300 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 3. Establish trip limits of 400 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 4. Establish trip limits of 500 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 5. Establish trip limits of 100 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish for this trip limit.

Alternative 6 (Preferred). Establish trip limits of 200 pounds gw for the golden tilefish hook and line fishery for commercial fishermen who do not receive an endorsement in the commercial golden tilefish hook and line fishery. Vessels with longline endorsements are not eligible to fish this trip limit.

4.9.1 Biological Effects

Under **Alternative 1 (No Action)**, non-endorsed hook and line vessels would not be allowed to harvest golden tilefish. For **Alternatives 2-6 (Preferred)**, trip limits ranging from 100 pounds gw to 500 pounds gw would be provided to fishermen who do not qualify for an endorsement under **Action 2**.

Under **Action 2**, **Preferred Alternative 2d**, 39 individuals would qualify for hook and line endorsements but 143 individuals who had caught golden tilefish with hook and line during 1999-2010 would not (**Table 4-13**). Under **Action 3**, **Preferred Alternative 2f**, 14 individuals

would qualify for hook and line endorsements but 41 individuals who had caught golden tilefish with hook and line during 1999-2010 would not. Thus, a total of 184 individuals with active federal snapper grouper permits who caught at least 1 pound of golden tilefish during 1999-2010 would not qualify for a hook and line or longline endorsement.

The preferred alternative under **Action 5** would allocate 25% (70,705 pounds gw) of the current 282,819-pound gw commercial ACL to the hook and line sector. Under **Preferred Alternative 6** in **Action 9**, any individual with a federal snapper grouper permit who did not qualify for a golden tilefish endorsement would be restricted to a 200 pound gw trip limit. As a result, the portion of the golden tilefish ACL allocated to the commercial hook and line sector could be filled very quickly.

The biological effect of **Alternatives 1-6 (Preferred)** would be similar since it is likely that the ACL would be met regardless of which alternative is selected. Furthermore, since the same gear would be used under all alternatives, different trip limits for a small amount of hook and line allocation are likely to have little biological effect.

4.9.2 Economic Effects

Information about the number of permits that qualify for each gear endorsement under **Actions 2** and **3** as well as the number of permits that do not qualify and the total amount of landings (2005-2010) made by the vessels that do not qualify is shown in **Tables 4-13** and **4-14**. The data set used to generate **Tables 4-13** and **4-14** includes any permit with at least 1 pound of golden tilefish landed from 1999-2010. It is assumed that these are the permits that would pursue a golden tilefish trip limit in the future. However, people who have never caught golden tilefish before and have a federal snapper grouper permit would also be allowed to catch the trip limit for golden tilefish. The landings caught by those without endorsements would count towards the hook and line portion of the golden tilefish quota. The commercial ACL specified in Amendment 17B to the Snapper Grouper FMP is 282,819 pounds gw. A new assessment (SEDAR 25 2011) indicates this value can be increased. **Alternative 4 (Preferred)** under **Action 5**, would allocate 25% of the commercial ACL to the hook and line sector (70,705 pounds gw (79,189 pounds ww).

Table 4-13. Number of permits that qualify for a hook and line endorsement, number of permits that do not qualify for a hook and line endorsement, and the number of pounds gutted weight (gw) landed in aggregate and average for permits not qualifying during 2005-2010 that use hook and line gear.

Hook and Line Sub-alternatives for Action 2	Eligibility Requirement	Number of Endorsements (Number of Permits That Qualify)	Number of Permits That Do Not Qualify	2005-10 Aggregate Landings of Those Not Qualifying (pounds gw)	2005-10 Aggregate Landings of Those Not Qualifying (pounds gw)
Sub-alternative 2a	At least 1,000 pounds gw when best 3 of 5 yrs 2001-05 are aggregated	25	157	54,600	9,100
Sub-alternative 2b	At least 1,000 pounds ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008	17	165	59,368	9,895
Sub-alternative 2c	At least 500 pounds ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 pound was landed in 2007 or 2008	19	163	53,987	8,998
Sub-alternative 2d (Preferred)	**At least 500 pounds ww when the best 3 of 6 yrs from 2005-2010 are aggregated**	**39**	**143**	**8,067**	**1,344**
Sub-alternative 2e	At least 1,000 pounds ww when the best 3 of 6 yrs from 2005-2010 are aggregated	30	152	16,803	2,801

Table 4-14. Number of permits that qualify for a longline endorsement, number of permits that do not qualify for a longline endorsement, and the number of pounds gw landed in aggregate and average for permits not qualifying during 2005-2010 that use longline gear.

Longline Sub-alternatives for Action 3	Eligibility Requirement	Number of Endorsements (Number of Permits That Qualify)	Number of Permits That Do Not Qualify	2005-10 Aggregate Landings of Those Not Qualifying (pounds gw)	2005-10 Average Landings of Those Not Qualifying (pounds gw)
Sub-alternative 2a	At least 2,000 pounds gw when landings from 2006-08 are aggregated	17	38	147,787	24,631
Sub-alternative 2b	At least 5,000 pounds gw when landings from 2006-08 are aggregated	12	43	250,323	41,721
Sub-alternative 2c	At least 5,000 gw pounds when landings from 2006-08 are averaged	11	44	294,203	49,034
Sub-alternative 2d	average of 5,000 pounds gw golden tilefish caught between 2007 and 2009	12	43	264,179	44,030
Sub-alternative 2e	average of 10,000 pounds gw golden tilefish caught between 2007 and 2009	8	47	425,842	70,974
Sub-alternative 2f (Preferred)	**average of 10,000 pounds gw golden tilefish caught (with longline gear) for the best 3 years within the period 2006 through 2010**	**14**	**41**	**131,637**	**21,940**

If we assume that the number of people who have caught at least 1 pound ww of golden tilefish since 1999 would make trips targeting golden tilefish in the future, the upper limit on the number of pounds landed under each of the alternatives would total: the number of people who did not qualify for hook and line and longline endorsements, multiplied by the average number of trips these vessels might make, multiplied by the trip limits identified in **Alternatives 2-6 (Preferred)**. It is unknown how many trips the vessels that did not qualify for an endorsement might make given their limited amount of participation since 1999. Therefore, a range of 5 to 15 trips is used to make estimates. Estimates of the number of pounds possibly taken by individuals without endorsements using this approach are shown in **Table 4-15**.

Table 4-15. Estimated maximum number of pounds gw that might be landed by vessels that do not qualify for an endorsement.

Action 9 Alternatives	Number of Non-Endorsement Vessels Using Trip Limits (using preferred alternatives from Actions 2 and 3)	Trip Limit	Number of Trips (Ranging From 5-15 Trips)	Estimated Total Pounds gw Taken with Trip Limits
Alternative 2	184	300	5	276,000
	184	300	10	552,000
	184	300	15	828,000
Alternative 3	184	400	5	368,000
	184	400	10	736,000
	184	400	15	1,104,000
Alternative 4	184	500	5	460,000
	184	500	10	920,000
	184	500	15	1,380,000
Alternative 5	184	100	5	92,000
	184	100	10	184,000
	184	100	15	276,000
Alternative 6 (Preferred)	**184**	**200**	**5**	**184,000**
	184	**200**	**10**	**368,000**
	184	**200**	**15**	**552,000**

As stated above, the hook and line allocation under **Action 5-Alternative 2 (Preferred)** would be 70,705 pounds gw (79,189 pounds ww). The estimated total landings made by people not holding endorsements shown in **Table 4-13** exceed this amount and range from about 184,000 pounds to 552,000 pounds gw under **Preferred Alternative 6**.

It is not possible to reliably predict how much would be landed under the trip limits identified in **Alternatives 2-6 (Preferred)** because it is not known how many people would choose to participate or how many trips would be made. Therefore, a range of options for participation and number of trips is assumed (**Table 4-15**). All estimates made are much higher than the hook and line allocation specified in alternatives under **Action 5**. This would result in decreased ability of endorsement holders, who have the greatest amount of historical participation, to continue fishing for golden tilefish because of a possibly much shorter season than anticipated. With increased participation, these people might be incorporated in a future amendment into a catch share or other program, which would further erode profits for historical participants. Again, analysis of how much of a decrease in profits might occur is not possible due to the small sample size from the economic cost logbook program and the unknown number of future participants in the golden tilefish portion of the snapper grouper fishery under **Alternatives 2-6 (Preferred)**.

4.9.3 Social Effects

This action attempts to address the expected loss in social and economic benefits to commercial hook and line fishermen who would not qualify for a golden tilefish endorsement and, as a result, would not be allowed to continue to harvest golden tilefish. Because any harvest that would be allowed by fishermen in this sector would be counted towards the proposed hook and line gear allocation, this action deals with the trade-offs between the functional allocation, as a result of the proposed trip limits for non-endorsed vessels, of harvests between fishermen in the two different groups. Under **Alternative 1 (No Action)**, non-endorsed hook and line vessels would not be allowed to harvest golden tilefish. As a result, assuming a hook and line endorsement is adopted, endorsed vessels would receive the increased social and economic benefits associated with their continued harvest of golden tilefish under protected conditions (i.e., reduced competition for the resource from vessels that do not qualify for the endorsement). Conversely, hook and line vessels that do not qualify for an endorsement would be expected to experience the reduced social and economic benefits accruing from their exclusion from operation in this component of the snapper grouper fishery.

Under **Alternatives 2-6 (Preferred)**, any fish harvested by non-endorsed hook and line vessels would result in decreased revenues, and associated social benefits, to endorsed hook and line vessels, and increased benefits to the non-endorsed vessels, and these fishermen may value any additional harvests more than fishermen with hook and line endorsements. However, the assumptions underpinning the decision to preserve continued participation by some but not all vessels through the establishment of the endorsement system suggests that the benefit flow to qualifying vessels is preferred, otherwise why establish the endorsement system.

While total harvest of the hook and line quota by non-endorsed vessels could not occur instantly (some endorsed vessels would be able to harvest some golden tilefish), if endorsed vessels are sufficiently important from an economic and/or social perspective to protect through an endorsement system, the most social benefits would be expected to result from lower trip limits for non-endorsed fishermen. The higher the trip limit, the higher the likelihood that endorsed vessels will receive reduced social and economic benefits in favor of non-endorsed vessels. Therefore, **Alternative 4** would reduce the social benefits of the endorsed hook and line fishermen, while **Alternative 3** would produce the most benefits for the endorsed fishermen.

Overall, the establishment of an endorsement system, which would be expected to be largely biologically neutral to the resource (the endorsement system would not change the ACL) suggests a determination of expected increased social benefits of the hook and line endorsement system. Eroding these benefits through allocation of harvests to non-endorsed vessels would appear to be inconsistent with the expectations of the endorsement system and would be expected to result in reduced social and economic benefits overall.

4.9.4 Administrative Effects

There would be no administrative impacts incurred under **Alternative 1 (No Action)**. **Alternative 2-6 (Preferred)** would establish trip limits for fishermen who do not qualify for an endorsement under **Action 2**. The establishment of the trip limits would require some administrative impacts associated with rule-making, enforcement, and outreach and education. However, these administrative impacts would not differ between **Alternatives 2-6 (Preferred).**

4.10 Action 10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement

Alternative 1 (No Action). Do not establish trip limits for fishermen who receive hook and line endorsements in the golden tilefish portion of the snapper grouper fishery.

Alternative 2. Establish trip limits of 300 pounds gw for fishermen who receive hook and line endorsements in the golden tilefish portion of the snapper grouper fishery.

4.10.1 Biological Effects

Alternative 1 (No Action) would not establish a trip limit for fishermen who receive a hook and line endorsement. The preferred alternative under **Action 2** identifies 39 individuals who would qualify for a hook and line endorsement, and the preferred alternative for **Action 3** identifies 14 individuals who would qualify for longline endorsements. The 39 individuals who qualify for hook and line endorsements caught 95% of the golden tilefish caught with hook and line gear during 2005-2010, and the 14 individuals who qualify for longline endorsements caught 92% of the golden tilefish caught with longline gear during 2005-2010.

The ACL currently is 282,819 lbs gutted weight; however, based on the results of a recent stock assessment, this value can be increased. Nevertheless, even with a reduced number of participants in the longline and hook and line sectors, it is still possible the ACL would be met and an in-season closure would occur. If each person who qualified for an endorsement caught their average landings for 2005-2010, the expected total would be 24,427 lbs gw for the hook and line sector, and 260,975 for the longline sector for a combined total of 285,402 lbs gutted weight. Landings from the longline sector dominate catch for individuals who would qualify for endorsements under **Actions 2** and **3**. The longline sector caught 91% of the total golden tilefish taken by the individuals who would qualify for endorsements under **Actions 2** and **3** during 2005-2010 (**Tables 4-16** and **4-17**).

Alternative 3 would place a 300-pound gutted weight trip limit on the catch of golden tilefish taken by the hook and line sector. It is assumed that the current trip limit of 4,000 pounds gutted weight would remain in place for the longline sector; although, **Action 8** could remove the 300-pound gutted weight trip limit when 75% of the ACL is met or prohibit fishing with longline gear when 75% of the ACL is reached. Based on landings from 2005-2010 for those who qualify for a hook and line endorsement under **Action 2**, it is expected this trip could reduce catch in the hook and line sector by 16% (**Table 4-18**).

There is little difference in the biological effects of **Alternatives 1 (No Action)-2** on the golden tilefish stock since golden tilefish would close upon reaching the ACL. If the longline sector was closed when 75% of the ACL is met (**Action 8**), the remaining 25% of the ACL (70,547 lbs

gutted weight) would then be made available to the hook and line sector. The average annual catch of golden tilefish from the longline sector (including those who do not qualify for endorsements) during 2005-2010 based on logbook data was 25,676 pounds gutted weight. Therefore, a trip limit would not be needed to ensure the season remained open all year for the hook and line sector. There has been no documented take of sea turtles with bottom longline in the South Atlantic; therefore, the biological effects of alternatives that shift catch of golden tilefish from hook and line gear to longline gear is unknown.

Table 4-16. Annual landings (lbs gutted weight) for individuals who qualify for hook and line, and longline endorsements in the preferred alternatives in **Actions 2** and **3**. H & L = hook and line; LL = longline.

Year	H&L	LL	Total
1999	14,615	305,945	320,560
2000	26,630	448,529	475,159
2001	6,956	274,206	281,162
2002	13,864	213,603	227,467
2003	6,687	191,987	198,674
2004	16,845	124,789	141,634
2005	29,030	207,806	236,836
2006	29,445	299,748	329,193
2007	34,608	234,484	269,092
2008	17,773	273,634	291,407
2009	11,451	268,522	279,973
2010	24,254	281,658	305,911

Table 4-17. Percentage of total catch of individuals who qualify for hook and line, and longline endorsements in the preferred alternatives in **Actions 2** and **3**. H & L = hook and line; LL = longline.

Year	H&L	LL
1999	4.56%	95.44%
2000	5.60%	94.40%
2001	2.47%	97.53%
2002	6.09%	93.91%
2003	3.37%	96.63%
2004	11.89%	88.11%
2005	12.26%	87.74%
2006	8.94%	91.06%
2007	12.86%	87.14%
2008	6.10%	93.90%
2009	4.09%	95.91%
2010	7.93%	92.07%

Table 4-18. Effect of trip limit on catch of golden tilefish taken with hook and line gear by permits that qualify for hook and line endorsements during 2005-2010.

Trip Limit gw	Trip limit ww	# Trips	% Trips	Pounds over trip (ww)	Pounds over trip (gw)	Percent Reduction
0	0	823	100.00%	155,917	139,211	100.00%
89	100	508	61.73%	90,041	80,393	57.75%
100	112	486	59.05%	84,090	75,081	53.93%
134	150	412	50.06%	67,247	60,042	43.13%
156	175	364	44.23%	57,522	51,359	36.89%
179	200	294	35.72%	49,215	43,942	31.56%
200	224	251	30.50%	42,692	38,118	27.38%
223	250	183	22.24%	37,069	33,098	23.78%
268	300	127	15.43%	29,417	26,265	18.87%
300	337	71	8.63%	25,440	22,714	16.32%
446	500	28	3.40%	17,538	15,659	11.25%
536	600	16	1.94%	15,415	13,764	9.89%
625	700	12	1.46%	14,047	12,542	9.01%
714	800	7	0.85%	13,116	11,711	8.41%
804	900	6	0.73%	12,432	11,100	7.97%
893	1,000	6	0.73%	11,832	10,564	7.59%

4.10.2 Economic Effects

Table 4-18 shows the approximate number of pounds in excess landed for trips during 2005-2010. Using the data from **Table 4-18** and assuming an average price of $2.27 per pound (based on Accumulative Landings System data from 2005-2009), one can estimate the amount of revenue golden tilefish hook and line fishermen with endorsements would have forfeited on those trips. A trip limit of 300 pounds gw would be expected to reduce the catch of hook and line fishermen with endorsements by 25,440 pounds ww (22,714 pounds gw) during 2005-2010 for an average of 3,786 pounds gw (4,240 pounds ww). This equates to an average annual revenue loss of $9,625. However, this only represents the amount they would have lost on those trips. Had trip limits been in place, it is possible the season would have been extended and the fishermen would have recouped the amount they would have forfeited on the earlier trips. In addition, it is possible the trip limit would be low enough to make it unprofitable for some vessels to undertake more trips to totally recoup landings and revenues forgone per trip. Further, even if those additional trips are taken so as to totally recoup revenue losses, it is likely total costs would be higher since it is likely the cost per trip would remain about the same but more trips taken would mean additional costs.

In general, for boats that bring in relatively larger landings per trip, dockside revenue losses are expected to occur. If boats with historically larger landings adhere to the trip limit and do not increase the number of trips made, landings by these vessels would decrease compared to current landings, as will dockside revenues. Boats that bring in smaller landings per trip may or may not be impacted by the trip limits proposed.

4.10.3 Social Effects

In general, trip limits may result in some short-term negative social effects for fishermen receiving an endorsement in that they would not be able to maximize a trip's harvest to the greatest potential. The social impacts will be most evident for larger operations, who may find that the costs are too high for a trip that has a limit on how much golden tilefish may be harvested. However, long-term social benefits would be expected to accrue because the trip-limited harvest is intended to reduce derby conditions and require fishermen to spread out the season over a longer period of time. Additionally, trip limits may contribute to more stability in the fishery and improve business plans for fishermen, dealers, and other associated businesses.

If trip limits are not implemented along with the proposed golden tilefish hook and line endorsement, as under **Alternative 1 (No Action),** there would likely be an increase in negative impacts on fishermen and associated businesses and communities as the derby conditions develop for golden tilefish, particularly with increased target and harvest of this species. The 300-pound gw trip limit proposed in **Alternative 2** would be expected to contribute to a longer fishing season, which would likely results in social benefits. The exception is with social impacts on larger operations, in which **Alternative 2** would be less beneficial than **Alternative 1 (No Action).**

4.10.4 Administrative Effects

There would be no administrative impacts incurred under **Alternative 1 (No Action)**. **Alternative 2** would establish a 300-pound gw trip limit for fishermen who qualify for an endorsement under **Action 2**. The establishment of the trip limits would require some administrative impacts associated with rule-making, enforcement, and outreach and education. Once implemented these administrative impacts are expected to be moderate.

4.11 Action 11. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Golden Tilefish

Alternative 1 (No Action). ACL and OY = yield at 75%F_{MSY}.

Alternative 2. ACL = OY = ABC.

Alternative 3. ACL = OY = 90% of the ABC.

Alternative 4. ACL = OY = 80% of the ABC.

4.11.1 Biological Effects

The assessment of the golden tilefish stock in the South Atlantic (SEDAR 25), completed in 2011, indicates the stock is not overfished nor undergoing overfishing. The SSC has recommended establishing the ABC at a level that would result in a 35% probability of overfishing. Currently there is no ABC or OFL specified for golden tilefish. ABC and OFL are based on the most recent stock assessment (SEDAR 25 2011). The ABC is specified by the South Atlantic Council's SSC using the ABC control rule proposed in the Comprehensive ACL Amendment (under review).

In March 2012, the South Atlantic Council will discuss specification of ABC and an adjustment to the ACL for golden tilefish via a framework action. The South Atlantic Council will hold a public hearing during the March 2012 Council meeting in Savannah, GA to receive comments on a proposed framework action.

It is anticipated that an increase in the ACL from the current levels (commercial: 282,819 pounds gw; recreational: 1,578 fish) will take place in 2012. **Action 12** in this amendment would consider a modification to the current AMs for golden tilefish. Below are current values *when the stock is at equilibrium* for MSY, OFL, ACL, and OY from the latest stock assessment based on specifications in Amendment 17B.

MSY = 638,000 pounds ww (596,643 pounds gw)
ACL and OY = 75%F_{MSY} = 625,000 pounds ww (558,036 pounds gw)
OFL = Yield at F_{MSY} = 638,000 pounds ww (596,643 pounds gw)

The stock assessment results indicate that the biomass of golden tilefish has increased substantially since the last assessment and is now above B_{MSY}. Catches in 2011 are shown in **Table 4-19**.

Table 4-19. Total commercial and recreational landings and overages of golden tilefish in 2011. Values are in pounds whole weight (conversion factor for gutted weight for golden tilefish is 1.12).

	Commercial ACL (ww)	Recreational ACL (No. fish)	Recreational ACL (pounds)	Total Pounds (ww)
Amendment 17B ACL	316,757	1,578	9,799	326,557
Landings in 2011	399,664		62,007	461,671
Overage in pounds	82,907		52,208	135,114
% Overage in 2011	26%		533%	41%

Taking the increase in biomass and overages in 2011 into account, the projected values for ABC and ACL based on the most recent stock assessment are shown in **Table 4-20**.

Table 4-20. Proposed ACL levels for 2012-2020 based on interim projections. Values are in pounds whole weight (conversion factor for gutted weight for golden tilefish is 1.12).

Year	OFL	Total ABC	ACL (Am17B) 75%Fmsy	ACL=OY=ABC	ACL (Am18B) ACL=OY=90%ABC	ACL=OY=80%ABC
2012	1,386,000	789,000	1,062,000	789,000	710,100	631,200
2013	1,242,000	761,000	991,000	761,000	684,900	608,800
2014	1,124,000	737,000	931,000	737,000	663,300	589,600
2015	1,031,000	715,000	880,000	715,000	643,500	572,000
2016	957,000	696,000	839,000	696,000	626,400	556,800
2017	900,000	681,000	805,000	681,000	612,900	544,800
2018	854,000	667,000	777,000	667,000	600,300	533,600
2019	818,000	656,000	753,000	656,000	590,400	524,800
2020	789,000	646,000	734,000	646,000	581,400	516,800

The ABC level is recommended by the SSC. The ABC values above are based on interim projections at the level the SSC requested based on their ABC Control Rule (P* = 35%). A more detailed P* analysis will be provided to the South Atlantic Council in early February and will be included in the South Atlantic Council's briefing book for the March 2012 meeting. It is likely, therefore, that the ABC (and therefore ACL) values above will change. The OFL is recommended by the SSC and for other snapper grouper species the recommendation has been OFL = yield at F_{MSY}. Values for OFL for 2012-2020 based on the most recent stock assessment are shown above in **Table 4-20**.

The ACL level is chosen by the South Atlantic Council. The South Atlantic Council will discuss **Alternatives 1 (No Action)-4** at their March 2012 meeting and whether or not to move more quickly to revise the ACL via a framework amendment.

Alternative 1 (No Action) would retain the definition of ACL = 75% of F_{MSY} for golden tilefish. Examination of values in **Table 4-20** reveals the yield at 75%F_{MSY} is greater than the ABC recommended by the South Atlantic Council's SSC. The National Standard 1 (NS1)

Guidelines indicate that the ACL cannot exceed the catch level recommendations provided by a fishery management council's SSC.

Alternative 2 would set the ACL/OY equal to the ABC. **Alternatives 3** and **4** would have a greater positive biological effect than **Alternative 2 (Preferred)** because they would create a buffer between the ACL/OY and ABC, with **Alternative 4** setting the most conservative ACL at 80% of the ABC. Creating a buffer between the ACL/OY and ABC would provide greater assurance that overfishing is prevented, and the long-term average biomass is near or above B_{MSY}. However, the South Atlantic Council's SSC ABC control rule takes into account scientific uncertainty with the use of P*. As shown in **Table 4-20**, there is a substantial buffer between the OFL and the ABC. The NS1 guidelines indicate ACL may typically be set very close to the ABC. Setting a buffer between the ACL and ABC would be appropriate in situations where there is uncertainty in whether or not management measures are constraining fishing mortality to target levels.

The South Atlantic Council will also consider alternatives that set OY equal to the ACL. The NS 1 Guidelines state that if OY is set close to MSY, the conservation and management measures in the fishery must have very good control of the amount of catch in order to achieve the OY without overfishing. When the stock is at equilibrium, the status quo OY would be 625,000 pounds ww and the OFL would be 638,000 pounds ww. As OY is close to OFL, there is a chance overfishing could occur in the achievement of OY. By setting the OY equal to the ACL, and below a MSY level, there would be greater assurance that OY would be reached without overfishing, and the long-term average biomass would be near or above B_{MSY}.

4.11.2 Economic Effects

The magnitude of effects of the ACL/OY alternatives on business activity would directly correlate with the level of ACL. **Alternative 2** would provide the largest ACL, and would also result in the largest positive impacts on business activity for all states combined. The estimated economic effects of the various ACL/OY alternatives on the recreational sector would directly correlate with the level of ACL as a percent of ABC. That is, the closer the ACL would be to ABC, the higher the consequent effects on the recreational sector.

4.11.3 Social Effects

Although an administrative action, defining the OY for a species establishes a management target for allowable harvests. If defined as a percentage (less than one) of the MSY, the target would incorporate a protective buffer to help ensure the biological health of the resource is not threatened, thereby helping support stable environmental, economic, and social benefit streams. The larger the buffer, the greater the certainty of biological protection. However, an excessively large buffer (i.e., a buffer that exceeds the biological variability of the resource, environmental challenges, and potential for fishery-induced problems) would result in overly restrictive harvest allowances, leading to foregone social benefits. While none of the relevant biological parameters are ever likely known with certainty, the best OY specification would be expected to

balance the risk and costs of being insufficiently conservative against the costs of potentially unnecessarily "leaving fish in the water", all decisions on which incorporate best available knowledge of the biology of the resource, environmental challenges, and the harvest capabilities of the fishing sectors. **Alternative 2** sets the OY equal to the ACL, which establishes a buffer between the ACL/OY and the MSY/OFL level and could result in underutilized resource. In regard to the ACL, in general the higher the ACL, the greater the short-term social and economic benefits that would be expected to accrue, assuming long-term recovery and rebuilding goals are met. Adhering to stock recovery and to prevent overfishing is assumed to result in net long-term positive social benefits. **Alternative 2** sets the ACL equal to the ABC, the highest possible ACL, and would result in fewer short-term social impacts than under **Alternatives 3** and **4**, which each set the ACL at a percentage of the ABC.

4.11.4 Administrative Effects

Establishing sector ACLs and OY for golden tilefish would not have direct impacts on the administrative environment. ACLs are already in place for golden tilefish and commercial and recreational closures have taken place in the past. In general, the lower the ACL is set the more likely it is to be met or exceeded, and the more likely an AM would be triggered, and therefore would have the greatest administrative impact. **Alternative 2** would identify the highest sector ACLs for golden tilefish and would provide no buffer between the ACL and the ABC and is thus the least precautionary of the alternatives considered. Therefore, greater harvest would be allowed before an AM is triggered. **Alternatives 3** and **4** would implement lower sector ACLs than **Alternative 2** and are therefore more likely to be met or exceeded than ACLs specified under **Alternative 2**. In the long-term, taking action to prevent an ACL overage or correcting for an ACL overage, could be administratively beneficial if those actions prevent the stock from reaching an overfished condition that would trigger development of a rebuilding plan.

4.12 Action 12. Revise Accountability Measures (AMs) for Golden Tilefish

NOTE: The alternatives below are IPT recommendations and include those that were approved for inclusion at the December 2011 meeting. Changes from what the Council approved at that meeting are highlighted in yellow

Alternative 1 (No Action). Retain current commercial and recreational AMs for golden tilefish:

- Commercial: prohibit harvest, possession, and retention when the quota is projected to be met. All purchase and sale is prohibited when the quota is projected to be met.

- Recreational: If the ACL is exceeded, the Regional Administrator shall publish a notice to reduce the length of the following fishing season by the amount necessary to ensure landings do not exceed the sector ACL for the following fishing season. Compare the recreational ACL with projected recreational landings over a range of years. For 2010, use only 2010 landings. For 2011, use the average landings of 2010 and 2011. For 2012 and beyond, use the most recent three-year running average.

Alternative 2. If the commercial ACL is met or is projected to be met, all subsequent purchase and sale of golden tilefish is prohibited and harvest and/or possession is limited to the bag limit.

Alternative 3. If the commercial ACL is exceeded, and golden tilefish are overfished, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following season by the amount of the overage.
NOTE: Paybacks are not required when new projections are adopted that incorporate ACL overruns and the ACLs are adjusted in accordance with those projections.

Alternative 4. Specify the AM trigger.
Sub-alternative 4a. Do not specify an AM trigger.
Sub-alternative 4b (Preferred). If the annual landings exceed the ACL in a given year.

Alternative 5. Specify the recreational in-season AM.
Sub-alternative 5a. Do not specify an in-season AM.
Sub-alternative 5b (Preferred). The Regional Administrator shall publish a notice to close the recreational sector when the ACL is projected to be met.

Alternative 6. Specify the recreational post-season AM.
Sub-alternative 6a (Preferred). Monitor following year and shorten season as necessary. If the ACL is exceeded, the following year's recreational landings would be monitored in-season for persistence in increased landings. The Regional Administrator will publish a notice to reduce the length of the recreational fishing season as necessary.

Sub-alternative 6b. Payback. If the recreational ACL is exceeded, and golden tilefish are overfished, the Regional Administrator shall publish a notice to reduce the recreational ACL in the following season by the amount of the overage.

4.12.1 Biological Effects

Snapper Grouper Amendment 17B (Amendment 17B) (SAFMC 2010b) implemented commercial and recreational AMs for golden tilefish. Subsequent to the implementation of Amendment 17B, the South Atlantic Council determined the methodology employed by the system of AMs under Amendment 17B may not be the most appropriate way to constrain harvest at or below the sector ACLs and it could unnecessarily penalize the participants in the commercial and recreational sectors of the golden tilefish component of the snapper grouper fishery. Therefore, at their December 2011 meeting, the South Atlantic Council requested that AMs for golden tilefish be re-examined in this amendment to incorporate more flexibility as is appropriate for this component of the snapper grouper fishery.

The recreational golden tilefish AMs outlined in Amendment 17B employed the use of a three-year running average. Using a three-year running average of recreational landings to determine if the recreational ACL has been exceeded in any given year is not likely to be the most appropriate means of determining such overages. As Amendment 17B states, the three-year running average was intended to account for variability in the recreational data collection and associated data uncertainty. However, exceptionally high recreational landings in a single year could significantly influence the running average for several years into the future in addition to reducing the ACL in the season following an overage. Therefore, using the three-year running average has the potential to penalize the recreational sector once when the ACL is met or is projected to be met and in subsequent years when the average value is calculated. This situation could result in the possible triggering of unnecessary AMs creating unintended socioeconomic consequences and lowered ACLs that are not biologically needed. Because of the issues presented by the use of a three-year average, the South Atlantic Council proposed new AM alternatives that do not include this method.. Since this action will only change the methods used to determine if AMs are required, and does not establish immediate harvest objectives, it will not directly affect the ecological environment or protected species.

Alternative 1 (No Action) would not change the current system of AMs to employ more appropriate methods for determining ACL overages and modify the corrective actions taken if the ACL is projected to be met or is exceeded. **Alternative 2** retains the ability of the Regional Administrator (RA) to shut down harvest when the commercial ACL is projected to be met. However, it differs from the status quo in that it specifies that commercial fishermen would still be allowed to possess the bag limit of golden tilefish. This would have the effect of reducing discards and would be biologically beneficial. Under **Alternative 3**, *if the stock is overfished* and the commercial ACL is exceeded, there would be a reduction in the ACL the following year by the amount of the overage. At their December 2011 meeting, the South Atlantic Council clarified when the use of payback provisions in the commercial and recreational sectors would be utilized. It is the South Atlantic Council's intent not to require post-season ACL paybacks in

years when new projections, such as those created for stock assessments, are adopted that incorporate ACL overages and the ACLs are adjusted based on those projections. Therefore, because the projections done for the most recent stock assessment for golden tilefish (SEDAR 25) accounted for the ACL overage from the 2011/2012 fishing year, no payback is necessary in either the recreational or commercial sectors for the 2012/2013 fishing year.

Alternative 4 specifies the trigger for recreational AMs. Under **Preferred Sub-alternative 4b**, AMs would be triggered when the current year's landings exceeded the recreational ACL. To prevent the recreational ACL from being exceeded, **Preferred Sub-alternative 5b** would allow the RA to close recreational fishing for golden tilefish when the recreational ACL was projected to be met. In-season monitoring of recreational landings is difficult, however. Currently, there is a 45-day time lag in when recreational data become available at the end of a two-month wave. There would likely be some uncertainty associated with imposing in-season AMs for the recreational sector making post-season AMs more appropriate. **Alternative 6** addresses post-season AMs under two scenarios: when the stock is not overfished nor undergoing overfishing (**Preferred Sub-alternative 6a**) and when the stock has been declared overfished (**Sub-alternative 6b**). **Preferred Sub-alternative 6a** would ensure that the amount of the previous year's ACL overage would be accounted for in the subsequent year's protection via a shortened season, and thus would be biologically beneficial.

4.12.2 Economic Effects

Accountability measures (AMs) would have direct economic effects on fishing participants, because they would affect the allowed harvest or fishing opportunities for golden tilefish. These economic effects would generally be immediate with in-season AMs and would be delayed if only post-season AMs were implemented. The no action alternative (**Alternative 1**) may be generally characterized as a mix of in-season and post-season AMs. Considering the relatively high recreational landings of golden tilefish in the most recent years, the averaging method would tend to result in relatively high landings that could trigger an AM application even if the ACL were not exceeded in the current year. In essence, the near-term expectations under **Alternative 1 (No Action)** would be an increasing level of economic losses. Over time, if the stock were rebuilt and the ACL were not adjusted upward, the expectation under **Alternative 1 (No Action)** would also be an increasing level of economic losses. However, if the ACL were adjusted upward in the future, the averaging feature would provide some level of stability in the application of AMs.

Both **Alternative 2 (Preferred)** and **Alternative 3** would result in short-term profit reductions to the commercial sector. Over the long-term, however, these alternatives would provide better economic scenario for the commercial sector by addressing issues related to overfishing of the stock. With a relatively stable stock over time, future harvest would increase or at least would be stable. This stability could benefit the commercial sector financially by paving the way for more confident business planning with more predictable landings that could result in improvements in marketing and reliability of landings to dealers.

Under **Alternative 4**, **Sub-alternative 4b (Preferred)** would specify the AM trigger and would be, in some sense, economically preferable since it would allow fishermen the opportunity to plan ahead of impending changes to the allowed level of harvest. The economic impact of implementing an in-season AM (**Preferred Sub-alternative 5b**) would be negative in the short-term but beneficial in the long-term relative to the status quo. Currently only a post-season AM is in place for the recreational sector. The possibility of a shortened season would be greater under **Preferred Sub-alternative 5b**, but positive economic impacts would accrue over the long-term since an in-season AM would diminish the likelihood of the ACL being exceeded and, therefore, the possibility of further restrictions.

Preferred Sub-alternative 6a would introduce the possibility of a reduced fishing season and consequently result in negative economic impacts. However, relative to **Sub-alternative 6b**, the economic effects would be less. In general, any sub-alternatives that provides for more fishing opportunities may be considered better than the other for economic reasons.

4.12.3 Social Effects

The setting of AMs can have significant direct and indirect effects on the social environment as they usually impose some restriction on harvest, either during the current season or the next. The long-term effects should be beneficial as they provide protection from further negative impacts on the stock. While the negative effects are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects.

4.12.4 Administrative Effects

Alternative 1 (No Action) is likely to be the most administratively burdensome alternative because it would require ongoing recalculations of the three-year average recreational landings. However, the time associated with averaging the most recent recreational landings over three years is not considered an overly burdensome administrative task. **Alternative 2** would result in similar administrative burden when compared to **Alternative 1 (No Action)** since the main difference from the status quo commercial AM involves limiting commercial fishermen to the golden tilefish bag limit once the commercial ACL is met or is projected to be met. **Alternative 3** incorporates provisions for post-season correction of an ACL overage if the golden tilefish stock becomes overfished. However, the most recent stock assessment indicates golden tilefish are not overfished nor undergoing overfishing. Therefore, it is unlikely that paybacks of commercial overages would be necessary in the near future. Administrative impacts would be greatest in fishing years where both an in-season closure and a post-season payback are required.

In-season AMs **(Alternative 5)** for the recreational sector are the most administratively difficult to implement in a timely manner because of the time lags between when the landings are reported and when the data are processed, reviewed, and ready for use by fishery managers. In-season recreational AMs for golden tilefish would rely heavily on projections of when the ACL

would be met during the fishing season, which would be associated with a high degree of uncertainty. The level of uncertainty attached to those in-season projections could result in the fishery being closed before it is necessary or being left open too long into the fishing season. For this reason it is advantageous to not only rely on in-season AMs but also implement post-season AMs that would be triggered if the ACL is exceeded. The latter are addressed under **Alternative 6**. **Preferred Sub-alternative 6a** would require monitoring landings in the year following a sector overage, in order to detect whether or not the increased landings are persistent or an anomaly. Because recreational landings would need to be tracked regardless of what post-season AM alternatives are chosen there is not likely to be a significant difference in administrative impacts between the sub-alternatives under consideration.

Chapter 5. Council's Choice for the Preferred Alternative

5.1 Limit Participation in the Golden Tilefish portion of the snapper grouper fishery

5.2 Establish Initial Eligibility Requirements for a Golden Tilefish Hook and Line Endorsement

5.3 Establish Initial Eligibility Requirements for a Golden Tilefish Longline Endorsement

5.4 Establish an Appeals Process

5.5 Allocate Commercial Golden Tilefish Quota Among Gear Groups

5.6 Allow for Transferability of Golden Tilefish Endorsements

5.7 Adjust Golden Tilefish Fishing Year

5.8 Establish Golden Tilefish Fishing Limits

5.9 Establish Trip Limits for Fishermen Who Do Not Receive a Golden Tilefish Hook and line Endorsement

5.10 Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook and line Endorsement

Add Actions 11 and 12 after March meeting discussion

Chapter 6. Cumulative Effects

6.1 Biological

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

The Council on Environmental Quality (CEQ) cumulative effects guidance states that this step is done through three activities. The three activities and the location in the document are as follows:

I. The direct and indirect effects of the proposed actions **(Section 4.0)**;
II. Which resources, ecosystems, and human communities are affected **(Section 3.0)**; and
III. Which effects are important from a cumulative effects perspective **(information revealed in this Cumulative Effects Analysis (CEA)**?

2. Establish the geographic scope of the analysis.

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of North Carolina, South Carolina, Georgia, and east Florida to Key West, which is also the South Atlantic Council's area of jurisdiction. The extent of boundaries also would depend upon the degree of fish immigration/emigration and larval transport; whichever has the greatest geographical range. The ranges of affected species are described in **Section 3.2.1. Section 3.1.3** describes the essential fish habitat designation and requirements for species affected by this amendment.

3. Establish the timeframe for the analysis.

Establishing a timeframe for the CEA is important when the past, present, and reasonably foreseeable future actions are discussed. It would be advantageous to go back to a time when there was a natural, or some modified (but ecologically sustainable) condition. However, data collection for many fisheries began when species were already fully exploited. Therefore, the timeframe for analyses should be initiated when data collection began for the various fisheries. In determining how far into the future to analyze cumulative effects, the length of the effects will depend on the species and the alternatives chosen.

4. Identify the other actions affecting the resources, ecosystems, and human communities of concern (the cumulative effects to the human communities are discussed in Section 4).

Listed are other past, present, and reasonably foreseeable actions occurring in the South Atlantic region. These actions, when added to the proposed management measures, may result in cumulative effects on the biophysical environment.

I. Fishery-related actions affecting golden tilefish.

A. Past

The reader is referred to **Table 6-1** and **Appendix F** (History of Management) of this document for past regulatory activity for snapper grouper species, including golden tilefish. These include bag and size limits, spawning season closures, commercial quotas, gear prohibitions and limitations, area closures, and a commercial limited access system.

Amendment 16 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region was partially approved by the Secretary of Commerce. Amendment 16 (SAFMC 2009a) (Amendment 16) includes provisions to extend the shallow water grouper spawning season closure, create a five month seasonal closure for vermilion snapper, require the use of dehooking gear if needed, reduce the aggregate bag limit from five to three grouper, and reduce the bag limit for black grouper and gag to one gag or black grouper combined within the aggregate bag limit. The expected effects of these measures include significant reductions in landings and overall mortality of several shallow water snapper grouper species including, gag, black grouper, red grouper, and vermilion snapper. Management measures in Amendment 16 do not apply to golden tilefish therefore the management measures proposed by Amendment 18B will not add to the management burden for these species. However, the snapper grouper fishery as a whole has been subject to increased regulation and the measures proposed in Amendment 18B will add to the overall regulatory burden of the fishery.

Amendment 15B (SAFMC 2008b) to the Snapper Grouper FMP became effective on December 16, 2009. Management measures in Amendment 15B include prohibition of the sale of bag limit caught snapper grouper species for fishermen not holding a Federal commercial permit for South Atlantic snapper grouper, an action to adopt, when implemented, the ACCSP release, discard and protected species module to assess and monitor bycatch, allocations for snowy grouper, and management reference points for golden tilefish. Biological benefits from Amendment 15B are not expected to result in a significant cumulative biological effect when added to anticipated biological impacts under this amendment.

Amendment 17B, which was implemented on January 31, 2011 established ACLs, annual catch targets, and AMs for 8 species experiencing overfishing; modified management measures to limit total mortality to the ACL; and updated the framework procedure for specification of total allowable catch. One of the management measures implemented prohibited the harvest and possession of deepwater snapper grouper species (snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper) at depths greater than 240 feet. The intent of this measure was to reduce bycatch of speckled hind and warsaw grouper.

Regulatory Amendment 9 to the Snapper Grouper FMP considers trip limits for black sea bass, vermilion snapper, gag, and greater amberjack. Regulatory Amendment 9 to the Snapper Grouper FMP also includes alternatives to reduce the recreational bag limit, change the fishing year, and establish a spawning season closure for black sea bass. The document went out for public hearings in January and February 2011. The Council approved Regulatory Amendment 9 in March 2011 and the Final Rule was published on June 15, 2011. The amendment, as approved by the Secretary of Commerce, reduced the

bag limit for black sea bass from 15 fish per person to 5 fish per person (effective June 22, 2011), established trip limits on vermilion snapper and gag (effective July 15, 2011), and increased the trip limit for greater amberjack (effective July 15, 2011).

B. Present

In addition to snapper grouper fishery management issues being addressed in this amendment, several other snapper grouper amendments have been developed concurrently and are in the process of approval and implementation.

Amendment 18A contains measures to limit participation and effort in the black sea bass fishery, reduce bycatch in the black sea bass pot fishery, changes to the rebuilding strategy and other necessary changes to the management of black sea bass as a result of the ongoing stock assessment. In addition, Amendment 18A includes alternatives to improve data collection.

Regulatory Amendment 11 was approved by the Council for submission for Secretarial Review at their August 9, 2011, meeting. Regulatory Amendment 11 would remove the current deepwater closure beyond 240 ft for six deepwater snapper grouper species.

C. Reasonably Foreseeable Future

The Comprehensive ACL Amendment includes ACLs and AMs for federally managed species not undergoing overfishing in other FMPs including Snapper Grouper. Actions contained within the Comprehensive ACL Amendment include: (1) Removal of species from the snapper grouper fishery management unit; (2) designating ecosystem component species; (3) allocations; (4) management measures to limit recreational and commercial sectors to their ACLs; (5) AMs; and (5) any necessary modifications to the range of regulations.

Amendments 20A and 20B to the Snapper Grouper FMP are currently under development. The amendments will include a formal review of the current wreckfish individual transferable quota (ITQ) program, and will update/modify that program according to recommendations gleaned from the review. The amendments will also update the wreckfish ITQ program to comply with Reauthorized Magnuson-Stevens requirements.

Amendment 24 to the Snapper Grouper FMP considers a rebuilding plan for red grouper, which is overfished and undergoing overfishing. Scoping was conducted for Amendment 24 to the Snapper Grouper FMP during January and February 2011. Approval and submission are anticipated in December 2011 so that regulations can be effective in June 2012.

II. Non-Council and other non-fishery related actions, including natural events affecting golden tilefish.

In terms of natural disturbances, it is difficult to determine the effect of non-Council and non-fishery related actions on stocks of snapper grouper species. Annual variability in natural conditions such as water temperature, currents, food availability, predator abundance, etc. can affect the abundance of young fish, which survive the egg and larval stages each year to become juveniles (i.e., recruitment). This natural variability in year class strength is difficult to predict, as it is a function of many interactive and synergistic factors that cannot all be measured (Rothschild 1986). Furthermore, natural factors such as storms, red tide, cold-water upwelling, etc. can affect the survival of juvenile and adult fishes; however, it is very difficult to quantify the magnitude of mortality these factors may have on a stock. Alteration of preferred habitats for snapper grouper species could affect survival of fish at any stage in their life cycles. However, estimates of the abundance of fish, which utilize any number of preferred habitats, as well as, determining the impact habitat alteration may have on snapper grouper species, is problematic.

The snapper grouper ecosystem includes many species, which occupy the same habitat at the same time. For example, black sea bass co-occur with vermilion snapper, tomtate, scup, red porgy, white grunt, red snapper, red grouper, scamp, gag, and others. Therefore, many snapper grouper species are likely to be caught and suffer some mortality when regulated since they will be incidentally caught when fishermen target other co-occurring species. Other natural events such as spawning seasons, and aggregations of fish in spawning condition can make some species especially vulnerable to targeted fishing pressure. Such natural behaviors are discussed in further detail in **Section 3.2** of this document, and are hereby incorporated by reference.

How global climate changes will affect the red grouper component of the snapper grouper fishery is unclear. Climate change can impact marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise, increases in wave height and frequency, loss of sea ice, and increased risk of diseases in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic CO_2 emissions may impact a wide range of organisms and ecosystems, particularly organism that absorb calcium from surface waters, such as corals and crustaceans (IPCC 2007, and references therein).

The BP/Deepwater Horizon oil spill event, which occurred in the Gulf of Mexico on April 20, 2010, is not expected to impact fisheries operating the South Atlantic. Oil from the spill site has not been detected in the South Atlantic region, and is not likely to pose a threat to the South Atlantic golden tilefish.

5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.

In terms of the biophysical environment, the resources/ecosystems identified in earlier steps of the CEA are the fish populations directly or indirectly affected by the regulations. This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components.

The species most likely to be impacted by actions in Amendment 18B is golden tilefish, *Lopholatilus chamaeleonticeps*. Trends in the condition of golden tilefish are determined through the Southeast Data, Assessment and Review (SEDAR) process.

In 2004 tilefish was assessed as part of SEDAR 4, using landings, age, length, and abundance index data through 2002. The model estimates suggested the tilefish stock was undergoing overfishing and that it was very close to being overfished.

The latest stock assessment for golden tilefish (SEDAR 25 2011) indicated that the South Atlantic population is not overfished nor undergoing overfishing. The current level of spawning stock biomass (SSB_{2010}) is estimated to be well above the Minimum Stock Size Threshold (MSST) -- $SSB_{2010}/MSST$ = 2.43. The current level of fishing is slightly higher than one-third of F_{MSY} ($F_{2008\text{-}2010}/F_{MSY}$ = 0.36). More information on the SEDAR Assessments for golden tilefish can be found in **Section 3.2.1.2**.

6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.

This step is important in outlining the current and probable stress factors on snapper grouper species identified in the previous steps. The goal is to determine whether these species are approaching conditions where additional stresses could have an important cumulative effect beyond any current plan, regulatory, or sustainability threshold (CEQ 1997). Sustainability thresholds can be identified for some resources, which are levels of impact beyond which the resources cannot be sustained in a stable state. Other thresholds are established through numerical standards, qualitative standards, or management goals. The CEA should address whether thresholds could be exceeded because of the contribution of the proposed action to other cumulative activities affecting resources.

Fish populations

Quantitative definitions of overfishing and overfished for golden tilefish are identified in Amendments 11 and 12 to the Snapper Grouper FMP (SAFMC 1998). Numeric values of thresholds overfishing and overfished for golden tilefish were updated/modified in Amendment 15B (SAFMC 2008b). These values include maximum sustainable yield (MSY), the fishing mortality rate that produces MSY (F_{MSY}), the biomass or biomass proxy that supports MSY (B_{MSY}), the minimum stock size threshold below which a stock is considered to be overfished (MSST), the maximum fishing mortality threshold above which a stock is considered to be undergoing overfishing (MFMT), and optimum yield (OY). Amendment 15b to the Snapper Grouper FMP also provided new definitions of MSST for golden tilefish. Amendment 15b became effective in December 2009.

Climate change

Global climate changes could have significant effects on South Atlantic fisheries. However, the extent of these effects is not known at this time. Possible impacts include temperature changes in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; changes in precipitation patterns and a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influencing the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs (Kennedy et al. 2002).

It is unclear how climate change would affect snapper grouper species in the South Atlantic. Climate change can affect factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. In addition, the distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Climate change may significantly impact snapper grouper

species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts will occur.

7. Define a baseline condition for the resources, ecosystems, and human communities.

The purpose of defining a baseline condition for the resource and ecosystems in the area of the proposed action is to establish a point of reference for evaluating the extent and significance of expected cumulative effects. The SEDAR assessments show trends in biomass, fishing mortality, fish weight, and fish length going back to the earliest periods of data collection. For some species such as snowy grouper, assessments reflect initial periods when the stock was above B_{MSY} and fishing mortality was fairly low. However, some species such as black sea bass were heavily exploited or possibly overfished when data were first collected. As a result, the assessment must make an assumption of the biomass at the start of the assessment period thus modeling the baseline reference points for the species.

For a detailed discussion of the baseline conditions of each of the species addressed in this amendment the reader is referred to those stock assessment and stock information sources referenced in **Item Number 6** of this CEA.

8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities (Table 6-1).

Table 6-1. The cause and effect relationship of fishing and regulatory actions within the time period of the Cumulative Effects Analysis (CEA).

Time period/dates	Cause	Observed and/or Expected Effects
August 1983	4" trawl mesh size to achieve a 12" TL commercial vermilion snapper minimum size limit (SAFMC 1983).	Protected youngest spawning age classes.
Pre-January 12, 1989	Habitat destruction, growth overfishing of vermilion snapper.	Damage to snapper grouper habitat, decreased yield per recruit of vermilion snapper.
January 1989	Trawl prohibition to harvest fish (SAFMC 1988a & b).	Increase yield per recruit of vermilion snapper; eliminate trawl damage to live bottom habitat.
Pre-January 1, 1992	Overfishing of many reef species including vermilion snapper, and gag.	Spawning stock ratio of these species is estimated to be less than 30% indicating that they are overfished.
January 1992	Prohibited gear: fish traps south of Cape Canaveral, FL; entanglement nets; longline gear inside of 50 fathoms; powerheads and bangsticks in designated SMZs off SC. Size/Bag limits: 10" TL	Protected smaller spawning age classes of vermilion snapper.

Time period/dates	Cause	Observed and/or Expected Effects
	vermilion snapper (recreational only); 12" TL vermilion snapper (commercial only); 10 vermilion snapper/person/day; aggregate grouper bag limit of 5/person/day; and 20" TL gag, red, black, scamp, yellowfin, and yellowmouth grouper size limit (SAFMC 1991a).	
Pre-June 27, 1994	Damage to *Oculina* habitat.	Noticeable decrease in numbers and species diversity in areas of *Oculina* off FL
July 1994	Prohibition of fishing for and retention of snapper grouper species (HAPC renamed OECA; SAFMC 1993)	Initiated the recovery of snapper grouper species in OECA.
1992-1999	Declining trends in biomass and overfishing continue for a number of snapper grouper species including vermilion snapper and gag.	Spawning potential ratio for vermilion snapper and gag is less than 30% indicating that they are overfished.
February 24, 1999	Gag and black grouper: 24" total length (recreational and commercial); 2 gag or black grouper bag limit within 5 grouper aggregate; March-April commercial closure. Vermilion snapper: 11" total length (recreational). Aggregate bag limit of no more than 20 fish/person/day for all snapper grouper species without a bag limit (SAFMC 1998a).	F for gag vermilion snapper remains declines but is still above F_{MSY}.
October 23, 2006	Snapper grouper FMP Amendment 13C (SAFMC 2006)	Commercial vermilion snapper quota set at 1.1 million pounds gutted weight; recreational vermilion snapper size limit increased to 12" TL to prevent vermilion snapper overfishing.
Effective February 12, 2009	Snapper grouper FMP Amendment 14 (SAFMC 2007)	Use marine protected areas (MPAs) as a management tool to promote the optimum size, age, and genetic structure of slow growing, long-lived deepwater

Time period/dates	Cause	Observed and/or Expected Effects
		snapper grouper species (e.g., speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, golden tilefish, blueline tilefish, and sand tilefish). Gag and vermilion snapper occur in some of these areas.
Effective March 20, 2008	Snapper grouper FMP Amendment 15A (SAFMC 2008a)	Establish rebuilding plans and SFA parameters for snowy grouper, black sea bass, and red porgy.
Effective Dates Dec 16, 2009, to Feb 16, 2010.	Snapper grouper FMP Amendment 15B (SAFMC 2008b)	End double counting in the commercial and recreational reporting systems by prohibiting the sale of bag-limit caught snapper grouper, and minimize impacts on sea turtles and smalltooth sawfish.
Effective Date July 29, 2009	Snapper grouper FMP Amendment 16 (SAFMC 2009a)	Protect spawning aggregations and snapper grouper in spawning condition by increasing the length of the spawning season closure, decrease discard mortality by requiring the use of dehooking tools, reduce overall harvest of gag and vermilion snapper to end overfishing.
Effective Date January 4, 2010	Red Snapper Interim Rule	Prohibit commercial and recreational harvest of red snapper from January 4, 2010, to June 2, 2010 with a possible 186-day extension. Reduce overfishing of red snapper while long-term measures to end overfishing are addressed in Amendment 17A.
Effective Date December 4, 2010	Snapper Grouper FMP Amendment 17A (SAFMC 2010a).	SFA parameters for red snapper; ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; accountability measures. Establish rebuilding plan for red snapper.

Time period/dates	Cause	Observed and/or Expected Effects
Effective Date January 31, 2011	Snapper Grouper Amendment 17B (SAFMC 2010b)	ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; AMs, for species undergoing overfishing.
Target 2012	Snapper Grouper FMP Amendment 18A and 18B (under dev)	Prevent overexploitation in the black sea bass and golden tilefish fisheries, improve data collection timeliness and data quality.
Target 2011	Comprehensive ACL Amendment (under dev)	ACLs ACTs, and AMs for species not experiencing overfishing; accountability measures; an action to remove species from the fishery management unit as appropriate; and management measures to limit recreational and commercial sectors to their ACTs.
Target 2011	Regulatory Amendment 11 (under dev)	Re-addresses the deepwater area closure implemented in Amendment 17B
Effective Date July 15, 2011	Regulatory Amendment 9 (SAFMC 2011b)	Harvest management measures for black sea bass; commercial trip limits for gag, vermilion and greater amberjack
Target 2012	Amendment 20A (Wreckfish) (under dev)	Redistribute inactive wreckfish shares.
Target 2013	Snapper Grouper Amendment 22 (under dev)	Develop a long-term management program for red snapper in the South Atlantic.

9. Determine the magnitude and significance of cumulative effects.

Proposed management actions, as summarized in **Section 2** of this document, would limit participation and change the fishing year for the golden tilefish portion of the snapper grouper fishery. These management actions in Amendment 18B to the Snapper Grouper FMP are intended to address issues that have remained after the implementation of previous amendments. Species in the snapper grouper fishery management unit (FMU) are assessed on a routine basis and stock status may change as new information becomes available. In addition, changes in management regulations, fishing techniques, social/economic

structure, etc. can result in shifts in the percentage of harvest between user groups over time. As such, the South Atlantic Council has determined that certain aspects of the current management system remain inappropriate and should be restructured. Detailed discussions of the magnitude and significance of the preferred alternatives appear in **Section 4** of this consolidated document. Below is a short summary of the biological significance and magnitude of each of the preferred alternatives chosen, and a brief discussion of their combined effect on the snapper grouper FMU and the ecosystem.

When viewed in totality, the actions in this amendment would benefit golden tilefish as participation is reduced through the establishment of an endorsement programs.

10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

The cumulative effects on the biophysical environment are expected to be negligible. Avoidance, minimization, and mitigation are not applicable.

11. Monitor the cumulative effects of the selected alternative and adopt management.

The effects of the proposed action are, and will continue to be, monitored through collection of data by NOAA Fisheries Service, states, stock assessments and stock assessment updates, life history studies, and other scientific observations.

6.2 Socioeconomic

A description of the human environment, including a description of commercial and recreational snapper grouper fisheries and associated key fishing communities is contained in **Chapter 3** and incorporated herein by reference. A description of the history of management of the snapper grouper fishery is contained in **Appendix F** and is incorporated herein by reference. Participation in and the economic performance of the fishery have been affected by a combination of regulatory, biological, social, and external economic factors. Regulatory measures have obviously affected the quantity and composition of harvests, through the various size limits, seasonal restrictions, trip or bag limits, and quotas. Gear restrictions, notably fish trap and longline restrictions, have also affected harvests and economic performance. The limited access program implemented in 1998/1999 substantially affected the number of participants in the fishery. Biological forces that either motivate certain regulations or simply influence the natural variability in fish stocks have played a role in determining the changing composition of the fishery. Additional factors, such as changing career or lifestyle preferences, stagnant to declining ex-vessel fish prices due to imports, increased operating costs (e.g., gas, ice, insurance, dockage fees, etc.), and increased waterfront/coastal value leading to development pressure for non-fishery uses have impacted both the commercial and recreational fishing sectors.

Given the variety of factors that affect fisheries, persistent data issues, and the complexity of trying to identify cause-and-effect relationships, it is not possible to differentiate actual or cumulative regulatory effects from external cause-induced effects. In general, it can be stated, however, that the regulatory environment for all fisheries has become progressively more complex and burdensome, increasing, in tandem with other adverse influences, the likelihood of economic losses, business failure, occupational changes, and associated adverse pressures on associated families, communities, and industries. Some

reverse of this trend is possible and expected. The establishment of ACLs and AMs for species undergoing overfishing is expected to help protect and sustain harvest at the OY level. However, certain pressures would remain, such as total effort and total harvest considerations, increasing input costs, import induced price pressure, and competition for coastal access.

A detailed description of the expected social and economic impacts of the actions in this amendment is contained in **Chapters 4**, **5, and 6,** which are incorporated herein by reference. Current and future amendments are expected to add to this cumulative effect. Amendment 15B to the Snapper Grouper FMP prohibited the sale of bag-limit caught snapper grouper species for those who do not hold a federal commercial permit for snapper grouper. This eliminates the ability of the recreational angler to subsidize the cost of a fishing trip through the sales of snapper grouper and may, therefore, decrease recreational demand. This action has a more pronounced effect on the for-hire sector, which often uses the sale of bag-limit caught fish to pay crewmembers.

Amendment 16 to the Snapper Grouper FMP addressed overfishing in the gag and vermilion snapper fisheries. The corrective action in response to overfishing always requires harvest reductions and more restrictive regulation. Thus, additional short-term adverse social and economic effects would be expected. These restrictions will hopefully prevent the stocks from becoming overfished, which would require recovery plans, further harvest restrictions, and additional social and economic losses.

Amendment 17A to the Snapper Grouper FMP addressed the overfishing and overfished status of red snapper. Red snapper is, in general and compared to other snapper grouper species, not a significant commercial species, it has greater importance as a target species to the recreational sector, especially the for-hire sector in certain areas of the South Atlantic.

Amendment 17B to the Snapper Grouper FMP specified harvest controls (ACLs and/or ACTs) and AMs for several snapper grouper species, as well as a allocations for golden tilefish, and modify the framework to allow more efficient modification of these measures in the future, where necessary. While some final specifications of these measures may result in additional short-term reductions in social and economic benefits to participants in the fisheries, these measures would be expected to support more stable management and sustainable social and economic benefits from enhanced resource protection, larger and/or more consistent harvests, and long-term stable stocks.

The cumulative impact of Amendments 16, 17A, and 17B to the Snapper Grouper FMP are expected to be significant for commercial and recreational fisheries participants and those indirectly impacted by the actions contained in those amendments. The cumulative impact of Amendments 17A and 17B to the Snapper Grouper FMP have been estimated and are contained in Amendment 17A to the Snapper Grouper FMP. The impacts from the three amendments will likely result in commercial and for-hire vessel exit and loss of fishery infrastructure as a result.

Finally, the space industry in Florida centered on Cape Canaveral is experiencing severe difficulties due to the ramping down and cancellation of the Space Shuttle Program. This program's loss coupled with additional fishery closures will negatively impact this region. However, declining economic conditions due to decline in the space industry may lessen the pace of waterfront development and associated adverse social and economic pressures on fishery infrastructure.

The Comprehensive ACL Amendment is expected to further reduce harvest for commercial and recreational fishermen through management measures now being developed in that document.

Snapper grouper Amendments 20A and 20B, currently under development, will modify the Wreckfish ITQ program currently used to manage wreckfish. The actions in the amendment are not expected to reduce harvest levels for fishery participants but the actions may impose other restrictions on the wreckfish fishery such as additional reporting requirements and restrictions on when wreckfish can be landed.

Chapter 7. Other Things to Consider

7.1 Unavoidable Adverse Effects

There are several unavoidable adverse effects on the socioeconomic environment that may result from the implementation of Amendment 18B. A brief summary of those effects follows.

7.2 Effects of the Fishery on Essential Fish Habitat

The biological impacts of the proposed actions are described in **Chapter 4**, including impacts on habitat. No actions proposed in this amendment are anticipated to have any adverse impact on essential fish habitat (EFH) or EFH-Habitat of Particular Concern (EFH-HAPC) for managed species including species in the snapper grouper complex. Any additional impacts of fishing on EFH identified during the public hearing process will be considered, therefore the Council has determined no new measures to address impacts on EFH are necessary at this time. The Council's adopted habitat policies, which may directly affect the area of concern, are available for download through the Habitat/Ecosystem section of the Council's website: http://map.mapwise.com/safmc/Default.aspx?tabid=56.

NOTE: The Final EFH Rule, published on January 17, 2002, (67 FR 2343) replaced the interim Final Rule of December 19, 1997 on which the original EFH and EFH-HAPC designations were made. The Final Rule directs the Councils to periodically update EFH and EFH-HAPC information and designations within fishery management plans. As was done with the original Habitat Plan (SAFMC 1998c), a series of technical workshops were conducted by Council staff and a draft plan that includes new information has been completed pursuant to the Final EFH Rule. For more detailed information, see **Appendix C**.

7.3 Damage to Ocean and Coastal Habitats

The actions proposed in Amendment 18B would not result in any adverse impacts to ocean and coastal habitats.

The alternatives and proposed actions are not expected to have any adverse effect on the ocean and coastal habitat. Management measures implemented in the original Snapper Grouper FMP through Amendment 7 to the Snapper Grouper FMP combined have significantly reduced the impact of the snapper grouper fishery on essential fish habitat (EFH). The South Atlantic Council has reduced the impact of the fishery and protected EFH by prohibiting the use of poisons and explosives; prohibiting use of fish traps and entanglement nets in the EEZ; banning use of bottom trawls on live/hard bottom habitat north of Cape Canaveral, Florida; restricting use

of bottom longline to depths greater than 50 fathoms north of St. Lucie Inlet; and prohibiting use of black sea bass pots south of Cape Canaveral, Florida. These gear restrictions have significantly reduced the impact of the fishery on coral and live/hard bottom habitat in the South Atlantic Region.

Additional management measures in Amendment 8 to the Snapper Grouper FMP (SAFMC 1997), including specifying allowable bait nets and capping effort, have protected habitat by making existing regulations more enforceable. Establishing a controlled effort program limited overall fishing effort and to the extent there is damage to the habitat from the fishery (e.g. black sea bass pots, anchors from fishing vessels, impacts of weights used on fishing lines and bottom longlines), limited such impacts.

In addition, measures in Amendment 9 to the Snapper Grouper FMP (SAFMC 1998b), that include further restricting longlines to retention of only deepwater species and requiring that black sea bass pots have escape panels with degradable fasteners, reduce the catch of undersized fish and bycatch and ensure that the pot, if lost, will not continues to "ghost" fish. Snapper Grouper Amendment 13C (SAFMC 2006) increased mesh size in the back panel of pots, which has reduced bycatch and retention of undersized fish.

Amendment 15B to the Snapper Grouper FMP (SAFMC 2008b) includes an action that would implement sea turtle bycatch release equipment requirements and sea turtle and smalltooth sawfish handling protocols and/or guidelines in the permitted commercial and for-hire snapper grouper fishery effective February 15, 2010.

Amendment 16 to the Snapper Grouper FMP (SAFMC 2009) included an action, which is intended to reduce bycatch by requiring fishermen use dehooking devices effective July 29, 2009.Limiting the overall fishing mortality reduces the likelihood of over-harvesting of species with the resulting loss in genetic diversity, ecosystem diversity, and sustainability.

Measures adopted in the Coral and Shrimp FMPs have further restricted access by fishermen that had potential adverse impacts on essential snapper grouper habitat. These measures include the designation of the Oculina Bank HAPC and the Rock Shrimp closed area (see the Shrimp and Coral FMP/Amendment documents for additional information).

The South Atlantic Council's Comprehensive Habitat Amendment (SAFMC 1998c) contains measures that expanded the Oculina Bank HAPC and added two additional satellite HAPCs. Amendment 14 to the Snapper Grouper (SAFMC 2007), established marine protected areas where fishing for or retention of snapper grouper species is prohibited.

7.4 Relationship of Short-Term Uses and Long-Term Productivity

The relationship between short-term uses and long-term productivity will be affected by this amendment. The proposed actions limit participation and effort in the golden tilefish portion of the snapper grouper fishery and in the short-term and long-term for the commercial sectors of the

fishery. Reductions in harvest are expected to benefit the long-term productivity of the species. The actions being proposed in this amendment would not have an impact on the short-term uses and long-term productivity.

7.5 Irreversible and Irretrievable Commitments of Resources

Irreversible commitments are defined as commitments that cannot be reversed, except perhaps in the extreme long-term, whereas irretrievable commitments are lost for a period of time. None of the actions proposed by this amendment would result in irreversible or irretrievable commitments of resources.

7.6 Unavailable or Incomplete Information

The Council on Environmental Quality, in its implementing regulations for the National Environmental Policy Act, addressed incomplete or unavailable information at 40 CFR 1502.22 (a) and (b). That regulation has been considered. There are two tests to be applied: 1) Does the incomplete or unavailable information involve "reasonable foreseeable adverse effects…;" and 2) is the information about these effects "essential to a reasoned choice among alternatives…". A stock assessment has been conducted on golden tilefish using the best available data. A new assessment is currently underway. Status determinations for the species were derived from the SEDAR process, which involves a series of three workshops designed to ensure each stock assessment reflects the best available scientific information. The findings and conclusions of each SEDAR workshop are documented in a series of reports, which are ultimately reviewed and discussed by the South Atlantic Council and their Scientific and Statistical Committee (SSC). SEDAR participants, the South Atlantic Council's Advisory Panels, the South Atlantic Council, and NOAA Fisheries Service staff reviewed and considered any concerns about the adequacy of the data. **Section 4.11** lists research needs that resulted from these assessments. The South Atlantic Council's SSC determined that the assessments were based on the best available data.

Chapter 8. List of Preparers

Table 8-1. List of Amendment 18B preparers.

Name	Agency/Division	Area of Amendment Responsibility
Karla Gore	NMFS/SF	IPT Lead/Fishery Biologist
Myra Brouwer	SAFMC	IPT Lead/Fishery Biologist
Rick DeVictor	NMFS/SF	Fishery Biologist
David Dale	NMFS/HC	EFH Specialist
Amanda Frick	NMFS/PR	Geographer
Andy Herndon	NMFS/PR	Biologist
Stephen Holiman	NMFS/SF	Economist
Tony Lamberte	NMFS/SF	Economist
Jack McGovern	NMFS/SF	Fishery Scientist
Kate Michie	NMFS/SF	Fishery Management Plan Coordinator
Monica Smit-Brunello	NOAA/GC	Attorney Advisor
Brian Cheuvront	SAFMC	Fishery Economist
Kari MacLauchlin	SAFMC	Social Scientist

NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Table 8-2. List of Amendment 18B interdisciplinary plan team members. NEED TO UPDATE

Name	SAFMC	Title
Myra Brouwer	SAFMC	IPT Lead/Fishery Biologist
John Carmichael	SAFMC	SAFMC Data Program Managers
Anik Clemens	NMFS/SF	Technical Writer Editor
David Dale	NMFS/HC	EFH Specialist
Rick DeVictor	NMFS/SF	IPT Lead/Fishery Biologist
Otha Easley	NMFS/LE	Supervisory Criminal Investigator
Nick Farmer	NMFS/SF	Data Analyst
Amanda Frick	NMFS/PR	Geographer
Andy Herndon	NMFS/PR	Fishery Biologist (Protected Resources)
Stephen Holiman	NMFS/SF	Economist
David Keys	NMFS	Regional NEPA Coordinator
Tony Lamberte	NMFS/SF	Economist
Jennifer Lee	NMFS/PR	Fishery Biologist (Protected Resources)
Kari MacLauchlin	SAFMC	Social Scientist
Anna Martin	SAFMC	Coral Biologist
Gregg Waugh	SAFMC	Deputy Executive Director
Roger Pugliese	SAFMC	Sr. Fishery Biologist
Jack McGovern	NMFS/SF	Fishery Biologist
Kate Michie	NMFS/SF	Fishery Biologist
Janet Miller	NMFS/SF	Program Specialist (Permits)
Noah Silverman	NMFS/SF	NEPA Specialist
Monica Smit-Brunello	NOAA/GC	Attorney
Andy Strelcheck	NMFS/SF	Fishery Biologist
Larry Perruso	NMFS/EC	Economist

NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Chapter 9. List of Agencies, Organizations, and Persons Consulted

Responsible Agency

Amendment 18B:
South Atlantic Fishery Management Council
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Environmental Assessment:
NMFS, Southeast Region
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(727) 824-5301 (TEL)
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List of Agencies, Organizations, and Persons Consulted

SAFMC Law Enforcement Advisory Panel
SAFMC Snapper Grouper Advisory Panel
SAFMC Scientific and Statistical Committee
SAFMC Information and Education Advisory Panel
North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
North Carolina Sea Grant
South Carolina Sea Grant
Georgia Sea Grant
Florida Sea Grant
Atlantic States Marine Fisheries Commission
Gulf and South Atlantic Fisheries Development Foundation
Gulf of Mexico Fishery Management Council
National Marine Fisheries Service
- Washington Office
- Office of Ecology and Conservation
- Southeast Regional Office
- Southeast Fisheries Science Center

Chapter 10. References

Bullock L.H. and Smith G.B. 1991. Seabasses (Pisces: Serranidae). Florida Marine Research Institute, St. Petersburg, FL. Memoirs of the Hourglass Cruises. 243 p.

Burgos, J.M. 2001. Life history of the red grouper (*Epinephelus morio*) off the North Carolina and South Carolina Coast. M.S. Thesis, University of Charleston. 90 pp.

CEQ (Council on Environmental Quality). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. U.S. Council on Environmental Quality, Washington, DC. 64 pp.

Cheuvront, B., and M. Neal. 2004. A Social and Economic Analysis of Snapper Grouper Complex Fisheries in North Carolina South of Cape Hatteras. A report for the NC Technical Assistance to the SAFMC, Task 5: NEPA Related Activities, Contract No. SA-03-03-NC. Morehead City, NC.50 pages.

Coleman, F.C., C.C. Koenig, and L.A. Collins. 1996. Reproductive styles of shallow-water groupers (Pisces: Serranidae) in the eastern Gulf of Mexico and the consequences of fishing on spawning aggregations. Env. Biol. Fishes 47: 129-141.

Dumas, C.F., J.C. Whitehead, C.E. Landry, and J.H. Herstine. 2009. "Economic Impacts and Recreation Value of the North Carolina For-Hire Fishing Fleet." North Carolina Sea Grant FRG Grant Report 07-FEG-05.

Haab, T. C., J. C. Whitehead, and T. McConnell. 2001. The Economic Value of Marine Recreational Fishing in the Southeast United States. NOAA Technical Memorandum NMFS-SEFSC-466.

Haab, T.C., R. Hicks, K. Schnier, and J.C. Whitehead. 2009. "Angler Heterogeneity and the Species-Specific Demand for Recreational Fishing in the Southeastern United States." Draft Final Report Submitted for MARFIN Grant #NA06NMF4330055.

Heemstra, P.C. and J.E. Randall. 1993. FAO species catalogue. Vol. 16. Groupers of the world. (Family Serranidae, Subfamily Epinephelinae). An annotated and illustrated catalogue of the grouper, rockcod, hind, coral grouper and lyretail species known to date. FAO Fish. Synops. 16(125).

Holland, S. M., A. J. Fedler, and J. W. Milon. 1999. The Operation and Economics of the Charter and Headboat Fleets of the Eastern Gulf of Mexico and South Atlantic Coasts. University of Florida Office of research, Technology, and Graduate Education. Report prepared for the National Marine Fisheries Service. Grant Number NA77FF0553.

IPCC, 2007: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

Johnson, G.D. and P. Keener. 1984. Aid to identification of American grouper larvae. Bull. Mar. Sci. 34(l): 106 134.

Jory, D.E. and D.S. Iversen. 1989. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (south Florida). Black, red and Nassau groupers. Biol. Rep. US Fish Wildlife Serv., 30 pp.

Jepson, M., K. Kitner, A. Pitchon, W.W. Perry, and B. Stoffle. 2005. Potential fishing communities in the Carolinas, Georgia, and Florida: An effort in baseline profiling and mapping. NOAA Technical Report (available at http://sero.nmfs.noaa.gov/sf/socialsci/pdfs/SA%20Fishing%20Community%20Report.pdf)

Larkin et al 2006

Liese, C. D.,W. Carter, and R. Curtis. 2009. "Surveying the For-Hire Sector: Economic Heterogeneity in the Southeast Charter Boat Industry. Submitted to the Proceedings of the 5th World Recreational Fishing Conference".

Low, R. A., and G. F. Ulrich. 1983. Deep-water demersal finfish resources and fisheries off South Carolina. South Carolina Wildlife Marine Resources Division Tech. Rep. No. 57. 24 p.

MacIntyre, I. G., and J. D. Milliman. 1970. Physiographic features on the outer shelf and upper slope, Atlantic Continental Margin, southeastern United States. Geological Society of America Bulletin 81:2577-2598.

McGovern, J.C., J.M. Burgos, P.J. Harris, G.R. Sedberry, J.K. Loefer, O. Pashuk, and D. Russ. 2002. Aspects of the Life History of Red Grouper, *Epinephelus morio*, Along the Southeastern United States. MARFIN Final Report NA97FF0347.

Miller, G. C., and W. J. Richards. 1979. Reef fish habitat, faunal assemblages and factors determining distributions in the South Atlantic Bight. Proceedings of the Gulf and Caribbean Fisheries Institute 32:114-130.

Moe, M.A., Jr. 1969. Biology of the red grouper *Epinephelus morio* (Valenciennes) from the eastern Gulf of Mexico. Fla. Dep. Nat. Resour., Mar. Res. Lab. Prof. Pap. Ser. 10:1-95.

Newton J.G., Pilkey O.H. and Blanton J.O. 1971. An Oceanographic Atlas of the Carolina and continental margin. North Carolina Dept. of Conservation and Development. 57 p.

NMFS (National Marine Fisheries Service). 2009. Annual Report to Congress on the Status of U.S. Fisheries – 2008. U.S. Department of Commerce, NOAA, Natl. Mar. Fish. Serv., Silver Spring, MD. 23 pp.

NMFS (National Marine Fisheries Service). 2009a. "Response to the 7/10/09 Data Request for Amendment 17a to the Snapper Grouper Fishery Management Plan of the South Atlantic." 4 p.

NMFS (National Marine Fisheries Service). 2009b. "Economic Value of Angler Catch and Keep in the Southeast United States: Evidence from a Choice Experiment." NOAA SEFSC SSRG.

NMFS. 2009c. Fisheries Economics of the United States 2006. U.S. Depart. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-97. 158 p. Available at: http://www.st.nmfs.gov/st5/publications/index.html.

NOAA 2008

NOAA SEFSC SSRG 2009

Parker, R. O., D. R. Copoundy, and T. D. Willis. 1983. Estimated amount of reef habitat on a portion of the US South Atlantic and Gulf of Mexico continental shelf. Bulletin of Marine Science 33:935-940.

Potts, J.C. and K. Brennan. 2001. Trends in catch data and static SPR values for 15 species of reef fish landed along the southeastern United States. Report for South Atlantic Fishery Management Council, Charleston, SC.

Rothschild, B.J. 1986. Dynamics of Marine Fish Populations. Harvard University Press. Cambridge, Massachusetts. 277pp.

SAFMC (South Atlantic Fishery Management Council). 1983. Fishery Management Plan, Regulatory Impact Review and Final Environmental Impact Statement for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Circle, Suite 306, Charleston, South Carolina, 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1988b. Amendment Number 1 and Environmental Assessment and Regulatory Impact Review to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Suite 306, Charleston, S.C. 29407-4699. 63 pp.

SAFMC (South Atlantic Fishery Management Council). 1994a. Amendment Number 7 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1997. Amendment Number 8, Regulatory Impact Review, Social Impact Assessment, Initial Regulatory Flexibility Analysis and Supplemental Environmental Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699. 124 pp.

SAFMC (South Atlantic Fishery Management Council). 1998a. Amendment Number 9 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1998b. Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and Other Required Provisions in Fishery Management Plans of the South Atlantic Region (Amendment 11 to the Snapper Grouper FMP). South Atlantic Fishery Management Council, 1 Southpark Cir., Suite 306, Charleston, S.C. 29407-4699. 151 pp.

SAFMC (South Atlantic Fishery Management Council). 1998c. Habitat Plan for the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1998d. Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region (Amendment 10 to the Snapper Grouper Fishery Management Plan). South Atlantic Fishery Management Council, 1 Southpark Cir., Suite 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 2006. Amendment Number 13C, Final Environmental Assessment, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699. 631 pp.

SAFMC (South Atlantic Fishery Management Council). 2007. Final Amendment Number 14, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2008a. Amendment Number 15A, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery

Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405. 325 pp.

SAFMC (South Atlantic Fishery Management Council). 2008b. Amendment Number 15B, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405. 325 pp.

SAFMC (South Atlantic Fishery Management Council). 2009a. Amendment Number 16, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2009b. Fishery Ecosystem Plan for the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2010a. Amendment 17A, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2010b. Amendment 17B, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011a. Regulatory Amendment 10 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011b. Regulatory Amendment 9 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SEDAR (Southeast Data, Assessment and Review) 19. 2010. South Atlantic and Gulf of Mexico Black Grouper and South Atlantic Red Grouper. SEDAR, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

Sutton, S.G., R.B. Ditton, J.R. Stoll, and J.W. Milon. 1999. A cross-sectional study and longitudinal perspective on the social and economic characteristics of the charter and party boat fishing industry of Alabama, Mississippi, Louisiana, and Texas. Texas A&M Univ., College Station, TX. Memo. Rpt. 198 p.

Waters, J.R., R.J. Rhodes, W. Waltz, and R. Wiggers. 1997. Executive Summary: An economic survey of commercial reef-fish boats along the U.S. South Atlantic Coast. USDC/NOAA/NMFS and SCDNR. November 1997. Unpublished.

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