

# Amendment 18B

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

## Golden Tilefish Management



Draft Environmental Impact Statement    Initial Regulatory Flexibility Act Analysis    Regulatory Impact Review

Social Impact Assessment/Fishery Impact Statement

**OCTOBER 2011**

## Abbreviations and Acronyms Used in the FMP

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

# Amendment 18B

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

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**Proposed actions:** Limit participation and effort in the golden tilefish fishery.

**Lead agency:** FMP Amendment – South Atlantic Fishery Management Council  
EIS - NOAA Fisheries Service

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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 Impact Statement (DEIS) has been prepared to analyze the effects of implementing regulations to achieve the actions listed above. Comments on this DEIS will be accepted for 45 days from publication of the Notice of Availability in the Federal Register.

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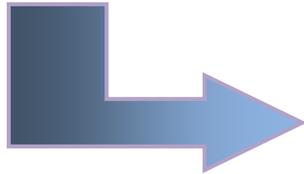
**SUMMARY**  
**of**  
**AMENDMENT 18B**  
**to the Fishery Management Plan**  
**for the Snapper Grouper Fishery**  
**of the South Atlantic Region**

## 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 Council is concerned an increase effort on these species will deteriorate profits.

## What Are the Proposed Actions?

There are 10 actions being proposed in Amendment 18B. Each *action* has a range of *alternatives*, including a ‘no action alternative’ and a ‘preferred alternative’.



### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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
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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

# 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 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.** 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.

**Sub-alternative 2c.** Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive a hook and line endorsement.

**Sub-alternative 2d.** Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive a longline endorsement.

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish Fishery
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10. Establish Trip Limits for Fishermen Who Receive a Golden Tilefish Hook-and-Line Endorsement

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

**Action 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 (Preferred).** 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 500 pounds 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 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 individual's landings from 2001-2005 are averaged.

**Sub-alternative 2d.** 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 individual's landings from 1999-2008 are averaged.

**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 individual's landings from 1999-2008 are averaged.

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish Fishery
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7. Adjust Golden Tilefish Fishing Year
8. Establish Golden Tilefish Fishing Limits
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

**Sub-alternative 2f.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008.

**Sub-alternative 2g.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2h.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008.

**Sub-alternative 2i.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2j.** 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 yrs 2001-05 are averaged and at least 1 lb was landed in 2008.

**Sub-alternative 2k.** 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 yrs 2001-05 are averaged and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2l (NEW).** 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 yrs from 2005-2009 are aggregated.

**Sub-alternative 2m (NEW).** 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 yrs from 2005-2009 are aggregated.

### 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 (Preferred).** 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.

#### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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. Establish Golden Tilefish Fishing Limits
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

#### 4. Establish an Appeals Process

**Alternative 1 (No Action).** Do not establish an appeals process for fishermen who believe they were omitted from the endorsement program based on eligibility criteria.

**Alternative 2 (Preferred).** Establish an appeals process. (This process would be developed by NMFS and would be consistent with similar processes in the region.)

#### *Proposed Actions in Amendment 18B*

- 1 Limit Participation in the Golden Tilefish 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 Establish Golden Tilefish Fishing Limits
- 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

## 5. Allocate Commercial Golden Tilefish Quota Among Gear Groups

**Alternative 1 (No Action).** Do not allocate commercial golden tilefish quota among gear groups.

**Alternative 2.** Allocate the golden tilefish commercial quota based on 75% longline, 25% hook and line.

**Alternative 3.** Allocate the golden tilefish commercial quota based on 85% longline, 15% hook and line.

**Alternative 4 (Preferred).** Allocate the golden tilefish commercial quota based on 90% longline and 10% hook and line.

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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. Establish Golden Tilefish Fishing Limits
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

## 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).** Longline golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits and fish with longline gear.

**Sub-alternative 2a (Preferred).**

Transferability allowed upon program implementation.

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

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

**Sub-alternative 2d.** Transferability not allowed during the first 5 years of the program.

**Alternative 3 (Preferred).** Hook and line golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits and fish with hook and line gear.

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

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

**Sub-alternative 3c.** Transferability not allowed during the first 3 years of the program.

**Sub-alternative 3d.** Transferability not allowed during the first 5 years of the program.

**Alternative 4.** Hook and line and longline golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits, regardless of the gear endorsement category.

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

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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. Establish Golden Tilefish Fishing Limits
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

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

**Sub-alternative 4c.** Transferability not allowed during the first 3 years of the program.

**Sub-alternative 4d.** Transferability not allowed during the first 5 years of the program.

## 7. Adjust Golden Tilefish Fishing Year

**Preferred Alternative 1 (No Action).** Retain existing January 1 start date for the golden tilefish fishing year.

**Alternative 2.** Change the start of the golden tilefish fishing year from January 1 to September 1.

**Alternative 3.** Change the start of the golden tilefish fishing year from January 1 to August 1.

**Alternative 4.** Change the start of the golden tilefish fishing year from January 1 to May 1.

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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. Establish Golden Tilefish Fishing Limits
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

## 8. Establish Golden Tilefish Fishing Limits

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

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

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

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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. Establish Golden Tilefish Fishing Limits
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

## 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 (Preferred).** 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 (Preferred).** 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.

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

### *Proposed Actions in Amendment 18B*

1. Limit Participation in the Golden Tilefish 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. Establish Golden Tilefish Fishing Limits
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

## **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 for fishermen who receive hook and line endorsement in the golden tilefish fishery.

**Alternative 3.** Establish trip limits of 400 pounds for fishermen who receive hook and line endorsement in the golden tilefish fishery.

**Alternative 4.** Establish trip limits of 500 pounds 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 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. Establish Golden Tilefish Fishing Limits
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

## What Are the Expected Effects?

Biological Impacts

Economic Impacts

Social Impacts

# 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 fishery.

## 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.

### *South Atlantic Fishery Management Council*

- Responsible for conservation and management of fish stocks
- 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

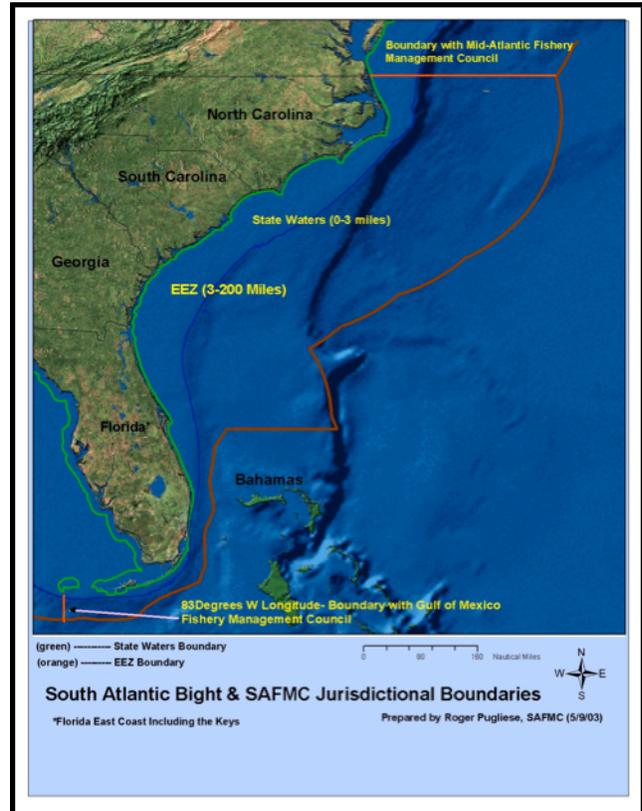


### 1.3 Where is the Project Located?

Management of the Federal snapper grouper fishery located off the South Atlantic in the 3-200 nautical mile (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**).

### 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 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

## ***Purpose for Action***

The ***purpose*** of Amendment 18B is to limit participation in the golden tilefish fishery, change the golden tilefish fishing year, and change the golden tilefish commercial trip limits.

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.

## ***Need for Action***

The ***need*** for action in Amendment 18B is to reduce overcapacity in the golden tilefish portion of the snapper grouper fishery.

## 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 (the current regulations). 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 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. Establish Golden Tilefish Fishing Limits
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

## 2.1 Action 1. Limit Participation in the Golden Tilefish Fishery

**Alternative 1 (No Action).** Do not limit effort in the golden tilefish 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.** 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.

**Sub-alternative 2c.** Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive a hook and line endorsement.

**Sub-alternative 2d.** Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive a longline endorsement.

### Comparison of Alternatives

**Alternative 1 (No Action)** would maintain the current level of participation in the golden tilefish fishery, and may allow overcapitalization of the fishery in the future.

**Sub-alternatives 2a-2d** under **Alternative 2** address endorsement restrictions for entities that qualify for both endorsements. **Sub-alternative 2a** would allow individuals who meet qualifying criteria to receive both endorsements and would be able to either use both endorsements, if that was their preference, or sell the endorsement of their choice. **Sub-alternative 2a** could be expected to result in greater effort than the other options and biological benefits could be reduced with respect to **Sub-alternatives 2b-2d**.

**Sub-alternative 2a** would be expected to result in the greatest benefits from an economic perspective because qualifying entities would receive both endorsements and would be able to either use both endorsements.

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.

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

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

## **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 (Preferred).** 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 500 pounds 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 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 individual’s landings from 2001-2005 are averaged.

**Sub-alternative 2d.** 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 individual’s landings from 1999-2008 are averaged.

**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 individual’s landings from 1999-2008 are averaged.

**Sub-alternative 2f.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008.

**Sub-alternative 2g.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2h.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008.

**Sub-alternative 2i.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2j.** 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 yrs 2001-05 are averaged and at least 1 lb was landed in 2008.

**Sub-alternative 2k.** 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 yrs 2001-05 are averaged and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2l (NEW).** 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 yrs from 2005-2009 are aggregated.

**Sub-alternative 2m (NEW).** 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 yrs from 2005-2009 are aggregated.

### **Comparison of Alternatives**

Among the hook and line sub-alternatives, **Sub-alternative 2b** would implement the *least* restrictive requirement resulting in issuance of 29 hook and line endorsements, and **Sub-alternative 2e** would implement the *most* restrictive endorsement eligibility requirement resulting in 7 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 fishery. 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. **Preferred Sub-Alternative 2a** would result in 23 hook and line endorsements. Therefore, the biological benefits of **Preferred Sub-Alternative 2a** could be greater than alternatives with less than 23 hook and line endorsements (**Alternatives 2c-2k**).

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. Therefore, it can be expected that the highest average profits per hook and line endorsement holder could occur under **Sub-Alternative 2e** and the lowest under **Sub-Alternative 2b**.

All factors considered, 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, resulting in the continued loss of the social benefits of the historic participation and harvest pattern. Although the alternative thresholds for endorsement qualification are intended to allow historic participants to recover their historic roles, absent a companion individual shares program, like a catch shares program, such endorsement programs may reduce, but would not eliminate the current problem of shifting the 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.

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

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action)</b>		
<b>Alternative</b>		

## 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 (Preferred).** 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.

**NEW Sub-alternative 2f.** 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 2010..

**NEW Sub-alternative 2g.** To receive a golden tilefish longline endorsement, the individual must have an average of 20,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2010.

**NEW Sub-alternative 2h.** To receive a golden tilefish longline endorsement, the individual must have an average of 30,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2010.

### Comparison of Alternatives

Among the longline sub-alternatives, **Sub-Alternative 2a (Preferred)** would implement the *least* restrictive requirement resulting in issuance of 17 longline endorsements, and **Sub-**

**Alternatives 2b and 2c** would implement the *most* restrictive endorsement eligibility requirement resulting in 12 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 fishery. 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-Alternatives 2b and 2c**, which result in 12 endorsements, could result in greater biological benefits compared to **Sub-Alternative 2a (Preferred)**, which results in 17 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-Alternatives 2b and 2c** and the lowest under **Sub-Alternative 2a (Preferred)**.

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, **Preferred 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. **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 **Preferred Sub-alternative 2a**.

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

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
<b>Alternative 1 (No Action)</b>		
<b>Alternative 2a</b>		
<b>Alternative 2b</b>		
<b>Alternative 2c</b>		
<b>Alternative 2d</b>		



## 2.4 Action 4. Establish an Appeals Process

**Alternative 1 (No Action).** Do not establish an appeals process for fishermen who believe they were omitted from the endorsement program based on eligibility criteria.

**Alternative 2 (Preferred).** Establish an appeals process. (This process would be developed by NMFS and would be consistent with similar processes in the region.)

### 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. 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, 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. Because **Alternative 2 (Preferred)** would establish an appeals process, **Alternative 2 (Preferred)** would be expected to result in greater social benefits than **Alternative 1 (No Action)**.

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

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
<b>Alternative 1 (No Action)</b>		
<b>Alternative 2 (Preferred)</b>		

## 2.5 Action 5. Allocate Commercial Golden Tilefish Quota Among Gear Groups

**Alternative 1 (No Action).** Do not allocate commercial golden tilefish quota among gear groups.

**Alternative 2.** Allocate the golden tilefish commercial quota based on 75% longline, 25% hook and line.

**Alternative 3.** Allocate the golden tilefish commercial quota based on 85% longline, 15% hook and line.

**Alternative 4 (Preferred).** Allocate the golden tilefish commercial quota based on 90% longline and 10% hook and line.

### Comparison of Alternatives

**Alternatives 1 (No Action)** through **4** provide options for dividing the commercial quota 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 (Preferred)** results in an allocation most similar to recent harvest levels; **Alternative 3** allocated a greater proportion of the allowable catch to hook and line users than **Alternative 4 (Preferred)**. **Alternative 2** 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 quota would be met regardless of which alternative is selected. However alternatives allocating a greater portion of the quota to hook and line gear users could have greater biological benefits for protected species and the benthic habitat as well as sea turtles.

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 quota portion allocated to them.

Any alternative that at least meets historic distributions would also satisfy the goal of preserving access to the resource by the hook and line gear sector. Each of **Alternatives 2-4** would achieve this goal. However, **Alternative 4 (Preferred)** would achieve this goal without disrupting the historic distribution of harvests. No information has been identified to suggest that preservation of access would be better accomplished, with increased social benefits, under a larger allocation than that contained in **Alternative 4 (Preferred)**.

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

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action)</b>		
<b>Alternative 2</b>		
<b>Alternative 3</b>		
<b>Alternative 4 (Preferred)</b>		

## 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).** Longline golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits and fish with longline gear.

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

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

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

**Sub-alternative 2d.** Transferability not allowed during the first 5 years of the program.

**Alternative 3 (Preferred).** Hook and line golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits and fish with hook and line gear.

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

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

**Sub-alternative 3c.** Transferability not allowed during the first 3 years of the program.

**Sub-alternative 3d.** Transferability not allowed during the first 5 years of the program.

**Alternative 4.** Hook and line and longline golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits, 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.

**Sub-alternative 4c.** Transferability not allowed during the first 3 years of the program.

**Sub-alternative 4d.** Transferability not allowed during the first 5 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 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 **Alternatives 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, actions have been taken to end overfishing of golden tilefish in Amendment 13C to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region, and Amendment 17B to the Snapper Grouper FMP, if implemented, will further ensure overfishing of golden tilefish does not occur with the establishment of ACLs. 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-c**, **Sub-Alternative c** could have the greatest positive effect for golden tilefish because it would place the longest time period on when an endorsement could be transferred. 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 difficulty 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. **Alternatives 2-4** 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-alternatives 2a and 3a (Preferred)** would allow for transferability of permits to take place immediately upon implementation and this is expected to maximize economic benefits. **Sub-alternatives 2d, 3d and 4d** 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. **Sub-alternatives 2b and 2c** would fall in between **Sub-alternatives 2a and 2d** with regard to expected economic benefits. The same would hold true for sub-alternatives under **Alternatives 3 and 4**.

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).

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

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action)</b>		
<b>Alternative</b>		

## 2.7 Action 7. Adjust Golden Tilefish Fishing Year

**Preferred Alternative 1 (No Action).** Retain existing January 1 start date for the golden tilefish fishing year.

**Alternative 2.** Change the start of the golden tilefish fishing year from January 1 to September 1.

**Alternative 3.** Change the start of the golden tilefish fishing year from January 1 to August 1.

**Alternative 4.** Change the start of the golden tilefish fishing year from January 1 to May 1.

### 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 fisheries such as shallow water grouper species and other species 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 met sometime during September through November.

The biological effects of **Alternatives 1-4** 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.

The economic impacts of **Alternatives 1-4** 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 tilefish during months when other fisheries are closed, **Alternative 1 (No Action)** could result in higher ex-vessel prices for 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**.

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

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action) (Preferred)</b>		
<b>Alternative 2</b>		
<b>Alternative 3</b>		
<b>Alternative 4</b>		

## 2.8 Action 8. Establish Golden Tilefish Fishing Limits

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

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

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

### Comparison of Alternatives

**Alternative 1 (No Action)** would retain the trip limit reduction from 4,000 lbs gw to 300 pounds gw when 75% of the quota was met. **Alternative 2 (Preferred)** would remove the 300 gw weight trip limit when 75% of the quota is met. Reducing the 4,000 gw weight trip limit to 300 pound 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. The advantage of retaining the 300 pound gw trip limit when 75% of the quota is met is that it slows the rate at which the quota is filled and increases the chance the quota will not be exceeded. However, if the quota monitoring system is operating properly, annual harvest in excess of the quota should be minor. The expected biological effect of **Alternative 2 (Preferred)** is expected to 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 quota is met would shut down commercial longline sector, and might reduce their potential annual catch. If the quota monitoring system can handle large catches in short periods of time then elimination of the trip limit reduction then harvest in excess of the quota should be minor. **Alternative 3** would close the longline fishery once 75% of the quota is taken. This would allow a slower harvest of the remaining quota for the hook and line sector and reduces the rate at which the quota is met.

The economic effects of **Alternatives 1-3** are largely distributional. **Alternative 2** 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 (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.

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

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action)</b>		
<b>Alternative 2 (Preferred)</b>		
<b>Alternative 3</b>		

## 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 (Preferred).** 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.

**(NEW) Alternative 5 (Preferred).** 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.

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

### Comparison of Alternatives

#### **NOTE: Need to add discussion of Alternative 5**

**Alternatives 2-4** would provide fishermen who do not qualify for an endorsement under **Action 1** to still participate in the golden tilefish 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 1-4** 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 (Preferred)-4**, 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 (Preferred)-4** 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, 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 (Preferred)-4**.

**Alternatives 2 (Preferred)-4** 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, 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 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 (Preferred)-4** 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**.

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action)</b>		
<b>Alternative</b>		
<b>Alternative</b>		

## 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 fishery.

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

**Alternative 3.** Establish trip limits of 400 pounds for fishermen who receive hook and line endorsement in the golden tilefish fishery.

**Alternative 4.** Establish trip limits of 500 pounds for fishermen who receive hook and line endorsement in the golden tilefish fishery.

### Comparison of Alternatives

There is little difference in the biological effects of **Alternatives 2-4** on the golden tilefish stock since golden tilefish would close upon reaching the quota. If the longline sector was closed when 75% of the quota is met (**Action 8**), the remaining 25% of the quota (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 during 2005-2010 based on logbook data was 33,143 lbs gutted weight. Therefore, a trip limit would not be needed to ensure the season remained open all year for the hook and line sector. If the Council removed the 300 lb trip limit when 75% of the quota is met then the reduction in catch effected by a trip limit for the hook and line sector could become available to the longline 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.

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. For the 300, 400, and 500-lb trip limits proposed in **Alternatives 2-4**, in general the lower the trip limits, the longer the fishing season, which would likely results in social benefits. The exception is with social impacts on larger operations, in which **Alternative 2** would be the least beneficial and **Alternative 4** would be the most beneficial among all alternatives (except for **Alternative 1 (No Action)**, which would benefit larger operations over smaller operations).

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

<b>Alternatives</b>	<b>Biological Effects</b>	<b>Socioeconomic/Administrative Effects</b>
<b>Alternative 1 (No Action)</b>		
<b>Alternative 2 (Preferred)</b>		
<b>Alternative 3</b>		
<b>Alternative 4</b>		

## 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 is 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 11° to 27° C (52° to 81° F) due to the proximity of the Gulf Stream, with lower shelf habitat temperatures varying from 11° to 14° C (52° to 57° 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<sup>2</sup>) 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](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**

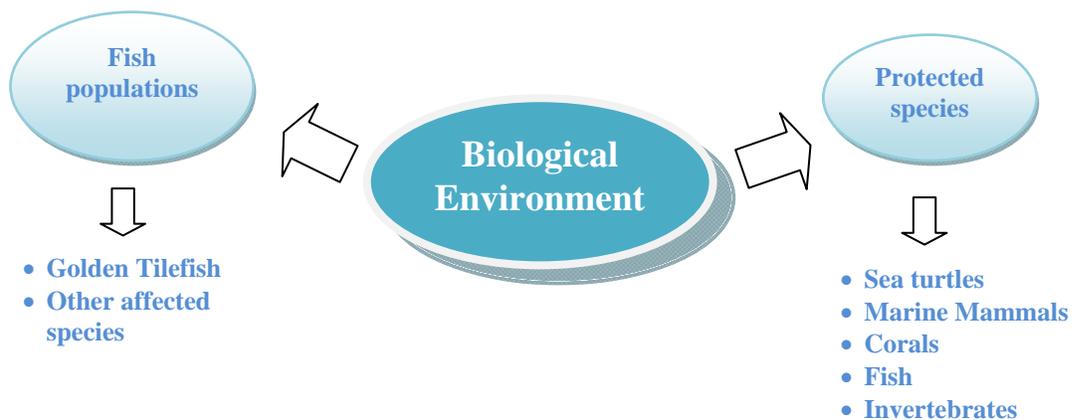
Areas which meet the criteria for Essential Fish Habitat-Habitat Areas of Particular Concern (EFH-HAPCs) for species in the snapper grouper management unit include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; 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 through 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 contains 73 species of fish (**Appendix F**), 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 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
- Undergoing overfishing but is not overfished

#### 3.2.1.1 Golden Tilefish, *Lopholatilus chamaeleonticeps*

Golden tilefish 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) (**Table 3-1**). 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 lbs) (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 have been assessed through the Southeast Data, Assessment, and Review (SEDAR) process.

The SEDAR process consists of a series of workshops aimed at ensuring that each assessment is based on the best available scientific information. First, representatives from NOAA Fisheries Service, state agencies, and the South Atlantic Council, as well as experts from non-governmental organizations and academia, participate in a data workshop. The purpose of a data workshop is to assemble and review available fishery-dependent and fishery-independent data and information on a stock, and to develop consensus about what constitutes the best available scientific information on the stock, how that information should be used in an assessment, and what type of stock assessment model should be employed.

Second, assessment biologists from these agencies and organizations participate in a stock assessment workshop, where data from the data workshop are input into one or more stock assessment models (e.g., production, age-structured, length structured, etc.) to generate estimates of stock status and fishery status. Generally, multiple runs of each model are conducted: base runs and a number of additional runs to examine sensitivity of results to various assumptions (e.g., different natural mortality rates, different data sets/catch periods, etc.).

Finally, a stock assessment review workshop is convened to provide representatives from the Center for Independent Experts the opportunity to peer review the results of the stock assessment workshop. Representatives from NOAA Fisheries Service, the South Atlantic Council, and constituent groups may attend and observe the review but the actual review is conducted by the Center for Independent Experts. The South Atlantic Council's Scientific and Statistical Committee (SSC) then reviews the report of the stock assessment review workshop.

The review portion of the SEDAR process has helped improve the acceptance of stock assessments. However, continued lack of basic fishery data has resulted in uncertainty in the assessment results. Each SEDAR Review Panel has identified significant shortcomings in data and research (see **Section 4.3** for a detailed list of research and data needs). In addition, not all of the reviews have been completed with 100% consensus

#### SEDAR Assessment

There are two indices of abundance available for the golden tilefish stock assessment. A fishery-independent index was developed from MARMAP horizontal longlines (SEDAR 4 2004). A fishery-dependent index was developed from commercial logbook data during the data workshop. Commercial and recreational landings as well as life history information from fishery-independent and fishery-dependent sources were used in the assessment. A statistical catch-at-age model and a production model were used to assess the golden tilefish population.

Exploitation status in 2002 was analyzed relative to the maximum fishing mortality threshold (MFMT; limit reference point in  $F$ ). The MFMT was assumed equal to  $EMSY$  or  $F_{MSY}$ , depending on the measure of exploitation. Stock status in 2002 was estimated relative to  $SSB_{MSY}$  and to maximum spawning size threshold (MSST). The MSST was computed as a fraction  $c$  of  $SSB_{MSY}$ . Restrepo *et al.* (1998) recommend a default definition for that fraction:  $c = \max(1 - M, 1/2)$ , where  $M$  is the natural mortality rate. However, this definition does not account for age-dependent  $M$ , as was used in this assessment. Hence to accommodate the default definition, a constant  $M$  was computed that would correspond to an age-dependent  $M$ , by providing the same proportion of survivors at the maximum observed age [ $M = -\log(P)/A$ , where  $P$  is the proportion survivors at maximum observed age  $A$ ]. This value of constant  $M$  was computed uniquely for each of the MCB runs.

### Stock Status

Golden tilefish is undergoing overfishing but is not overfished. Actions were taken to end overfishing in Amendment 13C. Overfishing of golden tilefish ( $F > MFMT$ ) began in the early 1980's and has continued in most years since then. The population responded to the fishing with a steady population decline to levels near  $SSB_{MSY}$  starting in the mid-1980s. The median value of  $E(2002)/E_{MSY}$  is 1.55, with a 10th to 90th percentile range of [0.77,3.25]. The median value of  $F(2002)/F_{MSY}$  is 1.53, with a range of [0.72,3.31]. The median value of  $SSB(2002)/SSB_{MSY}$  is 0.95, with a range of [0.61,1.53]. The median value of  $SSB(2002)/MSST$  is 1.02, with a range of [0.65,1.67].

It appears likely that overfishing was occurring in 2002; however it is less clear whether the stock was overfished in 2002. The data do not include an abundance index that covers the entire assessment period. To determine stock status, therefore, the assessment must rely in part on other data sources, such as average weight and length from landings as well as the observed age and length composition data. This was explored in the following way: Assuming an equilibrium age-structure, the predicted average weight of landed fish from commercial fisheries is portrayed as a function of stock status. The average weight in 2002 from the handline fishery suggests that the population is near 52% of  $SSB_{MSY}$ ; the average weight in 2002 from the longline fishery suggests that the population is near 100.1% of  $SSB_{MSY}$ . Taken together, these results are consistent with those from the assessment model that the stock is on the border between overfished and not overfished, and that the variability around the point estimate of stock status includes both possibilities. The length composition data from the most recent years (2000 to 2002) also suggests that golden tilefish  $SSB$  is near  $SSB_{MSY}$ . Observed length distributions are skewed toward smaller fish as compared to an equilibrium virgin length composition, but correspond to the predicted length composition at  $SSB_{MSY}$ . Under  $F=0$ , the median projection depicts a tilefish stock that recovers to  $SSB_{MSY}$  within one year.

### 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, blueline tilefish, and yellowedge grouper 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).

#### **Blueline tilefish**

(*Caulolatilus microps*)

#### **snowy grouper**

(*Epinephelus niveatus*)

#### **Yellowedge grouper**

(*Epinephelus flavolimbatus*)

### 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. **Section 3.5** in the Comprehensive ACL Amendment (under review), describes the life history characteristics of these species and discusses the features essential for conservation found in each critical habitat area.

## 3.3 Human Environment

### 3.3.1 Economic Description of the Commercial Fishery

**NOTE:** This section needs to be updated

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.

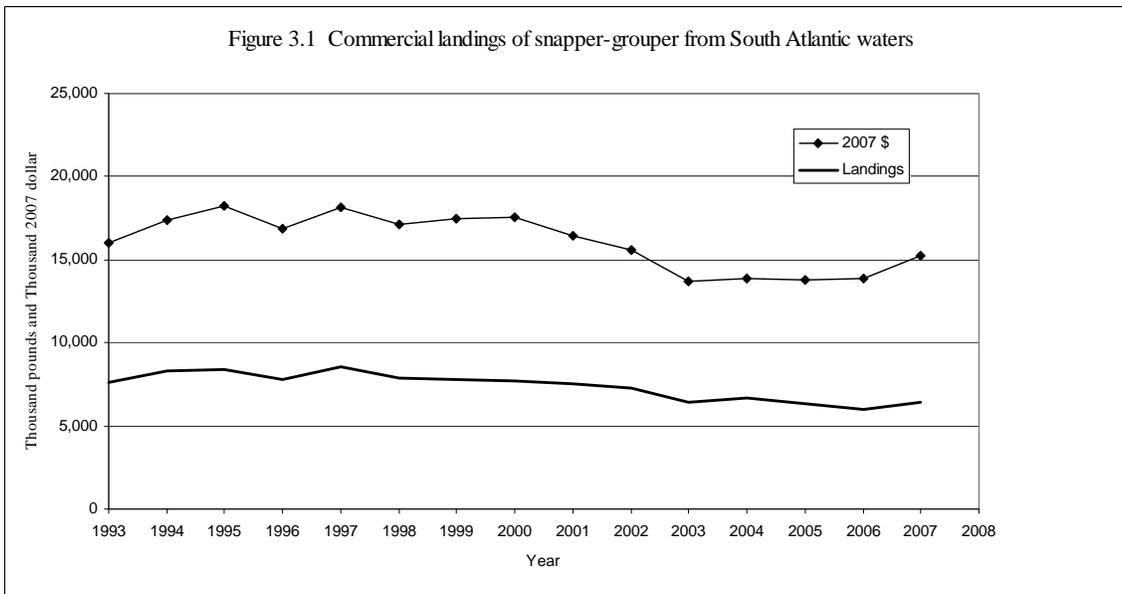
Spears or powerheads are most commonly used off Florida and are illegal for killing snapper grouper species in South Carolina and in Special Management Zones.

### **3.3.1.2 Landings, Ex-vessel Value, Price, and Effort, South Atlantic Commercial Snapper Grouper Fishery**

Landings of all species in the snapper grouper management unit averaged 6.4 million pounds from 2003 through 2007, with an average annual dockside value of \$13.0 million in current year dollars and \$13.8 million in 2007 dollars (Table 3-5).<sup>1</sup> Since 1993, landings of snapper grouper have exhibited a downward trend with year-to-year variation (Figure 3-1).

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<sup>1</sup> Fishermen are required to report their landings by species by trip to NOAA Fisheries Service Southeast Fisheries Science Center logbook program. However, they do not report prices or revenues on their logbook sheets. Therefore, trip revenues were approximated as reported landings from individual logbook reports multiplied by average monthly prices for each species as calculated from the NOAA Fisheries Service Accumulated Landings System (ALS). To obtain values in 2007 dollars, the BLS Consumer Price Index for urban dwellers was used to adjust for the effects overall price inflation in the U.S. economy at the consumer level.



**Figure 3-1.** Commercial landings of snapper grouper species from South Atlantic waters.

The shallow water groupers and mid-shelf snappers are the largest species groups by volume and value within the snapper grouper fishery. Vermilion snapper in the mid-shelf snapper group is the largest volume species in the fishery, and accounts for 13% of total landings and 16% of dockside revenues on trips with at least one pound of snapper grouper species. Gag is the largest volume shallow water grouper, and accounts for 7% of total landings and 11% of dockside revenues on trips that landed at least one pound of snapper grouper species. Fishermen also landed an average of 1.9 million pounds of non-snapper grouper species worth \$2.3 million in 2007 dollars on trips that landed at least one pound of species in the snapper grouper management unit. These trips included trips that targeted species in the snapper grouper management unit and trips that landed snapper grouper species while targeting non snapper grouper species.

Table 3-3. Annual landings and dockside (ex-vessel) revenues for trips with at least one pound of species in the snapper grouper fishery management unit in the South Atlantic, 2003-2007.

Item	2003	2004	2005	2006	2007	Average
Trips with at least one pound of snapper grouper						
Landings of snapper grouper, thousand pounds, whole wt	6,471	6,693	6,365	6,112	6,528	6,434
Dockside revenue from snapper grouper, thousand current \$	\$12,214	\$12,155	\$12,316	\$13,069	\$15,435	\$13,038
Dockside revenue from snapper grouper, thousand 2007 \$	\$13,762	\$13,340	\$13,078	\$13,431	\$15,426	\$13,807
Price/lb (whole wt) for snapper grouper	\$1.89	\$1.82	\$1.93	\$2.14	\$2.36	\$2.03

BLS Producer price index for #2 diesel fuel, index=100 for 2007	43	54	80	92	100	67
Landings of other species, same trips, thousand pounds	2,092	1,651	1,751	2,116	2,122	1,946
Dockside revenue from other species, same trips, thousand 2007 \$	\$2,149	\$2,001	\$2,225	\$2,394	\$2,738	\$2,301

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.

Landings and dockside revenues varied between 2003 and 2007 for species in the snapper grouper management unit (Table 3-3). While lower in 2007 than in 2003, the numbers for trips, days away from port and vessels varied during 2003-2006 (Table 3-4). Part of the variation in snapper grouper landings overall appears to be attributable to landings of vermilion snapper, which experienced a significant decline in 2003 due to unusually cold water temperatures in the summer and fall of 2003. Landings of vermilion snapper recovered in 2004 and 2005, declined in 2006, and recovered in 2007.

Table 3-4. Fishing effort and distribution of landings for trips with at least one pound of species in the snapper grouper fishery management unit in the South Atlantic, 2003-2007.

Item	2003	2004	2005	2006	2007	Average
Trips with at least one pound of snapper grouper						
Number of trips	16,545	15,045	13,756	13,224	14,753	14,665
Days away from port	27,556	24,820	22,794	23,160	24,216	26,296
Number of vessels landing snapper grouper	931	905	857	868	889	890
Number of vessels landing 101-1,000 lbs of snapper grouper	245	225	242	258	261	246
Number of vessels landing 1001-5000 lbs of snapper grouper	270	263	239	228	225	245
Number of vessels landing 5,001-10,000 lbs of snapper grouper	104	96	86	64	86	87
Number of vessels landing 10,001-50,000 lbs of snapper grouper	152	133	123	127	134	134

Number of vessels landing more than 50,000 lbs of snapper grouper	20	32	29	27	28	27
Number of permitted vessels	1059	1001	909	874	877	944
Number of vessels with transferable permits*	828	782	721	697	718	749
Number of vessels with non-transferable permits	231	219	188	177	159	195
Number of dealer permits	271	269	268	251		265

Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of September 22, 2008 and NOAA Fisheries Service, Southeast Regional Office permits database. \*Because of possible problems in estimation for 2006, the number of vessels with transferable permits seems low (697).

The number of boats with snapper grouper permits has exhibited a mostly downward trend since 1999 (1,251 permits). There were 1,059 permits in 2003 and 877 in 2007 (Table 3-6). Two types of permits were created with the limited access program for the snapper grouper fishery that was implemented in 1998. The number of transferable permits that allow an unlimited harvest per trip was 828 in 2003 and 718 in 2007 compared with 938 in 1999. The number of vessels with non-transferable permits with a 225-pound trip limit declined year-by-year from 313 in 1999 to 213 in 2003 and 159 in 2007. The number of transferable permits declined, in part, because new entrants into the fishery must buy two permits and retire one as the condition for entry into the fishery. Furthermore, it is likely that the number of vessels in the snapper grouper fishery declined for economic reasons. For example, fuel prices doubled between 2003 and 2005 and continued to increase through mid-2008. By contrast, average annual prices for species in the snapper grouper management unit were relatively flat (Table 3-3, average annual prices represented by the ratio of annual commercial revenues to landings in current year dollars). The number of fish dealers with permits to operate in the snapper grouper fishery reached a maximum in 2003 (271) and has declined since then (Table 3-4, data through 2006).

From 2003 through 2007, an average of 890 boats averaged 14,665 trips per year on which at least one pound of snapper grouper species was landed (Table 3-4). On average, 246 boats landed 101 – 1,000 pounds of snapper grouper species annually; 245 boats landed 1,001 - 5,000 pounds; 87 boats landed 5,001 - 10,000 pounds; 134 boats landed 10,001 – 50,000 pounds; and 27 boats landed at least 50,000 pounds of snapper grouper species.

### 3.3.1.3 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.

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.

#### **3.3.1.4 South Atlantic Commercial Snapper Grouper Fishery by State**

The following discussion uses annual averages from 2003 to 2007. To maintain the confidentiality of individual reporting units, summaries are provided for regions defined as North Carolina, South Carolina, Georgia and northeast Florida combined, and central and south Florida combined. The northeast Florida region consists of trips landed in Nassau, Duval, and St. Johns Counties, and the central and south Florida region consists of trips landed from Flagler through Miami-Dade Counties and trips from Atlantic waters off the Florida Keys and landed in Monroe County.

The average annual quantities of snapper grouper species harvested from 2003-2007 included 1.82 million pounds worth \$3.74 million (in 2007 dollars) per year in North Carolina, 1.60 million pounds worth \$3.80 million in South Carolina, 0.73 million pounds worth \$1.65 million in Georgia and northeast Florida, and 0.79 million pounds worth \$1.61 million in central and south Florida, and 1.50 million pounds worth \$3.0 million in the Florida Keys (Table 3-5). Snapper grouper landings by state were not proportional to total days fished in each state. Boats in central and south Florida, and the Florida Keys made 73% of the trips that landed species in the snapper grouper management unit and accounted for 35% of the total snapper grouper harvest. Conversely, boats in other states accounted for relatively larger portions of the total snapper grouper harvest. Boats in North Carolina made 18% of the trips and landed 28% of the snapper grouper harvest. Boats in South Carolina made 6% of the trips and landed 25% of the harvest. In addition, boats in Georgia and northeast Florida made 3% of the trips and landed 12% of the snapper grouper harvest. Boats in South Carolina and Georgia and northeast Florida took fewer but longer trips than their counterparts in North Carolina or central and south Florida and the Florida Keys.

Table 3-5. Average annual landings and dockside revenues for trips with at least one pound of species in the snapper grouper fishery, averages for 2003-2007 by state.

Item	North Carolina	South Carolina	Georgia and Northeast Florida	Central and South Florida	Florida Keys	South Atlantic
Trips with at least one pound of snapper grouper						
Snapper grouper landings, thousand pounds, whole wt	1,816	1,591	734	790	1,504	6,434
Percentage of South Atlantic snapper grouper landings, by state	28%	25%	11%	12%	23%	100%
Dockside revenue, snapper grouper, thousand 2007 \$	\$3,738	\$3,795	\$1,651	\$1,615	\$3,008	\$13,807
Landings of other species, same trips, thousand lbs	286	125	54	1,293	188	1,946
Dockside revenue, other species, same trips, thousand 2007 \$	\$389	\$182	\$123	\$1,406	\$202	\$2,301
Number of boats*	175	64	46	342	294	921
Number of trips	2,607	916	486	4,691	5,964	14,665
Percent of trips	18%	6%	3%	32%	41%	100%
Number of days	4,727	4,702	1,946	5,473	7,661	24,509
Trips per boat	14.9	14.2	10.6	13.7	20.3	15.9
Days per trip	1.8	5.1	4.0	1.2	1.3	1.7

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. \*Some boats land in more than one area.

Gag and other shallow water groupers and vermilion snapper and other mid-shelf snappers tend to be landed in North Carolina, South Carolina, and Georgia and northeast Florida, while jacks and shallow water snappers tend to be landed in central and south Florida (Tables 3-6 and 3-7). The species groups that accounted for more than 10% of total landings and revenues in North Carolina include shallow water groupers with nearly 24% of total pounds landed and nearly 34% of total revenues on trips with at least one pound of snapper grouper species; black sea bass with 17% of total landings and 19% of total revenues; and mid-shelf snappers with 18% of total landings and 23% of total revenues. In South Carolina, the shallow water groupers accounted for 32% of total pounds and 46% of total revenues, and the mid-shelf snappers accounted for 21% of total pounds and 23% of total revenues. In Georgia and northeast Florida, mid-shelf snappers accounted for 44% of total pounds and 51% of total revenues; shallow water groupers accounted for 19% of total pounds and 21% of total revenues; and jacks accounted for 17% of total pounds and 7% of total revenues. In central and south Florida, coastal pelagics accounted for 49% of total pounds and 38% of total revenues, and jacks accounted for 12% of total pounds and 7% of total revenues, while tilefish accounted for 11% of total pounds and 17% of total revenue on trips with at least one pound of snapper grouper species. Fishermen in central and south Florida, especially in the Keys, tend to catch larger quantities of non-snapper grouper snapper grouper species such as mackerels.

Table 3-6. Average annual landings (in thousands of pounds, whole weights) on trips that landed at least one pound of snapper grouper species: averages for 2003-2007, by state and species group.

Item	North Carolina		South Carolina		Georgia and Northeast Florida		Central and South Florida		Florida Keys		South Atlantic	
	1000 lbs	col% <sup>1</sup>	1000 lbs	col%	1000 lbs	col%	1000 lbs	col%	1000 lbs	col%	1000 lbs	col%
Shallow water groupers	504	24%	555	32%	152	19%	107	5%	100	6%	1,418	17%
Deep water groupers	84	4%	78	5%	5	1%	28	1%	59	3%	254	3%
Tilefish	78	4%	112	6%	1	0%	227	11%	12	1%	430	5%
Shallow water snappers	10	0%	20	1%	21	3%	128	6%	887	52%	1,065	13%
Mid-shelf snappers	375	18%	366	21%	347	44%	33	2%	15	1%	1,136	14%
Triggerfish / Spadefish	131	6%	77	4%	56	7%	5	0%	2	0%	271	3%
Jacks	111	5%	159	9%	132	17%	240	12%	406	24%	1,047	12%
Grunts / porgies	127	6%	92	5%	14	2%	16	1%	24	1%	274	3%
Sea basses	395	19%	133	8%	6	1%	6	0%	0	0%	540	6%
Snapper grouper	1,816	86%	1,591	93%	734	93%	790	38%	1,504	89%	6,434	77%
Coastal pelagics	216	10%	52	3%	34	4%	1,016.50	49%	81	5%	1,399	17%
Sharks	9	0%	19	1%	6	1%	195	9%	77	5%	306	4%
Tunas	22	1%	2	0%	1	0%	1	0%	0	0%	25	0%
Other	39	2%	54	3%	13	2%	81	4%	30	2%	217	3%
All species	2,102	100%	1,717	100%	787	100%	2,083	100%	1,692	100%	8,380	100%

Source: NOAA Fisheries Service, Southeast Fisheries Science Center logbook database as of September 22, 2008.

<sup>1</sup>col %” equals the percentage contribution of this species group to total harvest on these trips. Individual snapper or grouper species totals (e.g., shallow water groupers) are also included in the “snapper grouper” group and the total (100%) is comprised of the individual snapper grouper, coastal pelagic, sharks, tunas, and other totals. Summation may not match exactly due to rounding.

Table 3-7. Average annual dockside revenues (thousand 2007 dollars) for trips that landed at least one pound of snapper grouper species: averages for 2003-2007 by state and species group.

Item	North Carolina		South Carolina		Georgia and Northeast Florida		Central and Southeast Florida		Florida Keys		South Atlantic	
	\$1,000, 2007\$	col % <sup>1</sup>	\$1,000, 2007\$	col %	\$1,000, 2007\$	col %	\$1,000, 2007\$	col %	\$1,000, 2007\$	col %	\$1,000, 2007\$	col %
Shallow water groupers	\$1,404	34%	\$1,847	46%	\$475	27%	\$338	11%	\$272	8%	\$4,336	27%

Deep water groupers	\$216	5%	\$219	5%	\$13	1%	\$77	3%	\$156	5%	\$680	4%
Tilefish	\$100	2%	\$203	5%	\$2	0%	\$518	17%	\$15	0%	\$838	5%
Shallow water snappers	\$23	1%	\$52	1%	\$51	3%	\$330	11%	\$2,112	66%	\$2,567	16%
Mid-shelf snappers	\$969	23%	\$933	23%	\$909	51%	\$100	3%	\$37	1%	\$2,947	18%
Triggerfish / Spadefish	\$109	3%	\$62	2%	\$48	3%	\$4	0%	\$2	0%	\$225	1%
Jacks	\$106	3%	\$161	4%	\$126	7%	\$223	7%	\$396	12%	\$1,011	6%
Grunts / porgies	\$122	3%	\$90	2%	\$18	1%	\$16	1%	\$20	1%	\$266	2%
Sea basses	\$689	17%	\$229	6%	\$10	1%	\$10	0%	\$0	0%	\$937	6%
Snapper grouper	\$3,738	91%	\$3,795	95%	\$1,651	93%	\$1,615	53%	\$3,008	94%	\$13,807	86%
Coastal pelagics	\$299	7%	\$100	3%	\$66	4%	\$1,139	38%	\$104	3%	\$1,708	11%
Sharks	\$4	0%	\$11	0%	\$2	0%	\$78	3%	\$23	1%	\$118	1%
Tunas	\$44	1%	\$4	0%	\$1	0%	\$2	0%	\$0	0%	\$50	0%
Other species	\$42	1%	\$67	2%	\$55	3%	\$187	6%	\$75	2%	\$425	3%
All species	\$4,127	100%	\$3,977	100%	\$1,775	100%	\$3,020	100%	\$3,210	100%	\$16,108	100%

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.

<sup>1</sup>col % equals the percentage contribution of this species group to total harvest on these trips. Individual snapper or grouper species totals (e.g., shallow water groupers) are also included in the “snapper grouper” group and the total (100%) is comprised of the individual snapper grouper, coastal pelagic, sharks, tunas, and other totals. Summation may not match exactly due to rounding.

### 3.3.1.5 South Atlantic Commercial Snapper Grouper Fishery by Gear

The following discussion uses annual averages from 2003 to 2007. To maintain the confidentiality of individual reporting units, summaries are provided for vertical lines, longlines, black sea bass pots, and all other gears combined. The all-other-gear category includes trolling lines, nets, and other gears. Most of the snapper grouper harvest, including vermilion snapper and gag, is taken by some type of vertical hook-and-line gear. There are exceptions. Black sea bass are harvested primarily with black sea bass pots, while golden tilefish and yellowedge grouper are harvested primarily with bottom longlines. Some species, such as snowy grouper, are harvested by both vertical lines and longlines. Longlines used in the shark fishery may catch snapper grouper as secondary species.

The average quantities of snapper grouper species harvested from 2003-2007 included 5.2 million pounds worth \$11.3 million (in 2007 dollars) per year with vertical lines, 0.41 million pounds with longlines, 0.12 million pounds with black sea bass pots, 0.22 million pounds with dive gear, and 0.51 million pounds with other gear (Table 3-8). Vertical lines accounted for 78% of all trips that landed at least one pound of

snapper grouper, 81% of the snapper grouper landed, 81% of days fished, and 76% of the trip revenue. Trips with longlines tend to be longer than trips with other gear.

Table 3-8. Annual landings and dockside revenues for trips with at least one pound of species in the snapper grouper fishery by primary gear, 2003-2007, landings in whole weight.

Item	Diving	Hook & Line	Longline	Pots	Other gear	Total
Snapper grouper, 1,000 lbs	219	5,185	408	116	506	6,434
Percentage of landings	3%	81%	6%	2%	8%	100%
Snapper grouper, 1,000 2007\$	\$571	\$11,314	\$895	\$168	\$861	\$13,807
Other spp, same trips, 1,000 lbs	49	674	265	941	17	1,946
Percentage of landings, other	3%	35%	14%	48%	1%	100%
Trip revenue, thousand 2007 \$	\$762	\$12,272	\$1,048	\$1,148	\$880	\$16,108
Percentage of trip revenue	5%	76%	7%	7%	5%	100%
Number of boats*	65	723	27	50	245	1,110
Number of trips	648	11,405	246	690	1,676	14,665
Percent of trips	4%	78%	2%	5%	11%	100%
Number of days fished	920	19,910	924	944	1,811	24,509
Percent of days fished	4%	81%	4%	4%	7%	100%
Trips per boat	10.0	15.8	9.0	13.8	6.8	13.2
Days per trip	1.4	1.7	3.8	1.4	1.1	1.7
Source: Same as first table, this section.						

## Golden Tilefish

Table 3-9. 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 lbs per year of golden tilefish	23	20	16	25	18	20
Number of boats landing 101-1000 lbs per year of golden tilefish	21	21	25	16	19	20
Number of boats landing 1,001-5,000 lbs per year of golden tilefish	3	13	16	9	18	12
Number of boats landing more than 5,000 lbs 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 3-10. 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 3-11. 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 3-12. Annual number of golden tilefish for trips with at least one pound of golden tilefish, by region and primary gear, 2003-2007.

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 September 22, 2008.

### 3.3.1.6 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 3-17. 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
<b>Pounds (Whole Weight)</b>												
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
<b>Number of Fish</b>												
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
<b>Pounds (Whole Weight)</b>												
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
<b>Number of Fish</b>												
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
<b>Target Trips</b>												
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
<b>Catch Trips</b>												
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
<b>Target Trips</b>												
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
<b>Catch Trips</b>												
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.

<u>HomePort State</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Avg.</u>
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
<b>Total</b>	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 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
<b>Shore Mode</b>				
Target Trips	0	0	0	0
Output Impact	\$0	\$0	\$0	\$0
Value Added Impact	\$0	\$0	\$0	\$0
Jobs	0	0	0	0
<b>Private/Rental Mode</b>				
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
<b>Charter Mode</b>				
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
<b>All Modes</b>				
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 percent 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 2010b), 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 2010b).

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 to 10 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 home ports for vessels with snapper grouper permits in 2010 (**Table 3-34**).

**Table 3-34.** Federal commercial snapper grouper permits in North Carolina (2010).

Home Port (County)	Unlimited SG Permits	225 lb 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
<b>Total</b>	<b>147</b>	<b>10</b>	<b>157</b>

Source:

North Carolina fishermen demographics are detailed in Chevront 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.

Chevront 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 lbs, cumulative) and Dare (13,526 lbs, 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 3-35**)

**Table 3-35.** Coastal recreational fishing license sales by year and type (Data source: NC Division of Marine Fisheries).

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:

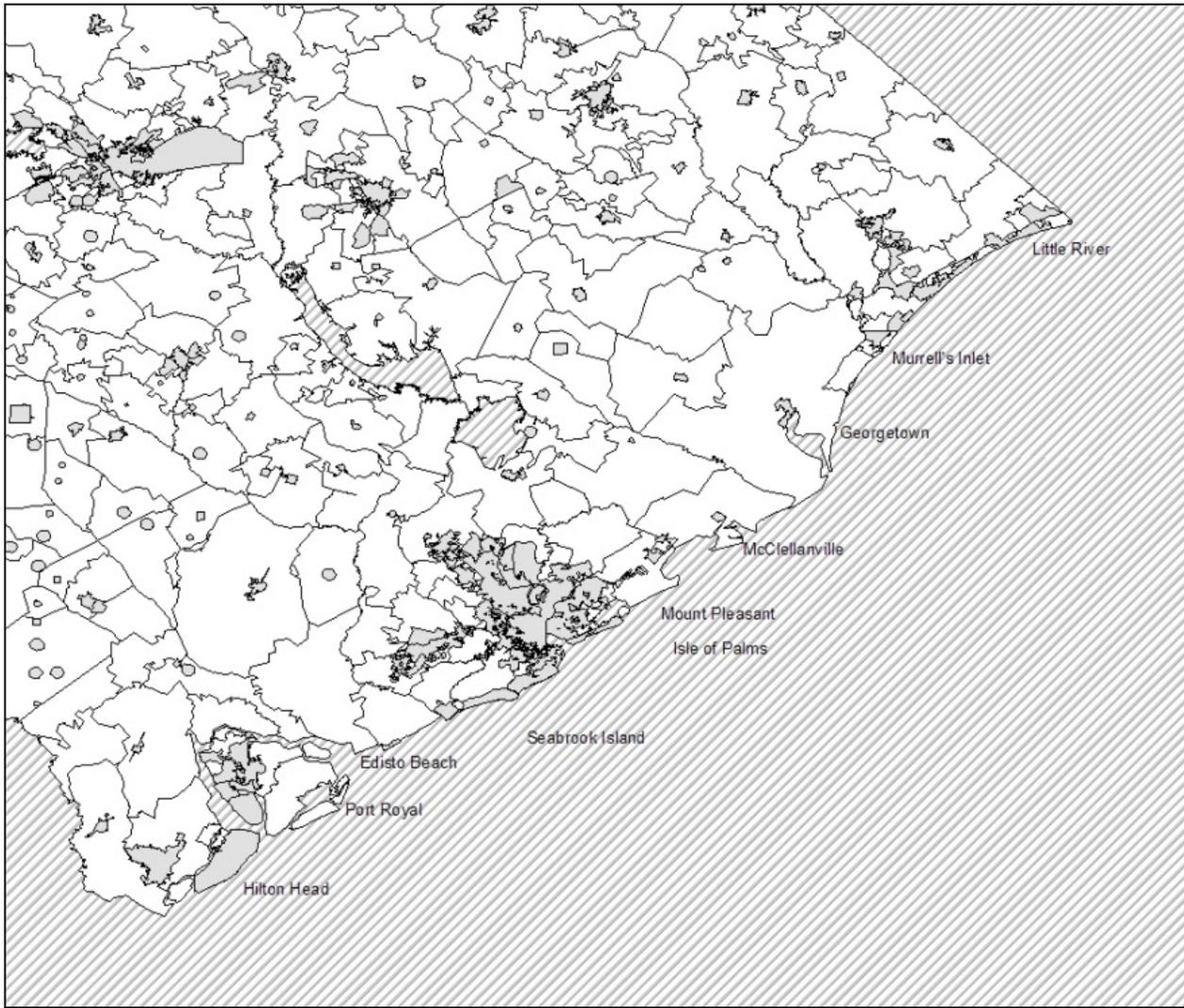
Golden tilefish are also important to the for-hire recreational sector, and are targeted along with other deepwater snapper grouper species on deep-drop charter trips. In 2010 there were 335 South Atlantic federal charter permits for snapper grouper registered to vessels homeported in North Carolina (**Table 3-36**). 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 3-36.** 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
<b>Total</b>	<b>335</b>

Source:

### 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 2010b).

*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 3-37).

**Table 3-37.** Federal commercial snapper grouper permits in South Carolina (2010).

Home Port (County)	Unlimited SG Permits	225 lb 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
<b>Total</b>	<b>71</b>	<b>3</b>	<b>74</b>

Source:

*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 3-38). Most of the permits were based in Charleston or Georgetown County, with some permits also in the counties of Horry and Beaufort.

**Table 3-38.** 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

Source:

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 3-39**).

**Table 3-39.** Sales of all saltwater recreational license types in South Carolina

<b>Year</b>	<b>Number of Licenses Sold</b>
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 2010b).

#### *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 3-40**). Many Georgia fishermen target shrimp or hold state commercial fishing permits.

**Table 3-40.** Federal commercial snapper grouper permits in Georgia (2010).

Home Port (County)	Unlimited SG Permits
Chatham	2
Dodge	1
McIntosh	5
<b>Total</b>	<b>8</b>

Source:

#### *Recreational Fishing*

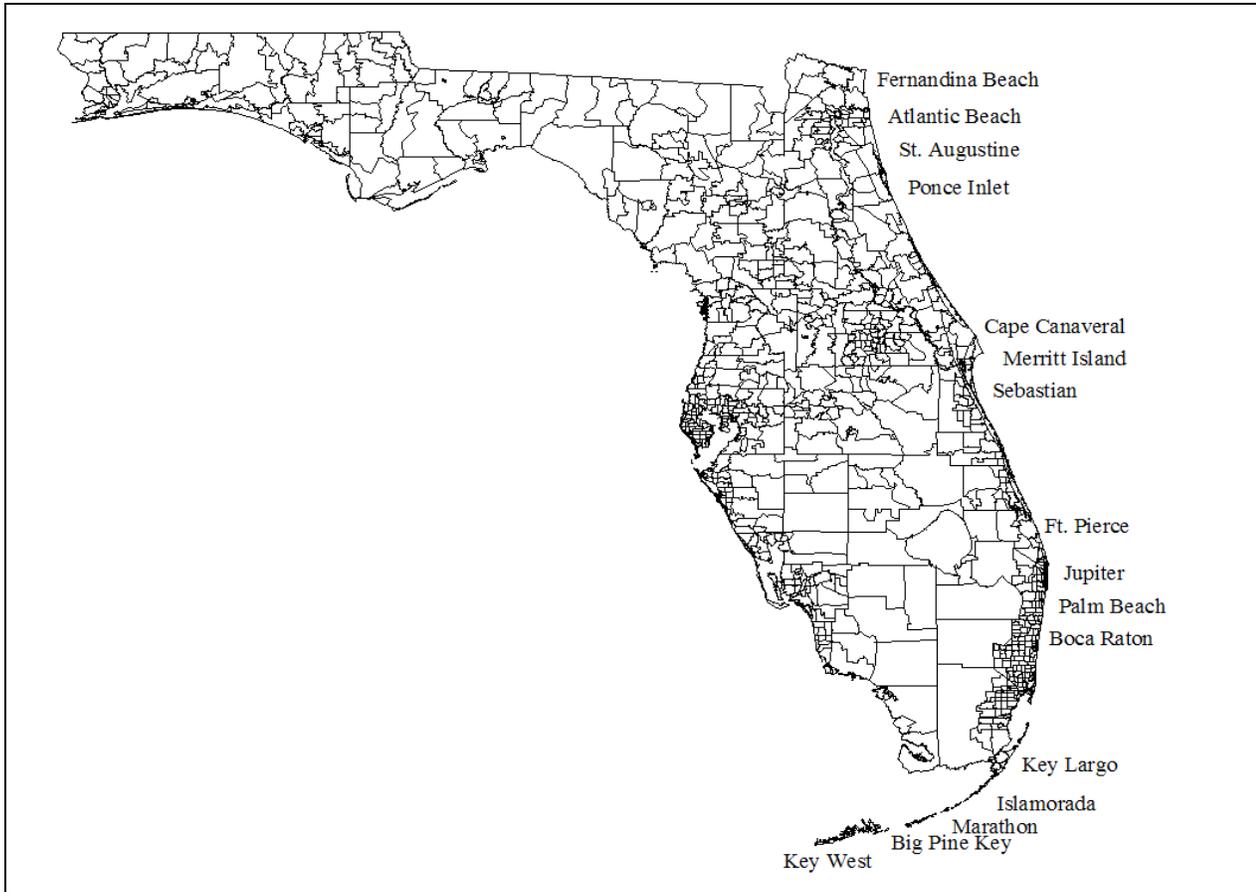
As observed in other areas, the number of charter/headboat permits held by Georgia residents increase markedly from five permits in 1999 to 28 permits in 2010 (**Table 3-41**). However, the number of charter vessels is small relative to other states in the South Atlantic. Most of the charter operations 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 3-41.** 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
<b>Total</b>	<b>28</b>

Source:

### 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 2010b).

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 3-42**). 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 3-42.** Federal commercial snapper grouper permits in Florida (2010).

Home Port (County)	Unlimited SG Permits	225 lb 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
<b>Total</b>	<b>466</b>	<b>123</b>	<b>589</b>

Source:

*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 3-43**). 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 3-43.** 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
<b>Total</b>	<b>813</b>

Source:

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 Fishery

**Alternative 1 (No Action).** Do not limit effort in the golden tilefish 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.** 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.

**Sub-alternative 2c.** Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive a hook and line endorsement.

**Sub-alternative 2d.** Individuals that meet the qualifying criteria for both hook and line and longline endorsements only receive a longline endorsement.

### 4.1.1 Biological Effects

**Alternative 1 (No Action)** would not limit effort in the golden tilefish 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. The fishing seasons in recent years have 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. 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 Fishery Management Council (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.

**Sub-alternatives 2a-2d** for **Alternative 2** and its sub-alternatives address endorsement restrictions for entities that qualify for both endorsements. **Sub-alternative 2a** would allow individuals who meet qualifying criteria to receive both endorsements and would be able to either use both endorsements, if that was their preference, or sell the endorsement of their choice. **Sub-alternative 2a** could be expected to result in greater effort than the other options 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 a great under **Sub-alternative 2a** as under the other options, and biological benefits could also be reduced. **Sub-alternatives 2b-2d** would allow for individuals that meet qualifying criteria to receive only one endorsement. **Sub-alternative 2b** would allow the individual who qualifies to choose with endorsement; whereas, an endorsement for hook and line gear or longline gear would be assigned under **Sub-alternatives 2c** and **2d**. **Sub-alternative 2d**, which would provide only a hook and line endorsement to individuals qualifying for both endorsements would be considered to have the greatest biological effect since the gear is less efficient at capturing golden tilefish, is less likely to interact with protected species, and is less likely to impact bottom habitat than longline gear.

#### 4.1.2 Economic Effects

**Alternative 1 (No Action)** would not limit participation or effort in the golden tilefish 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 maintenance of the vessel. 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 ex-vessel prices and marketing opportunities.

#### 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 1.3**, 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 due to recent management restrictions and the 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 sub-alternatives under **Alternative 2** in addition to the initial 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 (initial eligibility criteria; transfer considerations are the subject of **Action 6**) based on alternative minimum harvest performance histories. **Sub-alternative 2a** would allow the most fishermen to qualify for both hook and line endorsements and longline endorsement. 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 fishery is not sufficiently limited. **Sub-alternative 2a** 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 a great under **Sub-alternative 2a** as under the other sub-alternatives, and social benefits 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. It cannot be stated with certainty which of **Sub-alternative 2c** or **2d** would be expected to result in the least social benefits. On initial thought, it might be concluded that because longline gear likely results in the largest average annual harvests and presumed associated social and economic benefits, restricting dual qualifiers to receiving only a hook-and-line endorsement, as would occur under **Sub-alternative 2c**, would result in the greatest reduction in social and economic benefits. However, the potential significant difference between the qualifying period and the current conditions allows for the possibility that longline gear is no longer the preferred gear for an entity, either for personal or economic reasons, such that limitation to a longline endorsement, as would occur under **Sub-alternative 2d**, may not be the preferred outcome for all entities. While such a condition would not be expected for most or even many qualifiers, its possibility should not be completely dismissed. From the perspective that longline gear would not be the preferred gear would be the exception rather than the norm, however, limiting dual qualifiers to a longline endorsement (**Sub-alternative 2d**) would be expected to result in greater social benefits than a limitation to a hook-and-line endorsement (**Sub-alternative 2c**).

In 2008, 44 South Atlantic communities (20 in Florida and 19 in North Carolina) involving 69 dealers (33 in Florida and 29 in North Carolina) recorded tilefish landings (golden or blue line). Specific landings statistics cannot be reported due to confidentiality considerations. 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 harvests 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 will 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**. An administrative burden will be felt by fishermen by **Alternative 2** and associated sub-alternatives, through the process of applying for and renewing endorsements. However, the various sub-alternatives would not increase or decrease the administrative burden of this action relative to each other.

## 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 (Preferred).** 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 500 pounds 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 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 individual's landings from 2001-2005 are averaged.

**Sub-alternative 2d.** 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 individual's landings from 1999-2008 are averaged.

**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 individual's landings from 1999-2008 are averaged.

**Sub-alternative 2f.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008.

**Sub-alternative 2g.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2h.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008.

**Sub-alternative 2i.** 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 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008.

**Sub-alternative 2j.** 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 yrs 2001-05 are averaged and at least 1 lb was landed in 2008.

**Sub-alternative 2k.** 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 yrs 2001-05 are averaged and at least 1 lb was landed in 2007 or 2008.

**NEW Sub-alternative 2l.** 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 yrs from 2005-2009 are aggregated.

**NEW Sub-alternative 2m.** 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 yrs from 2005-2009 are aggregated.

#### 4.2.1 Biological Effects

Sub-alternatives under **Alternative 2** would distribute golden tilefish gear specific endorsements for Federal commercial snapper grouper permit holders that qualify under the eligibility requirements detailed in the sub-alternatives. Only Federal commercial snapper grouper permit holders with a golden tilefish longline endorsement or a golden tilefish hook and line endorsement associated with their snapper grouper permit would be allowed to possess golden tilefish. Individuals that meet the qualifying criteria for both hook and line and longline endorsements would only receive one endorsement.

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-k** would require a certain harvest level averaged or aggregated during various years to receive a hook and line endorsement. **Sub-Alternative 2b** would implement the least restrictive requirement resulting in issuance of 29 hook and line endorsements; whereas, **Sub-Alternative 2e** would implement the most restrictive endorsement eligibility requirement resulting in 7 permits that qualify for an endorsement (**Table 4-1**). To receive a golden tilefish hook and line endorsement, **Preferred Sub-Alternative 2a** would require the individual 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. A total of 23 individuals would qualify for a golden tilefish endorsement under **Preferred Sub-Alternative 2a**.

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. **Preferred Sub-Alternative 2a** would result in 23 hook and line endorsements. Therefore, the

biological benefits of **Sub-Alternative 2a** could be greater than **Sub-Alternative 2b** for hook and line endorsements. However, it is also possible that effort would remain the same regardless of the number of vessels fishing. Therefore the biological effects of hook and line **Sub-Alternatives 2a-k** as well as longline **Sub-Alternatives 2l-n** could be very similar (**Tables 4-1 and 4-2**). By limiting the number of participants in the golden tilefish fishery, the race for fish could be eliminated 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-2n** 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 2b** would implement the *least* restrictive requirement resulting in issuance of 29 hook and line endorsements. **Sub-alternative 2e** would implement the *most* restrictive endorsement eligibility requirement resulting in 7 permits that qualify for a hook and line endorsement. **Preferred Sub-alternative 2a** would result in 23 hook and line endorsements. **Sub-alternatives 2c and 2d** would each implement 13 endorsements (**Table 4-1**). **Sub-alternatives 2f and 2g** are variations of **Sub-Alternative 2a** and decrease the number of endorsements to 13 and 16, respectively. **Sub-alternatives 2h and 2i** are variations of **Sub-alternative 2b** and decrease the number of endorsements to 14 and 18, respectively. Similarly, **Sub-alternatives 2j and 2k** are variations of **Sub-Alternative 2c** and decrease the number of endorsements to 8 and 10 hook and line endorsements, respectively.

**Table 4-1.** Number of permits that qualify for hook and line endorsements under each sub-alternative.

Hook and Line Sub-Alternatives	Eligibility Requirement	Number of Endorsements
Preferred Sub-Alternative 2a	At least 1,000 lbs ww when best 3 of 5 yrs 2001-05 are aggregated	23
Sub-Alternative 2b	At least 500 lbs ww when best 3 of 5 yrs 2001-05 are aggregated	29
Sub-Alternative 2c	At least 500 lbs ww when 2001-05 landings are averaged	13
Sub-Alternative 2d	At least 500 lbs ww when 1999-07 landings are averaged	13

Sub-Alternative 2e	At least 1,000 lbs ww when 1999-07 landings are averaged	7
Sub-Alternative 2f	At least 1,000 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008	13
Sub-Alternative 2g	At least 1,000 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008	16
Sub-Alternative 2h	At least 500 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008	14
Sub-Alternative 2i	At least 500 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008	18
Sub-Alternative 2j	At least 500 lbs ww when 2001-05 landings are averaged and at least 1 lb was landed in 2008	8
Sub-Alternative 2k	At least 500 lbs ww when 2001-05 landings are averaged and at least 1 lb was landed in 2007 or 2008	10

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 2e** and the lowest under **Sub-alternative 2b**.

#### 4.2.3 Social Effects

It should be noted that the two-tiered qualification criteria are not fully complementary in that the second criteria (current participation) may exclude fishermen that the first criteria (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.

At the same time, however, the lower the threshold, the more likely the qualification of a participant who may have decreased their golden tilefish harvests for other reasons (e.g., fished less in general, targeted other species, etc.) and they may receive an endorsement to continue harvesting a species they have largely chosen to no longer target. While qualifying for the endorsement would give these individuals a sellable asset, with associated social and economic benefits, equity issues may arise (i.e., why give a person an endorsement to harvest a species they do not currently harvest in any substantial amount?). It should be noted that the converse of these conditions is also true; the higher the threshold, the more likely a historic participant may be excluded, but the more likely that those who have demonstrated continued higher dependence on the resource will receive the benefits of the endorsement program.

All factors considered, 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, resulting in the continued loss of the social benefits of the historic participation and harvest pattern.

Although the alternative thresholds for endorsement qualification are intended to allow historic participants to recover their historic roles, absent a companion individual shares program, like a catch shares program, such endorsement programs may reduce, but would not eliminate the current problem of shifting the 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 following discussion covers only the estimated maximum number of endorsement qualifiers for the various sub-alternatives and does not include consideration of the effects of the possible reduction in endorsements as a result of the sub-options.

**Alternative 1 (No Action)** would not establish 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 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 and over a longer period of time in the sub-alternatives, the fewer fishermen who will be eligible for hook and line endorsements. While social effects of not qualifying for an endorsement would likely have negative social impacts 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 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.

Under the sub-alternatives, the largest number of eligible fishermen is under **Sub-alternative 2l**, while the fewest fishermen would receive endorsements under **Sub-alternative 2e**. While likely social effects tied to biological benefits would be greater if there were fewer harvesters, broader long-term social effects would be more likely under a middle range.

**Sub-alternatives 2a (Preferred)-2e** 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 2f- 2m** will benefit the fishermen who have entered the fishery in more recent years and fishermen who have participated consistently. 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.

#### **4.2.4 Administrative Effects**

Alternatives in which fewer fishermen qualify for an endorsement will result in less of an administrative burden on the agency. **Sub-Alternative 2b** would provide the most administrative burden and **Sub-Alternative 2e** would provide the least for the hook and line sector.

### **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 (Preferred).** 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.

**NEW 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.

**NEW 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.

**NEW Sub-alternative 2f.** 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 2010..

**NEW Sub-alternative 2g.** To receive a golden tilefish longline endorsement, the individual must have an average of 20,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2010.

**NEW Sub-alternative 2h.** To receive a golden tilefish longline endorsement, the individual must have an average of 30,000 pounds gw golden tilefish caught (with longline gear) between 2007 and 2010.

### 4.3.1 Biological Effects

**Sub-Alternatives 2a (Preferred)-2e** would require certain harvest levels in aggregate or average during various years to receive a longline endorsement. **Sub-Alternative 2a (Preferred)** would implement the least restrictive requirement resulting in issuance of 17 longline endorsements. **Sub-Alternatives 2b and 2c** would implement the most restrictive endorsement eligibility requirement resulting in issuance of 12 longline endorsements (**Table 4-2**).

**NOTE: Insert analysis for new sub-alternatives 2d and 2e**

It is possible that alternatives, which limit the number of participants, could 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 under the most restrictive sub-alternatives and the chance of interactions with protected species could be reduced.

### 4.3.2 Economic Effects

The number of expected longline endorsements under each of the alternatives is shown in **Table 4-2**. 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-alternatives 2b and 2c** and the lowest under **Sub-alternative 2a (Preferred)**.

**NOTE: Insert analysis for new sub-alternatives 2d and 2e**

**Table 4-2.** Number of permits that qualify for longline endorsements under each sub-alternative.

Longline Sub-Alternatives	Eligibility Requirement	Number of Endorsements
Preferred Alternative 2a	At least 2,000 lbs ww when landings from 2006-08 are aggregated	17
Alternative 2b	At least 5,000 lbs ww when landings from 2006-08 are aggregated	12
Alternative 2c	At least 5,000 ww lbs when landings from 2006-08 are averaged	12

Who economically benefits from each of these sub-alternatives is a distributional issue and 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. 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.

### 4.3.3 Social Effects

General social effects in establishing eligibility criteria, and the resulting endorsement allocations are discussed in **Section 4.2.3. Alternative 1 (No Action)** would not establish 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 and over a longer period of time in the sub-alternatives, the fewer 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, **Preferred 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. **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 **Preferred Sub-alternative 2a**.

### 4.3.4 Administrative Effects

Alternatives in which fewer fishermen qualify for an endorsement will result in less of an administrative burden on the agency. Administrative impacts related to endorsements in the longline sector would be similar for **Sub-Alternatives 2b and 2c** and greater for **Sub-Alternative 2a (Preferred)**. **NOTE: Insert analysis for new sub-alternatives 2d and 2e**

## 4.4 Action 4. Establish an Appeals Process

**Alternative 1 (No Action).** Do not establish an appeals process for fishermen who believe they were omitted from the endorsement program based on eligibility criteria.

**Alternative 2 (Preferred).** Establish an appeals process. (This process would be developed by NMFS and would be consistent with similar processes in the region.)

### 4.4.1 Biological Effects

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.

### 4.4.2 Economic Effects

Insert econ effects

### 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, 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. Because **Alternative 2** would establish an appeals process, **Alternative 2** would be expected to result in greater social benefits than **Alternative 1 (No Action)**. The specific requirements of the appeals process are not available. It is assumed that the process will adequately identify appropriate qualifiers and not simply result in an increase in fishermen with endorsements. The issuance of endorsements to non-qualified fishermen would be expected to reduce the benefits of the endorsement system.

### 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 **Alternative 2** would be developed by NOAA Fisheries Service based 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. However, without

details on how the appeals process would be structured it is difficult to determine the administrative impacts.

## 4.5 Action 5. Allocate Commercial Golden Tilefish Quota Among Gear Groups

**Alternative 1 (No Action).** Do not allocate commercial golden tilefish quota among gear groups.

**Alternative 2.** Allocate the golden tilefish commercial quota based on 75% longline, 25% hook and line.

**Alternative 3.** Allocate the golden tilefish commercial quota based on 85% longline, 15% hook and line.

**Alternative 4 (Preferred).** Allocate the golden tilefish commercial quota based on 90% longline and 10% hook and line.

### 4.5.1 Biological Effects

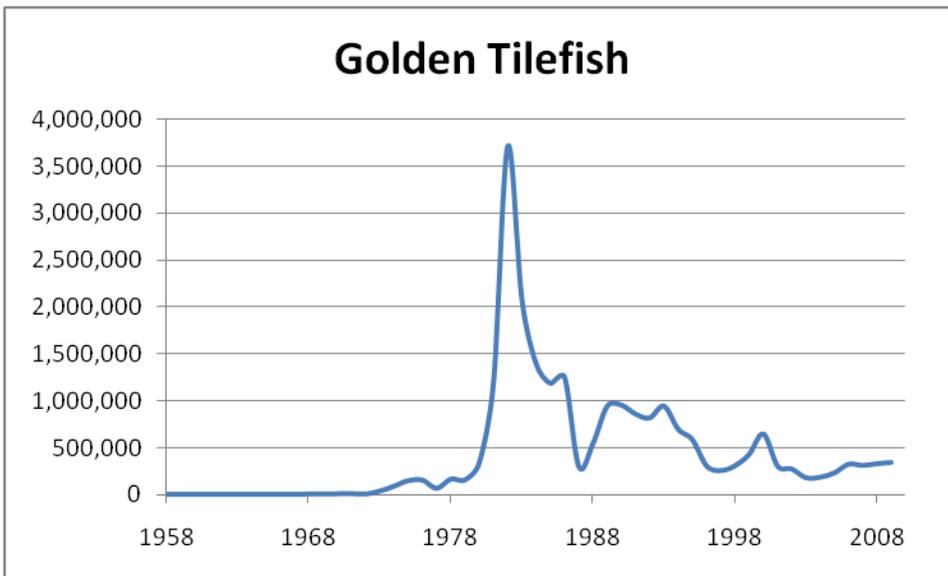
**Alternative 1 (No Action)** would not allocate portions of the 282,819 pounds gw commercial quota (commercial ACL) to a specific gear type. Currently, about 90% of the golden tilefish are taken with longline gear and the remaining 10% are caught with hook and line gear. Prior to the reduction in the golden tilefish quota through Amendments 13C and 17B to the Snapper Grouper FMP, golden tilefish were targeted by some Florida fishermen in the fall by bandit reel vessels. 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 hook and line gear to ensure some portion of the golden tilefish fishery could be taken by the hook and line sector.

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 4-3** shows that based on logbook data, 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, nearly all golden tilefish landings were reported using hook and line gear (**Table 4-x**). Low et al. (1983) confirms that hook and line gear was the predominate 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 landing was observed in the early 1980s 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 from NMFS Web site.

**Alternative 2** would allocate 75% of the quota to longline gear, 25% of the quota to hook and line gear, and **Alternative 3** would allocate 85% of the quota to longline gear, 15% of the quota to hook and line gear. Therefore, **Alternatives 2 and 3** would allocate a greater portion of the quota to hook and line gear than has been taken since the early 1980s. **Alternative 4 (Preferred)**, which would allocate 90% of the quota 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 1-4** 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 quota 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 (SAFMC 2007). However, damage to bottom habitat with longline gear has not been very well documented.

**Table 4-3.** Percentage of golden tilefish landings taken with various gear types based on NMFS Accumulative Landings System.

YEAR	% H&L	%LL	% OTHER	% UNC
1972	100%	0%	0%	0%
1973	100%	0%	0%	0%
1974	100%	0%	0%	0%

YEAR	% H&L	%LL	% OTHER	% UNC
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%
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 quota 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 4-4**. 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 is 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 (Preferred)** 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** 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.

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

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

Landings by Gear	Year									
	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%
<b>TOTAL</b>	<b>414,913</b>	<b>587,277</b>	<b>381,989</b>	<b>373,558</b>	<b>303,639</b>	<b>239,412</b>	<b>259,063</b>	<b>355,527</b>	<b>279,556</b>	<b>297,626</b>

## 4.5.3 Social Effects

**Alternative 1 (No Action)** would not establish any gear allocations for the golden tilefish commercial quota. 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 by **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 4-3** (logbook data) 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 percent. Thus, the allocation specified in **Preferred Alternative 4** would be consistent with the historical performance of this component of the snapper grouper fishery and, as a result, **Preferred Alternative 4** would be expected to result in the greatest social benefits from the perspective that the historic fishery performance maximizes economic benefits. **Alternative 2** would result in the greatest deviation from historic harvest patterns and, as a result, would be expected to result in the greatest disruption and loss in social benefits. The effects of **Alternative 3** would be expected to be intermediate to those of **Alternative 2** and **Preferred Alternative 4**.

Any alternative that at least meets historic distributions would also satisfy the goal of preserving access to the resource by the hook and line gear sector. Each of **Alternatives 2-4** would achieve this goal. However, **Preferred Alternative 4** would achieve this goal without disrupting the historic distribution of harvests. No information has been identified to suggest that preservation of access would be better accomplished, with increased social benefits, under a larger allocation than that contained in **Preferred Alternative 4**.

**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 logical to assume 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 lbs, were almost identical to the total average annual landings by the longline gear sector, approximately 302,000 lbs). 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 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 revenues 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 revenues 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 2-4**, or increased access, which would occur under **Alternatives 2 and 3**, 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 2-4** would allocate golden tilefish quota between the longline and hook and line sectors. Establishing any of the allocation scenarios through **Alternatives 2-4** would involve minor administrative impacts in the form of rulemaking, monitoring quota, and developing education and outreach materials.

## 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).** Longline golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits and fish with longline gear.

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

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

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

**Sub-alternative 2d.** Transferability not allowed during the first 5 years of the program.

**Alternative 3 (Preferred).** Hook and line golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits and fish with hook and line gear.

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

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

**Sub-alternative 3c.** Transferability not allowed during the first 3 years of the program.

**Sub-alternative 3d.** Transferability not allowed during the first 5 years of the program.

**Alternative 4.** Hook and line and longline golden tilefish endorsements can be transferred between any two individuals or entities that hold valid unlimited Federal commercial snapper grouper permits, 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.

**Sub-alternative 4c.** Transferability not allowed during the first 3 years of the program.

**Sub-alternative 4d.** Transferability not allowed during the first 5 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 sector 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 **Alternatives 1 (No Action)-4**, no action **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, actions have been taken to end overfishing of golden tilefish in Amendment 13C to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region, and Amendment 17B to the Snapper Grouper FMP will further ensure overfishing of golden tilefish does not occur with the establishment of ACLs. Therefore, there is no biological need to decrease landings of golden tilefish.

Since this action is administrative and does not establish immediate harvest objectives, it will not directly affect the protected species.

**Alternatives 2 (Preferred), 3(Preferred) and 4**, which would allow transferability of golden tilefish endorsement, would not be expected to negatively impact the golden tilefish stock. The biological effects of the alternatives would likely be very similar as landings would be constrained by a quota. Therefore, the effects of **Preferred Alternatives 2 and 3 and Alternative 4** may be more economic and administrative than biological. The alternatives under consideration would place stipulations on transfer of endorsements among specific gear types including longline gear in **Alternative 2 (Preferred)** and hook and line gear in **Alternative 3 (Preferred)**. **Alternative 4** would allow transfer of golden tilefish hook and line or longline endorsements among individuals who hold snapper grouper Federal commercial permits. **Sub-alternatives a through e** under **Alternatives 2-4** would put a time constraint on when transfer of endorsements could begin. **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 but have the least amount of biological benefit for golden tilefish. **Sub-alternatives 2d-4d** could have the greatest positive effect for golden tilefish because it would place the longest time period on when an endorsement could be transferred. It is possible 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. The rationale behind delaying transferability of endorsements is to allow people time to develop an understanding of the value of the endorsements before selling them, and not as a management measure to enhance biological effects.

#### 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 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 difficulty 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 e** 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 ex-vessel prices, quota share tends to increase. However, an endorsement program does not have the same characteristics as quota share and therefore a two year or more delay 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 ex-vessel 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 ex-vessel 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 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** through **e** will likely influence the degree of enhancement to profitability possible. **Sub-alternatives 2a, 3a** and **4a** would allow for transferability of permits to take place immediately upon implementation and this is expected to maximize economic benefits. **Sub-alternatives 2d, 3d** and **4d** 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. **Sub-alternatives b** and **c** under the main alternatives would fall in between **Sub-alternatives a** and **d** with regard to expected economic benefits.

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 relate to considerations 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. Although it cannot be empirically determined with available data, an underlying assumption for the proposed endorsement requirement to harvest commercial quantities of golden tilefish and the proposed change in the fishing year 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 the fewer the 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. As previously stated, **Preferred Alternatives 2 and 3** and **Alternative 4** require the recipient hold a valid commercial unlimited snapper grouper permit. This restriction would be expected to reduce social benefits by an indeterminate amount relative to placing no restrictions on transfer by not allowing anyone to purchase an endorsement. Although allowing an entity that could not use (harvest fish with) the endorsement may seem illogical because, absent fixed associated harvest rights (catch or quota shares), removing an endorsement from active use would not affect the amount of available harvest, an entity that did not possess a valid commercial snapper grouper permit would only acquire an endorsement if positive benefits were expected to accrue. These benefits could be associated with the possibility of simply reducing effort or “taking” a boat off the water. Regardless of the nature of benefits, these benefits 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.

**Alternatives 2 (Preferred)** and **3 (Preferred)** deal with different gear sectors and should not be compared. **Alternative 4** differs from **Alternatives 2 (Preferred)** and **3 (Preferred)** only in that it encompasses both types of endorsement. 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.

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).

#### **4.6.4 Administrative Effects**

Establishing an endorsement program (**Action 1**) will 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 will 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 a-d** would not increase or decrease the administrative burden in the long term. **Sub-alternatives a-d** 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

**Preferred Alternative 1 (No Action).** Retain existing January 1 start date for the golden tilefish fishing year.

**Alternative 2.** Change the start of the golden tilefish fishing year from January 1 to September 1.

**Alternative 3.** Change the start of the golden tilefish fishing year from January 1 to August 1.

**Alternative 4.** Change the start of the golden tilefish fishing year from January 1 to May 1.

### 4.7.1 Biological Effects

**Preferred Alternative 1 (No Action)** would retain regulations for golden tilefish through Amendments 13C, 15A, and 17B to the Snapper Grouper FMP. Golden tilefish is experiencing overfishing but it is not overfished. The South Atlantic Council has taken action to end overfishing but the determination about overfishing will not be changed until an assessment update is completed. Regulations for golden tilefish established a commercial quota of 295,000 pounds gutted weight with a 4,000 pound gutted weight trip limit that 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, where 98% of the total catch was captured by commercial fishermen. 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 resulting from 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 lbs gutted weight to 300 lbs 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 fishery 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 a commercial quota. 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 quota would be 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 operate 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 2010, 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 deep water species (e.g., snowy grouper, blueline tilefish, blackbelly rosefish, etc.). Golden tilefish prefer a mud habitat whereas the other deep water 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 by retaining the January start date (**Preferred Alternative 1 (No Action)**) for golden tilefish. It is noted that Action 3, which includes alternatives that would allocate portions of the quota to the longline and hook and line sector, would have a similar effect in ensuring fishermen would be able to 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 in the fishery, the risk of interaction between sea turtles and smalltooth sawfish will likely decrease.

#### 4.7.2. Economic Effects

**Alternatives 2-4** deal with changing the fishing year in the golden tilefish 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. The current golden tilefish fishery is characterized by a race to fish, a small number of longline participants taking 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, historically. 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 allowing them to fish for golden tilefish 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 amendable 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 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 ex-vessel price paid to fishermen for golden tilefish. Even if ex-vessel prices do not increase in the early part of the year, keeping the start date at January 1<sup>st</sup> could help dealers maintain supply and therefore keep customers. **Action 5**, which includes alternatives that would allocate portions of the quota 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 if 75% of the quota 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 **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. 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 associated with these species, this shift would increase the losses in social and economic benefits to historic commercial harvesters, and associated businesses and communities, of golden tilefish.

**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 AM, would not affect the total available quota, 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), while the later the start (September) the reverse would occur; Florida hook and line fishermen should be able to fish the entire fall under a September start, 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 quota 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. Establish Golden Tilefish Fishing Limits

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

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

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

### 4.8.1 Biological Effects

**Alternative 1 (No Action)** would retain regulations for golden tilefish through Amendments 13C, 15A, and 17B to the Snapper Grouper FMP. Golden tilefish is experiencing overfishing but it is not overfished. The South Atlantic Council has taken action to end overfishing but the determination about overfishing will not be changed until an assessment update is completed. Regulations for golden tilefish established a commercial quota 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 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, where 98% of the total catch was captured by commercial fishermen. The commercial portion (98%) was applied to the yield at  $F_{MSY}$  to determine the commercial quota. Amendment 17B to the FMP changed the commercial quota 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 quota 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 lbs gw to 300 pounds gw 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 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 quota is met. Reducing the 4,000 pounds gw trip limit to 300 lbs 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 300 pounds gw. However, the current advantage

of retaining the 300-pound gw trip limit when 75% of the quota is met is that it slows the rate at which the quota is filled and increases the chance the quota will not be exceeded. The expected biological effect of removing the trip limit reduction when 75% of the quota 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 quota is met should shut down the commercial longline sector, and might reduce their potential annual catch. If the quota monitoring system can handle large catches in short periods of time, then elimination of the trip limit reduction then harvest in excess of the quota should be minor. The South Atlantic Council is proposing improvements to commercial data reporting in Action 13.

**Alternative 3** would close the longline fishery when 75% of the quota is met. Therefore, this alternative would further slow the rate at which the quota 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 quota 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 3, 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 **Alternatives 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** perpetuates 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 quota is taken under a 4,000 pound gw trip limit, is maintained. This was established by the South Atlantic Council to benefit hook and line fishermen who often start fishing later in the year. The trip limit attempts to preserve a portion of the commercial quota for hook and line fishermen. **Alternative 2 (Preferred)** removes the trip limit, thereby, removing preservation of a portion of the commercial quota for hook and line fishermen. This makes it more likely that longline fishermen will participate after 75%

of the quota 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** (Change in the start date for the golden tilefish fishery) has alternatives that change the golden tilefish fishing year so that longline fishermen from northern areas and hook and line fishermen could 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 liner 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, **Actions 7 (Alternatives 2-4)** and **Action 6 (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 1, Alternative 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 quota 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 longliner fishermen.

#### 4.8.4 Administrative Effects

Under **Alternative 1 (No Action)**, the 300-pound gw trip limit when 75% of the quota 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 quota, rulemaking when 75% of the quota 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 quota is reached, would be less administratively burdensome. Under **Preferred Alternative 2**, the fishery would be closed when the quota is reached thus requiring one rulemaking and fishery bulletin. In order to make sure that the quota isn't exceeded, **Preferred Alternative 2** may require increased frequency of monitoring which may be more administratively burdensome. **Alternative 3** is 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 (Preferred).** 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 (Preferred).** 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.

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

### 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 2-4**, trip limits ranging from 300 pounds gw (**Preferred Alternative 2**) to 500 pounds gw (**Alternative 5**) would be provided to fishermen who do not qualify for an endorsement under **Action 1**. An unknown amount of quota for the specified for the hook and line sector under **Action 5** would be allocated to hook and line fishermen who do not qualify for endorsement under **Action 2**.

Under **Action 2, Preferred Alternative 2a**, 23 individuals would qualify for hook and line endorsements but 114 individuals who had caught golden tilefish with hook and line during 2001-2005 would not. **Action 5** would allocate between 10% (28,212 pounds gw) and 25% (70,705 pounds gw) of the 282,819-pound gw quota to the hook and line sector. Under **Action 9** some portion of 28,212 pounds gw to 72,455 pounds gw could be harvested by fishermen who do not qualify for endorsements under **Action 2**. Therefore, the 114 individuals who do not qualify for endorsements could be fishing under a small

amount of quota. As a result, it is likely the quota for the non-endorsed fishermen would be filled very quickly under the trip limits specified for **Alternatives 2 (Preferred)-4** under this action.

The biological effect of **Alternatives 1-4** 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.

#### **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 (2006-08) made by the vessels that do not qualify is shown in **Tables 4-5 and 4-6**. The data set used to generate **Tables 4-5 and 4-6** include any permit with at least 1 pound of golden tilefish landed from 1998-2008. 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 will also be able to catch the trip limit for golden tilefish. The landings caught by those without endorsements will count towards the hook and line quota. The commercial quota (commercial ACL), identified in Amendment 17B to the Snapper Grouper FMP is 282,819 pounds gw. The hook and line allocation under **Action 5, Alternatives 2, 3, and 4 (Preferred)** would be 70,705 pounds gw (79,189 pounds ww), 42,423 pounds gw (47,514 pounds ww), and 28,282 pounds gw (31,376 pounds ww), respectively.

**Table 4-5.** 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 whole weight (ww) landed in aggregate by permits not qualifying 2006-08 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	2006-08 Aggregate Landings of Those Not Qualifying (lbs ww)
Preferred Sub-Alternative 2a	At least 1,000 lbs ww when best 3 of 5 yrs 2001-05 are aggregated	23	114	36,987
Sub-Alternative 2b	At least 500 lbs ww when best 3 of 5 yrs 2001-05 are aggregated	29	108	33,453
Sub-Alternative 2c	At least 500 lbs ww when 2001-05 landings are averaged	13	124	49,452
Sub-Alternative 2d	At least 500 lbs ww when 1999-07 landings are averaged	13	124	31,951
Sub-Alternative 2e	At least 1,000 lbs ww when 1999-07 landings are averaged	7	130	53,700
Sub-Alternative 2f	At least 1,000 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008	13	124	42,628
Sub-Alternative 2g	At least 1,000 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008	16	121	38,351
Sub-Alternative 2h	At least 500 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2008	14	123	41,886
Sub-Alternative 2i	At least 500 lbs ww when best 3 of 5 yrs 2001-05 are aggregated and at least 1 lb was landed in 2007 or 2008	18	119	34,817
Sub-Alternative 2j	At least 500 lbs ww when 2001-05 landings are averaged and at least 1 lb was landed in 2008	8	129	53,644
Sub-Alternative 2k	At least 500 lbs ww when 2001-05 landings are averaged and at least 1 lb was landed in 2007 or 2008	10	127	50,529

**NOTE:** Need to add subalts 2l and 2m

**Table 4-6.** 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 ww landed in aggregate by permits not qualifying 2006-08 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	2006-08 Aggregate Landings of Those Not Qualifying (lbs ww)
Preferred Sub-Alternative 2a	At least 2,000 lbs ww when landings from 2006-08 are aggregated	17	25	4,012
Sub-Alternative 2b	At least 5,000 lbs ww when landings from 2006-08 are aggregated	12	30	21,128
Sub-Alternative 2c	At least 5,000 ww lbs when landings from 2006-08 are averaged	12	30	21,128

**NOTE:** Need to add the two new sub-alternatives

If we assume that the number of people who have caught at least 1 pound ww of golden tilefish since 1998 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 (Preferred)-4**. It is unknown how many trips the vessels that did not qualify for an endorsement might make given their limited amount of participation since 1998. 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 4-7**.

**Table 4-7.** Estimated number of pounds gw that might be landed by vessels that do not qualify for an endorsement.

Action 5 Alternatives	Number of Non-Endorsement Vessels Using Trip Limits (using range from Action 1)	Trip Limit	Number of Trips (Ranging From 5-15 Trips)	Estimated Total Pounds gw Taken with Trip Limits
Alternative 2	133	300	5	199,500
	133	300	10	399,000
	133	300	15	598,500
	160	300	5	240,000
	160	300	10	480,000
	160	300	15	720,000
Alternative 3	133	400	5	266,000
	133	400	10	532,000
	133	400	15	798,000
	160	400	5	320,000
	160	400	10	640,000

	160	400	15	960,000
Alternative 4 (Preferred)	133	500	5	332,500
	133	500	10	665,000
	133	500	15	997,500
	160	500	5	400,000
	160	500	10	800,000
	160	500	15	1,200,000

As stated above, the hook and line allocation under **Action 5, Alternatives 2, 3, and 4 (Preferred)** would be 70,705 pounds gw (79,189 pounds ww), 42,423 pounds gw (47,514 pounds ww), and 28,282 pounds gw (31,376 pounds ww), respectively. The estimated total landings made by people not holding endorsements shown in **Table 4-7** greatly exceed this amount and range from about 200,000 pounds to 1.2 million pounds gw. If the lower estimate of 133 vessels made 1 trip (not shown in **Table 4-7** using the 300 pound gw trip limit (**Preferred Alternative 2**), an estimated 39,900 pounds in landings would result, which is significant compared to the hook and line allocation of 28,282 pounds gw to 70,705 pounds gw, depending on the alternative chosen in this action.

It is not possible to reliably predict how much would be landed under the trip limits identified in **Alternatives 2 (Preferred)-4** 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 4-7**). 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 to make 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 (Preferred)-4**.

#### 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 harvests that would be allowed by fishermen in this sector would be counted towards the proposed hook and line gear group quota, 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 to their exclusion from operation in this component of the snapper grouper fishery.

Under **Alternatives 2 (Preferred)-4**, 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. It is not possible, with available information, to determine the net outcome of this trade. It could be argued that non-endorsed vessels may value any additional harvests more than endorsed vessels. 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.

The previous point is a key consideration. As shown in **Section 4.8.2**, the harvest potential of even a single trip under the lowest proposed trip limit, 300 lbs under **Alternative 2 (Preferred)**, may be sufficient to take the entire hook and line quota, leaving no quota available to endorsed vessels. 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, it makes little sense to erode the benefits to this sector by apportioning their quota to another sector. If the lowest proposed limit may be capable of exhausting the quota, the two proposed higher limits in **Alternatives 3 and 4**, would also, be capable of such, increasing the likelihood that endorsed vessels will receive reduced social and economic benefits in favor of non-endorsed vessels.

It may be argued that all non-qualifying vessels might not be expected to avail themselves of any trip limit harvest golden tilefish. It is logical, however, to conclude that the likelihood of trips occurring increases the higher the trip limit. Thus, **Alternatives 2 (Preferred)-4** 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, 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 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.

#### **4.9.4 Administrative Effects**

There would be no administrative impacts incurred under **Alternative 1 (No Action)**. **Alternatives 2 (Preferred)-4** would establish trip limits for fishermen who do not qualify for an endorsement under **Action 1**. 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 (Preferred)-4**.

## 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 fishery.

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

**Alternative 3.** Establish trip limits of 400 pounds for fishermen who receive hook and line endorsement in the golden tilefish fishery.

**Alternative 4.** Establish trip limits of 500 pounds for fishermen who receive hook and line endorsement in the golden tilefish 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 25 individuals who would qualify for a hook and line endorsement, and the preferred alternative for **Action 3** identifies 17 individuals who would qualify for longline endorsements. The 25 individuals who qualify for hook and line endorsements caught 69% of the golden tilefish caught with hook and line gear during 1999-2010, and the 17 individuals who qualify for longline endorsements caught 80% of the golden tilefish caught with longline gear during 1999-2010.

The quota currently is 282,819 lbs gutted weight. Even with a reduced number of participants in the longline and hook and line sectors, it is still possible the quota would be met and an in-season closure would occur. If each person who qualified for an endorsement caught their average landings, the expected total would be 28,963 lbs gutted weight for the hook and line sector, and 335,864 for the longline sector for a combined total of 364,827 lbs gutted weight. In 2010, 12 of the 17 individuals who qualify for endorsements caught 254,668 lbs gutted weight in a little over two months (closure date March 9, 2010). Landings from the longline sector dominate catch for individuals who would qualify for endorsements under **Actions 2** and **3**. Historically, the longline sector has caught about 90%. The longline sector caught between 88 and 97% of the total golden tilefish taken by the individuals who would qualify for endorsements under **Actions 2** and **3**.

**Alternatives 2-4** would place trip limits on the catch of golden tilefish taken by the hook and line sector. It is assumed that the current trip limit of 4,000 lbs gutted weight would remain in place for the longline sector; although, **Action 8** could remove the 300 lb gutted weight trip limit when 75% of the quota is met or prohibit fishing with longline gear with 75% of the quota is reached. **Alternative 2** would include the

most restrictive trip limit of 300 lbs gutted weight. Based on landings from 2005-2010, it is expected this trip could reduce catch in the hook and line sector by 15%. **Alternative 4** includes the least restrictive trip limit of 500 lbs gutted weight and could provide a 10% reduction in harvest.

There is little difference in the biological effects of **Alternatives 2-4** on the golden tilefish stock since golden tilefish would close upon reaching the quota. If the longline sector was closed when 75% of the quota is met (**Action 8**), the remaining 25% of the quota (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 during 2005-2010 based on logbook data was 33,143 lbs gutted weight. Therefore, a trip limit would not be needed to ensure the season remained open all year for the hook and line sector. If the Council removed the 300 lb trip limit when 75% of the quota is met then the reduction in catch effected by a trip limit for the hook and line sector could become available to the longline 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 4-8.** 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**.

Year	H&L	LL	Total
1999	9,743	328,433	338,176
2000	17,333	472,429	489,762
2001	18,996	282,966	301,962
2002	35,227	221,071	256,298
2003	11,730	200,399	212,129
2004	16,681	126,556	143,237
2005	27,546	212,720	240,266
2006	14,349	324,496	338,845
2007	24,436	242,706	267,142
2008	9,743	278,058	287,801
2009	7,326	254,668	261,994
2010	16,056	237,054	253,110

**Table 4-9.** Percentage of total catch of individuals who qualify for endorsements.

Year	H&L	LL
1999	2.88%	97.12%
2000	3.54%	96.46%
2001	6.29%	93.71%
2002	13.74%	86.26%
2003	5.53%	94.47%
2004	11.65%	88.35%
2005	11.46%	88.54%
2006	4.23%	95.77%
2007	9.15%	90.85%
2008	3.39%	96.61%
2009	2.80%	97.20%
2010	6.34%	93.66%

**Table 4-10.** Effect of trip limit (lbs gutted weight) on catch of golden tilefish taken with hook and line gear during 2005-2010.

Trip Limit	2005-2010			
	# Trips	% Trips	Pounds over trip	Percent Reduction
0	1,146	100.00%	165,716	100.00%
18	1,017	88.74%	146,254	88.26%
36	861	75.13%	129,533	78.17%
54	760	66.32%	115,121	69.47%
71	676	58.99%	102,262	61.71%
89	605	52.79%	90,793	54.79%
103	563	49.13%	82,986	50.08%
134	472	41.19%	67,037	40.45%
156	411	35.86%	57,198	34.52%
179	329	28.71%	48,898	29.51%
223	203	17.71%	36,897	22.27%
268	138	12.04%	29,279	17.67%
300	88	7.68%	25,614	15.46%
357	58	5.06%	21,794	13.15%
400	45	3.93%	19,613	11.84%
446	31	2.71%	17,816	10.75%
500	21	1.83%	16,415	9.91%
536	18	1.57%	15,732	9.49%
625	14	1.22%	14,332	8.65%
714	9	0.79%	13,322	8.04%
804	7	0.61%	12,584	7.59%
893	7	0.61%	11,959	7.22%
982	7	0.61%	11,334	6.84%
1,071	7	0.61%	10,709	6.46%

#### 4.10.2 Economic Effects

Need to insert econ effects

#### 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, 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 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.

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. For the 300, 400, and 500-lb trip limits proposed in **Alternatives 2-4**, in general the lower the trip limits, the longer the fishing season, which would likely result in social benefits. The exception is with social impacts on larger operations, in which **Alternative 2** would be the least beneficial and **Alternative 4** would be the most beneficial among all alternatives (except for **Alternative 1 (No Action)**, which would benefit larger operations over smaller operations).

#### **4.10.4 Administrative Effects**

# Chapter 5. Council's Choice for the Preferred Alternative

**5.1 Limit Participation in the Golden Tilefish 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**

# 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 J (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 deep-water 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 pogy, 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<sub>2</sub> 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.

Species most likely to be impacted by actions in Amendment 18B are golden tilefish. Trends in the condition of golden tilefish are determined through the Southeast Data, Assessment and Review (SEDAR) process. As of 2004 (the last year of data used in stock assessments for these species) golden tilefish **is experiencing overfishing**. Actions were taken in Amendments 13C and 17B to the Snapper

Grouper FMP to end overfishing of this species. 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 15A (SAFMC 2008a). 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 15A to the Snapper Grouper FMP also provided new definitions of MSST for golden tilefish.

### 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	<u>Prohibited gear:</u> fish traps south of Cape Canaveral, FL; entanglement nets; longline gear inside of 50 fathoms; powerheads and bangsticks in designated SMZs off SC. <u>Size/Bag limits:</u> 10" TL 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).	Protected smaller spawning age classes of vermilion snapper.
Pre-June 27, 1994	Damage to <i>Oculina</i> habitat.	Noticeable decrease in numbers and species diversity in areas of <i>Oculina</i> off FL

<b>Time period/dates</b>	<b>Cause</b>	<b>Observed and/or Expected Effects</b>
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 lbs 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 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	Snapper grouper FMP Amendment	Protect spawning aggregations and

<b>Time period/dates</b>	<b>Cause</b>	<b>Observed and/or Expected Effects</b>
July 29, 2009	16 (SAFMC 2009a)	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.
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

Time period/dates	Cause	Observed and/or Expected Effects
Target 2012	Amendment 20 (Wreckfish) (under dev)	Review the current ITQ program and update the ITQ program as necessary to comply with MSA LAPP requirements.
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 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 X** 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 crew members.

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 continue 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 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 which 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. **NEED TO UPDATE**

<b>Name</b>	<b>Agency/Division</b>	<b>Area of Amendment Responsibility</b>
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 Chevront	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**

<b>Name</b>	<b>SAFMC</b>	<b>Title</b>
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 To Whom Copies of the Statement are Sent

## Responsible Agency

### **Amendment 18B:**

South Atlantic Fishery Management Council  
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### **Environmental Impact Statement:**

NMFS, Southeast Region  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701  
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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

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