



# Amendment 32

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

**SG AP Discussion Document**

**Actions to End Overfishing and Rebuild the  
Blue Line Tilefish (*Caulolatilus microps*) Stock  
in the South Atlantic**



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## Abbreviations and Acronyms Used in the FMP

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

# Chapter 1.

## Introduction

### 1.1 What Actions Are Being Proposed?

Fishery managers are proposing changes to regulations through Amendment 32 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 32). Several actions are being proposed, the most noteworthy being a measures to immediately end overfishing of the blueline tilefish stock in the South Atlantic.

### 1.2 Who is Proposing the Actions?

The South Atlantic Fishery Management Council (Council) is proposing the action. The South Atlantic Council develops the regulatory amendment and submits it to the National Marine Fisheries Service (NMFS) who publishes a rule to implement the regulatory amendment on behalf of the Secretary of Commerce. NMFS is an agency in the National Oceanic and Atmospheric Administration.

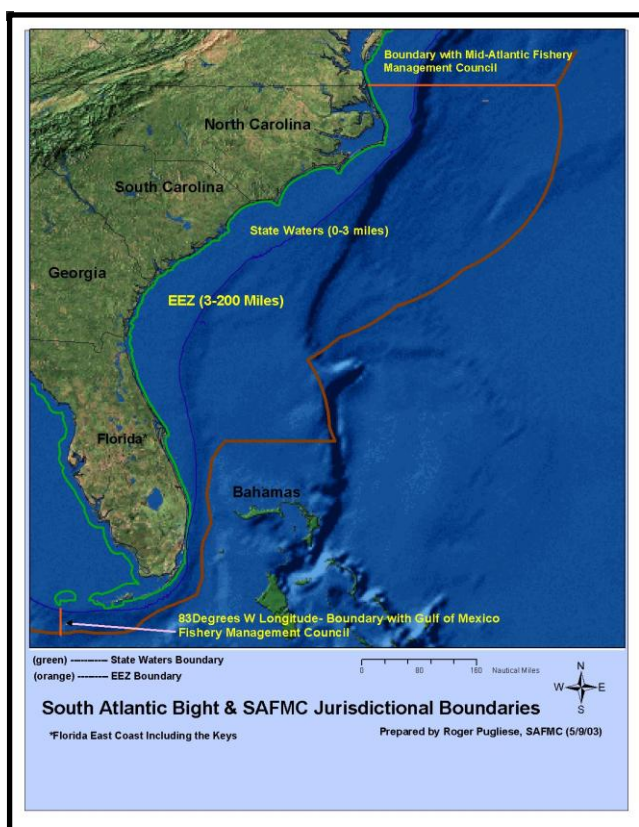
### *South Atlantic Fishery Management Council*

- Responsible for conservation and management of fish stocks
- Consists of 13 voting members: 8 appointed by the Secretary of Commerce, 1 representative from each of the 4 South Atlantic states, the Southeast Regional Director of NMFS; and 4 non-voting members
- Responsible for developing fishery management plans and amendments under the Magnuson-Stevens Act and recommends actions to NMFS for implementation
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West with the exception of Mackerel which is from New York to Florida, and Dolphin-Wahoo, which is from Maine to Florida



### 1.3 Where is the Project Located?

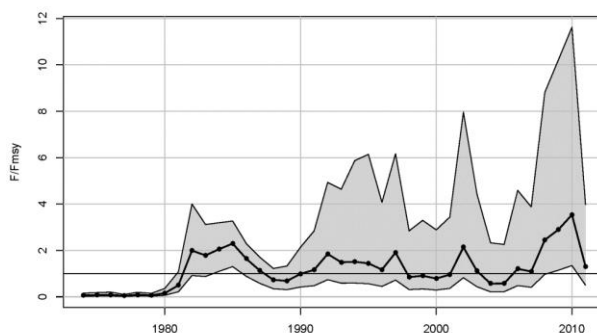
Management of the federal snapper grouper fishery located off the southeastern United States (South Atlantic) in the 3-200 nautical miles U.S. Exclusive Economic Zone is conducted under the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP, SAFMC 1983) (**Figure 1-1**). Blueline tilefish is one of fifty-nine species managed by the Council under the Snapper Grouper FMP.



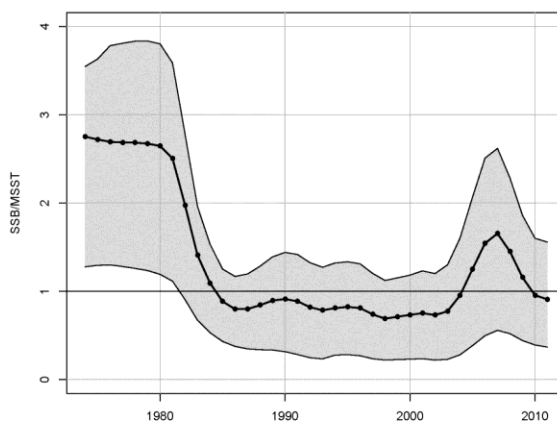
**Figure 1-1.** Jurisdictional boundaries of the South Atlantic Fishery Management Council.

### 1.4 Why is the Council and NMFS Considering Action (Purpose and Need)?

The health of the blueline tilefish stock in the South Atlantic was assessed in 2013. The results of the assessment indicate that the blueline tilefish stock in the South Atlantic is experiencing overfishing and is overfished according to the current definition of the minimum stock size threshold (**Figures 1-2 and 1-3**). The overfished ratio is  $SSB_{2011}/MSST = 0.909$ . The overfishing ratio is  $F_{2009-2011}/F_{MSY} = 2.37$ .



**Figure 1-2.** The overfishing ratio for blueline tilefish over time. The stock is undergoing overfishing when the  $F/F_{MSY}$  is greater than one (SEDAR 32 2013).



**Figure 1-3.** The overfished ratio for blueline tilefish over time. The stock is overfished when the  $SSB/MSST$  is less than one (SEDAR 32 2013).

NMFS notified the Council of the stock status in a letter dated December 6, 2013. As mandated by Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), NMFS and the Council must prepare and implement a plan amendment and regulations by December 6, 2015, to end overfishing immediately and rebuild the stock. NMFS and the Council, through Amendment 32, plan to implement management measures to respond to the most recent scientific information. These management measures include a change to the current fishing regulations expected to end overfishing immediately and rebuild the blueline tilefish stock.

### ***Purpose for Action***

Reduce the current level of fishing mortality of the blueline tilefish stock in the South Atlantic.

### ***Need for Action***

End overfishing and rebuild the blueline tilefish stock, while minimizing, to the extent practicable, adverse social and economic effects.

## **1.5 Didn't the Council Request Emergency Action to Reduce Harvest of Blueline Tilefish?**

At their December 2013 meeting, the Council initiated the development of Amendment 32. At that same meeting, the Council determined that reducing overfishing of the stock while Amendment 32 is being developed was in the best interest of the fish stock and fishermen. As such, the Council sent

their request for emergency action to reduce overfishing of blueline tilefish in a December 10, 2013, letter addressed to the NMFS.

The Council's goal through emergency action is to minimize adverse biological effects to the blueline tilefish stock and adverse socio-economic effects to fishermen and fishing communities that utilize the blueline tilefish portion of the snapper grouper fishery. Although the actions in the emergency rule, if implemented, would likely have adverse, socio-economic effects beginning in 2014, the Council has determined that the short-term effects would be justified to minimize long-term reductions in harvest that may be required if the current levels of unsustainable harvest continue to reduce the biomass of the blueline tilefish stock. Landings in 2012 (477,126 pounds (lb) whole weight (ww)) were significantly greater than the maximum sustainable yield at equilibrium (226,500 lb ww). Continued exploitation at levels similar to the 2012 landings would negatively affect the health of the blueline tilefish stock. The Council proposed setting the blueline tilefish ACL = yield at 75%Fmsy = 224,100 pounds whole weight. The request is currently under review.

## **1.6 What is an Emergency Rule?**

If the Council determines that an emergency exists, NMFS may implement temporary regulations necessary to address the emergency. If the Council vote is unanimous, NMFS must implement the temporary actions. If the vote is not unanimous, NMFS may implement the actions. The Council voted 12 to 1 to request emergency action at their December 2013 meeting. The temporary regulations may remain in effect by no more than 180 days, but may be extended for an additional 186 days as described in section 305(c) of the Magnuson-Stevens Act.

## 1.7 What Are the Proposed Actions in the Amendment?

The Council is proposing implementation or revision of the following items through this amendment:

- (1) maximum sustainable yield (MSY)
- (2) annual catch limits (ACL) and optimum yield (OY)
- (3) recreational annual catch targets (ACT)
- (4) commercial accountability measures (AM)
- (5) recreational accountability measures (AM)
- (6) commercial management measures
- (7) recreational management measures
- (8) rebuilding plan

The Council is also updating the overfishing definition.

## 1.8 What Are Annual Catch Limits and Accountability Measures and Why are They Required?

A reauthorization of the Magnuson-Stevens Act in 2007 required implementation of new tools that, when implemented, would end and prevent overfishing in order to achieve the optimum yield from a fishery. The tools are ACLs and AMs. An ACL is the level of annual catch of a stock that, if met or exceeded, triggers some corrective action. The AMs are management controls to prevent ACLs from being exceeded and to correct overages of ACLs if they occur. Two examples of AMs include an in-season closure if catch approaches the ACL and reducing the ACL by an overage that occurred the previous fishing year. Amendment 32 includes alternatives that would revise the current ACLs and AMs for blueline tilefish in the South Atlantic region.

## Definitions

### Annual Catch Limits

The level of annual catch (pounds or numbers) that triggers accountability measures to ensure that overfishing is not occurring.

### Annual Catch Targets

The level of annual catch (pounds or numbers) that is the management target of the fishery, and accounts for management uncertainty in controlling the actual catch at or below the ACL.

### Accountability Measures

Management controls to prevent ACLs, including sector ACLs, from being exceeded, and to correct or mitigate overages of the ACL if they occur.

### Allocations

A division of the overall ACL among sectors (e.g., recreational and commercial) to create sector ACLs.

### Maximum Sustainable Yield

Largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions.

### Optimum Yield

The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

### Minimum Stock Size Threshold

Another status determination criteria. If current stock size is below MSST, the stock is overfished.

## 1.9 How Does the South Atlantic Council Determine the Annual Catch Limits?

ACLs are derived from the OFL and the ABC (Figure 1-4). The South Atlantic Council's Scientific and Statistical Committee (SSC) determines the OFL and ABC (based on the Council/SSC's ABC control rule). The OFL is an estimate of the catch level above which overfishing is occurring and comes from a stock assessment. The ABC is defined as the level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty, and should be specified based on the South Atlantic Council/SSC's ABC control rule. Using the ABC as a start, the Council is proposing a total ACL for the blueline tilefish stock in the South Atlantic. The total ACL is then divided into sector ACLs using the allocation currently in place for blueline tilefish (50.07% commercial and 49.93% recreational).

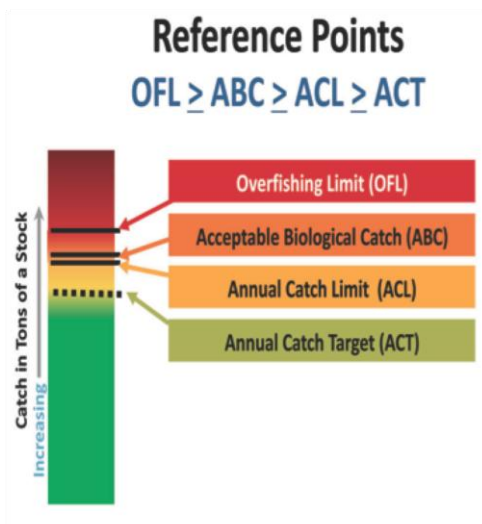


Figure 1-4. The relationship of the reference points to each other.

The SSC recommended an OFL equal to the yield at  $P^*=50\%$ . The ABC was determined by applying the ABC Control Rule. Under this control rule, the probability of rebuilding success equals 100% minus the risk of overfishing (also referred to as the  $P^*$ ). The maximum risk of overfishing for blueline tilefish, as determined by the control rule, is 30%; thus, the acceptable probability of rebuilding success is at least 70%. The probability rate determines the ABC throughout the rebuilding timeframe.

### SSC Recommendations for Blueline Tilefish

#### OFL

Yield at  $P^*=50\%$

#### ABC

Yield at  $P^*=30\%$

#### Maximum Overfishing Risk ( $P^*$ )

30%

#### Minimum Probability of Rebuilding Success

70%

Note: The numerical values of OFL and ABC will become available for the April 2014 SSC meeting.

## 1.10 How is the Council Modifying the Overfishing Definition for Blueline Tilefish?

The 2009 National Standard 1 Guidelines provide a definition of overfishing that allows overfishing to be determined in two ways, by a fishing mortality rate or by a level of catch:

§ 600.310 (e)(2)(i)(B)

*“Overfishing (to overfish) occurs whenever a stock or stock complex is subjected to a level of fishing mortality or annual total catch that jeopardizes the capacity of a stock or stock complex to produce maximum sustainable yield (MSY) on a continuing basis.”*

The National Standard 1 Guidelines provide more detail about these two methods, and require that FMPs describe which method will be used to determine an overfishing status:

§ 600.310 (e)(2)(ii)(A)

*Status Determination Criteria to determine overfishing status. Each fishery management plan (FMP) must describe which of the following two methods will be used for each stock or stock complex to determine an overfishing status.*

*(1) Fishing mortality rate exceeds maximum fishing mortality threshold (MFMT). Exceeding the MFMT for a period of 1 year or more constitutes overfishing. The MFMT or reasonable proxy may be expressed either as a single number (a fishing mortality rate or F value), or as a function of spawning biomass or other measure of reproductive potential.*

*(2) Catch exceeds the overfishing limit (OFL). Should the annual catch exceed the annual OFL for 1 year or more, the stock or stock complex is considered subject to overfishing.*

The OFL is defined as an annual level of catch that corresponds directly to the MFMT, and is the best estimate of the catch level above which overfishing is occurring. As the blueline tilefish stock rebuilds, the SSC has indicated OFL would be equal to the yield at  $F_{MSY}$  ( $F = 0.302$ ).

Each of the two methods for determining overfishing has its benefits and drawbacks.



*MFMT Method- Overfishing occurring if fishing mortality exceeds the MFMT*

Currently, the MFMT method is being used to determine if the blueline tilefish stock is undergoing overfishing. This method is a more direct way of comparing the fishing rate to the maximum allowed rate of fishing, and it is less sensitive to recent fluctuations in recruitment than the OFL method. The estimates of fishing mortality are based on the maximum annual fishing mortality at any age. However, fishing mortality rates cannot be directly measured. They must be calculated as part of a stock assessment or assessment update, thus fishing mortality rates are only available for years when assessments are conducted.

The current fishing mortality reported in a SEDAR assessment actually has a lag of one or more years. The most recent data used in assessments are usually the year prior to the year in which the analysis is conducted, and sometimes two years prior. The current fishing mortality rate for blueline tilefish in SEDAR 32 (2013) is from 2012 as 2012 is the last year of data used in the assessment. Therefore, use of the “current fishing mortality” rate from a SEDAR stock assessment may not reflect the true status of the stock in years following a stock assessment, particularly if actions are taken to constrain effort and harvest.

*OFL Method– Overfishing occurring if annual landings exceed the OFL*

The OFL method is based on catch levels that are more easily understood by constituents than fishing mortality. Unlike fishing mortality rates, a determination can be made on an annual basis as soon as catch totals are available. However, the use of the OFL method might not be appropriate for stocks with highly variable recruitment that cannot be predicted and therefore incorporated into the forecast of stock condition on which the OFL is based.

*Overfishing Definition for Blueline Tilefish*

Each of the two methods for determining overfishing has its benefits and drawbacks with MFMT being a better estimate of overfishing status in a year in which a stock is assessed and OFL a better estimate of overfishing status in years when a current estimate of fishing mortality is not available. Therefore, the Council proposes the use of both the MFMT and OFL as a metric to determine the overfishing status of red grouper.

**For blueline tilefish, overfishing will be determined on an annual basis by the MFMT and OFL method. The estimate of  $F_{MSY}$  (MFMT) for blueline tilefish from SEDAR 32 is 0.302, while the corresponding OFL values increase as the stock rebuilds (Table 1-1). If either the MFMT (during an assessment year) or the OFL method (during a non-assessment year) is exceeded, the stock will be considered to be undergoing overfishing. Two examples are below:**

**Example 1. As a stock assessment is not conducted in 2013, the Council does not receive an updated estimate of  $F_{MSY}$  (MFMT). The OFL for 2014 is 88,000 pounds whole weight and provides the basis for the overfishing definition. Total landings in 2014 are 86,000 pounds whole weight and below the OFL (88,000 pounds whole weight). Overfishing in 2014 is not occurring.**

**Example 2. A SEDAR assessment is completed in 2013 and changes the  $F_{MSY}$  value to 0.205. The current estimate of the fishing mortality, termed  $F_{CURRENT}$ , is 0.302. Landings in 2014 are 78,000 pounds whole weight, below OFL. Even though landings are below OFL,  $F_{CURRENT}$  is greater than MFMT. Overfishing in 2014 is occurring.**

**Table 1-1.** Blueline tilefish estimates of  $F_{MSY}$  and OFL from SEDAR 32.

<b>Year</b>	<b>OFL (yield <math>P^*=50\%</math> in lb whole weight)</b>	<b>Fishing Mortality Rate at <math>F_{MSY}</math> (MFMT)</b>
<b>2014</b>		0.302
<b>2015</b>		0.302
<b>2016</b>		0.302
<b>2017</b>		0.302
<b>2018</b>		0.302
<b>2019</b>		0.302
<b>2020</b>		0.302

## 1.11 What is the History of Management for Blueline Tilefish?

The Council and NMFS first implemented regulations affecting blueline tilefish in the South Atlantic Region in 1983 (**Table 1-1**). See **Appendix D** for a detailed history of management of blueline tilefish.

**Table 1-1.** Select regulations for blueline tilefish.

Date Implemented	Regulations Implemented
2/24/1999	Establishment of 5-fish aggregate grouper bag limit, which includes blueline tilefish
2/12/2009	Establishment of eight deep-water marine protected areas to protect a portion of the population and habitat of long-lived deep-water snapper grouper species
7/29/2009	Reduction of 5-fish aggregate grouper bag limit to a 3-fish aggregate.
1/31/2011	Prohibition on possession of deep-water snapper grouper species, including blueline tilefish, seaward of 240 feet in the South Atlantic EEZ.
4/16/2012	Creation of the deep-water complex. For deep-water complex, acceptable biological catch/annual catch limit = 675,908 pounds whole weight and established accountability measures
5/10/2012	Elimination of the harvest prohibition for six deep-water species, including blueline tilefish in depths greater than 240 feet

# Chapter 2. Proposed Actions and Alternatives

## 2.1 Action 1. Re-define Maximum Sustainable Yield for Blueline Tilefish

Maximum Sustainable Yield (MSY) is the largest long-term average catch that can be taken continuously (sustained) from a stock or stock complex under average environmental conditions.

MSY for blueline tilefish was established through Amendment 11 to the Snapper Grouper FMP (SAFMC 1998). At that time, a stock assessment had not yet been conducted on the stock to obtain an MSY estimate. Therefore, the Council used a “proxy”, or substitute, value for MSY at 30% of the Spawning Potential Ratio (SPR). Now that a stock assessment has been conducted that provides an estimate of MSY, the Council needs to take action to adopt the new value and continue to adopt recommended MSY values as they are obtained from the Southeast Data, Review, and Assessment (SEDAR) process and the Scientific and Statistical Committee (SSC).

	Equation	$F_{MSY}$	MSY Values (lb whole weight)
<b>Alternative 1. No Action</b>	Do not change the current definition of MSY for blueline tilefish. Currently, MSY equals the yield produced by $F_{MSY}$ . $F_{30\%SPR}$ is used as the $F_{MSY}$ proxy.	$F_{30\%SPR}=0.356$	not specified
<b>Alternative 2. Preferred</b>	MSY equals the yield produced by $F_{MSY}$ or the $F_{MSY}$ proxy. MSY and $F_{MSY}$ are recommended by the most recent SEDAR/SSC.	0.302	226,500

## 2.2 Action 2. Establish an Annual Catch Limit (ACL) and Optimum Yield (OY) for Blueline Tilefish and Revise the ACL and OY for the Deep-Water Complex

**Alternative 1 (No Action).** Retain the current annual catch limits and optimum yield for the deep-water complex (yellowedge grouper, blueline tilefish, silk snapper, misty grouper, queen snapper, sand tilefish, black snapper, and blackfin snapper). Do not separate blueline tilefish from the deep-water complex.

	Sector	Annual Catch Limit (pounds whole weight)
Deep-water complex	Commercial	376,469
	Recreational	334,556
	Total	711,025

If the actions in the temporary rule through emergency action are approved, the National Marine Fisheries Service will temporarily remove blueline tilefish from the deep-water complex and establish the following annual catch limits for blueline tilefish for the commercial and recreational sectors: total ACL = 224,100 pounds whole weight (lb ww); commercial ACL = 112,207 lb ww; and recreational ACL = 111,893 lb ww.

**Alternative 2.** Separate blueline tilefish from the deep-water complex and establish annual catch limits for blueline tilefish. The blueline tilefish ACL = OY = ABC. Specify commercial and recreational ACLs based on existing sector allocations (50.07% commercial and 49.93% recreational). The deep-water complex ACL would remain at current levels with the current blueline tilefish portion removed.

**Alternative 3.** Separate blueline tilefish from the deep-water complex and establish annual catch limits for blueline tilefish. The blueline tilefish ACL = OY = 98%ABC. Specify commercial and recreational ACLs based on existing sector allocations (50.07% commercial and 49.93% recreational). The deep-water complex ACL would remain at current levels with the current blueline tilefish portion removed.

**Alternative 4.** Separate blueline tilefish from the deep-water complex and establish annual catch limits for blueline tilefish. The blueline tilefish ACL = OY = 90%ABC. Specify commercial and recreational ACLs based on existing sector allocations (50.07% commercial and 49.93% recreational). The deep-water complex ACL would remain at current levels with the current blueline tilefish portion removed.

### 2.3 Action 3. Establish a Recreational Annual Catch Target (ACT) for Blueline Tilefish and Revise the Recreational ACT for the Deep-Water Complex

**Alternative 1 (No Action).** Retain the current recreational ACT for the deep-water complex (yellowedge grouper, blueline tilefish, silk snapper, misty grouper, queen snapper, sand tilefish, black snapper, and blackfin snapper) =  $ACL \cdot (1 - PSE)$  or  $ACL \cdot 0.5$  whichever is greater = 205,516 lb ww. Do not specify a recreational ACT for blueline tilefish.

**Alternative 2.** The recreational ACT for blueline tilefish equals the recreational  $ACL \cdot (1 - PSE)$  or  $ACL \cdot 0.5$ , whichever is greater. Adjust the recreational ACT for the Deep-water Complex to exclude blueline tilefish.

Note: Use the most recent 5 years of recreational landings to obtain the PSE to calculate the recreational ACT.

**Alternative 3.** The recreational ACT for blueline tilefish equals 85% of the recreational ACL. Adjust the recreational ACT for the Deep-water Complex to exclude blueline tilefish.

### 2.4 Action 4. Specify Accountability Measures for Blueline Tilefish for the Commercial Sector

**Alternative 1 (No Action).** Retain the current accountability measures for the deep-water complex (yellowedge grouper, blueline tilefish, silk snapper, misty grouper, queen snapper, sand tilefish, black snapper, and blackfin snapper) for the commercial sector. Do not specify new accountability measures for blueline tilefish for the commercial sector.

	Sector	In-season Accountability Measures	Post-season Accountability Measures
Deep-water complex	Commercial	Close if projected to reach ACL	If exceed ACL and at least one species overfished, reduce ACL in following year by overage

If the actions in the temporary rule through emergency action are approved, the National Marine Fisheries Service will temporarily remove blueline tilefish from the deep-water complex and establish an in-season accountability measure for blueline tilefish for the commercial sector. The accountability measures is as follows: If commercial landings for blueline tilefish reach or are projected to reach the commercial annual catch limit, National Marine Fisheries Service will file

a notification with the Office of the Federal Register to close the commercial sector for blueline tilefish for the remainder of the fishing year.

**Alternative 2.** If blueline tilefish commercial landings as estimated by the Science and Research Director reach or are projected to reach the commercial ACL, the Regional Administrator shall publish a notice to close the commercial sector for the remainder of the fishing year. On and after the effective date of such a notification, all sale or purchase is prohibited and harvest or possession of this species in or from the South Atlantic EEZ is limited to the bag and possession limit. This bag and possession limit applies in the South Atlantic on board a vessel for which a valid Federal commercial or charter vessel/headboat permit for South Atlantic snapper grouper, dolphin wahoo, or golden crab has been issued as appropriate, without regard to where such species were harvested, i.e., in state or Federal waters. Additionally,

**Sub-alternative 2a.** If the commercial ACL is exceeded, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following fishing year by the amount of the commercial overage, only if the species is overfished.

**Sub-alternative 2b.** If the commercial ACL is exceeded, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following fishing year by the amount of the commercial overage, only if the total ACL (commercial ACL and recreational ACL) is exceeded.

**Sub-alternative 2c.** If the commercial ACL is exceeded, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following fishing year by the amount of the commercial overage, only if the species is overfished and the total ACL (commercial ACL and recreational ACL) is exceeded.

## 2.5 Action 5. Specify Accountability Measures for Blueline Tilefish for the Recreational Sector

**Alternative 1 (No Action).** Retain the current accountability measures for the deep-water complex (yellowedge grouper, blueline tilefish, silk snapper, misty grouper, queen snapper, sand tilefish, black snapper, and blackfin snapper) for the recreational sector. Do not specify new accountability measures for blueline tilefish for the recreational sector.

	Sector	In-season Accountability Measures	Post-season Accountability Measures
Deep-water complex	Recreational	None	If exceed ACL, reduce length of following fishing year if necessary by amount to ensure landing do not exceed the ACL

If the actions in the temporary rule through emergency action are approved, the National Marine Fisheries Service will temporarily remove blueline tilefish from the deep-water complex and establish an in-season accountability measure for blueline tilefish for the recreational sector. The accountability measure is as follows: If recreational landings for blueline tilefish reach or are projected to reach the recreational annual catch limit, National Marine Fisheries Service will file a notification with the Office of the Federal Register to close the recreational sector for blueline tilefish for the remainder of the fishing year.

**Alternative 2.** If blueline tilefish recreational landings, as estimated by the Science and Research Director, exceed the recreational ACL, then during the following fishing year, recreational landings will be monitored for a persistence in increased landings.

**Sub-alternative 2a.** If necessary, the Regional Administrator shall publish a notice to reduce the length of fishing season and the recreational ACL in the following fishing year by the amount of the recreational overage, only if the species is overfished. The length of the recreational season and recreational ACL will not be reduced if the Regional Administrator determines, using the best scientific information available, that a reduction is unnecessary.

**Sub-alternative 2b.** If necessary, the Regional Administrator shall publish a notice to reduce the length of fishing season and the recreational ACL in the following fishing year by the amount of the recreational overage, only if the total ACL (commercial ACL and recreational ACL) is exceeded. The length of the recreational season and recreational ACL will not be reduced if the Regional Administrator determines, using the best scientific information available, that a reduction is unnecessary.

**Sub-alternative 2c.** If necessary, the Regional Administrator shall publish a notice to reduce the length of fishing season and the recreational ACL in the following fishing year by the amount of the recreational overage, only if the species is overfished and the total ACL (commercial ACL and recreational ACL) is exceeded. The length of the recreational season and recreational ACL will not be reduced if the Regional Administrator determines, using the best scientific information available, that a reduction is unnecessary.

**Alternative 3.** If recreational landings for blueline tilefish reach or are projected to reach the recreational annual catch limit, National Marine Fisheries Service will file a notification with the Office of the Federal Register to close the recreational sector for blueline tilefish for the remainder of the fishing year.



## 2.6 Action 6. Establish Management Measures for Blueline Tilefish for the Commercial Sector

**Alternative 1 (No Action).** Retain the current management measures for blueline tilefish for the commercial sector. Do not implement a commercial trip limit for blueline tilefish.

**Alternative 2.** Establish a commercial trip limit for blueline tilefish from January to April of 100 pounds.

**Sub-alternative 2a.** Establish a commercial trip limit from May onwards of 1,500 pounds until 80% of the ACL is projected to be met. Then reduce the trip limit to 100 pounds for the remainder of the fishing year until the ACL is met or projected to be met.

**Sub-alternative 2b.** Establish a commercial trip limit from May onwards of 2,000 pounds until 80% of the ACL is projected to be met. Then reduce the trip limit to 100 pounds for the remainder of the fishing year until the ACL is met or projected to be met.

**Sub-alternative 2c.** Establish a commercial trip limit from May onwards of 2,500 pounds until 80% of the ACL is projected to be met. Then reduce the trip limit to 100 pounds for the remainder of the fishing year until the ACL is met or projected to be met.

### Discussion

Commercial 2012 landings for the deepwater complex (blueline tilefish landings comprise the bulk of landings) from the NMFS Quota Monitoring Website (2/18/14) were 383,951 lb ww (112% of the 343,869 lb ww quota) and the commercial fishery was closed on 9/8/12.

Commercial 2013 landings were 272,947 lb ww (73% of the 376,469 lb ww quota).

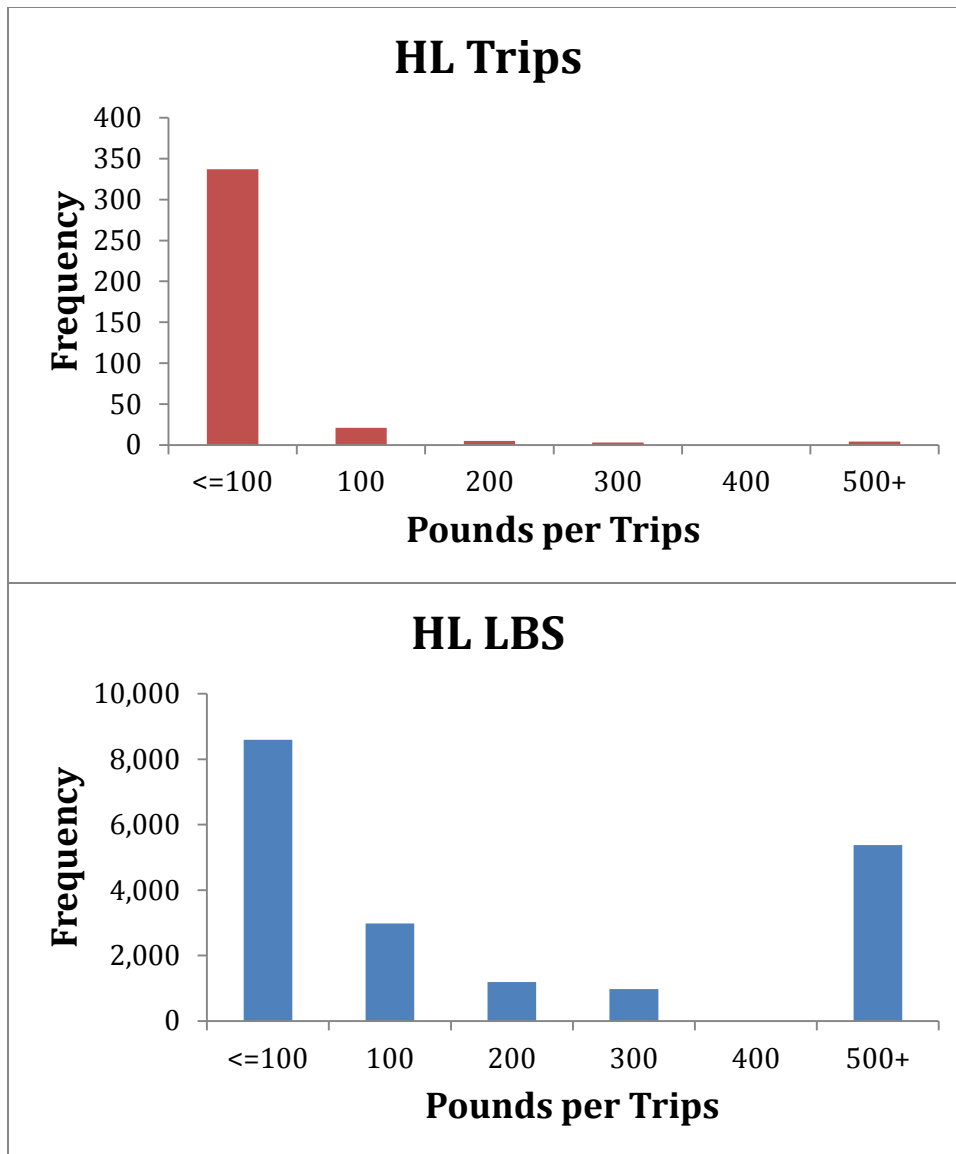
Looking at historical commercial catch by trip (some of which is confidential) back to 1996, some trends are evident. For hook-and-line, most trips landed below 100 lb/trip but there have been some above 3,000 lb/trip particularly in 2008 and 2009. For longline, most trips landed below 100 lb/trip in the early years with a gradual shift to higher landings and, from 2008 onwards, most trips landed above 3,000 lb/trip.

Looking at 2012 landings in more detail, the catch frequency by trip and pounds is shown in **Table 2-1**, **Figure 2-1**, and **Figure 2-2**. As can be seen, 91% of hook-and-line trips landed less than or equal to 100 lb/trip representing 45% of the pounds harvested by hook-and-line. For longline trips, 11% of the trips landed greater than 4,500 lb/trip representing 25% of the pounds harvested by longline. The impacts in terms of reduction in trips and/or landings can be seen in **Table 2-1** for various trip limits.

**Table 2-1.** Catch frequency table for commercial hook-and-line and longline sectors using 2012 commercial logbook data (lb ww).

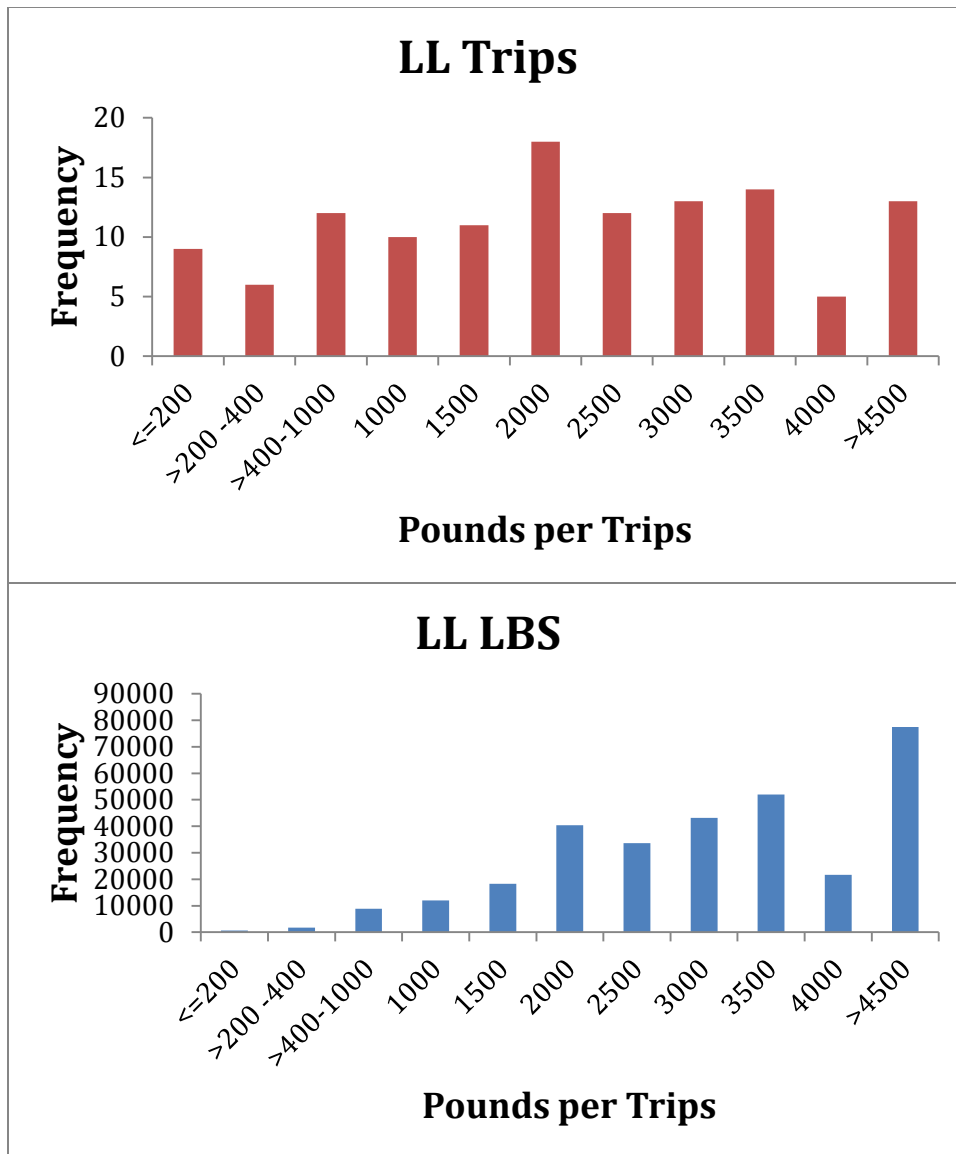
<b>Pounds ww</b>	<b>HL LBS WW</b>	<b>HL Trips</b>	<b>%Trips</b>	<b>%LBS</b>	<b>Pounds ww</b>	<b>LL Trips</b>	<b>LL LBS WW</b>	<b>%Trips</b>	<b>%LBS</b>
<b>&lt;=100</b>	8,590	337	91%	45%	<b>&lt;=200</b>	9	618	7%	0%
<b>100</b>	2,980	21	6%	16%	<b>&gt;200-400</b>	6	1,690	5%	1%
<b>200</b>	1,193	5	1%	6%	<b>&gt;400-1000</b>	12	8,903	10%	3%
<b>300</b>	974	3	1%	5%	<b>1000</b>	10	12,023	8%	4%
<b>400</b>	0	0	0%	0%	<b>1500</b>	11	18,286	9%	6%
<b>500+</b>	5,372	4	1%	28%	<b>2000</b>	18	40,445	15%	13%
<b>Totals</b>	19,109	370			<b>2500</b>	12	33,611	10%	11%
					<b>3000</b>	13	43,148	11%	14%
					<b>3500</b>	14	51,995	11%	17%
					<b>4000</b>	5	21,661	4%	7%
					<b>&gt;4500</b>	13	77,441	11%	25%
					<b>Totals</b>	123	309,821		

Source: Jessica Stephen, NMFS SERO logbook data.



**Figure 2-1.** Catch frequency for commercial hook-and-line using 2012 commercial logbook data (lbs ww).

Source: Jessica Stephen, NMFS SERO logbook data.



**Figure 2-2.** Catch frequency for commercial longline using 2012 commercial logbook data (lbs ww).

Source: Jessica Stephen, NMFS SERO logbook data.

## 2.7 Action 7. Establish Management Measures for Blueline Tilefish for the Recreational Sector

Note: Council may choose multiple preferred alternatives.

**Alternative 1 (No Action).** Retain the current management measures for blueline tilefish for the recreational sector. Blueline tilefish is included in the aggregate grouper bag limit of 3/person/day of: gag, black, snowy, misty, red, scamp, yellowedge, yellowfin, yellowmouth, golden tilefish, sand tilefish, coney, graysby, red hind, and rock hind.

**Alternative 2.** Remove blueline tilefish from the aggregate grouper bag limit.

**Alternative 3.** Establish a bag limit of blueline tilefish of 1/person/day.

**Alternative 4.** Establish a vessel limit of blueline tilefish of 1/vessel/day.

### Discussion

Recreational catch by wave is shown in **Table 2-2** for 2012 and 2013. Expected dates when the recreational ACL would be met can be estimated from this information. The recreational ACL in the emergency rule (if approved) will be 111,893 lb ww and would be exceeded in Wave 1 if 2014 catches are similar to 2013 or not exceeded all year if 2014 catches are similar to 2012 catches (**Table 2-2**). Recreational catches (**Table 2-3** and **Figure 2-3**; including all of Monroe County) have not exceeded this level from 2010 through 2012; however, catches did exceed this level from 2006 through 2009 (**Table 2-3** and **Figure 2-3**). Recreational 2013 landings for the deepwater complex (blueline tilefish landings comprise the bulk of landings) from the NMFS Quota Monitoring Website (2/13/14 with all Monroe County landings assigned to the Gulf) were 315,746 lb ww without MRIP November/December and without headboat for all year. For 2012, recreational landings (MRIP plus headboat but no Monroe County landings) were 107,849 lb ww.

The ABC recommended by the SSC from their April/May 2014 meeting, and the resulting recreational ACL, will be compared with the expected recreational catches to determine what level of bag limit is expected to keep the recreational sector at or below the recreational ACL. These analyses will be available at the June 2014 Council meeting.

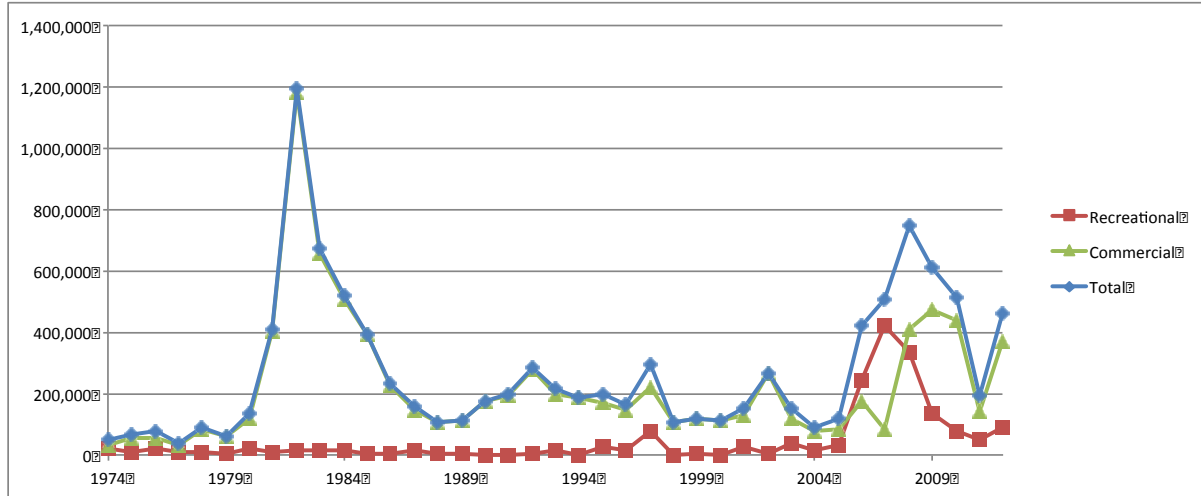
**Table 2-2.** Recreational 2012 and 2013 blueline tilefish catch by wave.

Year	Wave	MRIP Landings (lb ww)*	Year	Rec QMS Landings (lb ww)**
2012	1	9,425	2012	
2012	2	3,767		
2012	3	15,961		
2012	4	33,064		
2012	5	18,906		
2012	6	7,679		
<b>Total</b>		<b>88,803</b>		
2013	1	153,002	2013	
2013	2	9,525		
2013	3	7,125		
2013	4	41,617		
2013	5	3,080		
2013	6	212		
<b>Total</b>		<b>214,561</b>	<b>Total</b>	<b>315,746</b>

*Note: Headboat landings are not included in the 2013 landings, but are included in the 2012 landings. Wave 6 for 2013 not available yet.	**Source: SERO Recreational QMS Website (2/13/14) Landings for Deepwater Complex (bulk of landings is blueline tilefish). 2013 data do not include headboat all year.
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Prepared by Mike Errigo & Gregg Waugh from MRIP and SERO Recreational QMS Website.

Blueline tilefish landings (commercial, recreational, and total) from 1974 through 2012 are shown in **Figure 2-3** and **Table 2-3**.



**Figure 2-3.** Observed blueline tilefish landings by sector in the South Atlantic region, 1974-2012.

Source: SAFMC 2013 from data shown in Table 4 from SEDAR 32.

**Table 2-3.** Observed blueline tilefish landings (lb ww) by sector in the South Atlantic, 1974-2012 from SEDAR 32.

Year	Recreational	Commercial	Total
1974	18,519	33,000	51,519
1975	11,112	56,456	67,568
1976	19,560	55,774	75,334
1977	7,216	30,995	38,211
1978	9,547	82,713	92,260
1979	2,004	59,799	61,803
1980	19,049	118,264	137,313
1981	7,256	403,605	410,861
1982	15,934	1,180,617	1,196,551
1983	17,455	656,690	674,145
1984	13,602	506,472	520,074
1985	2,596	392,055	394,651
1986	2,179	228,678	230,857
1987	13,982	145,070	159,052
1988	1,200	107,083	108,283
1989	1,200	112,612	113,812
1990	757	175,125	175,882
1991	802	194,854	195,656
1992	2,782	279,529	282,311
1993	13,509	200,204	213,713
1994	146	188,238	188,384
1995	26,466	170,881	197,347
1996	15,306	148,246	163,552
1997	78,196	219,988	298,184
1998	259	107,654	107,913
1999	3,718	116,243	119,961
2000	419	112,433	112,852
2001	23,836	127,824	151,660
2002	3,352	265,558	268,910
2003	36,122	119,079	155,201
2004	12,813	76,709	89,522
2005	32,349	83,936	116,285
2006	246,511	173,002	419,513
2007	422,938	85,103	508,041
2008	332,915	412,178	745,093
2009	137,860	474,844	612,704
2010	76,059	438,049	514,108
2011	51,779	141,502	193,281
2012	88,803	370,729	459,532



## **2.8 Action 8. Establish a Rebuilding Plan for Blueline Tilefish**

Blueline tilefish is currently overfished as defined by the current definition of the minimum stock size threshold (MSST). The Council is currently developing Regulatory Amendment 21 that considers revisions to the MSST for certain species in the snapper grouper FMU, including blueline tilefish. Depending on approval of those actions and the timing of Regulatory Amendment 21 and Amendment 32, blueline tilefish may not be overfished and a rebuilding plan would not be required.

## Chapter 3. **Affected Environment**

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

### ***Affected Environment***

- **Habitat environment (Section 3.1)**

Examples include coral reefs and sea grass beds

- **Biological and ecological environment (Section 3.2)**

Examples include populations of red snapper, corals, and turtles

- **Human environment (Section 3.3)**

Examples include fishing communities and economic descriptions of the fisheries

- **Administrative environment (Section 3.4)**

Examples include the fishery management process and enforcement activities

## **3.1 Habitat Environment**

### **3.1.1 Inshore/Estuarine Habitat**

Many 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. Additional information on the habitat utilized by species in the Snapper Grouper Complex is included in Volume II of the Fishery Ecosystem Plan (FEP, SAFMC 2009b) and incorporated here by reference. The FEP can be found at: <http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx>.

### **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 ft) or greater for live-bottom habitats, 55 to 110 meters (180 to 360 ft) for the shelf-edge habitat, and from 110 to 183 meters (360 to 600 ft) for lower-shelf habitat areas.

The exact extent and distribution of productive snapper grouper habitat on the continental shelf north of Cape Canaveral, Florida, 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 ft), 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, Florida, the continental shelf narrows from 56 to 16 kilometers (35 to 10 mi) wide 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 ft). 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-meter (89 and 331 ft) 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 ft) 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 Area Monitoring, Assessment, and Prediction Program (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 Council's online map services provided by the newly developed SAFMC Habitat and Ecosystem Atlas: [http://ocean.floridamarine.org/safmc\\_atlas/](http://ocean.floridamarine.org/safmc_atlas/). An introduction to the system is found at: <http://www.safmc.net/EcosystemManagement/EcosystemBoundaries/MappingandGISData/tabid/632/Default.aspx>.

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 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 ft (but to at least 2,000 ft 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-ft) 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.

### **3.1.4 Habitat Areas of Particular Concern**

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

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

In addition to protecting habitat from fishing related degradation though fishery management plan regulations, the Council, in cooperation with National Marine Fisheries Service (NMFS), actively comments on non-fishing projects or policies that may impact essential fish habitat. With guidance from the Habitat Advisory Panel, the 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; and marine invasive species and estuarine invasive species.

## 3.2 Biological and Ecological Environment

### 3.2.1 Fish Populations Affected by this Amendment

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit contains 59 species of fish, many of them neither “snappers” nor “groupers”. These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (black sea bass, red porgy) while the tropical variety’s core residence is in the waters off south Florida, 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 document.

Several species in the snapper-grouper fishery management unit, though they occupy the same time and space in the reef environment, occupy different trophic niches. For example, blueline tilefish consume a higher diversity of organisms and prey that is more closely associated with the bottom (Bielsa et al 1987). In contrast, the diet of snowy grouper is more specialized and prey items are found higher in the water column. It has been suggested that the different trophic niches reduces the interspecific competition for food items among these two species (Bielsa et al 1987).

Snapper grouper species that reside in deep-water could be affected by the action. In addition to

#### Blueline Tilefish Life History *An Overview*



- Extend from North Carolina to southern Florida and Mexico, including the Gulf of Mexico
- Waters ranging from 98-774 feet
- The fish caught off of VA are considered a part of the South Atlantic stock
- The spawning season extends from March to October, peaking May.
- Oldest fish discovered is 43 years old.

blueline tilefish, snapper grouper species most likely to be affected by the proposed actions includes 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 (See Section 3.2.5 for a discussion of the deep-water species).

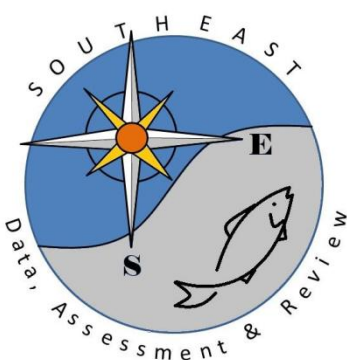
### 3.2.2 Blueline Tilefish, *Caulolatilus microps*

Blueline tilefish occurs in the Western Atlantic Ocean, North Carolina to southern Florida and Mexico, including the northern (and probably eastern) Gulf of Mexico (Dooley 1978). Blueline tilefish are found along the outer continental shelf, shelf break, and upper slope on irregular bottom with ledges or crevices, and around boulders or rubble piles in depths of 30-236 m (98-774 ft) and temperatures ranging from 15 to 23° C (59-73.4° F) (Ross 1978; Ross and Huntsman 1982; Robins and Ray 1986; Parker and Mays 1998). Maximum reported size is 90 cm (35.4 in) FL (SEDAR 32 2013) and 7 kg (15 lb) (Dooley 1978). Maximum reported age is 43 years (SEDAR 32 2013). The SEDAR group estimated the natural mortality rate to be 0.1 (SEDAR 32 2013). Spawning occurs at night, from March to October, with a peak in May (SEDAR 32 (2013) using information from Harris et al. (2004)). Blueline tilefish primarily feeds on benthic invertebrates and fishes (Dooley 1978).

### 3.2.3 Stock Status of Blueline Tilefish

Stock assessments, through the evaluation of biological and statistical information, provide an evaluation of stock health under the current management regime and other potential future harvest conditions. More specifically, the assessments provide an estimation of maximum sustainable yield (MSY) and a determination of stock status (whether *overfishing* is occurring and whether the stock is *overfished*).

The Southeast Data, Assessment, and Review (SEDAR) process, initiated in 2002, is a cooperative Fishery Management Council process intended to improve the quality, timeliness and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and US Caribbean. SEDAR is managed by the Caribbean, Gulf of Mexico, and South Atlantic Fishery Management Councils in coordination with NMFS and the Atlantic and Gulf States Marine



Fisheries Commissions. SEDAR emphasizes constituent and stakeholder participation in assessment development, transparency in the assessment process, and a rigorous and independent scientific review of completed stock assessments.

Following an assessment, the South Atlantic Fishery Management Council's (Council) Scientific and Statistical Committee (SSC) reviews the stock assessment information and advises the Council on whether the stock assessment was performed utilizing the best available data and whether the

outcome of the assessment is suitable for management purposes.

The results of SEDAR 32, utilizing the most recent data from 2011, determined that the blueline tilefish stock to be undergoing overfishing and overfished (**Table 3-1**). The SSC reviewed the assessment at their October 2013 meeting and approved it as the best available science and usable for management purposes. The Council, through Amendment 32 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP), intends to implement management measures to end overfishing and rebuild the stock. See **Appendix D** for a history of management of blueline tilefish.

**Table 3-1. Stock status of blueline tilefish.**

	<b>SEDAR 32</b> (2011 most recent data)
<b>Overfishing</b> ( $F_{CURR}/MFMT$ value)	Yes (1.30)
<b>Overfished</b> ( $B_{CURR}/MSST$ value)	Yes (0.909)
<ul style="list-style-type: none"> <li>• <math>F_{CURR} = F_{2011}</math></li> <li>• If <math>F_{CURR} &gt; MFMT</math>, then undergoing overfishing. The higher the number, the greater degree of overfishing.</li> <li>• If <math>B_{CURR} &lt; MSST</math>, then overfished. The lower the number, the greater degree of overfished.</li> <li>• Note: The stock status is from the base run. Changing the base run changes the level of overfishing/overfished.</li> </ul>	



### 3.2.4 Other Fish Species Affected

The following species are in the deep-water complex. For details on the life histories and ecology of these species, the reader is referred to Volume II of the Fishery Ecosystem Plan (SAFMC 2009b) available at:

<http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx>.

**black snapper**

*(Apsilus dentatus)*

**blackfin snapper**

*(Lutjanus buccanella)*

**blueline tilefish**

*(Caulolatilus microps)*

**misty grouper**

*(Epinephelus mystacinus)*

**queen snapper**

*(Etelis oculatus)*

**sand tilefish**

*(Malacanthus plumieri)*

**silk snapper**

*(Lutjanus vivanus)*

**yellowedge grouper**

*(Epinephelus flavolimbatus)*