Regulatory Amendment 13

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

Revision of Acceptable Biological Catches, Annual Catch Limits (ACLs, including Sector ACLs), and Annual Catch Targets

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Environmental Assessment

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Abbreviations and Acronyms Used in the FMP

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

Regulatory Amendment 13 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region with Environmental Assessment

Proposed action:	Revise acceptable biological catches, annual catch limits (ACLs, including sector ACLs), and annual catch targets for select un-assessed species in the snapper grouper fishery management unit.
Lead agency:	FMP Amendment – South Atlantic Fishery Management Council Environmental Assessment – National Marine Fisheries Service (NMFS) Southeast Regional Office
For Further Information Contact:	Robert K. Mahood South Atlantic Fishery Management Council 4055 Faber Place, Suite 201 North Charleston, SC 29405 843-571-4366 866-SAFMC-10 Robert.Mahood@safmc.net Phil Steele NMFS, Southeast Region 263 13th Avenue South St. Petersburg, FL 33701 727-824-5301 Phil.Steele@noaa.gov

Summary

The Comprehensive Annual Catch Limit (ACL) Amendment included Amendment 25 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP). The South Atlantic Fishery Management Council (South Atlantic Council) approved the amendment at the September 2011 meeting, and the final rule for the Comprehensive ACL Amendment published on March 16, 2012 (77 FR 15916), and was implemented on April 16, 2012. As part of this final rule, acceptable biological catches (ABCs), ACLs (including sector ACLs), annual catch targets (ACTs), and accountability measures (AMs) were established for species in the snapper grouper fishery management unit (FMU). Recreational catch estimates in the Comprehensive ACL Amendment were computed using data generated by the Marine Recreational Fisheries Statistics Survey (MRFSS). Following an independent review by the National Research Council and a mandate from Congress, the National Marine Fisheries Service (NMFS) has overhauled MRFSS. The Marine Recreational Information Program (MRIP) was developed to provide more accurate recreational catch estimates by accounting for potential biases such as possible differences in catch rates at high-activity and low-activity fishing sites, as well as the amount of fishing occurring at different parts of the day. MRIP methods have been used to recalculate previous MRFSS estimates dating back to 2004, and will be the basis for all new recreational catch estimates moving forward. The NMFS Southeast Regional Office and NMFS Southeast Fisheries Science Center have used ratio estimators to further revise the MRFSS estimates back to 1986. In addition to MRIP data, ACLs will be updated to include revisions to commercial and for-hire landings. The changes in data impact the allocations to the commercial and recreational sectors because the underlying formula used to establish the allocations remains unchanged from what was implemented previously in the Comprehensive ACL Amendment. In the near future, NMFS Office of Science and Technology will attempt to use MRFSS data to develop MRIP re-estimates for the years 1998-2003; however, it is not expected these re-estimates would be completed in 2013.

The South Atlantic Council stated in **Section 1.4** of the Comprehensive ACL Amendment that necessary changes to the ABCs, ACLs, ACTs, and AMs for snapper grouper species would be made through the framework procedure modified in Amendment 17B to the Snapper Grouper FMP, which is a more rapid process than a plan amendment. If the ABC, ACL, and ACT values are not updated with the new MRIP estimates, the result would be ACLs set using MRFSS data while the landings being used to track the ACLS will be estimated using MRIP data. This would result in a disconnect in how ACLs are calculated versus how they are monitored. Furthermore, correction of estimates for earlier years will also be considered in the future. In June 2012, the South Atlantic Council passed a motion to update the ACLs (including sector ACLs) and ACTs in a framework action.

Regulatory Amendment 13 to the Snapper Grouper FMP (Regulatory Amendment 13) revises the ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed

species in the snapper grouper FMU, and reflects the intent of the South Atlantic Council. Updates will include data through 2008 since that was the last year used in the Comprehensive ACL Amendment to establish ACLs. Additionally, species in the snapper grouper FMU with stock assessments (including those in Amendments 17A and 17B to the Snapper Grouper FMP); species with ABC=0 landings; and those species not utilizing a formula to calculate their ABC in the Comprehensive ACL Amendment are excluded from Regulatory Amendment 13.

The intent of Regulatory Amendment 13 is to prevent unnecessary negative socio-economic impacts that may otherwise be realized in the snapper grouper fishery and fishing community, in accordance with the provisions set forth in the Magnuson-Stevens Fishery Conservation and Management Act, and to ensure the use of best available science as required by National Standard 2.

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Introduction

1.1 What Actions Are Being Proposed?

Revisions to acceptable biological catches (ABCs), annual catch limits (ACLs) (including sector ACLs), and annual catch targets (ACTs) implemented through the Comprehensive ACL Amendment (SAFMC 2011c) for select un-assessed species in the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) are being proposed.

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 plans/amendments/regulations and submits them to the National Marine Fisheries Service (NMFS) who ultimately approves, disapproves, or partially approves the actions in the 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 who are appointed by the Secretary of Commerce and 4 non-voting members
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and Florida through the Atlantic side of Key West
- Develops management plans/amendments and recommends regulations to NMFS for implementation

1.3 Why is the South Atlantic Council Considering Action?

Recreational catch estimates in the Comprehensive ACL Amendment (SAFMC 2011c) were computed using data generated by the Marine Recreational Fisheries Statistics Survey (MRFSS). Following an independent review by the National Research Council and a mandate from Congress, NMFS has overhauled MRFSS. The Marine Recreational Information Program (MRIP) was developed to provide more accurate recreational catch estimates. The South Atlantic Council stated in the Comprehensive ACL Amendment that they would take action as needed, via plan amendment or framework amendment, to revise the appropriate values, in 2012 and beyond. MRIP methods have been used to recalculate previous MRFSS estimates dating back to 1986, and will be the basis for all new estimates moving forward.

The revisions are necessary because if the ABC, ACL, and ACT values are not updated with the new MRIP estimates, ACLs would be set using MRFSS data while the landings being used to track the ACLs would be estimated using MRIP data. This would result in a disconnect in how ACLs are calculated versus how they are monitored. In addition to MRIP data, ACLs would be updated to include revisions to commercial and for-hire landings. The changes in data impact the allocations to the commercial and recreational sectors because the underlying formula used to establish the allocations remains unchanged from what was implemented previously in the Comprehensive ACL Amendment. Additionally, using MRIP values to estimate recreational landings, as well as updates to headboat and commercial landings represent the best available data and are therefore, in accordance with National Standard 2 of the Magnuson-Stevens Act.

Purpose for Action

The purpose of Regulatory Amendment 13 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 13) is to revise the ABCs, ACLs (including sector ACLs), and ACTs implemented by the Comprehensive ACL Amendment (SAFMC 2011c). The revisions may prevent a disjunction between the established ACLs and the landings used to determine if AMs are triggered. Regulatory Amendment 13 would also ensure that the best available science is utilized, as per National Standard 2.

Need for Action

To prevent unnecessary negative socio-economic impacts that may otherwise be realized in the snapper grouper fishery and fishing community, in accordance with the provisions set forth in the Magnuson-Stevens Fishery Conservation and Management Act.

1.4 Which species are affected by this action?

Thirty-seven species in the snapper grouper fishery management unit (FMU), including 31 species in 6 species complexes, and 6 individual species are included in Regulatory Amendment 13 to the Snapper Grouper FMP (Regulatory Amendment 13) (**Table 1-1**). These species do not have stock assessments; ABC > 0; and their ABC was specified using a formula (3rd highest landings 1999-2008 or median landings 1999-2008). This formula is a component of the ABC control rule established in the Comprehensive ACL Amendment.

Table 1-1. List of 37 un-assessed snapper grouper species for which ABC, ACLs (including sector ACLs), and ACTs would be revised.

Deepwater Complex
Yellowedge grouper
Blueline tilefish
Silk snapper
Misty grouper
Sand tilefish
Queen snapper
Black snapper
Blackfin snapper
Jacks Complex
Almaco jack
Banded rudderfish
Lesser amberjack
Snappers Complex
Gray snapper
Lane snapper
Cubera snapper
Dog snapper
Mahogany snapper
Grunts Complex
White grunt*
Sailors choice
Tomtate
Margate
Shallow-Water Groupers Complex
Red hind
Rock hind
Yellowmouth grouper
Yellowfin grouper
Coney
Graysby
Porgies Complex
Jolthead porgy
Knobbed porgy
Saucereye porgy
Scup
Whitebone porgy
Individual Species
Atlantic spadefish
Blue runner
Bar jack
Gray triggerfish**
Scamp
Hogfish

*White grunt includes unclassified grunts because only one state identifies grunts to the species level. **Includes unclassified triggerfishes because commercial landings of triggerfish are not identified to the species level.
Note: Nassau grouper, goliath grouper, speckled hind, and warsaw grouper are not included since their ABC = 0 landings.

Seventeen species in the snapper grouper FMU with stock assessments (including those addressed in Amendments 17A and 17B to the Snapper Grouper FMP); species with ABC=0 landings; and those species not utilizing a formula to calculate their ABC in the Comprehensive ACL Amendment are excluded from Regulatory Amendment 13 (**Table 1-2**). The MRIP calibration workshop (**Appendices C** and **D**) recommended that assessed species be handled separately, and that the adjustments to the landings data be made during assessment updates/revisions. ABCs, ACLs (including sector ACLs), and ACTs for the 17 species in **Table 1-2** will be revised in future amendments (or regulatory notices) to the Snapper Grouper FMP. Also excluded are six ecosystem component species (EC), which were exempt from the requirement of establishing ACLs in the Comprehensive ACL Amendment. The EC species are: Schoolmaster; cottonwick; longspine porgy; ocean triggerfish; bank sea bass; and rock sea bass.

Table 1-2. List of the 17 species for which ABCs, ACLs (including sector ACLs), and ACTs would ***not*** be revised in Regulatory Amendment 13.

Species
Red snapper
Black sea bass
Gag
Golden tilefish
Snowy grouper
Red porgy
Vermilion snapper
Greater amberjack
Yellowtail snapper
Mutton snapper
Black grouper
Red grouper
Nassau grouper
Goliath grouper
Speckled hind
Warsaw grouper
Wreckfish

1.5 What are the data sources considered in this amendment?

The Comprehensive ACL Amendment (SAFMC 2011c) established preferred methods for the computation of ABC, allocations of ABC to sectors for the establishment of sector ACLs, and recreational ACTs. The Comprehensive ACL Amendment contained computations of these values using datasets from 15 September 2010 (Recreational ACL Data) and 8 October 2010 (Commercial ACL Data), both provided by the Southeast Fisheries Science Center (SEFSC). The commercial ACL dataset provided additional quality assurance and quality control (QA/QC) on commercial data obtained from the Accumulated Landings System, which assimilates landings data obtained from dealer-reporting and assigns catch to region based on fisher-reported catch area. The recreational ACL dataset provided additional QA/QC on recreational catch data reported by the SEFSC Headboat Survey (HBS) and MRFSS. One of the major features of this QA/QC is that the MRFSS survey periodically provides no poundage for landings estimates for fish if there is insufficient biological sampling; whereas, the SEFSC methodology backfills these gaps using statistically-robust weight estimation methods.

Since the implementation of the Comprehensive ACL Amendment, there have been substantial improvements in the data collection and catch estimation methodologies that are used to generate the data for the computation of ABCs, ACLs, and ACTs.

Regulatory Amendment 13 presents ABCs, ACLs, and ACTs computed using methods identical to those used in the Comprehensive ACL Amendment to update these management parameters with the data that will be used to monitor ACLs in the future. The same computational methodologies are used so that the new values reflect the South Atlantic Council and Scientific and Statistical Committee's (SSC) intent as specified in the Comprehensive ACL Amendment. All changes are due to improvements in the underlying data only.

The first updated dataset referred to as the "New MRFSS & Commercial" data contains updated HBS and MRFSS data (1986-2008) and updated commercial data (1986-2008). The 30 August 2012 recreational ACL and the 3 July 2012 commercial datasets were used to generate these combined data. In addition to minor revisions of historical catch data generated by removal of duplicate records and other QA/QC activities, these data feature two major differences from the datasets used in the Comprehensive ACL Amendment: (1) A more statistically robust MRFSS weight backfill procedure and (2) an improved charter calibration method for MRFSS (1986-2004) data (see SEDAR25 Data Workshop Report in SEDAR25 (2011), for details). The updated ABCs, ACLs, and ACTs computed from these data are shown simply to facilitate a more direct comparison with the impacts of switching from MRFSS-based to MRIP-based recreational data.

The final dataset, referred to herein as the "MRIP & New Commercial" data, replaces the MRFSS-based recreational data with MRIP-based recreational data. These are the data that are used in Regulatory Amendment 13 under Alternative 2 to generate the final ABC, allocation, ACL, and ACT values. These data are based upon the 3 July 2012 commercial ACL and the 1 October 2012 recreational ACL datasets. The updated recreational ACL dataset contains MRIP official re-estimates (2004-2008) and recalibrated MRFSS data (1986-2003). The MRIP process was begun in 2004 to address issues identified by the National Research Council (NRC) in the existing MRFSS program. The goal of MRIP is to provide more detailed, timely, and reliable estimates of marine recreational fishing catch and effort. One step in this process was to take

old MRFSS data (2004-2011) and re-estimate it using MRIP methods that remove sources of bias identified by the NRC. Using these official MRIP estimates, the Southeast Regional MRIP Recalibration Working Group developed recalibration methods to address regional needs, following the procedures recommended by the MRIP Ad-Hoc Working Group (**Appendix D**). The MRFSS data (1986-2003) are recalibrated to be more appropriately scaled to MRIP using a ratio of mean landings in numbers at the stock, sub-region, and mode level (when available), based upon the MRFSS (2004-2011) and MRIP (2004-2011) data. These ratios were then applied at each stratum (stock, sub-region, year, wave, state, mode, and area) to the catches to develop the recalibrated MRFSS dataset. Average weights were then assigned to strata using the SEFSC's statistically robust weight estimation procedure, and total landings in pounds were computed.

Chapter 2. Proposed Action

2.1 List of Alternatives

2.1.1 Action: Revise the acceptable biological catches (ABCs), annual catch limits (ACLs, including sector ACLs), and annual catch targets (ACTs) for select un-assessed species in the snapper grouper fishery management unit (FMU).

Alternative 1. No action. Do not revise ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed species in the snapper grouper FMU. Data would not be updated with data from Marine Recreational Information Program (MRIP), commercial, and for-hire landings.

Alternative 2 (Preferred). Revise the ABCs, ACL (including sector ACLs), and ACTs for select un-assessed species in the snapper grouper FMU. Data will be updated with data from MRIP, commercial, and for-hire landings.

Comparison of Alternatives

Alternative 1 (No Action) would retain the ABCs, ACLs (including sector ACLs), and ACTs that were analyzed and implemented by the Comprehensive ACL Amendment (SAFMC 2011c); whereas, **Alternative 2 (Preferred)** would update these parameters based on new information from the Marine Recreational Information Program. Greater biological benefits are expected under **Alternative 2 (Preferred)** as opposed to **Alternative 1** (**No Action**), however, these benefits are expected to be negligible. While the percent differences in the revised ABCs and ACLs in Regulatory Amendment 13 may be relatively small from the status quo levels, the data revealed by new and updated methodology more accurately represent the fishing effort for these species, and would be more likely to trigger accountability measures (AMs) when needed. In contrast, **Alternative 1 (No Action)** could either result in triggering an AM when it is not needed, or not trigger an AM when it is needed. Therefore, both direct and indirect biological effects to the fishery resource could be expected.

Alternative 2 (Preferred), which would update commercial landing data as well as replace MRFSS data with MRIP data, would make adjustments to ACLs for the 37 un-assessed stocks affected by this regulatory amendment. As a result of the ACLs changing, there would be expected to be economic effects for those species depending on when the new ACL is met and an AM is triggered. However, other stocks not affected based on 2012 landings, the first year the **Alternative 1 (No Action)** values were in place, could be affected in future years should fishing behavior change from what has been observed thus far.

The social effects of potential changes in the ACLs for the 37 species (**Preferred Alternative 2**) are expected to occur in the short and long term, and are closely associated with biological and economic impacts of these actions. Overall, adjustments in ACLs based on improved information would be beneficial to the species and would likely produce long-term benefits to the fishermen, coastal communities, and fishing businesses by contributing to sustainable harvest of these fish in the present and future. Negative social impacts would result from expected economic impacts on the fishermen and communities through lower quotas relative to recent catch history, and associated AMs. The negative effects of AMs such as early closures and paybacks (which in turn increase the likelihood of an earlier closure in the following year) are usually short-term, but they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether.

The mechanisms for monitoring and documentation of ABCs, ACLs (including sector ACLs), ACTs, and AMs are already in place with the implementation of the Comprehensive ACL Amendment (SAFMC 2011c), and reflects **Alternative 1** (**No Action**). Regulatory Amendment 13 would not implement any new mechanisms. Therefore, the administrative impacts of **Alternative 2 (Preferred)** would be minimal, and not differ much when compared with **Alternative 1** (**No Action**).

Changes to the ABCs from the values in the Comprehensive ACL Amendment (SAFMC 2011c) resulting from the new datasets are shown in **Table 2-1**. Changes to the allocations from the values in the Comprehensive ACL Amendment (SAFMC 2011c) resulting from the new datasets are shown in **Table 2-2**. Changes to the ACLs from the values in the Comprehensive ACL Amendment (SAFMC 2011c) resulting from the new datasets are shown in **Table 2-3**. Changes to the recreational ACTs from the values in the Comprehensive ACL Amendment (SAFMC 2011c) resulting from the new datasets are shown in **Table 2-4**. New ABCs, ACLs (including sector ACLs), and recreational ACTs are shown in **Table 2-5**.

Table 2-1. Acceptable biological catch (ABC) in pounds (lbs) whole weight (ww), for 37 un-assessed snapper grouper species implemented by the Comprehensive ACL Amendment (SAFMC 2011c) **(Alternative 1, No Action)**. Also shown are ABC values following identical computational methods using two updated data sources: (1) "New MRFSS & Commercial"- updated MRFSS data (1986-2008) and updated commercial data (1986-2008) and (2) "MRIP & New Commercial"- MRIP official re-estimates (2004-2008), recalibrated MRFSS data (1986-2003), and updated commercial data (1986-2008) **(Preferred Alternative 2)**.

STOCK OR STOCK COMPLEX NAME	ABC (lbs ww)			DIFFERENCE FROM COMP ACL AM (lbs ww (%))	
	Comprehensive ACL Amendment (Alt. 1)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)
DEEPWATER	**675,908**	**707,030**	**711,025**	**31,123 (4.60%)**	**35,118 (5.20%)**
Yellowedge grouper	30,221	30,221	30,221	0 (0.00%)	0 (0.00%)
Blueline tilefish	592,602	624,028	631,341	31,426 (5.30%)	38,739 (6.54%)
Silk Snapper	27,519	27,529	25,104	10 (0.04%)	-2,415 (-8.77%)
Misty grouper	2,863	2,863	2,863	0 (0.00%)	0 (0.00%)
Sand tilefish	8,823	8,521	7,983	-302 (-3.43%)	-840 (-9.52%)
Queen snapper	9,344	9,306	9,466	-37 (-0.40%)	123 (1.31%)
Black snapper	382	382	382	0 (0.00%)	0 (0.00%)
Blackfin snapper	4,154	4,181	3,665	27 (0.65%)	-489 (-11.77%)
JACKS	**455,489**	**449,739**	**457,221**	**-5,750 (-1.26%)**	**1,732 (0.38%)**
Almaco jack	291,922	286,196	302,517	-5,726 (-1.96%)	10,595 (3.63%)
Banded rudderfish	152,999	152,966	145,434	-33 (-0.02%)	-7,565 (-4.94%)
Lesser amberjack	10,568	10,577	9,270	9 (0.09%)	-1,298 (-12.28%)
SNAPPERS	**1,086,940**	**1,085,914**	**944,239**	**-1,026 (-0.09%)**	**-142,700 (-13.13%)**
Gray snapper	894,019	893,161	795,743	-858 (-0.10%)	-98,276 (-10.99%)
Lane snapper	153,466	153,466	119,984	0 (0.00%)	-33,482 (-21.82%)
Cubera snapper	31,772	31,602	24,680	-170 (-0.53%)	-7,092 (-22.32%)
Dog snapper	7,523	7,525	3,285	2 (0.03%)	-4,237 (-56.33%)
Mahogany snapper	160	160	548	0 (0.00%)	388 (242.43%)

STOCK OR STOCK COMPLEX NAME	ABC (lbs ww)			DIFFERENCE FROM COMP ACL AM (lbs ww (%))	
	Comprehensive ACL Amendment (Alt. 1)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)
GRUNTS	**776,774**	**805,874**	**806,652**	**29,099 (3.75%)**	**29,878 (3.85%)**
White grunt	635,899	663,390	674,033	27,491 (4.32%)	38,134 (6.00%)
Sailors choice	35,266	36,920	22,674	1,655 (4.69%)	-12,592 (-35.71%)
Tomtate	70,948	70,948	80,056	0 (0.00%)	9,109 (12.84%)
Margate	34,662	34,616	29,889	-46 (-0.13%)	-4,773 (-13.77%)
SHALLOW WATER GROUPERS	**97,817**	**97,745**	**96,432**	**-73 (-0.07%)**	**-1,386 (-1.42%)**
Red hind	25,885	25,875	24,867	-10 (-0.04%)	-1,018 (-3.93%)
Rock hind	37,569	37,577	37,953	8 (0.02%)	384 (1.02%)
Yellowmouth grouper	4,661	4,692	4,040	31 (0.66%)	-621 (-13.33%)
Yellowfin grouper	9,258	9,258	9,258	0 (0.00%)	0 (0.00%)
Coney	2,589	2,584	2,718	-4 (-0.16%)	129 (4.98%)
Graysby	17,856	17,757	17,597	-98 (-0.55%)	-258 (-1.45%)
PORGIES	**147,614**	**150,041**	**143,263**	**2,428 (1.64%)**	**-4,351 (-2.95%)**
Jolthead porgy	42,533	42,533	37,885	0 (0.00%)	-4,647 (-10.93%)
Knobbed porgy	61,194	64,130	67,441	2,936 (4.80%)	6,248 (10.21%)
Saucereye porgy	4,205	3,710	3,606	-495 (-11.78%)	-599 (-14.25%)
Scup	8,999	8,999	9,306	0 (0.00%)	308 (3.42%)
Whitebone porgy	30,684	30,671	25,024	-13 (-0.04%)	-5,660 (-18.45%)
INDIVIDUAL STOCKS					
Atlantic spadefish	282,841	283,177	189,460	336 (0.12%)	-93,381 (-33.02%)
Blue runner	1,289,941	1,288,716	1,125,729	-1,225 (-0.09%)	-164,212 (-12.73%)
Bar jack	20,520	19,684	24,780	-836 (-4.07%)	4,260 (20.76%)

STOCK OR STOCK COMPLEX NAME	ABC (lbs ww)			DIFFERENCE FROM COMP ACL AM (lbs ww (%))	
	Comprehensive ACL Amendment (Alt. 1)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)
Gray triggerfish	672,565	672,565	626,518	0 (0.00%)	-46,047 (-6.85%)
Scamp	492,572	499,255	509,788	6,683 (1.36%)	17,216 (3.50%)
Hogfish	147,638	147,971	134,824	333 (0.23%)	-12,814 (-8.68%)

Note: Updated MRFSS data incorporate changes in SEFSC's weight back-fill procedure and changes in charter mode calibration approaches presented in SEDAR-25 DW. Recalibrated MRFSS landings are scaled to MRIP as described by SEDAR31 DW. ACLs listed for each complex group are determined by summing the individual ACLs for each species in the complex. In some cases, the summed complex ACL value does not add up exactly to the sum of the values of the individual species. In each case the discrepancy is due to the rounding of values to whole pounds for the table. All ACLs for each complex will be based on the summed complex values shown in the table.

Table 2-2. Percent allocations for 37 un-assessed snapper grouper species implemented by the Comprehensive ACL Amendment (SAFMC 2011c) **(Alternative 1, No Action)**. Also shown are percent allocation values following identical computational methods using two updated data sources: (1) "New MRFSS & Commercial"- updated MRFSS data (1986-2008) and updated commercial data (1986-2008) and (2) "MRIP & New Commercial"- MRIP official re-estimates (2004-2008), recalibrated MRFSS data (1986-2003), and updated commercial data (1986-2008) **(Preferred Alternative 2)**. Differences from Comprehensive ACL Amendment values are also shown.

STOCK OR STOCK COMPLEX NAME	COMMERCIAL ALLOCATIONS			RECREATIONAL ALLOCATIONS			DIFFERENCE: COMMERCIAL		DIFFERENCE: RECREATIONAL	
	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)
DEEPWATER										
Yellowedge grouper	96.19%	96.49%	90.77%	3.81%	3.51%	9.23%	0.30%	-5.42%	-0.30%	5.42%
Blueline tilefish	47.39%	47.30%	50.07%	52.61%	52.70%	49.93%	-0.09%	2.68%	0.09%	-2.68%
Silk Snapper	73.14%	73.13%	73.95%	26.86%	26.87%	26.05%	-0.02%	0.80%	0.02%	-0.80%
Misty grouper	70.91%	70.89%	83.42%	29.09%	29.11%	16.58%	-0.02%	12.51%	0.02%	-12.51%
Sand tilefish	16.22%	16.63%	22.17%	83.78%	83.37%	77.83%	0.41%	5.95%	-0.41%	-5.95%
Queen snapper	93.12%	93.75%	92.50%	6.88%	6.25%	7.50%	0.64%	-0.62%	-0.64%	0.62%
Black snapper	91.52%	93.01%	95.92%	8.48%	6.99%	4.08%	1.49%	4.40%	-1.49%	-4.40%
Blackfin snapper	31.68%	31.11%	29.91%	68.32%	68.89%	70.09%	-0.57%	-1.77%	0.57%	1.77%
JACKS										
Almaco jack	51.53%	51.54%	48.70%	48.47%	48.46%	51.30%	0.01%	-2.84%	-0.01%	2.84%
Banded rudderfish	25.25%	25.36%	26.01%	74.75%	74.64%	73.99%	0.11%	0.76%	-0.11%	-0.76%
Lesser amberjack	46.62%	46.94%	46.07%	53.38%	53.06%	53.93%	0.32%	-0.55%	-0.32%	0.55%
SNAPPERS										
Gray snapper	20.00%	19.99%	24.23%	80.00%	80.01%	75.77%	-0.01%	4.23%	0.01%	-4.23%
Lane snapper	12.21%	12.23%	14.75%	87.79%	87.77%	85.25%	0.01%	2.53%	-0.01%	-2.53%
Cubera snapper	19.75%	19.87%	19.57%	80.25%	80.13%	80.43%	0.12%	-0.18%	-0.12%	0.18%

STOCK OR STOCK COMPLEX NAME	COMMERCIAL ALLOCATIONS			RECREATIONAL ALLOCATIONS			DIFFERENCE: COMMERCIAL		DIFFERENCE: RECREATIONAL	
	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)
Dog snapper	9.41%	9.40%	8.31%	90.59%	90.60%	91.69%	-0.01%	-1.10%	0.01%	1.10%
Mahogany snapper	5.05%	7.73%	6.49%	94.95%	92.27%	93.51%	2.69%	1.44%	-2.69%	-1.44%
GRUNTS										
White grunt	32.67%	32.29%	31.59%	67.33%	67.71%	68.41%	-0.38%	-1.08%	0.38%	1.08%
Sailors choice	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Tomtate	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Margate	19.83%	18.82%	18.88%	80.17%	81.18%	81.12%	-1.01%	-0.95%	1.01%	0.95%
SHALLOW WATER GROUPERS										
Red hind	73.28%	73.19%	73.60%	26.72%	26.81%	26.40%	-0.10%	0.32%	0.10%	-0.32%
Rock hind	62.54%	62.23%	60.90%	37.46%	37.77%	39.10%	-0.30%	-1.63%	0.30%	1.63%
Yellowmouth grouper	1.35%	1.34%	1.10%	98.65%	98.66%	98.90%	-0.01%	-0.25%	0.01%	0.25%
Yellowfin grouper	40.78%	40.84%	52.70%	59.22%	59.16%	47.30%	0.06%	11.92%	-0.06%	-11.92%
Coney	23.26%	23.25%	24.45%	76.74%	76.75%	75.55%	0.00%	1.20%	0.00%	-1.20%
Graysby	14.48%	14.54%	15.74%	85.52%	85.46%	84.26%	0.06%	1.27%	-0.06%	-1.27%
PORGIES										
Jolthead porgy	4.05%	4.04%	4.15%	95.95%	95.96%	95.85%	0.00%	0.10%	0.00%	-0.10%
Knobbed porgy	54.12%	53.27%	51.18%	45.88%	46.73%	48.82%	-0.84%	-2.94%	0.84%	2.94%
Saucereye porgy	0.01%	0.01%	0.01%	99.99%	99.99%	99.99%	0.00%	0.00%	0.00%	0.00%
Scup	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Whitebone porgy	0.96%	0.95%	1.05%	99.04%	99.05%	98.95%	-0.01%	0.09%	0.01%	-0.09%
INDIVIDUAL										

STOCK OR STOCK COMPLEX NAME	COMMERCIAL ALLOCATIONS			RECREATIONAL ALLOCATIONS			DIFFERENCE: COMMERCIAL		DIFFERENCE: RECREATIONAL	
	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)
STOCKS										
Atlantic spadefish	12.90%	12.90%	18.53%	87.10%	87.10%	81.47%	0.00%	5.63%	0.00%	-5.63%
Blue runner	14.60%	14.60%	15.77%	85.40%	85.40%	84.23%	0.00%	1.17%	0.00%	-1.17%
Bar jack	32.58%	31.89%	21.25%	67.42%	68.11%	78.75%	-0.69%	-11.34%	0.69%	11.34%
Gray triggerfish	45.39%	45.24%	43.56%	54.61%	54.76%	56.44%	-0.15%	-1.83%	0.15%	1.83%
Scamp	69.36%	69.25%	65.34%	30.64%	30.75%	34.66%	-0.11%	-4.02%	0.11%	4.02%
Hogfish	33.03%	32.87%	36.69%	66.97%	67.13%	63.31%	-0.17%	3.66%	0.17%	-3.66%

Table 2-3. Sector annual catch limits (ACLs) in pounds whole weight (lbs ww) for 37 un-assessed snapper grouper species implemented by the Comprehensive ACL Amendment (SAFMC 2011c) **(Alternative 1, No Action)**. Also shown are sector ACLs following identical computational methods using two updated data sources: (1) "New MRFSS & Commercial"- updated MRFSS data (1986-2008) and updated commercial data (1986-2008) and (2) "MRIP & New Commercial"- MRIP official re-estimates (2004-2008), recalibrated MRFSS data (1986-2003), and updated commercial data (1986-2008) (**Preferred Alternative 2**). Differences (and percent differences) from Comprehensive ACL Amendment values are also shown.

STOCK OR STOCK COMPLEX NAME	COMMERCIAL ACL (lbs ww)			RECREATIONAL ACL (lbs ww)			DIFFERENCE: COMMERCIAL (lbs ww (%))		DIFFERENCE: RECREATIONAL (lbs ww (%))	
	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)
DEEPWATER	**343,869**	**358,285**	**376,469**	**332,039**	**348,745**	**334,556**	**14,417 (4.19%)**	**32,601 (9.48%)**	**16,706 (5.03%)**	**2,517 (0.76%)**
Yellowedge grouper	29,070	29,160	27,431	1,151	1,061	2,790	90 (0.31%)	-1,639 (-5.64%)	-90 (-7.82%)	1,639 (142.42%)
Blueline tilefish	280,842	295,167	316,098	311,760	328,861	315,243	14,325 (5.10%)	35,256 (12.55%)	17,102 (5.49%)	3,483 (1.12%)
Silk Snapper	20,129	20,132	18,564	7,390	7,397	6,541	3 (0.01%)	-1,565 (-7.78%)	7 (0.09%)	-850 (-11.50%)
Misty grouper	2,030	2,030	2,388	833	833	475	-1 (-0.03%)	358 (17.64%)	1 (0.08%)	-358 (-43.00%)
Sand tilefish	1,431	1,417	1,770	7,392	7,104	6,213	-15 (-1.01%)	338 (23.65%)	-288 (-3.89%)	-1,178 (-15.94%)
Queen snapper	8,700	8,725	8,756	643	581	710	24 (0.28%)	56 (0.64%)	-62 (-9.59%)	67 (10.46%)
Black snapper	350	355	366	32	27	16	6 (1.63%)	17 (4.80%)	-6 (-17.60%)	-17 (-51.86%)
Blackfin snapper	1,316	1,301	1,096	2,838	2,880	2,569	-15 (-1.15%)	-220 (-16.69%)	42 (1.48%)	-269 (-9.49%)
JACKS	**193,999**	**191,275**	**189,422**	**261,490**	**258,464**	**267,799**	**-2,724 (-1.40%)**	**-4,577 (-2.36%)**	**-3,026 (-1.16%)**	**6,309 (2.41%)**
Almaco jack	150,439	147,518	147,322	141,483	138,678	155,195	-2,922 (-1.94%)	-3,117 (-2.07%)	-2,805 (-1.98%)	13,712 (9.69%)
Banded rudderfish	38,633	38,792	37,829	114,366	114,173	107,605	159 (0.41%)	-804 (-2.08%)	-193 (-0.17%)	-6,761 (-5.91%)
Lesser amberjack	4,927	4,965	4,270	5,641	5,613	5,000	38 (0.77%)	-656 (-13.32%)	-29 (-0.51%)	-641 (-11.37%)
SNAPPERS	**204,552**	**204,278**	**215,662**	**882,388**	**881,636**	**728,577**	**-274 (-0.13%)**	**11,111 (5.43%)**	**-752 (-0.09%)**	**-153,811 (-17.43%)**
Gray snapper	178,818	178,517	192,830	715,201	714,644	602,913	-301 (-0.17%)	14,012 (7.84%)	-557 (-0.08%)	-112,288 (-15.70%)
Lane snapper	18,744	18,762	17,695	134,722	134,704	102,289	18 (0.10%)	-1,049 (-5.60%)	-18 (-0.01%)	-32,433 (-24.07%)
Cubera snapper	6,274	6,279	4,829	25,498	25,323	19,851	5 (0.08%)	-1,445 (-23.03%)	-175 (-0.69%)	-5,647 (-22.15%)
Dog snapper	708	707	273	6,815	6,818	3,012	0 (0.00%)	-435 (-61.42%)	3 (0.04%)	-3,803 (-55.80%)

STOCK OR STOCK COMPLEX NAME	COMMERCIAL ACL (lbs ww)			RECREATIONAL ACL (lbs ww)			DIFFERENCE: COMMERCIAL (lbs ww (%))		DIFFERENCE: RECREATIONAL (lbs ww (%))	
	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)
Mahogany snapper	8	12	36	152	148	512	4 (53.22%)	27 (340.06%)	-4 (-2.83%)	360 (237.24%)
GRUNTS	**214,624**	**220,742**	**218,539**	**562,151**	**585,132**	**588,113**	**6,118 (2.85%)**	**3,916 (1.82%)**	**22,981 (4.09%)**	**25,962 (4.62%)**
White grunt	207,751	214,227	212,896	428,148	449,163	461,136	6,476 (3.12%)	5,146 (2.48%)	21,014 (4.91%)	32,988 (7.70%)
Sailors choice	0	0	0	35,266	36,920	22,674	0 (0.00%)	0 (0.00%)	1,655 (4.69%)	-12,592 (-35.71%)
Tomtate	0	0	0	70,948	70,948	80,056	0 (0.00%)	0 (0.00%)	0 (0.00%)	9,109 (12.84%)
Margate	6,873	6,515	5,643	27,789	28,101	24,246	-358 (-5.21%)	-1,230 (-17.90%)	312 (1.12%)	-3,543 (-12.75%)
SHALLOW WATER GROUPERS	**49,488**	**49,349**	**49,776**	**48,329**	**48,395**	**46,656**	**-139 (-0.28%)**	**288 (0.58%)**	**66 (0.14%)**	**-1,673 (-3.46%)**
Red hind	18,969	18,937	18,303	6,916	6,938	6,564	-32 (-0.17%)	-666 (-3.51%)	22 (0.32%)	-352 (-5.10%)
Rock hind	23,494	23,386	23,115	14,075	14,192	14,838	-108 (-0.46%)	-379 (-1.61%)	117 (0.83%)	763 (5.42%)
Yellowmouth grouper	63	63	44	4,598	4,629	3,995	0 (0.00%)	-19 (-29.50%)	31 (0.67%)	-603 (-13.11%)
Yellowfin grouper	3,776	3,781	4,879	5,483	5,477	4,379	6 (0.15%)	1,104 (29.23%)	-6 (-0.10%)	-1,104 (-20.13%)
Coney	602	601	665	1,987	1,983	2,053	-1 (-0.16%)	63 (10.39%)	-3 (-0.16%)	66 (3.34%)
Graysby	2,585	2,582	2,771	15,270	15,176	14,827	-3 (-0.13%)	185 (7.16%)	-95 (-0.62%)	-444 (-2.91%)
PORGIES	**35,129**	**36,172**	**36,348**	**112,485**	**113,869**	**106,914**	**1,043 (2.97%)**	**1,219 (3.47%)**	**1,384 (1.23%)**	**-5,570 (-4.95%)**
Jolthead porgy	1,720	1,718	1,571	40,812	40,814	36,315	-2 (-0.12%)	-150 (-8.70%)	2 (0.01%)	-4,497 (-11.02%)
Knobbed porgy	33,115	34,162	34,515	28,079	29,967	32,926	1,047 (3.16%)	1,400 (4.23%)	1,889 (6.73%)	4,847 (17.26%)
Saucereye porgy	0	0	0	4,205	3,710	3,606	0 (0.00%)	0 (0.00%)	-495 (-11.78%)	-599 (-14.25%)
Scup	0	0	0	8,999	8,999	9,306	0 (0.00%)	0 (0.00%)	(0.00%)	308 (3.42%)
Whitebone porgy	293	291	262	30,390	30,379	24,762	-2 (-0.63%)	-31 (-10.71%)	-11 (-0.04%)	-5,629 (-18.52%)
INDIVIDUAL STOCKS										
Atlantic spadefish	36,476	36,524	35,108	246,365	246,653	154,352	48 (0.13%)	-1,368 (-3.75%)	288 (0.12%)	-92,013 (-37.35%)
Blue runner	188,329	188,135	177,506	1,101,612	1,100,581	948,223	-194 (-0.10%)	-10,823 (-5.75%)	-1,031 (-0.09%)	-153,388 (-13.92%)

STOCK OR STOCK COMPLEX NAME	COMMERCIAL ACL (lbs ww)			RECREATIONAL ACL (lbs ww)			DIFFERENCE: COMMERCIAL (lbs ww (%))		DIFFERENCE: RECREATIONAL (lbs ww (%))	
	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	Comp ACL Am (Alt. 1)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)	New MRFSS & Comm	MRIP & New Comm (Alt. 2)
Bar jack	6,686	6,277	5,265	13,834	13,407	19,515	-408 (-6.10%)	-1,421 (-21.25%)	-428 (-3.09%)	5,681 (41.07%)
Gray triggerfish	305,262	304,284	272,880	367,303	368,281	353,638	-978 (-0.32%)	-32,381 (-10.61%)	978 (0.27%)	-13,666 (-3.72%)
Scamp	341,636	345,731	333,100	150,936	153,524	176,688	4,095 (1.20%)	-8,536 (-2.50%)	2,587 (1.71%)	25,752 (17.06%)
Hogfish	48,772	48,637	49,469	98,866	99,333	85,355	-135 (-0.28%)	697 (1.43%)	467 (0.47%)	-13,511 (-13.67%)

Note: ACLs listed for each complex group are determined by summing the individual ACLs for each species in the complex. In some cases, the summed complex ACL value does not add up exactly to the sum of the values of the individual species. In each case the discrepancy is due to the rounding of values to whole pounds for the table. All ACLs for each complex will be based on the summed complex values shown in the table.

Table 2-4. Recreational annual catch targets (ACTs) in pounds whole weight (lbs ww) for 37 un-assessed snapper grouper species implemented by the Comprehensive ACL Amendment (SAFMC 2011c) **(Alternative 1, No Action)**. Also shown are ACT values following identical computational methods using two updated data sources: (1) "New MRFSS & Commercial"- updated MRFSS data (1986-2008) and updated commercial data (1986-2008) and (2) "MRIP & New Commercial"- MRIP official re-estimates (2004-2008), recalibrated MRFSS data (1986-2003), and updated commercial data (1986-2008) **(Preferred Alternative 2)**. Differences from Comprehensive ACL Amendment values are also shown.

STOCK OR STOCK COMPLEX NAME	RECREATIONAL ACT (lbs ww)			DIFFERENCE: RECREATIONAL (lbs ww (%))	
	Comprehensive ACL Amendment (Alt. 1)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)
DEEPWATER	**205,516**	**215,225**	**197,100**	**9,709 (4.72%)**	**-8,416 (-4.09%)**
Yellowedge grouper	921	849	1,395	-72 (-7.82%)	474 (51.51%)
Blueline tilefish	190,173	200,605	187,443	10,432 (5.49%)	-2,730 (-1.44%)
Silk Snapper	5,543	5,548	3,270	5 (0.09%)	-2,272 (-41.00%)
Misty grouper	833	417	237	-416 (-49.96%)	-595 (-71.50%)
Sand tilefish	4,989	4,795	3,107	-194 (-3.89%)	-1,883 (-37.74%)
Queen snapper	643	581	355	-62 (-9.59%)	-288 (-44.77%)
Black snapper	32	13	8	-19 (-58.80%)	-25 (-75.93%)
Blackfin snapper	2,381	2,416	1,284	35 (1.48%)	-1,097 (-46.06%)
JACKS	**186,972**	**184,698**	**165,590**	**-2,275 (-1.22%)**	**-21,382 (-11.44%)**
Almaco jack	107,527	105,395	109,288	-2,131 (-1.98%)	1,761 (1.64%)
Banded rudderfish	76,625	76,496	53,802	-129 (-0.17%)	-22,823 (-29.78%)
Lesser amberjack	2,821	2,806	2,500	-14 (-0.51%)	-321 (-11.37%)
SNAPPERS	**775,001**	**774,371**	**624,197**	**-630 (-0.08%)**	**-150,804 (-19.46%)**
Gray snapper	643,681	643,179	534,422	-501 (-0.08%)	-109,259 (-16.97%)
Lane snapper	109,125	109,110	78,087	-15 (-0.01%)	-31,037 (-28.44%)
Cubera snapper	16,319	16,207	9,925	-112 (-0.69%)	-6,393 (-39.18%)
Dog snapper	5,725	5,727	1,506	2 (0.04%)	-4,219 (-73.69%)

STOCK OR STOCK COMPLEX NAME	RECREATIONAL ACT (lbs ww)			DIFFERENCE: RECREATIONAL (lbs ww (%))	
	Comprehensive ACL Amendment (Alt. 1)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)
Mahogany snapper	152	148	256	-4 (-2.83%)	104 (68.62%)
GRUNTS	**466,864**	**486,168**	**442,970**	**19,304 (4.13%)**	**-23,894 (-5.12%)**
White grunt	368,208	386,280	363,283	18,072 (4.91%)	-4,924 (-1.34%)
Sailors choice	20,659	21,628	11,663	969 (4.69%)	-8,995 (-43.54%)
Tomtate	54,644	54,644	54,887	0 (0.00%)	243 (0.44%)
Margate	23,354	23,616	13,137	262 (1.12%)	-10,217 (-43.75%)
SHALLOW WATER GROUPERS	**33,082**	**33,126**	**23,595**	**44 (0.13%)**	**-9,487 (-28.68%)**
Red hind	4,150	4,163	3,282	13 (0.32%)	-868 (-20.91%)
Rock hind	8,164	8,231	7,419	68 (0.83%)	-745 (-9.12%)
Yellowmouth grouper	4,338	4,367	1,998	29 (0.67%)	-2,340 (-53.95%)
Yellowfin grouper	5,483	5,477	2,190	-6 (-0.10%)	-3,293 (-60.07%)
Coney	1,568	1,566	1,026	-3 (-0.16%)	-542 (-34.55%)
Graysby	9,379	9,321	7,680	-58 (-0.62%)	-1,699 (-18.11%)
PORGIES	**74,933**	**75,707**	**59,319**	**774 (1.03%)**	**-15,614 (-20.84%)**
Jolthead porgy	26,781	26,782	22,537	1 (0.01%)	-4,244 (-15.85%)
Knobbed porgy	18,386	19,623	16,509	1,237 (6.73%)	-1,877 (-10.21%)
Saucereye porgy	3,881	3,424	1,803	-457 (-11.78%)	-2,078 (-53.55%)
Scup	5,955	5,955	4,653	0 (0.00%)	-1,302 (-21.86%)
Whitebone porgy	19,930	19,923	13,817	-7 (-0.04%)	-6,113 (-30.67%)
INDIVIDUAL STOCKS					
Atlantic spadefish	177,382	177,590	96,470	208 (0.12%)	-80,913 (-45.61%)
Blue runner	892,305	891,470	723,684	-835 (-0.09%)	-168,621 (-18.90%)

STOCK OR STOCK COMPLEX NAME	RECREATIONAL ACT (lbs ww)			DIFFERENCE: RECREATIONAL (lbs ww (%))	
	Comprehensive ACL Amendment (Alt. 1)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)	New MRFSS & Commercial	MRIP & New Commercial (Alt. 2)
Bar jack	9,936	9,629	9,758	-307 (-3.09%)	-178 (-1.79%)
Gray triggerfish	312,208	313,039	284,325	831 (0.27%)	-27,883 (-8.93%)
Scamp	96,599	98,255	94,316	1,656 (1.71%)	-2,283 (-2.36%)
Hogfish	71,184	71,520	59,390	336 (0.47%)	-11,793 (-16.57%)

Table 2-5. New ABCs, ACLs (including sector ACLs), allocations, and recreational ACTs for 37 un-assessed snapper grouper species as per **Preferred Alternative 2** in Regulatory Amendment 13. "MRIP & New Commercial" reflect data from MRIP official re-estimates (2004-2008), recalibrated MRFSS data (1986-2003), and updated commercial data (1986-2008). ABCs, ACLs, and recreational ACTs are in pounds whole weight (lbs ww); allocations are in percent (%).

STOCK OR STOCK COMPLEX NAME	MRIP & NEW COMMERCIAL					
	ABC (lbs ww)	COMM ALLOCATIONS	COMM ACL (lbs ww)	REC ALLOCATIONS	REC ACL (lbs ww)	REC ACT (lbs ww)
DEEPWATER	**711,025**		**376,469**		**334,556**	**197,100**
Yellowedge grouper	30,221	90.77%	27,431	9.23%	2,790	1,395
Blueline tilefish	631,341	50.07%	316,098	49.93%	315,243	187,443
Silk Snapper	25,104	73.95%	18,564	26.05%	6,541	3,270
Misty grouper	2,863	83.42%	2,388	16.58%	475	237
Sand tilefish	7,983	22.17%	1,770	77.83%	6,213	3,107
Queen snapper	9,466	92.50%	8,756	7.50%	710	355
Black snapper	382	95.92%	366	4.08%	16	8
Blackfin snapper	3,665	29.91%	1,096	70.09%	2,569	1,284
JACKS	**457,221**		**189,422**		**267,799**	**165,590**
Almaco jack	302,517	48.70%	147,322	51.30%	155,195	109,288
Banded rudderfish	145,434	26.01%	37,829	73.99%	107,605	53,802
Lesser amberjack	9,270	46.07%	4,270	53.93%	5,000	2,500
SNAPPERS	**944,239**		**215,662**		**728,577**	**624,197**
Gray snapper	795,743	24.23%	192,830	75.77%	602,913	534,422
Lane snapper	119,984	14.75%	17,695	85.25%	102,289	78,087
Cubera snapper	24,680	19.57%	4,829	80.43%	19,851	9,925
Dog snapper	3,285	8.31%	273	91.69%	3,012	1,506
Mahogany snapper	548	6.49%	36	93.51%	512	256
GRUNTS	**806,652**		**218,539**		**588,113**	**442,970**
White grunt	674,033	31.59%	212,896	68.41%	461,136	363,283

STOCK OR STOCK COMPLEX NAME	MRIP & NEW COMMERCIAL					
	ABC (lbs ww)	COMM ALLOCATIONS	COMM ACL (lbs ww)	REC ALLOCATIONS	REC ACL (lbs ww)	REC ACT (lbs ww)
Sailors choice	22,674	0.00%	0	100.00%	22,674	11,663
Tomtate	80,056	0.00%	0	100.00%	80,056	54,887
Margate	29,889	18.88%	5,643	81.12%	24,246	13,137
SHALLOW WATER GROUPERS	**96,432**		**49,776**		**46,656**	**23,595**
Red hind	24,867	73.60%	18,303	26.40%	6,564	3,282
Rock hind	37,953	60.90%	23,115	39.10%	14,838	7,419
Yellowmouth grouper	4,040	1.10%	44	98.90%	3,995	1,998
Yellowfin grouper	9,258	52.70%	4,879	47.30%	4,379	2,190
Coney	2,718	24.45%	665	75.55%	2,053	1,026
Graysby	17,597	15.74%	2,771	84.26%	14,827	7,680
PORGIES	**143,263**		**36,348**		**106,914**	**59,319**
Jolthead porgy	37,885	4.15%	1,571	95.85%	36,315	22,537
Knobbed porgy	67,441	51.18%	34,515	48.82%	32,926	16,509
Saucereye porgy	3,606	0.01%	0	99.99%	3,606	1,803
Scup	9,306	0.00%	0	100.00%	9,306	4,653
Whitebone porgy	25,024	1.05%	262	98.95%	24,762	13,817
INDIVIDUAL STOCKS						
Atlantic spadefish	189,460	18.53%	35,108	81.47%	154,352	96,470
Blue runner	1,125,729	15.77%	177,506	84.23%	948,223	723,684
Bar jack	24,780	21.25%	5,265	78.75%	19,515	9,758
Gray triggerfish	626,518	43.56%	272,880	56.44%	353,638	284,325
Scamp	509,788	65.34%	333,100	34.66%	176,688	94,316
Hogfish	134,824	36.69%	49,469	63.31%	85,355	59,390

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)
- **Biological and ecological environment** (Section 3.2)
- **Human environment** (Sections 3.3)
- **Administrative environment** (Section 3.4)

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 11º to 27º C (52º to 81º F) due to the proximity of the Gulf Stream, with lower shelf habitat temperatures varying from 11º to 14º C (52º to 57º F). Water depths range from 16 to 27 meters (54 to 90 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^2) 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 Marine 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 South Atlantic Fishery Management Council's (South Atlantic Council) Internet Mapping System website: http://ocean.floridamarine.org/efh_coral/ims/viewer.htm.

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

3.2 Biological and Ecological Environment

3.2.1 Fish Populations Affected by this Amendment

An expanded discussion of life history traits, population characteristics, and stock status of snapper grouper species covered in Regulatory Amendment 13 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region can be found in **Sections 3.2.1** and **3.3** of the Comprehensive Annual Catch Limit (ACL) Amendment (SAFMC 2011c), which are hereby incorporated by reference and may be found at www.safmc.net/Library/SnapperGrouper/tabid/415/Default.aspx. Descriptions of other South Atlantic Council-managed species may be found in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b) or at the following web address: http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx.

3.2.2 Protected Species

There are 31 different species of marine mammals that may occur in the exclusive economic zone (EEZ) of the South Atlantic region. All 31 species are protected under the Marine Mammal Protection Act of 1972 (MMPA) and six are also listed as endangered under the ESA (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales). Other species protected under the ESA occurring in the South Atlantic include five species of sea turtle (green, hawksbill, Kemp's ridley, leatherback, and loggerhead); the smalltooth sawfish; five distinct population segments (DPSs) of Atlantic sturgeon (*Acipenser oxyrhincus*), and two *Acropora* coral species (elkhorn [*Acropora palmata*] and staghorn [*A. cervicornis*]). Designated critical habitat for the *Acropora* corals also occurs within the South Atlantic region. **Section 3.5** of the Comprehensive ACL Amendment (SAFMC 2011c) discusses the life history characteristics of all these species in detail, other than Atlantic sturgeon. **Section 3.5** of the Comprehensive ACL Amendment is hereby incorporated by reference and may be found at: www.safmc.net/Library/SnapperGrouper/tabid/415/Default.aspx.

Below is a brief description of the life history characteristics for the DPSs of Atlantic sturgeon. The potential impacts from the continued authorization of the South Atlantic snapper grouper fishery on all ESA-listed species have been considered in previous ESA Section 7 consultations. Summaries of those consultations and their determination are in **Appendix H**.

Five separate DPSs of the **Atlantic sturgeon** (*Acipenser oxyrinchus oxyrinchus*) were listed under the ESA effective April 6, 2012 (76 FR 5914; February 12, 2012). From north to south, the DPSs are the Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic (**Figure 3-1**). The New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs are listed as endangered, and the Gulf of Maine DPS is listed as threatened. The five DPSs were listed under the ESA as a result of threats from a combination of habitat curtailment and modification, overutilization (i.e., being taken as bycatch) in commercial fisheries, and the inadequacy of regulatory mechanisms in ameliorating these impacts and threats.

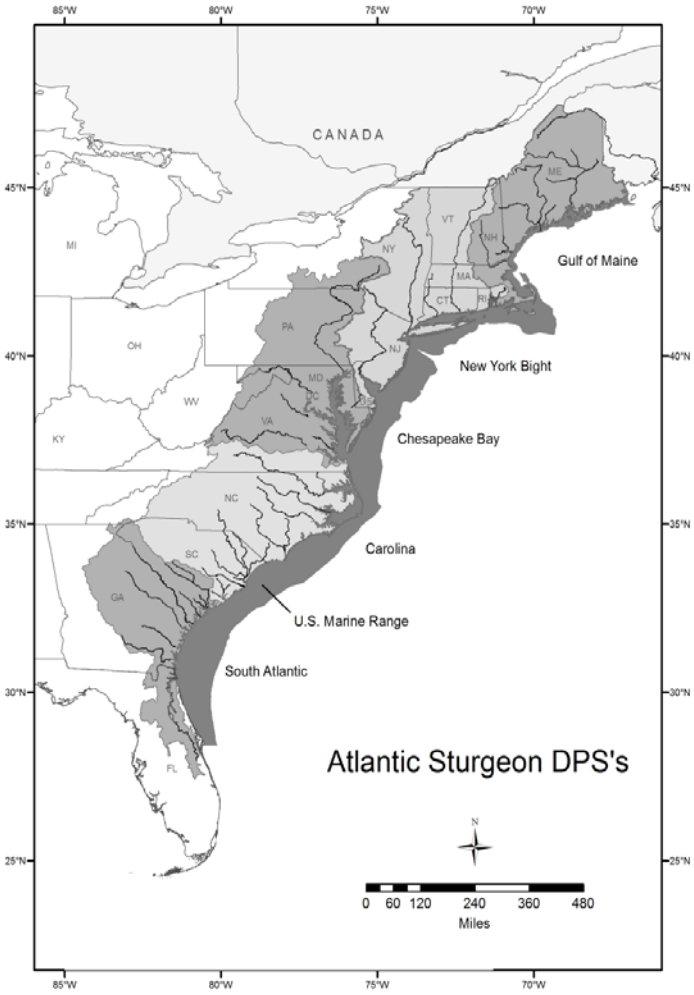

Figure 3-1. Map Depicting the Five DPSs of Atlantic sturgeon.

Atlantic sturgeon are long-lived, estuarine dependent, anadromous[1] fish (Bigelow and Schroeder 1953, Vladykov and Greeley 1963, Mangin 1964, Pikitch et al. 2005, Dadswell 2006, ASSRT 2007), that historically occurred from Labrador south to the St. Johns River, Florida. Generally, Atlantic sturgeon use coastal bays, sounds, and ocean waters in depths less than 132 ft (Vladykov and Greeley 1963, Murawski and Pacheco 1977, Dovel and Berggren 1983, Smith 1985, Collins and Smith 1997, Welsh et al. 2002, Savoy and Pacileo 2003, Stein et al. 2004, Laney et al. 2007, Dunton et al. 2010, Erickson et al. 2011, Wirgin and King 2011), where they feed on a variety of benthic invertebrates and fish (Bigelow and Schroeder 1953, ASSRT 2007, Guilbard et al. 2007, Savoy 2007). Mature Atlantic sturgeon make spawning migrations from estuarine waters to rivers as water temperatures reach 43ºF for males (Smith et al. 1982, Dovel and Berggren 1983, Smith 1985, ASMFC 2009) and 54ºF for females (Dovel and Berggren 1983, Smith 1985, Collins et al. 2000), typically between February (southern systems) and July (northern systems). Individuals spawn at intervals of once every 1-5 years for males and once

[1] Anadromous refers to a fish that is born in freshwater, spends most of its life in the sea, and returns to freshwater to spawn (NEFSC FAQ's, available at http://www.nefsc.noaa.gov/faq/fishfaq1a.html, modified June 16, 2011)

every 2-5 years for females. Spawning is believed to occur in flowing water between the salt front of estuaries and the fall line of large rivers, when and where optimal flows are 18-30 in/s and depths are 36-89 ft (Borodin 1925, Dees 1961, Leland 1968, Scott and Crossman 1973, Crance, 1987, Shirey et al. 1999, Bain et al. 2000, Collins et al. 2000, Caron et al. 2002, Hatin et al. 2002, ASMFC 2009). Females may produce 400,000 to 4 million eggs per spawning year (Vladykov and Greeley 1963, Smith et al. 1982, Van Eenennaam et al. 1996, Van Eenennaam and Doroshov 1998, Stevenson and Secor 1999, Dadswell 2006) and deposit eggs on hard bottom substrate such as cobble, coarse sand, and bedrock (Dees 1961, Scott and Crossman 1973, Gilbert 1989, Smith and Clugston 1997, Bain et al. 2000, Collins et al. 2000, Caron et al. 2002, Hatin et al. 2002, Mohler 2003, ASMFC 2009). Upon hatching, studies suggest that early juvenile Atlantic sturgeon (age-0 [i.e., YOY], age-1, and age-2) remain in low salinity waters of their natal estuaries (Haley 1999, Hatin et al. 2002, McCord et al. 2007, Munro et al. 2007) for months to years before emigrating to open ocean as subadults (Holland and Yelverton 1973, Dovel and Berggen 1983, Waldman et al. 1996, Dadswell 2006, ASSRT 2007). Growth rates and age at maturity are both influenced by water temperature, as Atlantic sturgeon grow larger and mature faster in warmer waters. Atlantic sturgeon may live up to 60 years, reach lengths up to 14 feet and weigh over 800 lbs. Tagging studies and genetic analyses (Wirgin et al. 2000, King et al. 2001, Waldman et al. 2002, ASSRT 2007, Grunwald et al. 2008) indicate that Atlantic sturgeon exhibit ecological separation during spawning throughout their range that has resulted in multiple, genetically distinct, interbreeding population segments.

The construction of dams, dredging, and modification of water flows have reduced the amount and quality of habitat available for Atlantic sturgeon spawning and foraging. Water quality (temperature, salinity, and dissolved oxygen) has also been reduced by terrestrial activities, leading to further declines in available spawning and nursery habitat. Although spawning historically occurred within many Atlantic coast rivers, only 16 U.S. rivers are known to currently support spawning based on available evidence (i.e., presence of YOY or gravid Atlantic sturgeon documented within the past 15 years) (ASSRT 2007).

Overutilization of Atlantic sturgeon from directed fishing caused initial severe declines in Atlantic sturgeon populations in the Southeast, from which they have never recovered. Although directed harvest of this species has ceased, Atlantic sturgeon continue to be incidentally caught as bycatch in other commercial fisheries. Because Atlantic sturgeon mix extensively in marine waters and may utilize multiple river systems for nursery and foraging habitat in addition to their natal spawning river, they are subject to being caught in multiple fisheries throughout their range. Additionally, Atlantic sturgeon are more sensitive to bycatch mortality because they are a long-lived species, have an older age at maturity, have lower maximum fecundity values, and a large percentage of egg production occurs later in life. Based on these life history traits, Boreman (1997) calculated that Atlantic sturgeon can only withstand the annual loss of up to five percent of their population to bycatch mortality without suffering population declines. Mortality rates of Atlantic sturgeon taken as bycatch in various types of fishing gear range between 0-51 percent, with the greatest mortality occurring in sturgeon caught by sink gillnets. While many of the threats to Atlantic sturgeon have been ameliorated or reduced due to existing regulatory

mechanisms such as the moratorium on directed fisheries for Atlantic sturgeon, bycatch is currently not being addressed through existing mechanisms.

The recovery of Atlantic sturgeon along the Atlantic Coast, especially in areas where habitat is limited and water quality is severely degraded, will require improvements in the following areas: (1) elimination of barriers to spawning habitat either through dam removal, breaching, or installation of successful fish passage facilities; (2) operation of water control structures to provide appropriate flows, especially during spawning season; (3) imposition of dredging restrictions including seasonal moratoriums and avoidance of spawning/nursery habitat; and (4) mitigation of water quality parameters that are restricting sturgeon's use of a river (i.e., DO). Stronger regulatory mechanisms may likely aid in achieving these improvements. These regulatory mechanisms may also aid in reducing bycatch mortality in commercial fisheries, again assisting in the recovery of the species.
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3.3 Human Environment

3.3.1 Economic Description of the Fishery

A full discussion of economic activity and harvest in the commercial and recreational sectors for the South Atlantic snapper grouper fishery are contained in **Section 3.8.1** and **3.8.2** and subsequent subsection of the Comprehensive ACL Amendment for the South Atlantic Region (SAFMC 2011c), which is hereby incorporated by reference and may be found at www.safmc.net/Library/SnapperGrouper/tabid/415/Default.aspx.

The incorporated sections of the Comprehensive ACL Amendment (SAFMC 2011c) summarizes the fishing characteristics of the commercial and recreational sectors for the snapper grouper fisheries, landings, revenue, economic activity including dealers, effort, ex-vessel price, gears used, mode of fishing (recreational), permits and imports for the species affected by the action of this amendment.

3.3.2 Social and Cultural Environment

This section includes a description of the commercial and recreational components of the snapper grouper complexes including the deepwater complex, jacks complex, snappers complex, grunts complex, shallow-water groupers complex, porgies complex, and individual species (Atlantic spadefish, blue runner, bar jack, gray triggerfish, scamp, and hogfish). The description is based on the geographical distribution of landings and the relative importance of the species for commercial and recreational communities. A spatial approach enables the consideration of fishing communities and consideration of the importance of fishery resources to those communities, as required by National Standard 8.

Because so many communities in the South Atlantic benefit from snapper grouper fishing, a discussion of the communities most involved in South Atlantic fishing, is included in **Section 3.8.3.3** of the Comprehensive ACL Amendment (SAFMC 2011c), which is hereby incorporated by reference. Detailed information is included on the importance of individual commercial species to each community and can be partnered with the following narrative to provide an understanding of the dependence by communities on the included snapper grouper species. A description of the social environment of the snapper grouper fishery is included in **Section 3.8.4** of the Comprehensive ACL Amendment (SAFMC 2011c) and is also incorporated by reference. The Comprehensive ACL Amendment may be found at: www.safmc.net/Library/SnapperGrouper/tabid/415/Default.aspx.

Social Importance of Fishing

Socio-cultural values are qualitative in nature making it difficult to measure social valuation of marine resources and fishing activity. The following description includes multiple approaches to examining fishing importance. These spatial approaches focus on the community level (based on the address of dealers or permit holders) and identify importance by "community", defined according to geo-political boundaries (cities). A single county may thus have several communities identified as reliant on fishing and the boundaries of these communities are not discrete in terms of residence, vessel homeport, and dealer address. For example, a fisherman may reside in one community, homeport his vessel in another, and land his catch in yet another. Furthermore, while commercial fishing data are available at the species level, these data are not available for recreational fishing which must be addressed more generally. Despite these caveats, the analysis identifies where most fishing activity takes place.

To identify the communities of greatest engagement in recreational fishing, a factor analysis was run on a set of predictor variables including the number of federal charter permits, number of vessels designated recreational by owner address, number of vessels designated recreational by homeport (SERO permit office 2008), and recreational fishing infrastructure (Marine Information Program (MRIP) site survey 2010). The communities with the highest factor scores are identified as the communities of greatest recreational fishing engagement. However, this measure does not adjust for population size meaning that larger communities are given more weight over smaller communities. The ranking addresses recreational fishing generally and is not specific to an individual species. Ideally, additional variables quantifying the importance of recreational fishing to a community would be included (such as the amount of recreational landings in a community, number of recreational fishing related businesses, etc); however, these data are not available at the community level.

Another approach utilizes measures called the regional quotient (rq) to identify commercial reliance. The rq is a way to measure the relative importance of a given species across all communities in the region and represents the proportional distribution of commercial landings of a particular species. This proportional measure does not provide the number of pounds or the value of the catch, data which might be confidential at the community level for many places.

The rq is calculated by dividing the total pounds (or value) of a species landed in a given community, by the total pounds (or value) for that species for all communities in the region.

These measures are an attempt to quantify the importance of the components of the included fisheries to communities around South Atlantic coast and suggest where impacts from management actions are more likely to be experienced.

Deepwater Complex

The deepwater complex of the snapper grouper fishery includes yellowedge grouper, blueline tilefish, silk snapper, misty grouper, sand tilefish, queen snapper, black snapper, and blackfin snapper. The current commercial and recreational sector allocations and current commercial and recreational ACLs for these species were designated by the Comprehensive ACL Amendment and are presented in **Table 2-2** and **Table 2-3**. The most important species in this complex is blueline tilefish (current commercial ACL is 280,842 pounds whole weight (ww) and current recreational ACL is 311,760 pounds ww). The ACLs for the other species in this complex range from a high of 30,221 pounds ww (combined pounds for commercial and recreational ACLs for yellowedge grouper) to a low of 382 pounds ww (combined pounds for commercial and recreational ACLs for black snapper).

Commercial landings are greatest for these species in North Carolina (73.5%), although deepwater complex species are also landed in Florida (23.2%, with a large portion of these landings in the Keys), and South Carolina (3.3%) (Source: ALS 2011). **Figure 3-2** shows the spatial distribution of commercial landings of these deepwater complex species around the South Atlantic. **Figure 3-3** identifies the communities with the most commercial landings of deepwater complex species. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located in Dare County, North Carolina (Wanchese and Hatteras); Carteret County, North Carolina (Beaufort and Morehead City); the Florida Keys; and along the northern coast of South Carolina.

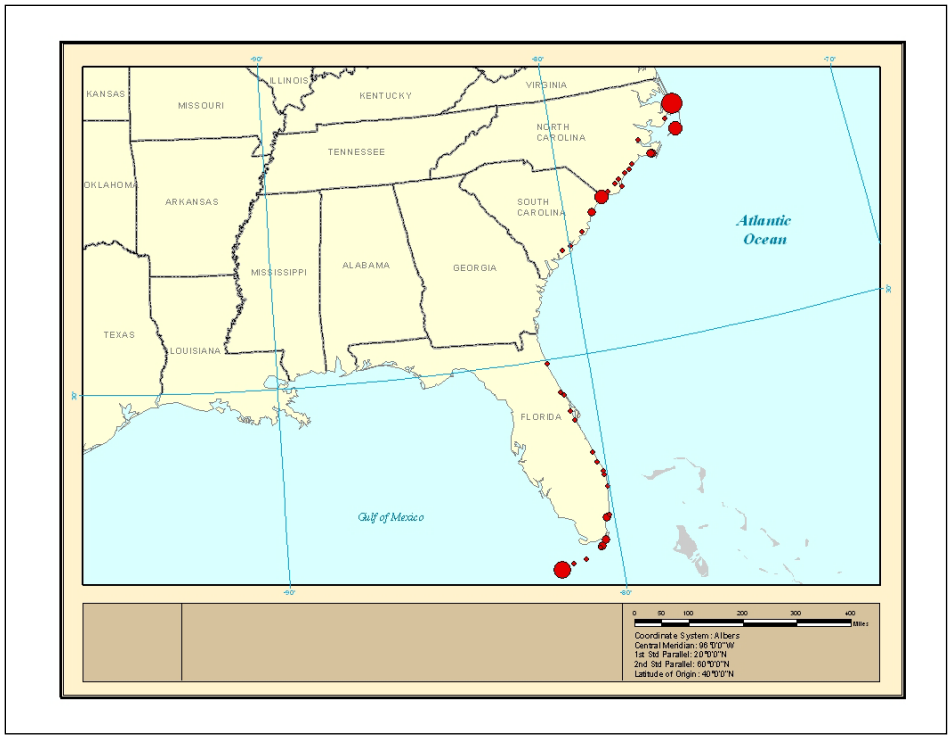

Figure 3-2. Distribution of commercial deepwater complex species landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

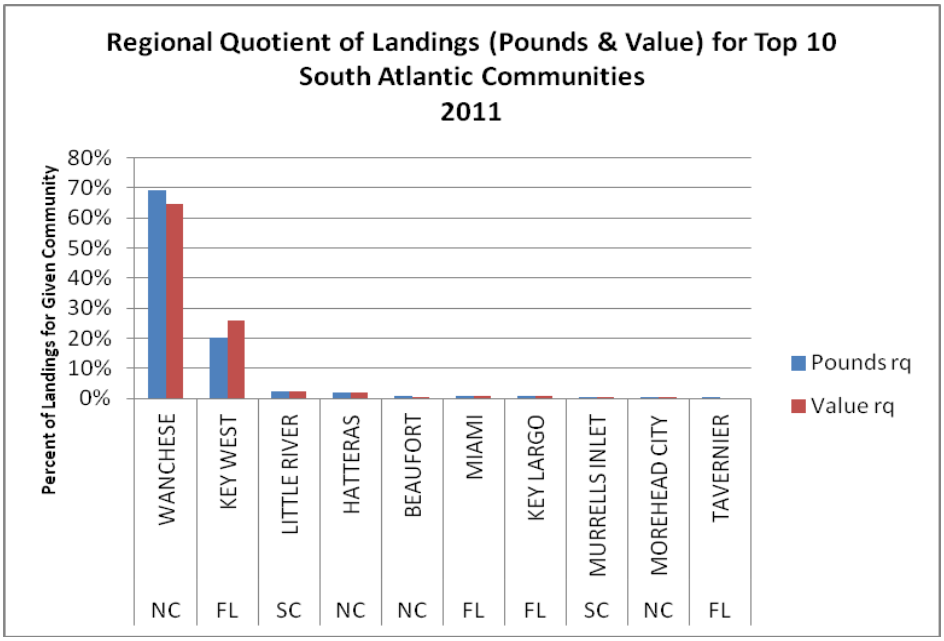

Figure 3-3. Proportion (rq) of deepwater complex commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of jacks complex.
Source: ALS dealer reports 2011.

Landings for the recreational sector are not available by species at the community level; therefore, it is difficult to identify communities as dependent on recreational fishing for any complexes or individual species in the snapper grouper fishery. Recreational fishing communities in the South Atlantic are listed in **Table 3-1**. These communities were selected by their ranking on a number of criteria including number of charter permits per thousand population and recreational fishing infrastructure identified within each community as listed within the MRIP site survey.

Table 3-1. South Atlantic recreational fishing communities.

Community	State	Community	State
Jekyll Island	GA	Cape Carteret	NC
Hatteras	NC	Kill Devil Hill	NC
Manns Harbor	NC	Murrells Inlet	SC
Manteo	NC	Little River	SC
Atlantic Beach	NC	Georgetown	SC
Wanchese	NC	Islamorada	FL
Salter Path	NC	Cudjoe Key	FL
Holden Beach	NC	Key West	FL
Ocean Isle	NC	Tavernier	FL
Southport	NC	Little Torch Key	FL
Wrightsville Beach	NC	Ponce Inlet	FL
Marshallberg	NC	Marathon	FL
Carolina Beach	NC	Sugarloaf Key	FL
Oriental	NC	Palm Beach Shores	FL
Topsail Beach	NC	Big Pine Key	FL
Swansboro	NC	Saint Augustine	FL
Nags Head	NC	Key Largo	FL
Harkers Island	NC	Summerland Key	FL
Calabash	NC	Sebastian	FL
Morehead City	NC	Cape Canaveral	FL

Source: SERO permit office 2008, MRIP site survey 2010.

Jacks Complex

The jacks complex of the snapper grouper fishery includes almaco jack, banded rudderfish, and lesser amberjack. The current commercial and recreational sector allocations and current commercial and recreational ACLs for these species were designated by the Comprehensive ACL Amendment and are presented in **Table 2-2** and **Table 2-3.** The ACLs for the species in the complex range from a high of 291,992 pounds ww (combined pounds for commercial and recreational ACLs for almaco jack) to a low of 10,568 pounds ww (combined pounds for commercial and recreational ACLs for lesser amberjack).

Commercial landings are greatest for these species in Florida (60.4%), although jacks complex species are also landed in South Carolina (31.3%) and North Carolina (8.3%, Source: ALS 2011). **Figure 3-4** shows the spatial distribution of commercial landings of these jacks complex species around the South Atlantic. **Figure 3-5** identifies the communities with the most commercial landings of jacks complex species. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located along the east coast of Florida (especially in Brevard, Volusia, and Palm Beach counties), the northern coast of South Carolina (Horry and Georgetown counties), and southern coast of North Carolina.

As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

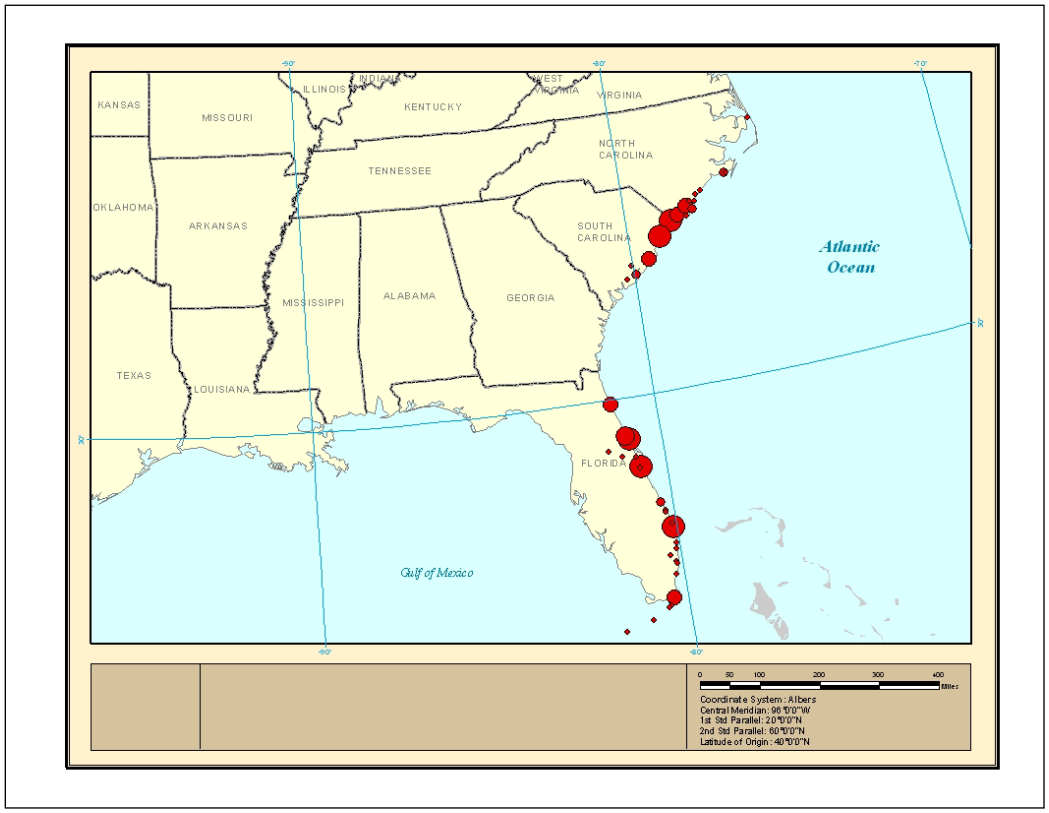

Figure 3-4. Distribution of commercial jacks complex species landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

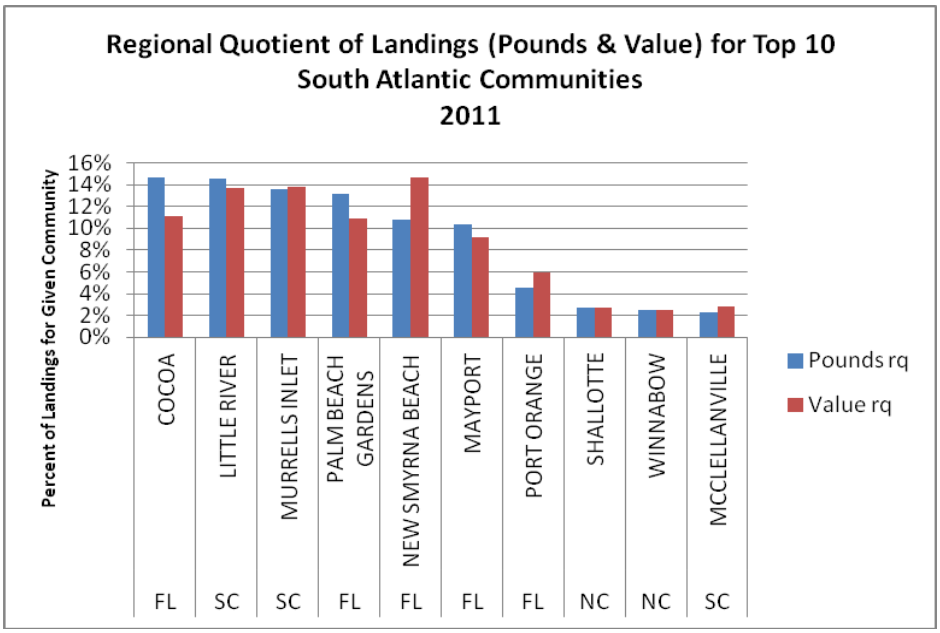

Figure 3-5. Proportion (rq) of jacks complex commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of jacks complex.
Source: ALS dealer reports 2011.

Snappers Complex

The snappers complex of the snapper grouper fishery includes gray snapper, lane snapper, cubera snapper, dog snapper, and mahogany snapper. The current commercial and recreational sector allocations and current commercial and recreational ACLs for these species were designated by the Comprehensive ACL Amendment and are presented in **Table 2-2** and **Table 2-3.** The ACLs for the species in the complex range from a high of 894,019 pounds ww (combined pounds for commercial and recreational ACLs for gray snapper) to a low of 160 pounds ww (combined pounds for commercial and recreational ACLs for mahogany snapper).

Commercial landings are greatest for snappers complex species in Florida (97.1%); however snapper complex species are also landed in South Carolina (2.1%) and North Carolina (0.7%) (Source: ALS 2011). **Figure 3-6** shows the spatial distribution of commercial landings of these snappers complex species around the South Atlantic. **Figure 3-7** identifies the communities with the most commercial landings of snappers complex species. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located in the Florida Keys (Key West, Marathon, Islamorada, Summerland Key, and Key Largo make up over 56.3% of dealer reported landings in 2011) and along the coast of Florida.

As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

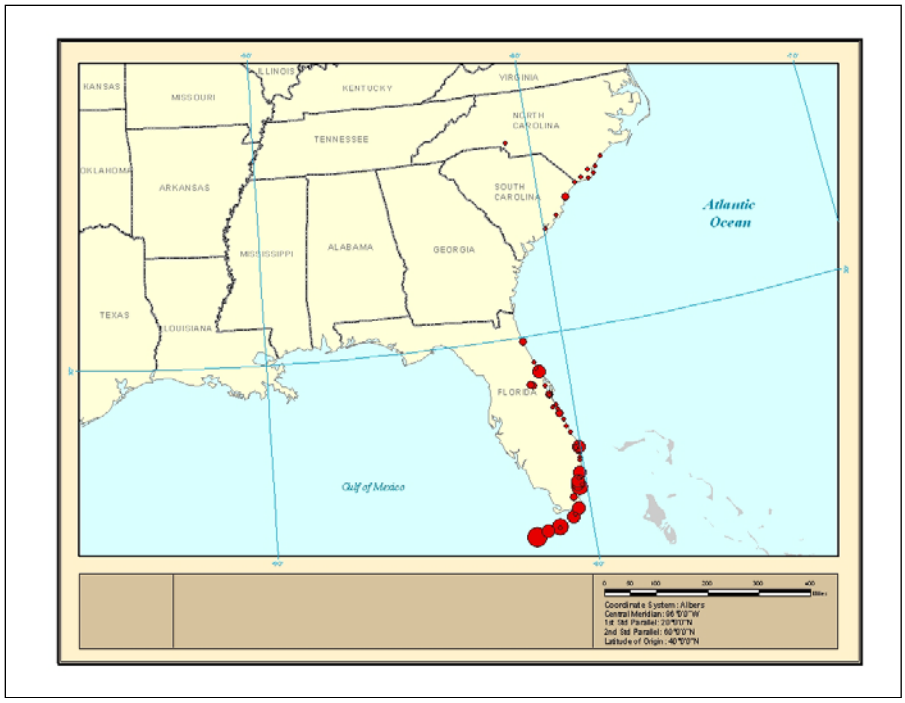

Figure 3-6. Distribution of commercial snappers complex species landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

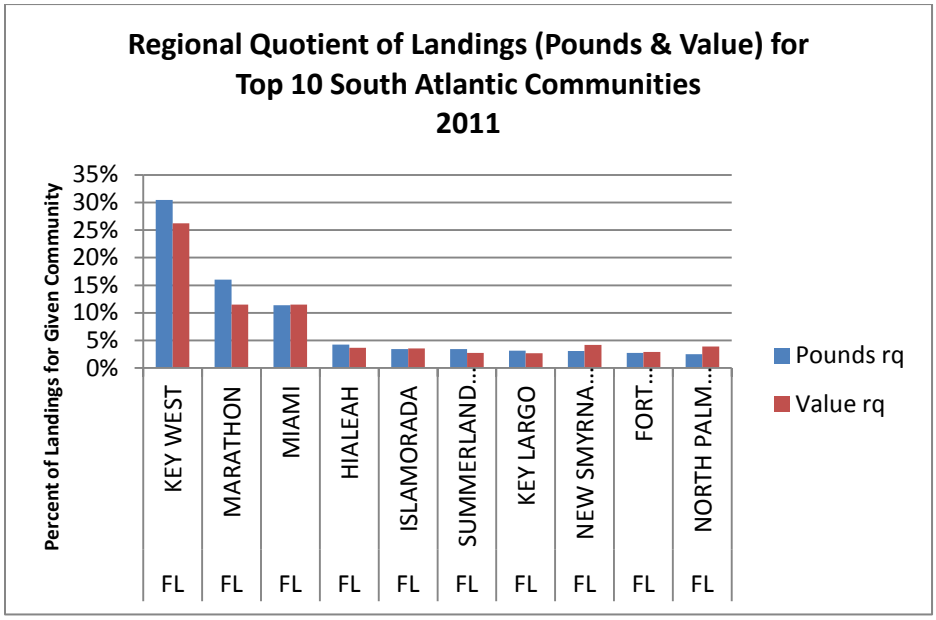

Figure 3-7. Proportion (rq) of snappers complex commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of snappers complex.
Source: ALS dealer reports 2011.

Grunts Complex

The grunts complex of the snapper grouper fishery includes white grunt, sailors choice, tomtate, and margate. The current commercial and recreational sector allocations and current commercial and recreational ACLs for these species were designated by the Comprehensive ACL Amendment and are presented in **Table 2-2** and **Table 2-3.** The ACLs for the species in the complex range from a high of 635,899 pounds ww (combined pounds for commercial and recreational ACLs for white grunt) to a low of 34,662 pounds ww (pounds for recreational ACL for margate).

Commercial landings are greatest for these species in Florida (52.4%), although grunts complex species are also landed in North Carolina (33.6%) and South Carolina (14%) (Source: ALS 2011). **Figure 3-8** shows the spatial distribution of commercial landings of these grunts complex species around the South Atlantic. **Figure 3-9** identifies the communities with the most commercial landings of grunts complex species. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located in the Florida Keys (Key West and Key Largo make up 22.4% of landings in the year 2011), the southern coast of North Carolina, and the northern coast of South Carolina. Unclassified grunts were included in this analysis in order to incorporate all species in the complex.

As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

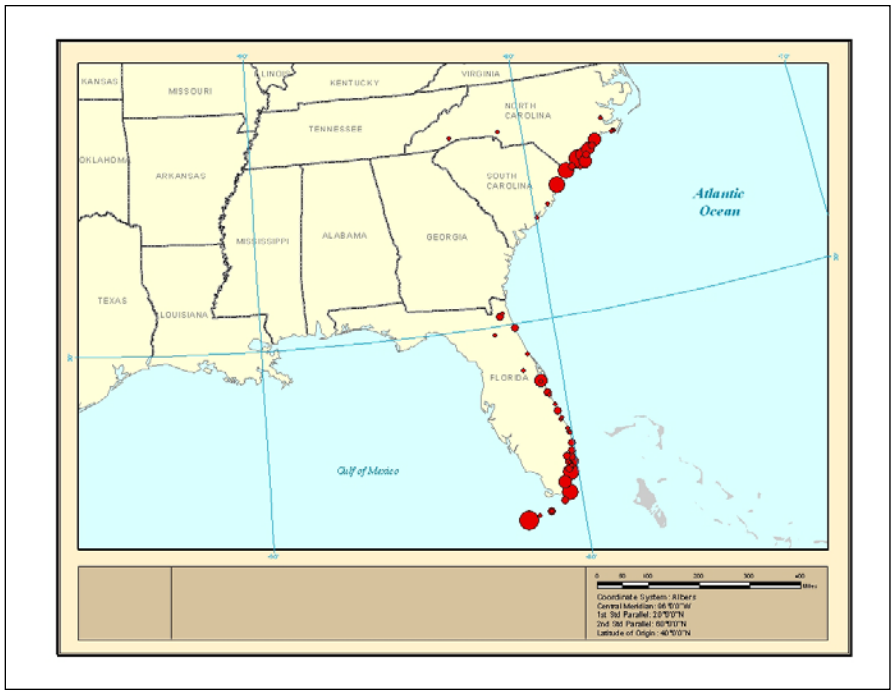

Figure 3-8. Distribution of commercial grunts complex species landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

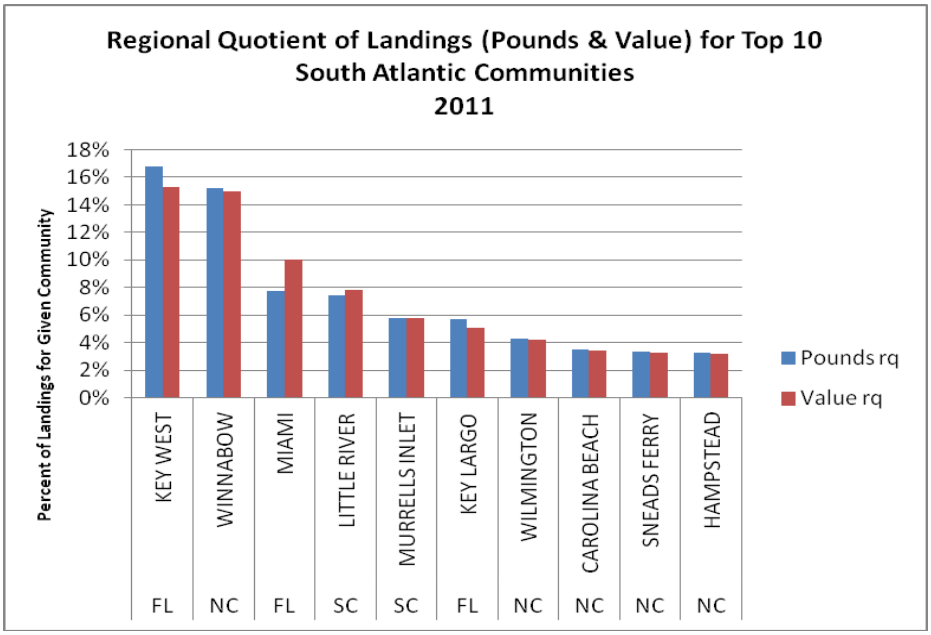

Figure 3-9. Proportion (rq) of grunts complex commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of grunts complex.
Source: ALS dealer reports 2011.

Shallow-Water Groupers Complex

The shallow-water groupers complex of the snapper grouper fishery includes red hind, rock hind, yellowmouth grouper, yellowfin grouper, coney, and graysby. The current commercial and recreational sector allocations and current commercial and recreational ACLs for these species were designated by the Comprehensive ACL Amendment and are presented in **Table 2-2** and **Table 2-3.** The ACLs for the species in the complex range from a high of 37,569 pounds ww (combined pounds for commercial and recreational ACLs for rock hind) to a low of 2,589 pounds ww (combined pounds for commercial and recreational ACLs for coney).

Commercial landings are greatest for these species in South Carolina (70.5%), although shallow-water groupers complex species are also landed in North Carolina (25.6%) and Florida (3.8%) (Source: ALS 2011). **Figure 3-10** shows the spatial distribution of commercial landings of these shallow-water species around the South Atlantic. **Figure 3-11** identifies the communities with the most commercial landings of shallow-water complex species. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located along the the northern South Carolina coast (Murrells Inlet and Little River make up about 65.5% of landings in 2011) and the southern North Carolina coast.

As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

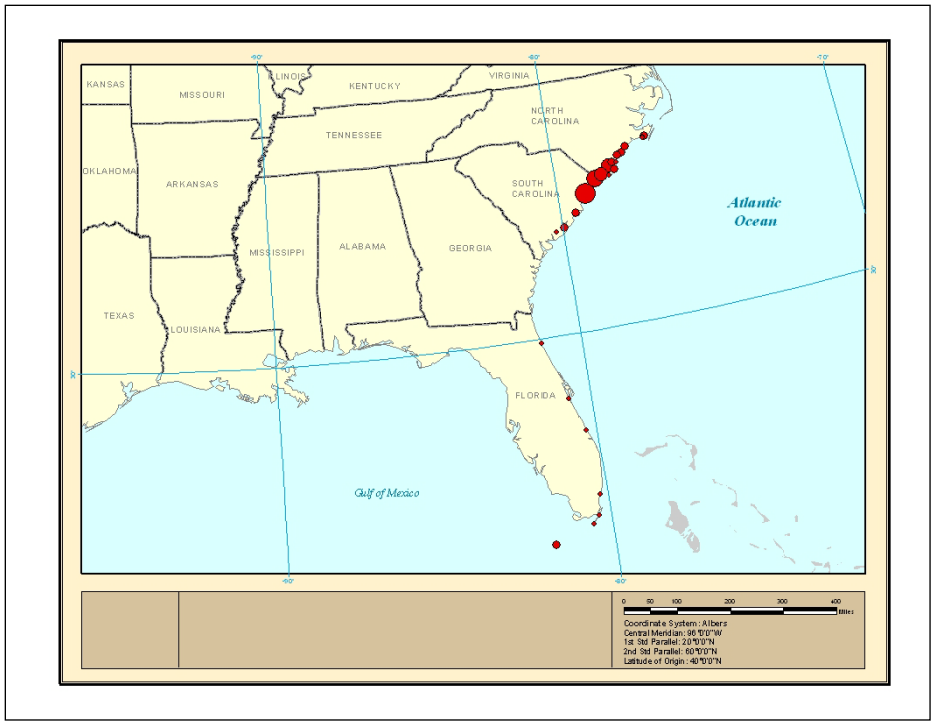

Figure 3-10. Distribution of commercial shallow-water groupers complex species landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

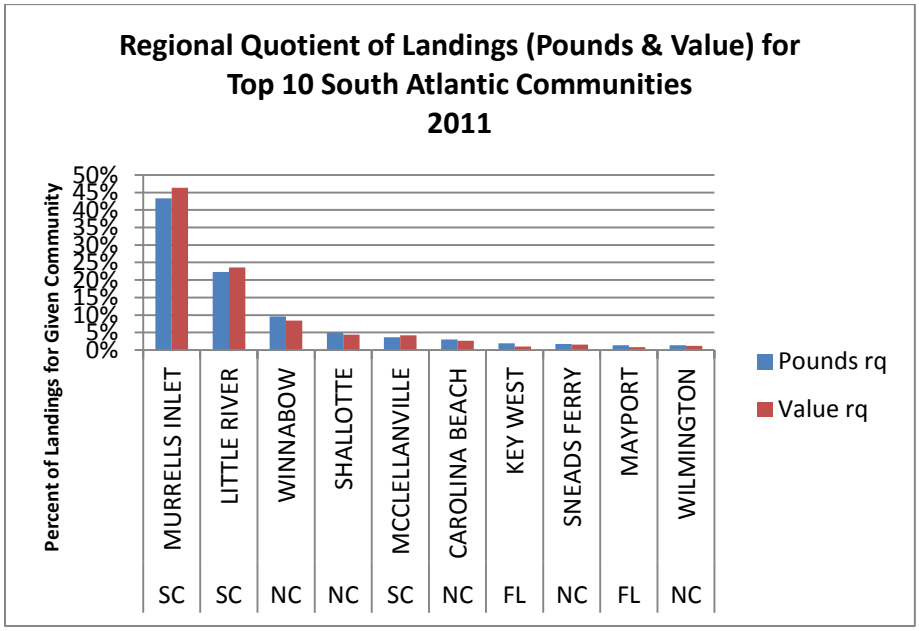

Figure 3-11. Proportion (rq) of shallow-water grouper complex commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of shallow-water grouper complex.
Source: ALS dealer reports 2011.

Porgies Complex

The porgies complex of the snapper grouper fishery includes jolthead porgy, knobbed porgy, saucereye porgy, scup, and whitebone porgy. The current commercial and recreational sector allocations and current commercial and recreational ACLs for these species were designated by the Comprehensive ACL Amendment and are presented in **Table 2-2** and **Table 2-3.** The ACLs for the species in the complex range from a high of 61,194 pounds ww (combined pounds for commercial and recreational ACLs for knobbed porgy) to a low of 4,205 pounds ww (recreational ACL for saucereye porgy).

Commercial landings are greatest for these species in North Carolina (90.4%), although porgies complex species are also landed in South Carolina (4.9%) and Florida (4.6%) (Source: ALS 2011). **Figure 3-12** shows the spatial distribution of commercial landings of these porgy species around the South Atlantic. **Figure 3-13** identifies the communities with the most commercial landings of porgies complex species. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located North Carolina (Wanchese, Engelhard, Lowland, Beaufort, and Winnabow make up 88.8% of landings in 2011), the northern coast of South Carolina, and the Florida Keys. Unclassified porgies were included in this analysis in order to incorporate all species in the complex.

As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

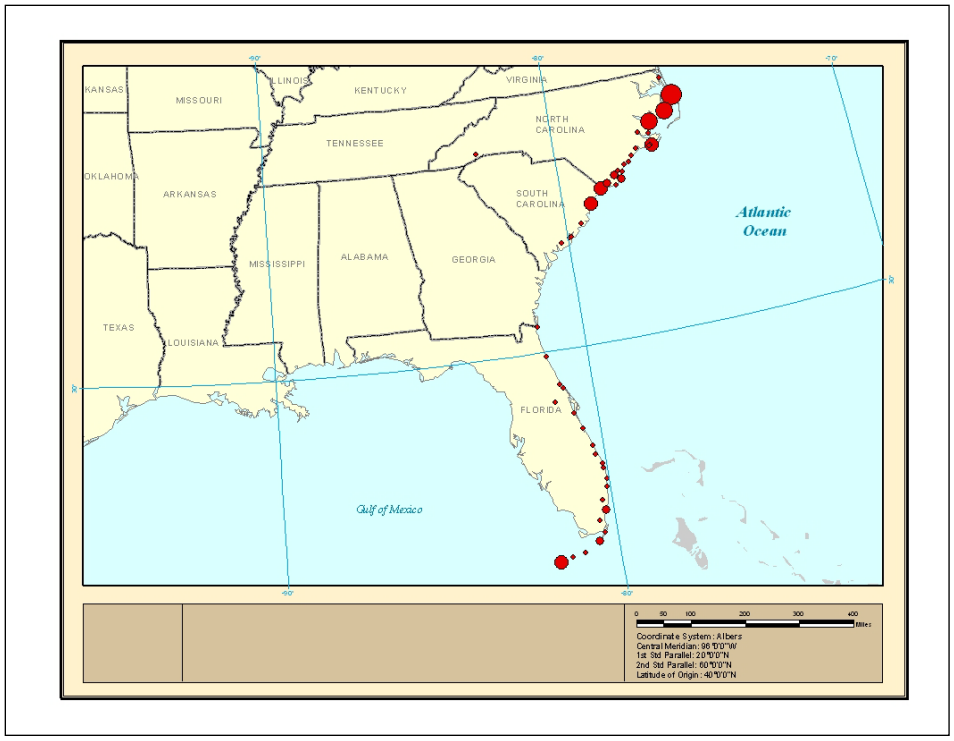

Figure 3-12. Distribution of commercial porgies complex species landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

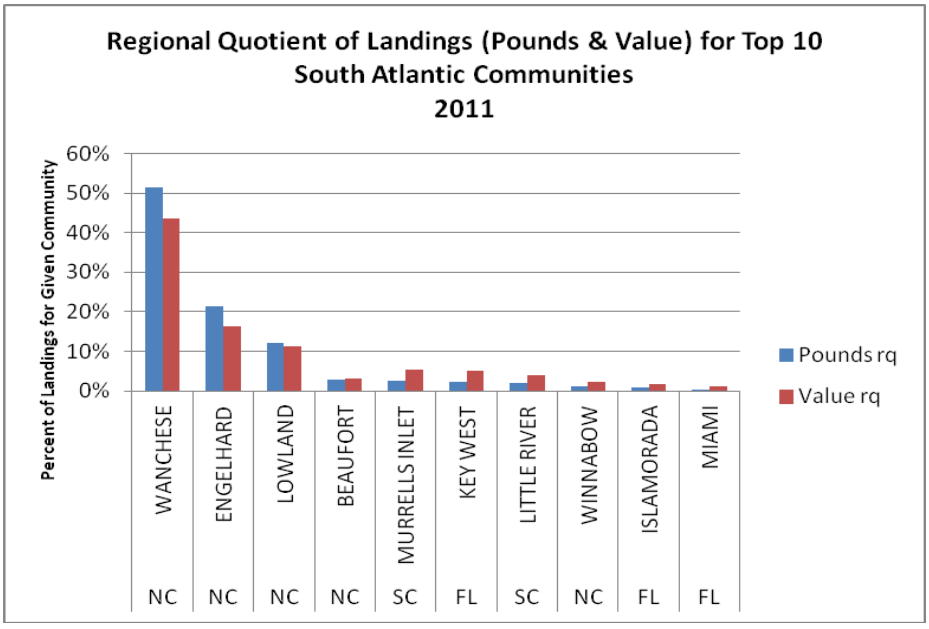

Figure 3-13. Proportion (rq) of porgies complex commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of porgies complex.
Source: ALS dealer reports 2011.

Individual Species

Atlantic Spadefish

The current commercial ACL for Atlantic spadefish is 36,476 pounds ww and the current recreational ACL is 246,365 pounds ww. Commercial landings are greatest for Atlantic spadefish in Florida, although this species is also landed in South Carolina. **Figure 3-14** shows the spatial distribution of commercial landings of Atlantic spadefish around the South Atlantic. **Table 3-2** identifies the communities with commercial landings of Atlantic spadefish (the regional quotient is not displayed for Atlantic spadefish for confidentiality reasons). The pattern of commercial landings is evident in the figures with the dealer reported landings located along the mid Florida coast and in South Carolina. As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

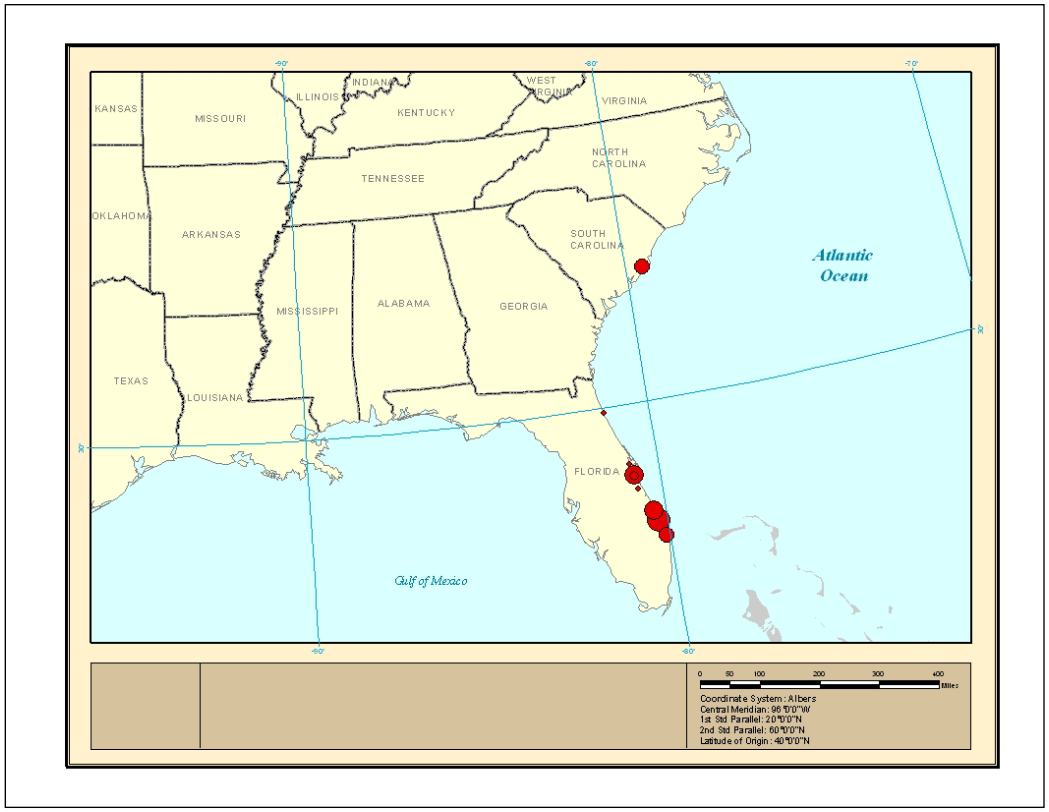

Figure 3-14. Distribution of commercial Atlantic spadefish landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

Table 3-2. Communities with commercial atlantic spadefish landings in descending order based on pounds landed.

STATE	CITY
FL	STUART
FL	FORT PIERCE
FL	COCOA
SC	MCCLELLANVILLE
FL	PALM BEACH GARDENS
FL	ROCKLEDGE
FL	PALM BAY
FL	MAYPORT
FL	SAINT AUGUSTINE
FL	TITUSVILLE

Source: ALS dealer reports 2011.

Blue Runner

The current commercial ACL for blue runner is 188,329 pounds ww and the current recreational ACL is 1,101,612 pounds ww. Commercial landings are greatest for blue runner in Florida, although this species is also landed in North Carolina (Source: ALS 2011). **Figure 3-15** shows the spatial distribution of commercial landings of blue runner around the South Atlantic. **Figure 3-16** identifies the communities with the most commercial landings of blue runner. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located along the central and lower east coast of Florida and in the Florida Keys. As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

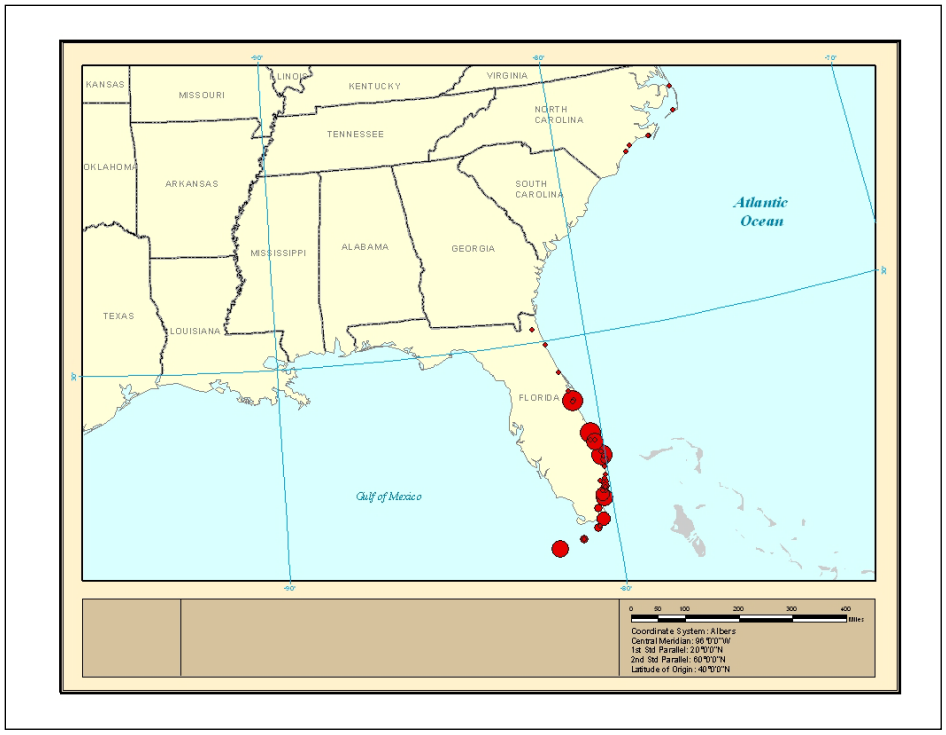

Figure 3-15. Distribution of commercial blue runner landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

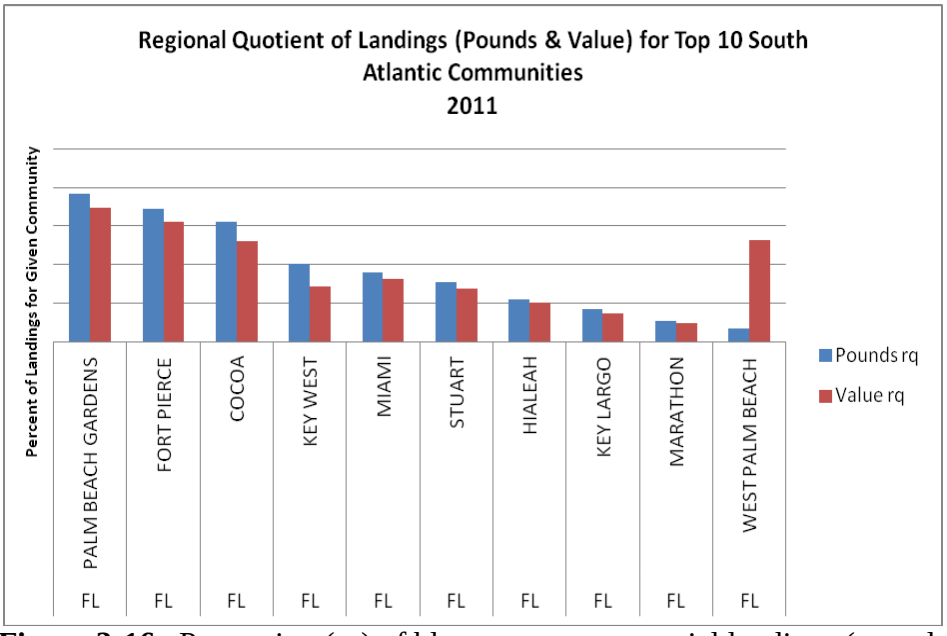

Figure 3-16. Proportion (rq) of blue runner commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of blue runner. Values have been omitted because of confidentiality issues.
Source: ALS dealer reports 2011.

Bar Jack

The current commercial ACL for bar jack is 6,686 pounds ww and the current recreational ACL is 13,834 pounds ww. Bar jack is landed commercially in Florida (source: ALS 2011). **Figure 3-17** shows the spatial distribution of commercial landings of bar jack around the South Atlantic. **Table 3-3** identifies the communities with commercial landings of bar jack (the regional quotient is not displayed for bar jack for confidentiality reasons). The pattern of commercial landings is evident in the figures with the dealer reported landings located in the Florida Keys, Miami, and in a few communities located on the mid Florida coast. As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

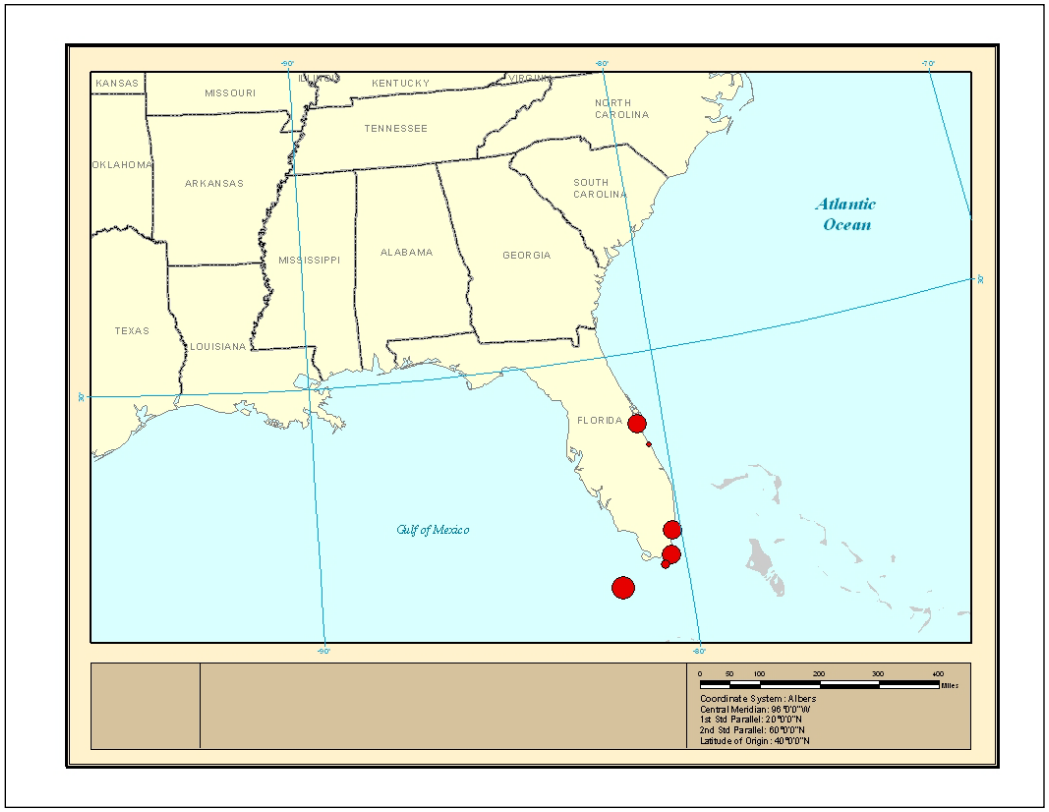

Figure 3-17. Distribution of commercial bar jack landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

Table 3-3. Communities with commercial bar jack landings in descending order based on pounds landed.

STATE	CITY
FL	KEY WEST
FL	KEY LARGO
FL	COCOA
FL	MIAMI
FL	MAYPORT
FL	ISLAMORADA
FL	SEBASTIAN

Source: ALS dealer reports 2011.

Gray Triggerfish

The current commercial ACL for gray triggerfish is 305,262 pounds ww and the current recreational ACL is 367,303 pounds ww. Triggerfish are landed commercially in North Carolina, South Carolina, and Florida (Source: ALS 2011). **Figure 3-18** shows the spatial distribution of commercial landings of triggerfish around the South Atlantic. **Figure 3-19** identifies the communities with the most commercial landings of triggerfish. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located along the southern North Carolina coast, in South Carolina, and along the north coast of Florida (Mayport and St. Augustine). Unclassified triggerfishes were included in this analysis because gray triggerfish are not identified to the species level. As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

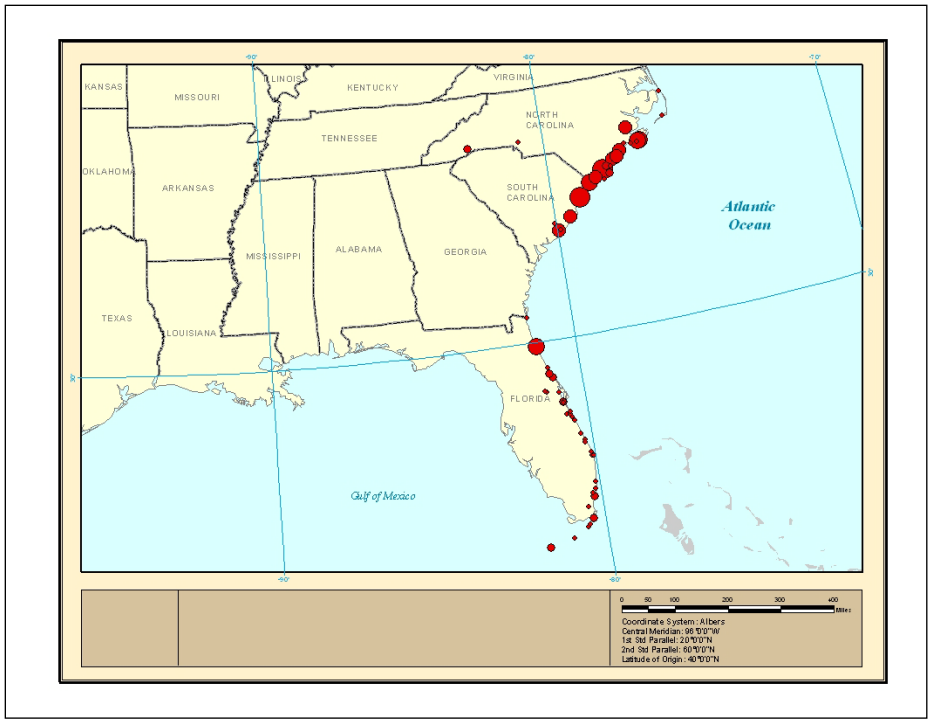

Figure 3-18. Distribution of commercial gray triggerfish landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

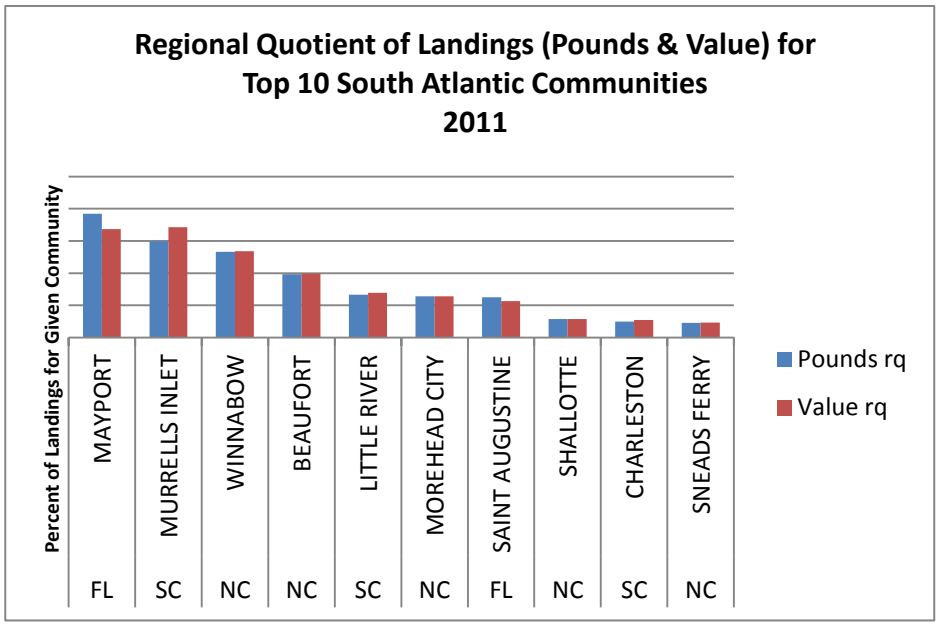

Figure 3-19. Proportion (rq) of triggerfish commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of gray triggerfish. Values have been omitted because of confidentiality issues.
Source: ALS dealer reports 2011.

Scamp

The current commercial ACL for scamp is 341,636 pounds ww and the current recreational ACL is 150,936 pounds ww. Commercial landings are greatest for scamp in South Carolina, although this species is also landed in North Carolina and Florida (Source: ALS 2011). **Figure 3-20** shows the spatial distribution of commercial landings of scamp around the South Atlantic. **Figure 3-21** identifies the communities with the most commercial landings of scamp. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located in South Carolina (Murrells Inlet, Little River, Charelston, and McClellanville make up over 65% of landings in 2011) and North Carolina. As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

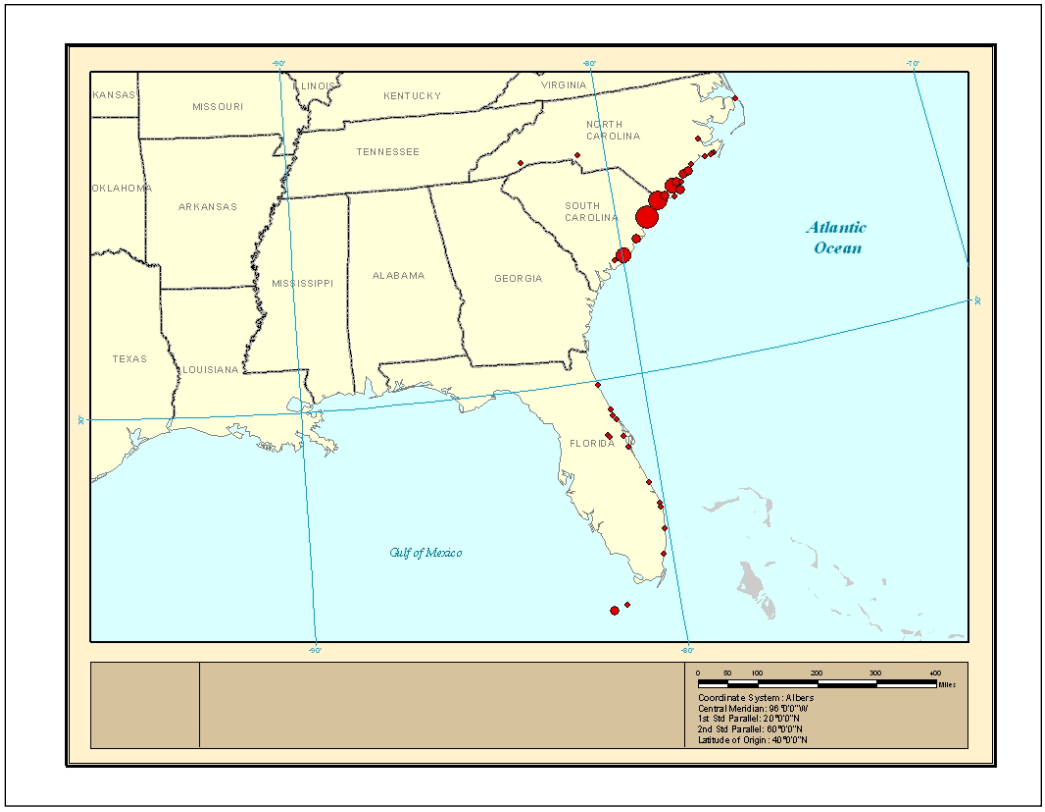

Figure 3-20. Distribution of commercial scamp landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

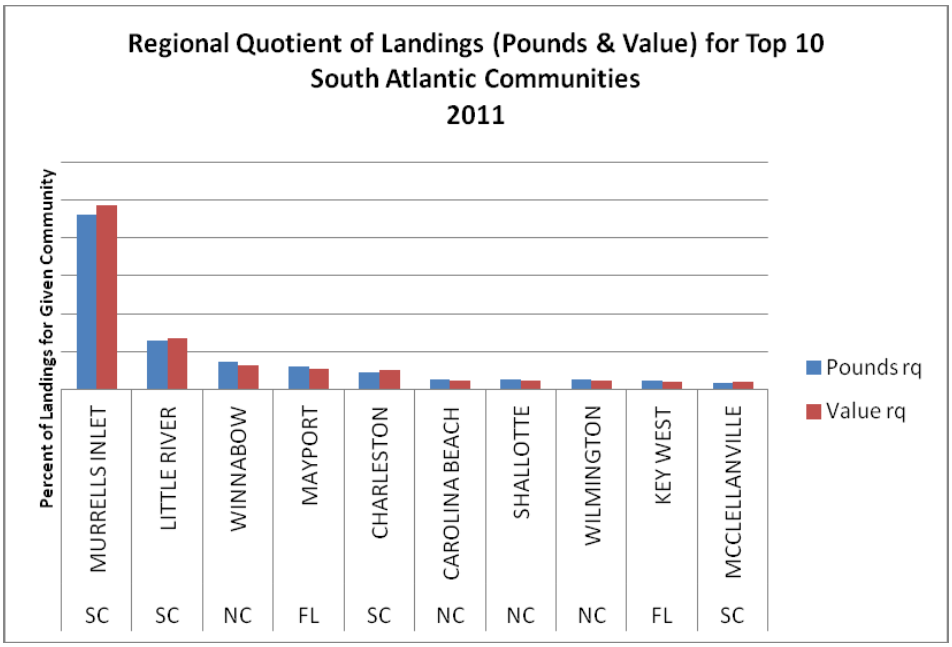

Figure 3-21. Proportion (rq) of scamp commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of scamp. Values have been omitted because of confidentiality issues.
Source: ALS dealer reports 2011.

Hogfish

The current commercial ACL for hogfish is 48,772 pounds ww and the current recreational ACL is 98,866 pounds ww. Commercial landings are greatest for hogfish in South Carolina, although this species is also landed in North Carolina and Florida (Source: ALS 2011). **Figure 3-22** shows the spatial distribution of commercial landings of hogfish around the South Atlantic. **Figure 3-23** identifies the communities with the most commercial landings of hogfish. The pattern of commercial landings is evident in the figures with the majority of dealer reported landings located in South Carolina (Murrells Inlet), North Carolina, and the Florida Keys (Key West, Key Largo, Islamorada, and Summerland Key make up about 17.8% of landings in 2011). As mentioned above, landings for the recreational sector are not available at the community level; however recreational fishing communities in the South Atlantic have been identified and are listed **Table 3-1**.

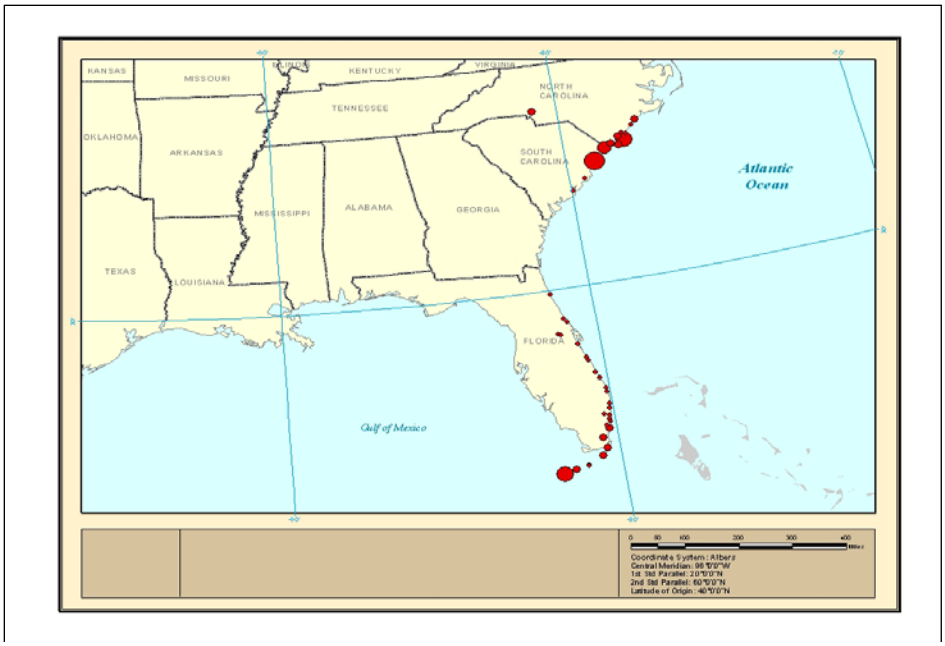

Figure 3-22. Distribution of commercial hogfish landings with the size of the point proportional to landings, based on dealer reports.
Source: ALS dealer reports 2011.

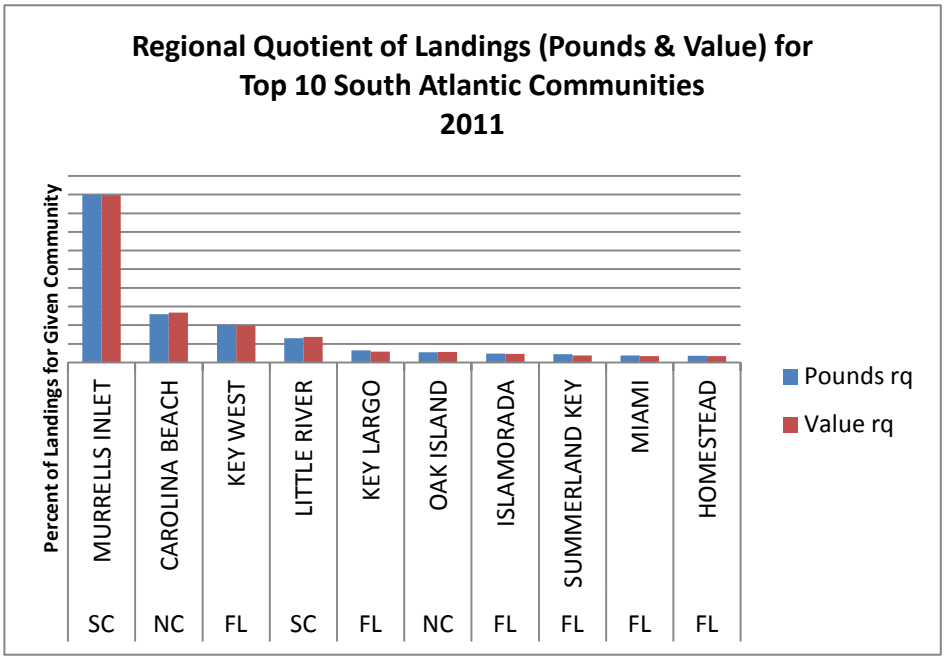

Figure 3-23. Proportion (rq) of hogfish commercial landings (pounds and value) for top 10 South Atlantic communities out of total landings and value of hogfish. Values have been omitted because of confidentiality issues.
Source: ALS dealer reports 2011.

3.3.3 Environmental Justice (EJ)

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider "the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories…" This executive order is generally referred to as environmental justice (EJ).

Commercial fishermen, recreational fishermen, and coastal communities would be expected to be impacted by the proposed action in the South Atlantic. However, information on the race and income status for these individuals is not available. Because the proposed action could be expected to impact fishermen and community members in numerous communities in the South Atlantic, census data (available at the county level, only) have been assessed to examine whether any coastal counties have poverty or minority rates that exceed thresholds for raising EJ concerns.

The threshold for comparison used was 1.2 times the state average for the proportion of minorities and population living in poverty (EPA 1999). If the value for the county was greater than or equal to 1.2 times this average, then the county was considered an area of potential EJ concern. Census data for the year 2010 were used.

For Florida, the estimate of the minority (interpreted as non-white, including Hispanic) population was 39.5%, while 13.2% of the total population was estimated to be below the poverty line. These values translate to EJ thresholds of 47.4% and 15.8%, respectively (**Table 3-4**).

In Florida, Broward (4.6%) and Miami-Dade (34.5%) counties exceed the minority threshold by the percentage noted. In regard to poverty, Miami-Dade (1.1%) county exceeds the threshold by the percentage noted. No potential EJ concern is evident for the remaining counties which have values less than the poverty and minority thresholds. The same method was applied to the remaining South Atlantic states.

Table 3-4. Average proportion of minorities and population living in poverty by state, and the corresponding threshold used to consider an area of potential EJ concern.

	Minorities		Poverty	
State	% Population	EJ Threshold	% Population	EJ Threshold
FL	39.5	47.4	13.2	15.8
GA	41.7	50	15	18
NC	32.6	39.1	15.1	18.1
SC	34.9	41.9	15.8	19

Source: U.S. Census Bureau 2010

In North Carolina, the counties of Chowan (0.1%), Tyrrell (4.2%), Pasquotank (4.3%), Washington (15.6%), and Bertie (25.5%) exceed the minority threshold for potential EJ concern. The North Carolina counties of Chowan (0.5%), Perquimans (0.5%), Tyrrell (1.8%), Bertie (4.4%), and Washington (7.7%) exceed the poverty threshold. Chowan, Tyrrell, and Washington counties exceed both the minority and poverty thresholds and are the North Carolina communities identified as most likely to be vulnerable to EJ concerns.

In South Carolina, the counties of Colleton (2.5%) and Jasper (19.9%) exceed the minority threshold by the percentage noted. The South Carolina counties of Georgetown (0.3%), Jasper (0.9%), and Colleton (2.4%) exceed the poverty threshold. Colleton and Jasper counties exceed both the minority and poverty thresholds and are the South Carolina communities identified as most likely to be vulnerable to EJ concerns.

In Georgia, Liberty was the only coastal county to exceed the minority threshold (by 3.2%). None of Georgia's coastal counties exceeded the poverty threshold for potential EJ concern.

While some communities expected to be affected by this proposed amendment may have minority or economic profiles that exceed the EJ thresholds and, therefore, may constitute areas of concern, significant EJ issues are not expected to arise as a result of this proposed amendment. It is anticipated that the impacts from the proposed regulations may impact minorities or the poor, but not through discriminatory application of these regulations.

3.4 Administrative Environment

3.4.1 The Fishery Management Process and Applicable Laws

3.4.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the 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 Exclusive Economic Zone (EEZ), an area extending 200 nm 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 (Secretary) 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 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 NMFS.

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 North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has thirteen voting members: one from NMFS; 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 South Atlantic Council Committees have full voting rights at the Committee level but not at the full South Atlantic Council level. South Atlantic Council members serve three-year terms and are recommended by state governors and appointed by the Secretary 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 its Scientific and Statistical Committee (SSC) 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 Procedure Act, in the form of "notice and comment" rulemaking.

3.4.1.2 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 South Atlantic 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 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 is also represented at the South Atlantic Council level, but does not have voting authority at the South Atlantic Council level.

NMFS's 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.

3.4.1.3 Enforcement

Both the NMFS 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. The Final Penalty Policy was issued and announced on April 14, 2011 (76 FR 20959).

Chapter 4. Environmental Consequences and Comparison of Alternatives

4.1 Action: Revise the acceptable biological catches (ABCs), annual catch limits (ACLs, including sector ACLs), and annual catch targets (ACTs) for select un-assessed species in the snapper grouper fishery management unit (FMU).

Alternative 1. No action. Do not revise ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed species in the snapper grouper FMU. Data would not be updated with data from Marine Recreational Information Program (MRIP), commercial, and for-hire landings.

Alternative 2 (Preferred). Revise the ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed species in the snapper grouper FMU. Data will be updated with data from MRIP, commercial, and for-hire landings.

4.1.1 Biological Effects

Alternative 1 (No Action) would retain the ABCs, ACLs (including sector ACLs), and ACTs that were analyzed and implemented by the Comprehensive ACL Amendment (SAFMC 2011c) and its integrated Final Environmental Impact Statement. ABCs established for species in the Comprehensive ACL Amendment (SAFMC 2011c) included the 37 snapper grouper species considered in Amendment 13 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 13). The Comprehensive ACL Amendment (SAFMC 2011c) followed the South Atlantic Council Scientific and Statistical Committee's (SSC) recommendations for the specification of ABCs based on the Council's approved ABC Control Rule. The ABC Control Rule involved a systematic inspection of all sources of uncertainty, including variables such as susceptibility, vulnerability, bycatch, and discard information. ACLs were set equal to the ABCs since the South Atlantic Fishery Management Council (South Atlantic Council) decided that the ABC Control Rule was conservative enough to render a buffer between the ABC and ACL un-necessary. The Comprehensive ACL Amendment (SAFMC 2011c) also allocated between the recreational and commercial sectors based on landings information from 1986-2008 and 2006-2008; thereby, combining past and present participation. The South Atlantic Council established allocations by balancing long-term catch history with recent catch history, and concluded inclusion of a transparent formula to specify allocations was the most fair and equitable way to allocate fishery resources. The Comprehensive ACL Amendment (SAFMC 2011c) further established recreational annual catch targets (ACTs) for species in the snapper grouper FMU, including the 37 species in Regulatory Amendment 13. The ACTs adjust the ACLs by 50% or by one minus the proportional standard error (PSE) from the recreational fishery, whichever is greater, to be the recreational ACT. The South Atlantic Council concluded including the PSE for the catch

estimates into a formula to establish ACT adds a buffer for species that are not commonly landed, further accounting for uncertainty. For the commercial snapper grouper fishery, the South Atlantic Council concluded that quota monitoring and the accountability measures (AMs) specified in the Comprehensive ACL Amendment (SAFMC 2011c) were sufficient to account for management uncertainty. Therefore, the South Atlantic Council did not establish commercial ACTs.

Alternative 2 (Preferred) would update ABCs, ACLs (including sector ACLs), and ACTs using the data described in **Section 1.5** of Regulatory Amendment 13 based on the best available data. The final data, titled "MRIP & New Commercial" in **Tables 2-1** through **Table 2-5** replaces the Marine Recreational Fisheries Statistical Survey (MRFSS)-based recreational data with Marine Recreational Information Program (MRIP)-based recreational data. Additionally, new commercial data (based upon the 3 July 2012 commercial ACL dataset) and updated recreational data (1 October 2012 recreational ACL dataset) are also used to update the values. The updated recreational ACL dataset contains MRIP official re-estimates from 2004 to 2008, as well as recalibrated MRFSS data from 1986 to 2003. The new values that would be implemented by Regulatory Amendment 13 are listed in **Table 2-5**. **Appendix I** summarizes the revised values for ABCs, ACLs (including sector ACLs), and ACTs as per **Alternative 2 (Preferred)**, and compares them with the current values that were implemented by the Comprehensive ACL Amendment (SAFMC 2011c).

Due to the absence of stock assessments for the species considered in Regulatory Amendment 13, the discussion of biological effects is mostly qualitative. Landings data are graphically presented in **Appendix J**. Intuitively, a decrease in the ABC would be expected to yield an increase in biological benefits to a stock (and vice-versa). The biological effects of the new ABC values from **Alternative 2 (Preferred)** would be negligible compared to **Alternative 1 (No Action)** for the six stock complexes, with a maximum increase in ABC of 5.20% for the deepwater complex and a maximum decrease of 13.13% to the snappers complex (**Table 2-1**). For the six individual stocks, the highest increase in ABC would be for bar jack (20.76%), with the largest decreases for Atlantic spadefish (33.02%) and blue runner (12.73%) (**Table 2-1**).

Biological effects of allocations are qualitative in nature; overall fishing mortality and its consequences to a certain stock determines the health of that stock. Regulatory Amendment 13 would not change the methodology used in the Comprehensive ACL Amendment (SAFMC 2011c) to allocate the ACLs to commercial and recreational sectors. However, changes in data used to determine allocations would result in modifications to ACLs allocated to the commercial and recreational sectors. As shown in **Table 2-2**, percent differences in sector allocations are less than 10%, with the exception of misty grouper with a decrease of 12.51% for the recreational sector and bar jack with a decrease of 11.34% for the commercial sector.

Similar to the ABCs, the revised ACLs under **Alternative 2 (Preferred)** would have negligible biological effects when compared with **Alternative 1 (No Action)**. The ACL for the commercial sector would increase 9.48% for the deepwater complex, while the ACL for the recreational sector would increase 0.76% (**Table 2-3**). The ACL for the commercial sector for the snappers complex would increase by 5.43%, with a decrease of 17.43% for the recreational sector (**Table 2-3**). The largest increase in ACLs would be for the recreational sector for bar

jack (41.07%), and the largest decrease in ACLs for individual stocks would be for the recreational sector for Atlantic spadefish (37.35%) and blue runner (13.92%) (**Table 2-3**).

Recreational ACTs would decrease for all stock complexes and individual stocks under **Alternative 2 (Preferred)** in Regulatory Amendment 13 (**Table 2-4**). Decreases in percent differences for recreational ACTs range from a low of 4.09% for the deepwater complex to a high of 28.68 % for the shallow water grouper complex (**Table 2-4**). The recreational ACT for Atlantic spadefish would decrease by 45.61% (**Table 2-4**). The current ACT functions as a performance standard, and does not trigger an AM. If an evaluation concludes that the ACT and ACL are being chronically exceeded for a species, and post-season AMs are repeatedly needed to correct for ACL overages, adjustments to management measures would be made. Therefore, biological benefits of **Alternative 2 (Preferred)** would be negligible.

Although negligible, greater biological benefits are expected under **Alternative 2 (Preferred)** as opposed to **Alternative 1** (**No Action**). While the percent differences in the revised ABCs and ACLs in Regulatory Amendment 13 may be relatively small from the status quo levels, the data revealed by the new and updated methodology more accurately represent the fishing effort for these species, and would be more likely to trigger AMs when needed. In contrast, **Alternative 1 (No Action)** could either result in triggering an AM when it is not needed, or not triggering an AM when it is needed. Therefore, both direct and indirect biological effects to the fishery resource could be expected.

There is likely to be no additional biological benefit to protected species from **Alternative 1 (No Action)** because it would perpetuate the existing level of risk for interactions between Endangered Species Act (ESA)-listed species and the fishery. Previous ESA consultations determined the snapper grouper fishery was not likely to adversely affect marine mammals, Atlantic sturgeon, or *Acropora* species (See **Appendix H** for discussion of most recent ESA Section 7 consultations). The impacts from **Alternatives 2 (Preferred)** on sea turtles and smalltooth sawfish are unclear. If these ABCs, ACLs (including sector ACLs), and ACTs perpetuate the existing amount of fishing effort, they are unlikely to change the level of interaction between sea turtles and smalltooth sawfish and the fishery as a whole. This scenario is likely to provide little additional biological benefits to protected species, if any. However, if these alternatives cause reductions in the overall amount of effort in the fishery, and do not simply shift effort elsewhere, the risk of interaction between sea turtles and smalltooth sawfish may decrease.

4.1.2 Economic Effects

Alternative 1 (No Action) would not revise the ABCs, ACLs (including sector ACLs), and ACTs that were established in 2012 for 37 un-assessed species, despite more recent improvements in landings data. Thus, the status quo alternative would retain biological standards (and management measures) that are no longer based on the best available data. As of October 2012, the federal fishing seasons for the following species or stock complexes closed early for the commercial sector because landings met or exceeded their respective ACL: the deepwater complex; gray triggerfish; the jacks complex; the porgies complex; gag; and the shallow water groupers complex. In the long run, **Alternative 1 (no action)** could yield smaller

net economic benefits than **Preferred Alternative 2** because the former is not based on the best available data.

Alternative 2 (Preferred) would use MRIP and more recent commercial data to revise the ABCs, ACLs (including sector ACLs), and ACTs for the 37 un-assessed species. These revisions, especially the revised ACLs, could affect annual commercial and/or recreational landings of these species and the net economic benefits that derive from these landings. Several species or stock complexes have already exceeded their sector ACL in 2012. These expected changes are more fully described in the subsequent sub-sections.

4.1.2.1 Alternative 2 Economic Effects for the Eight Species of the Deepwater Complex

Alternative 2 (Preferred) would revise the commercial and recreational ACLs (pounds whole weight (ww)) for the following eight species of the deepwater stock complex: Yellowedge grouper; blueline tilefish; silk snapper; misty grouper; sand tilefish; queen snapper; black snapper; and blackfin snapper. The combined changes would allow for increases in annual commercial landings of 32,601 pounds and recreational landings of 2,517 pounds (**Table 4-1**); however, there would not be increases across the eight species. **Alternative 2 (Preferred)** would allow for increases in annual commercial landings of blueline tilefish, misty grouper, sand tilefish, queen snapper, and black snapper, but would decrease commercial landings of the other three species.

Table 4-1. Current and proposed ACLs (pounds ww) for species in the deepwater complex.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
Yellowedge grouper	29,070	27,431	-1,639	1,151	2,790	1,639
Blueline tilefish	280,842	316,098	35,256	311,760	315,243	3,483
Silk snapper	20,129	18,564	-1,565	7,390	6,541	-850
Misty grouper	2,030	2,388	358	833	475	-358
Sand tilefish	1,431	1,770	338	7,392	6,213	-1,178
Queen snapper	8,700	8,756	56	643	710	67
Black snapper	350	366	17	32	16	-17
Blackfin snapper	1,316	1,096	-220	2,838	2,569	-269
Total	343,869	376,469	32,601	332,039	334,556	2,517

In 2012, the commercial sector of the deepwater complex closed on September 8th (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 10/11/2012). **Alternative 2 (Preferred)** would increase the ACL for the complex by approximately 9.5%, which would allow an increase in commercial landings of the deepwater stock complex of 32,600 pounds. This increase would represent an increase in annual ex-vessel gross revenue of $71,252 based on average per pound values from 2011 assuming the entire complex commercial ACL is caught, less the costs to harvest and land those additional pounds.

The recreational sector as of the third MRIP wave for 2012 had only caught 5% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual landings of deepwater complex species would represent less than 7% of the current ACL for the complex. **Alternative 2 (Preferred)** would increase the recreational ACL for the complex. Therefore, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of the deepwater stock complex or associated economic benefits or costs of those landings.

4.1.2.2 Alternative 2 Economic Effects for the Three Species of the Jacks Complex

Alternative 2 (Preferred) would revise the commercial and recreational ACLs for the following three species of the jacks complex: Almaco jack; banded rudderfish; and lesser amberjack. The combined changes may reduce annual commercial landings by 4,577 pounds, but would allow for an increase of recreational landings by 6,309 pounds (**Table 4-2**). The commercial sector could expect to see a potential overall decrease of $3,943 in ex-vessel values for the jacks complex based on average per pound values from 2011 assuming the entire complex commercial ACL is caught.

Table 4-2. Current and proposed ACLs (pounds ww) for species of the jacks complex.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
Almaco Jack	150,439	147,322	-3,117	141,483	155,195	13,712
Banded rudderfish	38,633	37,829	-804	114,366	107,605	-6,761
Lesser amberjack	4,927	4,270	-656	5,641	5,000	-641
Total	193,999	189,421	-4,577	261,490	267,799	6,309

In 2012, the commercial sector closed on July 2nd (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 10/11/2012). **Alternative 2 (Preferred)** would decrease the commercial ACL for the jacks complex by 4,577 pounds. The recreational sector as of the third MRIP wave for 2012 had caught 47% of their ACL, roughly half of the current ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of the jacks complex would represent 63% of the current recreational ACL for the complex. **Alternative 2 (Preferred)** would increase the ACL. Hence, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of the jacks complex or economic benefits or costs of those recreational landings.

4.1.2.3 Alternative 2 Economic Effects for the Five Species of the Snappers Complex

Alternative 2 (Preferred) would revise the commercial and recreational ACLs for the following five species of the snappers complex: Gray snapper; lane snapper; cubera snapper; dog snapper; and mahogany snapper. The combined changes would allow for an increase of annual commercial landings of 11,111 pounds, but could decrease recreational landings by as much as 153,811 pounds (**Table 4-3**). **Alternative 2 (Preferred)** would allow for increases of commercial landings of gray snapper and mahogany snapper, but could decrease commercial landings of the other species. Recreational landings could decrease for all of the species, except mahogany snapper. The commercial sector could expect to see a potential overall increase of $28,991 in ex-vessel values for the snapper complex based on average per pound values from 2011 assuming the entire complex commercial ACL is caught.

Table 4-3. Current and proposed ACLs (pounds ww) for species of snappers complex.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
Gray snapper	178,818	192,830	14,012	715,201	602,913	-112,288
Lane snapper	18,744	17,695	-1,049	134,722	102,289	-32,433
Cubera snapper	6,274	4,829	-1,445	25,498	19,851	-5,647
Dog snapper	708	273	-435	6,815	3,012	-3,803
Mahogany snapper	8	36	27	152	512	360
Total	204,552	215,663	11,111	882,388	728,577	-153,811

As of September 30, 2012, the commercial sector had landed 58.44% of its overall ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 11/08/2012). At that rate, total commercial landings of snappers would be approximately 78% of the current commercial ACL. The proposed ACL for the stock complex would be greater than the current ACL. Hence, it is expected that, **Alternative 2 (Preferred)** would not affect commercial landings of the snappers complex or economic benefits or costs of those landings.

The recreational sector as of the third MRIP wave for 2012 had only caught 10% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 10/11/2012). At that rate, total recreational landings of snappers would be approximately 14% of the current recreational ACL. The proposed revised recreational ACL is approximately 17.4% less than the current recreational ACL. Consequently, **Alternative 2 (Preferred)** is not expected to reduce recreational landings of snappers beyond the status quo or associated economic benefits or costs of the status quo landings.

4.1.2.4 Alternative 2 Economic Effects for the Four Species of the Grunts Complex

Alternative 2 (Preferred) would revise the commercial and recreational ACLs for the four species of the grunts complex: White grunt; sailors choice; tomtate; and margate. The combined changes would allow for increases of annual commercial and recreational landings of 3,916 pounds and 25,962 pounds, respectively (**Table 4-4**). Note, that there would be no changes in the commercial ACLs for sailors choice and tomtate. Therefore, **Alternative 2 (Preferred)**

would generate no additional economic impacts beyond the status quo in the commercial sector that lands sailors choice and tomtate. The commercial sector could expect to see a potential overall increase of $4,325 in ex-vessel values for the grunts complex based on average per pound values from 2011 assuming the entire complex commercial ACL is caught.

Table 4-4. Current and proposed ACLs (pounds ww) for species of grunts complex.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
White grunt	207,751	212,896	5,146	428,148	461,136	32,988
Sailors choice	0	0	0	35,266	22,674	-12,592
Tomtate	0	0	0	70,948	80,056	9,109
Margate	6,873	5,643	-1,230	27,789	24,246	-3,543
Total	214,624	218,539	3,916	562,151	588,113	25,962

As of October 24, 2012, the commercial sector had landed 43.38% of its grunts complex ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 11/08/2012). At that rate, the commercial sector's annual landings would be approximately 58% of its current ACL. **Alternative 2 (Preferred)** would increase the commercial ACL of the grunts stock complex. It is expected that **Alternative 2 (Preferred)** would not affect commercial landings of grunts and would have no economic impacts beyond the status quo.

Even though the ACT for the recreational sector of the grunts complex decreases as a result of **Alternative 2 (Preferred)**, the recreational sector as of the third MRIP wave for 2012 had only caught 19% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At that rate, it is expected that annual recreational landings of grunts would represent slightly more than 25% of the current ACL. Although **Alternative 2 (Preferred)** would increase the recreational ACL of the grunts complex, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of grunts. Hence, there would be no economic impacts beyond the status quo.

4.1.2.5 Alternative 2 Economic Effects for the Six Species of the Shallow Water Groupers Complex

Alternative 2 (Preferred) would revise the commercial and recreational ACLs for the following six species of the shallow water groupers complex: Red hind; rock hind; yellowmouth grouper; yellowfin grouper; coney; and graysby. The combined changes would allow for an increase of annual commercial landings of 288 pounds, but could reduce annual recreational landings by as much as 1,673 pounds (**Table 4-5**). The commercial sector could expect to see a potential overall increase of $1,203 in ex-vessel values for the shallow water groupers complex based on average per pound values from 2011 assuming the entire complex commercial ACL is caught.

Table 4-5. Current and proposed ACLs (pounds ww) for species of shallow water groupers complex.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
Red hind	18,969	18,303	-666	6,916	6,564	-352
Rock hind	23,494	23,115	-379	14,075	14,838	763
Yellowmouth grouper	63	44	-19	4,598	3,995	-603
Yellowfin grouper	3,776	4,879	1,104	5,483	4,379	-1,104
Coney	602	665	63	1,987	2,053	66
Graysby	2,585	2,771	185	15,270	14,827	-444
Total	49,489	49,777	288	48,329	46,656	-1,673

As of October 24, 2012, the commercial sector had landed 45.68% of its ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 11/08/2012). At that rate, annual commercial landings would represent approximately 59.9% of the current ACL. However, the sector was closed on October 20, 2012 because the ACL for gag was met. The current AM for gag is that harvest for all shallow water groupers is prohibited when the gag quota is met or projected to be met. Commercial harvest of the shallow water grouper complex reopened for 8 days beginning November 13, 2012. Although **Alternative 2 (Preferred)** would increase the commercial ACL for the complex, it is expected that there would be no increases in commercial landings of the shallow water grouper complex beyond the status quo and no economic impacts to the commercial sector beyond the status quo.

Even though the ACT for the recreational sector of the shallow water groupers complex decreases as a result of **Alternative 2 (Preferred)**, the recreational sector as of the third MRIP wave for 2012 had only caught 29% of their ACL(http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012) . At that rate, the recreational sector will land approximately 39% of the current ACL. Therefore, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of the shallow water grouper complex and would not affect economic benefits or costs of those landings.

4.1.2.6 Alternative 2 Economic Effects for the Five Species of the Porgies Complex

Alternative 2 (Preferred) would revise the commercial and recreational ACLs for the following five species of the porgies complex: Jolthead porgy; knobbed porgy; saucereye porgy; scup; and whitebone porgy. The combined changes would allow for an increase of annual commercial landings of 1,219 pounds, but could reduce annual recreational landings by as much as 5,570 pounds (**Table 4-6**). The commercial sector could expect to see a potential overall increase of $964 in ex-vessel values for the porgies complex based on average per pound values from 2011 assuming the entire complex commercial ACL is caught.

Table 4-6. Current and proposed ACLs (pounds ww) for species of Porgies Stock Complex.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
Jolthead porgy	1,720	1,571	-150	40,812	36,315	-4,497
Knobbed porgy	33,115	34,515	1,400	28,079	32,926	4,847
Saucereye porgy	0	0	0	4,205	3,606	-599
Scup	0	0	0	8,999	9,306	308
Whitebone porgy	293	262	-31	30,390	24,762	-5,629
Total	35,128	36,348	1,219	112,485	106,915	-5,570

In 2012, the commercial sector closed on September 8th. (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 11/08/2012). The recreational sector as of the third MRIP wave for 2012 had caught 43% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, it is expected that annual recreational landings would represent approximately 57% of the current ACL. **Alternative 2 (Preferred)** would decrease the ACL to approximately 94% of its current value. Hence, it is expected that **Alternative 2 (Preferred)** would have no effects on either recreational landings of the porgies stock complex or associated economic benefits and costs of those landings.

4.1.2.7 Alternative 2 Economic Effects for Six Individual Species

Alternative 2 (Preferred) would also revise the commercial and recreational ACLs for six individual stocks: Atlantic spadefish; blue runner; bar jack; gray triggerfish; scamp; and hogfish. Five of the proposed commercial ACLs are less than their current values and four of the proposed recreational ACLs are less than their present values (**Table 4-7**). The commercial sectors for the five stocks could expect to see potential decreases of $459 (Atlantic spadefish), $1,626 (bar jack), $11,826 (blue runner), $63,146 (gray triggerfish), and $48,537 (scamp) in ex-vessel values based on average per pound values from 2011 assuming the entire commercial ACL is caught. The commercial sector for hogfish could expect to see a potential increase of $2,360 in ex-vessel values based on average per pound values from 2011 assuming the entire commercial ACL is caught.

Table 4-7. Current and proposed ACLs (pounds ww) for individual stocks.

Species	Commercial Sector			Recreational Sector		
	Current ACL	Proposed ACL	Change ACL	Current ACL	Proposed ACL	Change ACL
Atlantic spadefish	36,476	35,108	-1,368	246,365	154,352	-92,013
Blue runner	188,329	177,506	-10,823	1,101,612	948,223	-153,388
Bar jack	6,686	5,265	-1,421	13,834	19,515	5,681
Gray triggerfish	305,262	272,880	-32,381	367,303	353,638	-13,666
Scamp	341,636	333,100	-8,536	150,936	176,688	25,752
Hogfish	48,772	49,469	697	98,866	85,355	-13,511

As of October 24, 2012, the commercial sector had landed 5.53% of its Atlantic spadefish ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 11/08/2012). At this rate, annual commercial landings of Atlantic spadefish would be approximately 7.3% of the current commercial ACL for the species. **Alternative 2 (Preferred)** would reduce the current commercial ACL for Atlantic spadefish by less than 4%. Therefore, it is expected that **Alternative 2 (Preferred)** would have no effect on either commercial landings of Atlantic spadefish or associated economic benefits or costs of those landings.

The recreational sector of the Atlantic spadefish portion of the snapper grouper fishery, as of the third MRIP wave for 2012, had caught 76% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of Atlantic spadefish would represent approximately 101% of the current ACL, assuming the recreational fishing season is not reduced. **Alternative 2 (Preferred)** would decrease the recreational ACL for Atlantic spadefish and recreational landings of Atlantic spadefish by 37%. This 37% reduction would result in losses of both producer surplus and consumer surplus.

As of October 24, 2012, the commercial sector had landed 84.2% of its ACL for blue runner (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 10/11/2012). Commercial harvest of blue runner was closed on December 10, 2012. **Alternative 2 (Preferred)** would decrease the commercial ACL for blue runner by 5.8%. The losses of landings would be accompanied by a reduction in the cost of harvesting and landings those 10,823 pounds.

The recreational sector of the blue runner portion of the snapper grouper fishery as of the third MRIP wave for 2012 had caught 16% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of blue runner would represent 21.3% of the current ACL. **Alternative 2 (Preferred)** would reduce the recreational ACL for blue runner to approximately 80% of its current value. Given that annual recreational landings of blue runner are not expected to meet or exceed 80% of the current ACL, is it

concluded that **Alternative 2 (Preferred)** would not affect recreational landings of blue runner or associated economic benefits or costs of those landings.

As of October 24, 2012, the commercial sector had landed 36.72% of its ACL for bar jack (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 10/11/2012). At this rate, annual commercial landings of bar jack would represent approximately 49% of the current ACL. **Alternative 2 (Preferred)** would revise the bar jack commercial ACL to 79% of its current value. Thus, it is expected that **Alternative 2 (Preferred)** would not affect commercial landings or economic benefits or costs of those landings.

The recreational sector of the bar jack portion of the snapper grouper fishery, as of the third MRIP wave for 2012, had caught 12% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of bar jack would represent 16% of the current recreational ACL. **Alternative 2 (Preferred)** would increase the recreational ACL for bar jack. Because status quo landings are less than the current ACL and would be less than the proposed revised ACL, it is expected that **Alternative 2 (Preferred)** would affect neither recreational landings of bar jack nor associated economic benefits or costs of those landings.

In 2012, the commercial sector for gray triggerfish closed on September 11th (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 11/08/2012). Gray triggerfish reopened on December 12, 2012, and closed on December 19, 2012. **Alternative 2 (Preferred)** would reduce the commercial ACL for gray triggerfish to 89.4% of its current value, by 32,381 pounds. The loss of landings would be accompanied by a reduction in the cost of harvesting and landings the 32,381 pounds.

The recreational sector of the gray triggerfish portion of the snapper grouper fishery, as of the third MRIP wave for 2012, had caught 25% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of gray triggerfish would represent 33.3% of the current recreational ACL. **Alternative 2 (Preferred)** would decrease the recreational ACL of gray triggerfish to approximately 96% of its current value. Hence, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of gray triggerfish or economic benefits or costs of those landings.

As of October 24, 2012, the commercial sector had landed 50.89% of its ACL for scamp (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 10/11/2012). At this rate, annual commercial landings of scamp would represent 67.8% of the current ACL. Commercial fishing for scamp closed on October 20, 2012 as the ACL for the gag was projected to be met. As mentioned previously, the current AM for gag is to prohibit harvest of all shallow water groupers when the gag quota is met or projected to be met. Commercial harvest of scamp and other shallow water grouper species reopened on November 13, 2012, for 8 days. **Alternative 2 (Preferred)** would reduce the commercial ACL for scamp to 97.5% of its current value. Thus, it is expected that **Alternative 2 (Preferred)** would not affect commercial landings or the economic impacts of those landings.

The recreational sector of the scamp portion of the snapper grouper fishery, as of the third MRIP wave for 2012, had caught 25% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of scamp would represent 33.3% of the current recreational ACL. **Alternative 2 (Preferred)** would increase the recreational ACL for scamp. Thus, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of scamp or associated economic impacts of those landings.

As of October 24, 2012, the commercial sector had landed 50.75% of its ACL for hogfish (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on 10/11/2012). At this rate, annual commercial landings of hogfish would represent approximately 67.9% of the current commercial ACL. **Alternative 2 (Preferred)** would increase the commercial ACL for hogfish. Because current commercial landings of hogfish are less than the current ACL and proposed revised ACL, it is expected that **Alternative 2 (Preferred)** would not affect commercial landings of hogfish or economic benefits or costs of those landings.

The recreational sector as of the third MRIP wave for 2012 had caught 57% of their ACL (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_sa/index.html, accessed on 11/08/2012). At this rate, annual recreational landings of hogfish would represent approximately 76% of the current ACL. **Alternative 2 (Preferred)** would reduce the recreational ACL for hogfish to approximately 86% of its current value. Hence, it is expected that **Alternative 2 (Preferred)** would not affect recreational landings of hogfish and economic impacts of those landings.

4.1.2.8 Economic Conclusions

Alternative 2 (Preferred), which would update commercial and headboat landing data, as well as incorporate MRIP data in place of MRFSS, would make adjustments to ACLs for the 37 un-assessed stocks affected by this regulatory amendment. As a result of the ACLs changing, there are expected to be economic effects for those species depending on when the new ACL is met and an AM is triggered. However, other stocks not affected based on 2012 landings, the first year the **Alternative 1 (No Action)** was in place, could be affected in future years should fishing behavior change from what has been observed thus far. **Table 4-8** summarizes the direction of the ACL change for selection of **Alternative 2 (Preferred)** as the preferred alternative.

Based on 2012 landings reported in the sections above, the deepwater and porgies complexes, which closed before the end of the 2012 fishing year, potentially could have remained open longer for the commercial sector had these revised ACLs been in place. The additional pounds allocated to the commercial sector for the deepwater complex would have added modestly to the overall economic effect of the commercial deepwater complex. However, the size of the ACL increase for the commercial sector of the porgies complex was small. Therefore, the expected positive economic effects would have been negligible.

The revised ACL for the jacks complex would have resulted in the commercial sector closing sooner had the revised ACLs from this amendment been in place for the 2012 season. However, the size of the decrease was quite small resulting in a less than $4,000 drop in ex-vessel value for commercial fishermen.

The revised ACLs for the commercial sectors for blue runner and gray triggerfish would be revised downward under **Alternative 2 (Preferred)**. Blue runner closed on December 10, 2012. With the lower ACL it could close sooner in future years, thus resulting in a small reduction of overall ex-vessel values of approximately $11,000. Gray triggerfish closed on September 11, 2012. The commercial sector would have closed sooner had the ACL from **Alternative 2 (Preferred)** of this amendment been in place. The estimated reduction in ex-vessel value for gray triggerfish resulting from **Alternative 2 (Preferred)** is approximately $63,000.

The recreational sector for Atlantic spadefish is the only one in this amendment that would be expected in the future to exceed its recreational ACL because of the changes imposed through **Alternative 2 (Preferred)**. The economic effects of the reduction of 37% (92,013 pounds ww) cannot be specifically quantified, it would be expected to have negative economic effects on both consumer and producer surplus.

Table 4-8. Summary of the direction of expected economic effects for **Preferred Alternative 2**.

Species	Expected Economic Impacts	
	Commercial	Recreational
Deepwater Complex	+	+/-
Yellowedge grouper	-	+/-
Blueline tilefish	+	+/-
Silk snapper	-	+/-
Misty grouper	+	+/-
Sand tilefish	+	+/-
Queen snapper	+	+/-
Black snapper	+	+/-
Blackfin snapper	-	+/-
Jacks Complex	-	+/-
Almaco jack	-	+/-
Banded rudderfish	-	+/-
Lesser amberjack	-	+/-
Snappers Complex	+/-	+/-
Gray snapper	+/-	+/-
Lane snapper	+/-	+/-
Cubera snapper	+/-	+/-
Dog snapper	+/-	+/-
Mahogany snapper	+/-	+/-
Grunts Complex	+/-	+/-
White grunt	+/-	+/-

Species	Expected Economic Impacts	
	Commercial	Recreational
Sailors choice	0[1]	+/-
Tomtate	0	+/-
Margate	+/-	+/-
Shallow Water Groupers Complex	+	+/-
Red hind	-	+/-
Rock hind	-	+/-
Yellowmouth grouper	-	+/-
Yellowfin grouper	+	+/-
Coney	+	+/-
Graysby	+	+/-
Porgies Complex	+/-	+/-
Jolthead porgy	+/-	+/-
Knobbed porgy	+/-	+/-
Saucereye porgy	0	+/-
Scup	0	+/-
Whitebone porgy	+/-	+/-
Individual species		
Atlantic spadefish	+/-	-
Blue runner	-	-
Bar jack	+/-	+/-
Gray triggerfish	-	-
Scamp	-	+/-
Hogfish	+/-	-

[1]Cells marked '0' for species in the commercial sector indicate that this species does not have a separate allocation. Allocations are included with another species in that complex.

4.1.3 Social Effects

The social effects of potential changes in the ACLs for the 37 species (**Alternative 2 Preferred**) are expected to occur in the short and long term, and are closely associated with biological and economic impacts of these actions. Overall, adjustments in ACLs based on improved information would be beneficial to the species and would likely produce long-term benefits to the fishermen, coastal communities, and fishing businesses by contributing to sustainable harvest of these fish in the present and future. Negative social impacts would result from expected economic impacts on the fishermen and communities where there are lower quotas relative to recent catch history, and associated accountability measures particularly in a few commercial fisheries. The negative effects of AMs such as early closures and paybacks (which in turn increase the likelihood of an earlier closure in the following year) are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other

thresholds being met and may involve switching to other species or discontinuing fishing altogether.

Incorporation of the best available data into the ABC/ACL calculations (**Alternative 2 Preferred**) is expected to more accurately estimate recreational and commercial landings and better reflect actual fishing behavior than not updating catch limits under **Alternative 1 (No Action)** because MRFSS landing estimates will no longer be calculated. Future recreational landings would be estimated using MRIP. **Alternative 2 (Preferred)** would result in future MRIP estimates being compared to ACLs determined using previous MRIP estimates. Although the proposed updated ACLs are considered to be based on the best available information, the proposed changes may not prevent AMs from being triggered or minimize impacts but the proposed changes under **Alternative 2 (Preferred)** would still be expected to improve management of the snapper grouper fishery and possibly minimize negative social impacts on AMs more than under **Alternative 1 (No Action)**. Some social impacts associated with changes in ACLs for specific species may be linked to the expected economic impacts on the commercial and recreational sectors (see **Section 4.1.2**), and some impacts may not occur immediately but could be expected in the future. This is particularly significant for the recreational sector because ACLs may constrain growth in recreational effort, which is tied to the increasing pattern of coastal population growth, and national population growth in general. Therefore even if recent recreational catch of a particular species does not meet or even come close to the adjusted recreational ACLs under **Alternative 2 (Preferred)**, there may still be future impacts on private recreational anglers because there will a limited number of fish available to a continually increasing number of people.

Deepwater Complex---Blueline tilefish is the most important commercial and recreational species in the deepwater complex. The ~13% increase in the commercial ACL for blueline tilefish under **Alternative 2** (**Preferred)** (**Section 4.1.2.1**) would be beneficial for the entire region, but particularly for Dare County in North Carolina, the area of almost all of the commercial landings in 2011 for blueline tilefish (Source: 2011 ALS). The overall increase in pounds for the commercial and recreational ACLs for the deepwater complex is expected to be beneficial for the fishermen and associated communities and businesses. Commercial harvest of the deepwater species closed on September 8, 2012, when the complex ACL had been met, and an increase in the commercial quota may help lengthen the season. Recreational harvest would have a net increase overall, but there would likely be minimal or no social effects on the recreational sector at this time. However, if the recreational sector grows and effort increases, the proposed deepwater recreational ACL under **Alternative 2 (Preferred)** would be beneficial in minimizing constraint on recreational effort.

Jacks---Overall the lower proposed commercial ACL for almaco jack, banded rudderfish and lesser amberjack under **Alternative 2 (Preferred)** would be expected to have some negative impact on the commercial fleet. Although the difference in the current and proposed ACLs for the complex is small (<3%), the jacks complex closed on July 2, 2012, and exceeded the ACL with a 87% overage in 2012, and even a small decrease would not benefit commercial fishermen targeting the jacks complex. The primary areas with the highest levels of commercial landings for the jacks complex and increased likelihood of negative impacts are in Charleston, Georgetown, and Horry Counties (South Carolina); Volusia and Palm Beach Counties (Florida);

and Brunswick County (North Carolina). The recreational ACL proposed under **Alternative 2 (Preferred)** is a net increase and would not be expected to result in negative impacts on recreational fishermen and for-hire businesses that target species in the jacks complex.

Snappers---The most important species in the complex is the gray (mangrove) snapper for both the recreational and commercial sectors, and this is a particularly significant targeted species in the Florida Keys. The proposed increase in the commercial ACL for gray snapper under **Alternative 2 (Preferred)** would be beneficial for the commercial fleet in the Keys, and may help reduce impacts of closures in other species by allowing a higher level of gray snapper landings. The small decreases for the other snapper species would not be expected to affect the commercial fleet.

The considerable decrease in the recreational ACL for gray snapper under **Alternative 2 (Preferred)** may have some negative impact on anglers who target any of the fish in the snappers complex, since the overall recreational ACL would also decrease. However, MRIP estimates for gray snapper catch indicate a decline in recreational catch, a trend that may lead to problems with the stock over time. A lower ACL for gray snapper would help reduce the risk of overfishing, and contribute to the long-term health of the stock and recreational fishery.

Grunts---Overall, the proposed ACLs under **Alternative 2 (Preferred)** would increase, particularly for white grunt. The grunts complex is an important part of the recreational portion of the snapper grouper fishery, particularly in the Florida Keys ('grits and grunts' is a traditional Key West dish). MRIP estimates indicate that most white grunts are caught on private boats and an increase in the recreational ACL would be beneficial to private anglers. The lower proposed ACL for sailor's choice reflects the reduced targeting by recreational fishermen and would not be expected to result in negative impacts. The proposed changes to the commercial ACL are minimal and are not expected to affect the commercial fleet.

Shallow Water Groupers---The proposed changes in ACLs for the shallow water groupers complex under **Alternative 2 (Preferred)** are relatively small, and would not be expected to impact the commercial or recreational sector. The ACLs for this complex are not expected to be exceeded in 2012, in part because of the current AM to close the shallow water groupers complex when the gag ACL is projected to be met to minimize gag bycatch. In 2012, this AM was triggered on October 20th although the shallow water groupers complex far from reaching its overall complex ACL. These minimal proposed changes to the ACLs will likely not affect the fishermen or communities.

Porgies---The proposed small increase in the commercial ACL for the porgies complex under **Alternative 2 (Preferred)** would not be expected to significantly impact the commercial sector. The proposed changes for the recreational ACLs would result in a net decrease in the recreational ACL, but because the recreational ACL is not expected to be met or exceeded, there are no or few impacts or benefits on the recreational sector expected from these changes.

Individual Species---Several species with proposed changes in ACLs under **Alternative 2 (Preferred)** are important commercial and recreational species, and decreases in ACLs may have negative impacts on fishermen. The lower proposed commercial ACL for Atlantic

spadefish is small and would not be expected to affect commercial fishermen who catch Atlantic Spadefish. However, the lower proposed recreational ACL may have negative impact on recreational anglers, since MRIP indicates that most recreational catch is from private boats or shore.

Blue runner is a relatively less important commercial species overall in the snapper grouper fishery, but some communities in Florida have small fleets dependent on blue runner catch during part of the year. The proposed lower ACL under **Alternative 2 (Preferred)** may have some impact on the commercial harvesters, particularly because the current commercial ACL was met on December 10, 2012, and a decrease in the quota may cause an AM to be triggered or another management measure. The proposed change in the recreational ACL for blue runner may have some impact on recreational anglers targeting the species.

Gray triggerfish is an increasingly important commercial and recreational species, with growing effort and market demand associated with closures for other species. Commercial fishermen who harvest gray triggerfish would be impacted by the lower commercial ACL proposed under **Alternative 2 (Preferred)**, especially because the commercial sector for gray triggerfish closed on September 9, 2012. The impact on the commercial fleet may be significant in the next few years, but also in the future as AMs such as early closures and paybacks are triggered for other species, and gray triggerfish is also not available. Gray triggerfish is an important commercial species in Georgetown and Horry Counties in South Carolina, Duval County in north Florida, and Brunswick and Carteret Counties in North Carolina, and these communities would be expected to experience negative impacts by the lower proposed commercial ACL. The lower proposed recreational ACL would likely have less negative impact on the recreational sector since MRIP indicates that recreational catch is not growing over the past few years, and recreational harvest of gray triggerfish would likely not be closed early due to meeting the ACL.

The proposed lower commercial ACL for scamp would likely have little impact on the communities with high levels of commercial landings, most notably Georgetown and Horry Counties in South Carolina. The proposed increase in the recreational ACL for scamp will be beneficial for the recreational sector if recreational effort and harvest of scamp grows in the future.

The proposed changes to the bar jack recreational and commercial ACLs would not be expected to impact the fishermen due to low landings for bar jack in recent years.

4.1.4 Administrative Effects

The mechanisms for monitoring and documentation of ABCs, ACLs (including sector ACLs), ACTs, and AMs are already in place with implementation of the Comprehensive ACL Amendment (SAFMC 2011c), and reflects **Alternative 1** (**No Action**). Regulatory Amendment 13 would not implement any new mechanisms. Therefore, the administrative impacts of **Alternative 2 (Preferred)** would to be minimal, and not differ much when compared with **Alternative 1** (**No Action**). Other administrative burdens that may result from revising the values under **Alternative 2 (Preferred)** would take the form of development and dissemination of outreach and education materials for fishery participants and law enforcement.

Chapter 5. Council's Choice for the Preferred Alternative

5.1 *Revise the acceptable biological catches (ABCs), annual catch limits (ACLs, including sector ACLs), and annual catch targets (ACTs) for select un-assessed species in the snapper grouper fishery management unit. Data will be updated with data from the Marine Recreational Information Program (MRIP), commercial, and for-hire landings.*

5.1.1 Snapper Grouper Advisory Panel Comments and Recommendations

The Snapper Grouper Advisory Panel (SGAP) met in November of 2012. The SGAP received a presentation from South Atlantic Fishery Management Council (South Atlantic Council) staff on the ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed species. The SGAP discussed the implications of the action and did not disagree with the South Atlantic Council's decision to revise the ABCs, ACLs (including sector ACLs), and ACTs using MRIP estimates of recreational landings, as well as updated commercial and headboat landings.

5.1.2 Law Enforcement Advisory Panel Comments and Recommendations

The Law Enforcement Advisory Panel (LEAP) did not have a scheduled meeting from the time Regulatory Amendment 13 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 13) began development at the South Atlantic Council meeting in September 2012 until it received its final review by the South Atlantic Council in December 2012. South Atlantic Council staff sent a copy of Regulatory Amendment 13 to the LEAP via email to solicit their comments. The South Atlantic Council did not receive any comments expressing concerns regarding Regulatory Amendment 13 from LEAP members.

5.1.3 Scientific and Statistical Committee Comments and Recommendations

The Scientific and Statistical Committee (SSC) met in October 2012. The SSC received a presentation from the National Marine Fisheries Service Southeast Regional Office on how the

ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed species were calculated. The SSC concluded that **Alternative 2 (Preferred)** represented the best available science.

5.1.4 Public Comments and Recommendations

The South Atlantic Council accepted written public comments from October 31, 2012 through November 30, 2012, for Regulatory Amendment 13. Two written public comments specific to Regulatory Amendment 13 were submitted in writing by recreational anglers. Both comments endorsed alternatives that would not allow any commercial allocation until a year round recreational fishery could be assured.

The South Atlantic Council afforded the public an opportunity to comment on Regulatory Amendment 13 in person on December 6, 2012, at their regularly scheduled meeting in Wilmington, North Carolina. Several speakers spoke in favor of adopting the revised ABCs, ACLs (including sector ACLs), and ACTs. No one spoke against adoption of the revisions.

5.1.5 South Atlantic Council Choice for Preferred Alternative

The South Atlantic Council chose **Alternative 2** as its **preferred alternative**. The South Atlantic Council determined that **Alternative 1** would not be the best alternative as MRFSS estimates for recreational landings will not be available in the future. The ABCs, ACLs (including sector ACLs), and ACTs for the un-assessed species addressed in this amendment were all originally determined using MRFSS estimates (SAFMC 2011c). **Alternative 2 (Preferred)** revised the original MRFSS estimates using MRIP estimates for the years where conversion factors are available. Additionally, **Alternative 2 (Preferred)** updated commercial and headboat landings for the same periods.

The South Atlantic Council concluded **Preferred Alternative 2** is based on the best available science, and best meets the purpose and need, the objectives of the FMP for the Snapper Grouper Fishery of the South Atlantic Region, as amended, and other applicable law.

Chapter 6. Cumulative Effects

6.1 Biological

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but the cumulative impacts of proposed actions as well. NEPA defines a cumulative impact as *"the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time"* (40 C.F.R. 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect is when the combined effects are greater than the sum of the individual effects.

Various approaches for assessing cumulative effects have been identified, including checklists, matrices, indices, and detailed models (MacDonald 2000). The Council on Environmental Quality (CEQ) offers guidance on conducting a Cumulative Effects Analysis (CEA) in a report titled "Considering Cumulative Effects under the National Environmental Policy Act". The report outlines 11 items for consideration in drafting a CEA for a proposed action.

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.
2. Establish the geographic scope of the analysis.
3. Establish the timeframe for the analysis.
4. Identify the other actions affecting the resources, ecosystems, and human communities of concern.
5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.
6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.
7. Define a baseline condition for the resources, ecosystems, and human communities.
8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.
9. Determine the magnitude and significance of cumulative effects.
10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.
11. Monitor the cumulative effects of the selected alternative and adapt management.

This CEA for the biophysical environment will follow a modified version of the 11 steps. Cumulative effects for the socio-economic environment will be analyzed separately.

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

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 **(Chapter 4.0)**;
II. Which resources, ecosystems, and human communities are affected **(Chapter 3.0)**; and
III. Which effects are important from a cumulative effects perspective **(information revealed in this 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 Fishery Management Council's (South Atlantic Council) area of jurisdiction. In light of the available information, the extent of the boundaries would depend upon the degree of fish immigration/emigration and larval transport, whichever has the greatest geographical range. Therefore, the proper geographical boundary to consider effects on the biophysical environment is larger than the entire South Atlantic exclusive economic zone (EEZ). The ranges of affected species are described in **Section 3.2**. The most measurable and substantial effects would be limited to the South Atlantic region.

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. For the species addressed in Regulatory Amendment 13 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 13; Snapper Grouper FMP), landings data through 2008 were used in the subject biological analysis. Long-term evaluation is needed to determine if management measures have the intended effect of improving stock status. Monitoring should continue indefinitely for all species to ensure that management measures are adequate for preventing overfishing in the future.

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 the snapper grouper species addressed in this amendment

A. Past

The reader is referred to **Appendix B** for past regulatory activity for the species addressed in Regulatory Amendment 13. Past regulatory activity for the relevant snapper grouper species includes bag and size limits, spawning season closures, commercial quotas, gear prohibitions and limitations, area closures, and a commercial limited access system.

Amendment 13C to the Snapper Grouper FMP (Amendment 13C; SAFMC 2006) was implemented on October 23, 2006. Amendment 13C established quotas, trip limits, and bag limits to end overfishing of snowy grouper, golden tilefish, vermilion snapper, and black sea bass. It also increased harvest of red porgy consistent with the rebuilding program.

Amendment 14 to the Snapper Grouper FMP (Amendment 14; SAFMC 2007) was implemented on February 12, 2009. Amendment 14 established eight Type II marine protected areas (MPAs) where fishing for and retention of snapper-grouper species was prohibited (as was the use of shark bottom longlines), but trolling for pelagic species such as tuna, dolphin, and billfish would be allowed. The intent was to achieve a more natural sex ratio, age, and size structure of all species within the MPAs, while minimizing adverse social and economic effects. The MPAs are being used as a management tool to promote the optimum size, age, and genetic structure of slow growing, long-lived deepwater snapper grouper species (speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, golden tilefish, blueline tilefish, and sand tilefish). Studies to assess the effectiveness of the deepwater MPAs have been conducted annually by the Southeast Fisheries Science Center (SEFSC) since 2004.

Amendment 15B to the Snapper Grouper FMP (Amendment 15B; SAFMC 2008b) became effective on December 16, 2009. Management measures in Amendment 15B included 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 Atlantic Coastal Cooperative Statistics Program release, discard, and protected species module to assess and monitor bycatch; allocations for snowy grouper; and management reference points for golden tilefish.

Amendment 16 to Snapper Grouper FMP (Amendment 16; SAFMC 2009a), was partially approved by the Secretary of Commerce, and the final rule published on June 29, 2009. Amendment 16 included provisions to extend the shallow water grouper spawning season closure, created a five month seasonal closure for vermilion snapper, required the use of dehooking gear if needed, reduced the aggregate bag limit from five to three grouper, and reduced 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.

Amendment 17A to the Snapper Grouper FMP (Amendment 17A; SAFMC 2010a) included a rebuilding plan and management measures that would end overfishing of red snapper. Amendment 17A specified an annual catch limit (ACL) and accountability measures (AMs) for red snapper as required by the Magnuson-Stevens Fishery Conservation and Management (Magnuson-Stevens Act). One of several management measures the South Atlantic Fishery Management Council (South Atlantic Council) considered in Amendment 17A was a large area closure for all snapper grouper fishing off the coasts of Georgia and Northern Florida. This closure would have enhanced the expected biological benefits of the spawning season closure for shallow water grouper in Amendment 16. The final rule for Amendment 17A, issued on December 3, 2010, extended the prohibition of red snapper in federal waters throughout the South Atlantic EEZ effective immediately. The implementation of the area closure, however, was delayed. The South Atlantic Council approved Regulatory Amendment 10 to the Snapper Grouper FMP (Regulatory Amendment 10; SAFMC 2011a) for submission to the Secretary during its December 2010 meeting in order to eliminate the area closure based on updated stock assessment information for red snapper (SEDAR 24 2010).

Amendment 17B to the Snapper Grouper FMP (Amendment 17B; SAFMC 2010b), which was implemented on January 31, 2011, established ACLs, annual catch targets (ACTs), 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. Amendment 17B also prohibited the harvest and possession of deepwater snapper grouper species (snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper) at depths greater than 240 feet. The intent of this measure was to reduce bycatch of speckled hind and warsaw grouper.

Amendment 18A to the Snapper Grouper FMP (Amendment 18A; SAFMC 2012a) was implemented on July 1, 2012. The amendment is expected to limit effort in the black sea bass portion of the snapper grouper fishery, reduce bycatch in the black sea bass pot sector, and improve the accuracy and timing of fisheries statistics. In addition, the amendment changed the constant-catch rebuilding strategy for black sea bass and changed the recreational AMs put in place for black sea bass through Amendment 17B.

Comprehensive Ecosystem-Based Amendment 1 (CE-BA 1; SAFMC 2009c), included Amendment 19 to the Snapper Grouper FMP. CE-BA 1 was implemented in July 2010 and consisted of regulatory actions that focused on deepwater coral ecosystem conservation and non-regulatory actions that update existing essential fish habitat (EFH) information. Management actions in CE-BA 1 included establishment of deepwater Coral HAPCs (CHAPCs) to protect what is currently thought to be the largest contiguous distribution (>23,000 square miles) of pristine deepwater coral ecosystems in the world. Actions in CE-BA 1 prohibited the use of bottom damaging fishing gear and allowed for the creation of allowable fishing zones within the CHAPCs in the historical fishing grounds of the golden crab and deepwater shrimp fisheries. CE-BA 1 also provided spatial information on designated EFH in the SAFMC Habitat Plan (SAFMC 1998).

Regulatory Amendment 9 to the Snapper Grouper FMP (Regulatory Amendment 9; SAFMC 2011b) was approved by the South Atlantic Council in March 2011 and the final rule published

on June 15, 2011. Regulatory Amendment 9 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).

Regulatory Amendment 11 to the Snapper Grouper FMP (Regulatory Amendment 11; SAFMC 2012b) was implemented on May 10, 2012. Regulatory Amendment 11 removed the closure implemented by Amendment 17B for snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper, at depths greater than 240 feet.

Amendment 23 to the Snapper Grouper FMP was included in CE-BA 2 (SAFMC 2011e), and was implemented on January 30, 2012. CE-BA 2 limited the harvest of snapper grouper species in special management zones off South Carolina to the bag limit.

Amendment 24 to the Snapper Grouper FMP (Amendment 24; SAFMC 2011d) was developed to address overfishing of red grouper with actions for: Maximum sustainable yield; minimum stock size threshold; a rebuilding schedule and rebuilding strategy; acceptable biological catch (ABC); sector allocations; and sector ACLs, optimum yield, and AMs. Amendment 24 was implemented on July 11, 2012.

Amendment 25 to the Snapper Grouper FMP was included in the Comprehensive ACL Amendment (SAFMC 2011c). Actions contained within the Comprehensive ACL Amendment included: (1) Removal of species from the snapper grouper fishery management unit; (2) designation of ecosystem component species; (3) allocations; (4) management measures to limit recreational and commercial sectors to their ACLs; (5) AMs; and (6) any necessary modifications to the range of regulations. The South Atlantic Council approved the Comprehensive ACL Amendment in September 2011. Regulations for the Comprehensive ACL Amendment were implemented on April 16, 2012.

Amendment 20A to the Snapper Grouper FMP (Amendment 20A; SAFMC 2012d) distributes shares from inactive participants in the wreckfish individual transferable quota (ITQ) to active shareholders. The South Atlantic Council approved Amendment 20A in December 2011. The proposed rule for Amendment 20A published in the *Federal Register* on March 20, 2012, and the comment period ended on April 30, 2012. The final rule published in the *Federal Register* on September 26, 2012, and regulations were implemented on October 26, 2012.

Regulatory Amendment 12 to the Snapper Grouper FMP (Regulatory Amendment 12; SAFMC 2012c) adjusted the golden tilefish ACL based on the results of a new assessment, which indicates golden tilefish are no longer experiencing overfishing and are not overfished. Regulatory Amendment 12 adjusted the recreational AM. Regulatory Amendment 12 was approved for submission to the Secretary of Commerce by the South Atlantic Council at their March 2012 meeting. The final rule published in the *Federal Register* on October 3, 2012, and regulations were effective October 9, 2012.

B. Present

In addition to snapper grouper fishery management issues being addressed in this amendment, other snapper grouper amendments have been developed concurrently and are in the process of approval and implementation.

In a letter dated June 19, 2012, the South Atlantic Council requested NMFS to allow harvest and possession of red snapper in 2012 through emergency regulations. At their June 11-15, 2012, meeting, the South Atlantic Council reviewed new information in the form of red snapper rebuilding projections, 2012 acceptable biological catch levels, and 2012 discard mortality levels. After accounting for the 2012 discard mortalities, the South Atlantic Council determined that directed harvest could be allowed without compromising the rebuilding of the stock to target levels. On August 28, 2012, the final temporary rule was published for the emergency action to reopen the red snapper fishery for a limited duration in 2012.

The South Atlantic Council has recently completed and is developing amendments for coastal migratory pelagic species, golden crab, dolphin-wahoo, shrimp, and coral hard bottom. See the South Atlantic Council's Web site at http://www.safmc.net/ for further information on South Atlantic Council managed species.

C. Reasonably Foreseeable Future

Amendment 18B (SAFMC 2012e) to the Snapper Grouper FMP is currently under development and contains actions addressing golden tilefish. Actions would include limiting participation in the golden tilefish commercial sector, allocating commercial quota between gear groups, changing the golden tilefish fishing year, and changing the commercial trip limit. The Council approved this amendment in June 2012. Regulations are expected to be in place in early 2013.

Amendment 20B to the Snapper Grouper FMP is currently under development. The amendment 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 the requirements of the Magnuson-Stevens Act.

At their June 2012 meeting, the South Atlantic Council began development of Amendment 22 to the Snapper Grouper FMP to consider measures such as a tag program for red snapper. Scoping of Amendment 22 was conducted during January and February 2011. At their September 2012 meeting, the South Atlantic Council requested a tag program to track recreational catches for red snapper, golden tilefish, snowy grouper, and wreckfish.

At their June 2012 meeting the South Atlantic Council requested development of a regulatory amendment to adjust management measures for greater amberjack, black sea bass, gray triggerfish, and vermilion snapper. An options paper for Regulatory Amendment 14 to the Snapper Grouper FMP (Regulatory Amendment 14) was presented to the South Atlantic Council in September 2012, and the South Atlantic Council added red porgy, hogfish, and additional

management measures in this amendment. Regulatory Amendment 14 will be approved for public hearings at June 2013 Council meeting.

Regulatory Amendment 15 to the Snapper Grouper FMP (Regulatory Amendment 15) would implementing a revised ACL for yellowtail snapper based on the latest stock assessment for the species and remove the commercial gag AM that closes shallow water groupers when the gag ACL is met or expected to be met. The South Atlantic Council approved Regulatory Amendment 15 for review by the Secretary of Commerce at their December 2012 meeting.

Regulatory Amendment 16 to the Snapper Grouper FMP would examine management measures for golden tilefish to slow commercial harvest (e.g., 2 weeks on and 2 weeks off). The South Atlantic Council is expected to begin development of this amendment in 2013.

Regulatory Amendment 17 to the Snapper Grouper FMP would examine ways to reduce bycatch of warsaw and speckled hind by reconfiguring existing marine protected areas. The South Atlantic Council will identify alternatives for this amendment in March 2013.

Regulatory Amendment 18 to the Snapper Grouper FMP (Regulatory Amendment 18) would adjust ACLs and management measures for vermilion snapper and red porgy based on update assessments completed in 2012. The South Atlantic Council is expected to take final action on Regulatory Amendment 18 in March 2013.

Amendment 27 to the Snapper Grouper FMP would designate the South Atlantic Council as the managing entity for Nassau grouper in the Southeast U.S., modify the snapper grouper framework procedure, modify management measures for blue runner, revaluate the harvest prohibition for vermilion snapper, groupers, and tilefish by captain and crew on for-hire vessels, and consider an increase in the number of crew members allowed on a commercial snapper grouper fishing trip.

Amendment 28 to the Snapper Grouper FMP (Amendment 28) would modify management measures for red snapper, including the establishment of a process to determine future ACLs and fishing seasons. The South Atlantic Council approved Amendment 28 for review by the Secretary of Commerce at their December 2012 meeting.

Amendment 29 to the Snapper Grouper FMP would modify the ABCs and ACLs for snapper grouper species based on the SSC's completion of the ABC control rule using the Only Reliable Catch Stocks (ORCS) approach.

Amendment 30 to the Snapper Grouper FMP would consider a requirement for vessel monitoring system on commercial snapper grouper vessels. The South Atlantic Council is expected to begin development of this amendment in 2013.

II. Non-Council and other non-fishery related actions, including natural events affecting snapper grouper species in this amendment.

A. Past
B. Present
C. Reasonably foreseeable future

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, red snapper co-occur with vermilion snapper, tomtate, scup, red porgy, white grunt, black sea bass, red grouper, scamp, gag, and others. Therefore, red snapper are likely to be caught and suffer some mortality even though no retention is allowed 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 **Chapter 3** of this document, which is hereby incorporated by reference.

How global climate changes will affect the snapper grouper fishery is unclear. Climate change can impact marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise, increases in wave height and frequency, loss of sea ice, and increased risk of diseases in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic CO_2 emissions may impact a wide range of organisms and ecosystems, particularly organism that absorb calcium from surface waters, such as corals and crustaceans (IPCC 2007, and references therein).

The BP/Deepwater Horizon oil spill event, which occurred in the Gulf of Mexico on April 20, 2010, did not impact fisheries operating the South Atlantic. Oil from the spill site has not been detected in the South Atlantic region, and did not likely to pose a threat to the South Atlantic snapper grouper species.

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. Information on species most affected by this amendment are provided in **Section 3.2.1** of this document.

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 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

The Comprehensive ACL Amendment (SAFMC 2011c) addressed species included in this amendment. This document updates thresholds already specified for these species to ensure future overfishing does not occur, and to ensure these stocks can be maintained at sustainable levels.

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 (IPCC 2007; 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. Southeast Data, Assessment, and Review (SEDAR) assessments show trends in biomass, fishing mortality, fish weight, and fish length going back to the earliest periods of data collection. However, the species addressed by this amendment have not been assessed through the SEDAR process. For a detailed discussion of the baseline conditions of species addressed in this document the reader is referred to **Section 3.2** and **Appendix B** (history of management).

8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.

The cause and effect relationship of fishing and regulatory actions is shown in **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
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 1988).	Increase yield per recruit of vermilion snapper; eliminate trawl damage to live bottom habitat.
Pre-January 1, 1992	Overfishing of many snapper grouper species.	Spawning stock ratio of these species is estimated to be less than 30% indicating that they are overfished.
January 1992	Prohibited gear: fish traps south of Cape Canaveral, FL; entanglement nets; longline gear inside of 50 fathoms; powerheads and bangsticks in designated SMZs off SC. Size/Bag limits: 10" TL 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 1991).	Reduce mortality of snapper grouper species.
Pre-June 27, 1994	Damage to *Oculina* habitat.	Noticeable decrease in numbers and species diversity in areas of *Oculina* off FL
July 1994	Prohibition of fishing for and retention of snapper grouper species (HAPC renamed OECA; SAFMC 1993)	Initiated the recovery of snapper grouper species in OECA.
1992-1999	Declining trends in biomass and overfishing continue for a number of	Spawning potential ratio for golden tilefish is less than 30% indicating that

Time period/dates	Cause	Observed and/or Expected Effects
	snapper grouper species including golden tilefish.	they are overfished.
July 1994	Commercial quota for golden tilefish; commercial trip limits for golden tilefish; include golden tilefish in grouper recreational aggregate bag limits.	
February 24, 1999	All S-G without a bag limit: aggregate recreational bag limit 20 fish/person/day, excluding tomtate and blue runners. Vessels with longline gear aboard may only possess snowy, Warsaw, yellowedge, and misty grouper, and golden, blueline and sand tilefish.	
Effective October 23, 2006	Snapper grouper FMP Amendment 13C (SAFMC 2006)	Commercial vermilion snapper quota set at 1.1 million lbs gw; 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 July 29, 2009	Snapper grouper FMP Amendment 16 (SAFMC 2009a)	Protect spawning aggregations and snapper grouper in spawning condition by increasing the length of the spawning season closure, decrease discard mortality by requiring the use of dehooking tools, reduce overall harvest of gag and vermilion snapper to end overfishing.
Effective Date January 4, 2010	Red Snapper Interim Rule	Prohibit commercial and recreational harvest of red snapper from January 4, 2010, to June 2, 2010 with a possible 186-day extension. Reduce overfishing of red snapper while long-term

Time period/dates	Cause	Observed and/or Expected Effects
		measures to end overfishing are addressed in Amendment 17A.
Effective Dates June 3, 2010, to Dec 5, 2010	Extension of Red Snapper Interim Rule	Extended the prohibition of red snapper to 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).	Specified 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. Large snapper grouper area closure inn EEZ of NE Florida. Emergency rule delayed the effective date of the snapper grouper closure.
Effective Date January 31, 2011	Snapper Grouper Amendment 17B (SAFMC 2010b)	Specified ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; AMs, for species undergoing overfishing. Established a harvest prohibition of six snapper grouper species in depths greater than 240 feet.
Effective Date June 1, 2011	Regulatory Amendment 10 (SAFMC 2011a)	Removed of snapper grouper area closure approved in Amendment 17A.
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
Effective Date May 10, 2012	Regulatory Amendment 11 (SAFMC 2012b)	Removed the harvest prohibition of six deepwater snapper grouper species implemented in Amendment 17B.
Effective Date April 16, 2012	Comprehensive ACL Amendment (SAFMC 2011c)	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.
July 11, 2012	Amendment 24 (Red Grouper) (SAFMC 2011d)	Established a rebuilding plan for red grouper, specified ABC, and established ACL, ACT and revised AMs for the commercial and recreational sectors.

Time period/dates	Cause	Observed and/or Expected Effects
Effective Date July 1, 2012	Amendment 18A (SAFMC 2012a)	Established an endorsement program for black sea bass commercial fishery; established a trip limit; specified requirements for deployment and retrieval of pots; made improvements to data reporting for commercial and for-hire sectors
Effective Dates: September 17, 2012 (commercial); September 14, 2012 (recreational)	Temporary Rule through Emergency Action (Red snapper)	Established limited red snapper fishing seasons (commercial and recreational) in 2012.
Effective Date January 7, 2013	Amendment 18A Transferability Amendment	Reconsidered action to allow for transfer of black sea bass pot endorsements that was disapproved in Amendment 18A.
Effective Date October 26, 2012	Amendment 20A (Wreckfish) (SAFMC 2012d)	Redistributed inactive wreckfish shares.
Effective Date October 9, 2012	Regulatory Amendment 12 (SAFMC 2012c)	Adjusted the golden tilefish ACL based on the results of a new stock assessment and modified the recreational golden tilefish AM.
Target 2013	Snapper Grouper Amendment 18B (SAFMC 2012e)	Establish a commercial longline endorsement program for golden tilefish; establish an appeals process; allocate the commercial ACL by gear; establish trip limit for the hook and line sector
Target 2013	Snapper Grouper Amendment 22 (under development)	Develop a recreational tag program for red snapper, snowy grouper, golden tilefish, and wreckfish in the South Atlantic.
Target 2013	Regulatory Amendment 13 (under development)	Adjust ACLs and allocations for unassessed snapper grouper species with MRIP recreational estimates
Target 2013	Snapper Grouper Amendment 27 (under development)	Establish the SAFMC as the managing entity for Nassau grouper in the Southeast U.S., modify the SG framework; modify management measures for blue runner, reevaluate captain and crew possession prohibition for vermilion snapper, groupers, and tilefish, increase crew of commercial snapper grouper fishing trip.
Target 2013	Snapper Grouper Amendment 28 (under development)	Modify red snapper management measures, including the establishment of a process to determine future annual catch limits and fishing seasons.

Time period/dates	Cause	Observed and/or Expected Effects
Target 2013	Snapper Grouper Amendment 29 (under development)	Update ABCs, ACLs, and ACTs for snapper grouper species based on recommendations from SSC.
Target 2013	Regulatory Amendment 15 (under development)	Implement a revised ACL for yellowtail snapper based on the latest stock assessment, modify gag AM.
Target 2013	Regulatory Amendment 16 (under development)	Implement a revised ACL for yellowtail snapper based on the latest stock assessment, modify gag AM.
Target 2013	Regulatory Amendment 17 (under development)	Adjustments to MPAs to enhance protection of speckled hind and warsaw grouper.
Target 2013	Regulatory Amendment 18	Adjust ACLs and management measure for vermilion snapper and red porgy based on results from new update assessment.
Target 2013	Amendment 30	VMS for commercial sector of snapper grouper fishery.

9. Determine the magnitude and significance of cumulative effects.

The proposed management action, as summarized in **Section 2** of this document, would revise the ABCs, ACLs (including sector ACLs), and ACTs for select un-assessed species in the snapper grouper FMU. None of the species included in Regulatory Amendment 13 are overfished or undergoing overfishing. Detailed discussions of the magnitude and significance of the preferred alternative appear in **Section 4** of this document.

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 NMFS, states, stock assessments and stock assessment updates, life history studies, and other scientific observations.

6.2 Socioeconomic

Participation in and the economic performance of the snapper grouper fishery, which includes the 37 species included in this amendment, has 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 optimum yield 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 **Chapter 4**.

Amendment 15B (SAFMC 2008b) prohibited the sale of bag-limit caught snapper grouper species for those who do not hold a federal commercial permit for snapper grouper. This eliminated the ability of the recreational angler to subsidize the cost of a fishing trip through the sales of snapper grouper and may, therefore, decrease recreational demand. This action has a more pronounced effect on the for-hire sector, which often uses the sale of bag-limit caught fish to pay crewmembers.

Amendment 16 (SAFMC 2009a) addressed overfishing of gag and vermilion snapper. 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 (SAFMC 2010a) 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 (SAFMC 2010b) specified harvest controls (ACLs and/or ACTs) and AMs for several snapper grouper species, and modified 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 (SAFMC 2009a), 17A (SAFMC 2010a), and 17B (SAFMC 2010b) 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 (SAFMC 2010a) and 17B (SAFMC 2010b) have been estimated and are contained in Amendment 17A (SAFMC 2010a). The impacts from the three amendments will likely result in commercial and for-hire vessel exit and loss of fishery infrastructure as a result.

Other amendments are expected to or have been implemented during 2012, which could further affect harvest of snapper grouper species. The Comprehensive ACL Amendment (SAFMC 2011c), implemented on April 16, 2012, specified ACLs for snapper grouper species not undergoing overfishing. Amendment 18A (SAFMC 2012a), which was implemented on July 1, 2012, contained measures to limit participation and effort in the black sea bass fishery, reduce bycatch in the black sea bass pot sector, changes to the rebuilding strategy, and other necessary changes to the management of black sea bass as a result of the 2011 stock assessment. Regulatory Amendment 11 (SAFMC 2012b) to the Snapper Grouper FMP became effective on May 10, 2012 and removed the deepwater closure beyond 240 ft for six deepwater snapper grouper species. Amendment 20A (SAFMC 2012d), which was implemented on October 26, 2012, distributed shares from inactive participants in the wreckfish individual transferable quota system to active shareholders. Amendment 24 (SAFMC 2011d), which became effective on July 11, 2012, implemented a rebuilding plan for red grouper, which is overfished and undergoing overfishing. Regulatory Amendment 12 (SAFMC 2012c, effective October 9, 2012) included alternatives to increase the ACL for golden tilefish based on the results of a new stock assessment.

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 declines in the space industry may lessen the pace of waterfront development and associated adverse social and economic pressures on fishery infrastructure.

Chapter 7. List of Preparers

Table 7-1. List of Regulatory Amendment 13 preparers.

Name	Agency/Division	Area of Amendment Responsibility
Brian Cheuvront	SAFMC	Interdisciplinary plan team (IPT) Lead/Fishery Economist
Nikhil Mehta	NMFS/SF	IPT Lead/Fishery Biologist
Nick Farmer	NMFS/SF	Fishery Biologist
Myra Brouwer	SAFMC	Fishery Biologist
David Dale	NMFS/HC	EFH Specialist
Jennifer Lee	NMFS/PR	Biologist
Stephen Holiman	NMFS/SF	Economist
Denise Johnson	NMFS/SF	Economist
Kari MacLauchlin	SAFMC	Fishery Social Scientist
Christina Package	NMFS/SF	Anthropologist
Jack McGovern	NMFS/SF	Fishery Scientist
Rick DeVictor	NMFS/SF	Fishery Biologist
Juan Agar	SEFSC	Social Scientist
Kyle Shertzer	SEFSC	Fishery Biologist
Gregg Waugh	SAFMC	Deputy Executive Director

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 7-2. List of Regulatory Amendment 13 interdisciplinary plan team members.

Name	Organization	Title
Brian Cheuvront	SAFMC	IPT Lead/Fishery Economist
Myra Brouwer	SAFMC	Fishery Biologist
Anne Marie Eich	NMFS/SF	Technical Writer & Editor
David Dale	NMFS/HC	EFH Specialist
Nikhil Mehta	NMFS/SF	IPT Lead/Fishery Biologist
Nick Farmer	NMFS/SF	Fishery Biologist
Jeff Radonski	NMFS/LE	Supervisory Criminal Investigator
Michael Larkin	NMFS/SF	Data Analyst
Jennifer Lee	NMFS/PR	Fishery Biologist (Protected Resources)
Denise Johnson	NMFS/SF	Economist
David Keys	NMFS/SER	Regional NEPA Coordinator
Jennifer Lee	NMFS/PR	Fishery Biologist (Protected Resources)
Juan Agar	SEFSC	Social Scientist
Kyle Shertzer	SEFSC	Fishery Biologist
Anna Martin	SAFMC	Coral Biologist
Kari MacLauchlin	SAFMC	Fishery Social Scientist
Jack McGovern	NMFS/SF	Fishery Biologist
Rick DeVictor	NMFS/SF	Fishery Biologist
Roger Pugliese	SAFMC	Fishery Biologist
Monica Smit-Brunello	NOAA/GC	Attorney
Mike Errigo	SAFMC	Data Analyst
Gregg Waugh	SAFMC	Deputy Executive Director

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 8. Agencies and Persons Consulted

Responsible Agency

Regulatory Amendment 13:
South Atlantic Fishery Management Council
4055 Faber Place Drive, Suite 201
Charleston, South Carolina 29405
(843) 571-4366 (TEL)
Toll Free: 866-SAFMC-10
(843) 769-4520 (FAX)
safmc@safmc.net

Environmental Assessment:
NMFS, Southeast Region
263 13th Avenue South
St. Petersburg, Florida 33701
(727) 824-5301 (TEL)
(727) 824-5320 (FAX)

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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