

Atlantic States Marine Fisheries Commission

PUBLIC INFORMATION DOCUMENT

**For Draft Amendment 1 to the Interstate Fishery
Management Plan for Atlantic Migratory Group Cobia**



August 2018

Vision: Sustainably Managing Atlantic Coastal Fisheries

**The Atlantic States Marine Fisheries Commission seeks your input on the initiation of
Amendment 1 to the Interstate Atlantic Cobia Fishery Management Plan**

The public is encouraged to submit comments regarding this document during the public comment period. Comments must be received by **5:00 PM (EST) on October 4, 2018**. Regardless of when they were sent, comments received after that time will not be included in the official record. The South Atlantic State/Federal Fisheries Management Board will consider public comment on this document when developing the first draft of Amendment 1 to the Fishery Management Plan.

You may submit public comment in one or more of the following ways:

1. Attend public hearings held in your state or jurisdiction, if applicable.
2. Refer comments to your state's members on the South Atlantic State/Federal Fisheries Management Board or South Atlantic Advisory Panel, if applicable. State membership lists are available at <http://www.asmfc.org/about-us/boards-committees-panels>
3. Mail, fax, or email written comments to the following address:

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comments@asmfc.org (subject line: Cobia PID)

If you have any questions, please call Dr. Michael Schmidtke at 703.842.0740.

**YOUR
COMMENTS
ARE INVITED**

The Atlantic States Marine Fisheries Commission (Commission) is developing an Amendment to the Interstate Fishery Management Plan (FMP) for Atlantic Migratory Group Cobia (Atlantic cobia). The Commission, under the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA), is charged with developing FMPs that are based on the best available science and promote the conservation of the Atlantic stock throughout its range, from Georgia through New York¹. The states of New Jersey through Florida, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), the United States Fish and Wildlife Service (USFWS), and the South Atlantic Fishery Management Council (SAFMC) participate in the management of Atlantic cobia via the Commission's South Atlantic State/Federal Fisheries Management Board (Board).

This is your opportunity to inform the Commission about changes observed in the fishery, actions you feel should or should not be taken in terms of management, regulation, enforcement, or research, and any other concerns you have about the resource or the fishery, as well as the reasons for your concerns.

**WHY IS THE
ASMFC
PROPOSING
THIS ACTION?**

At its May 2018 meeting, the Board initiated the development of Amendment 1 to the interstate Cobia FMP to reflect the removal of Atlantic cobia from the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP) and establish recommendations for measures in federal waters, i.e. the exclusive economic zone (EEZ; 3-200 miles from the shore).

In June 2018, the SAFMC and Gulf of Mexico Fishery Management Council (GMFMC) approved Regulatory Amendment 31 to the CMP FMP, which would remove Atlantic cobia from the CMP FMP (SAFMC, 2018a). This means that, pending approval by the Secretary of Commerce, the SAFMC will no longer manage Atlantic cobia, and the Commission will have sole management authority. The SAFMC is the management body that previously recommended the annual catch limit (ACL) and other measures used by NOAA Fisheries to manage federal waters. Additionally, the Recreational Harvest Limit (RHL) from the interstate FMP is currently dependent on the federal ACL, and state commercial fisheries are required to close if a federal closure occurs due to the commercial ACL being met. To accommodate the SAFMC's action to remove Atlantic cobia from the CMP FMP, the Commission will establish a mechanism for recommending management measures to NOAA Fisheries for implementation in federal waters through authority and process defined in the ACFCMA.

¹ Cobia caught along the east coast of Florida are part of the Gulf of Mexico Migratory Group, which is managed by the South Atlantic Fishery Management Council in cooperation with the Gulf of Mexico Fishery Management Council.

The Commission would also like to explore mechanisms for a harvest specification process. A harvest specification process, in general terms, would allow the Board to periodically (over an annual or multi-year time period) set management measures from a range of approaches defined in Amendment 1. This would ideally provide increased flexibility for states to establish or revise management measures in response to certain changes in the fishery or stock status without needing to alter the interstate FMP through an addendum or amendment process.

WHAT IS THE PROCESS FOR DEVELOPING AN AMENDMENT?

The publication of this document and announcement of the Commission’s intent to amend the existing interstate FMP for Atlantic cobia is the first step of the formal amendment process. Following the initial phase of information gathering and public comment, triggered by this Public Information Document (PID), the Commission will evaluate potential management alternatives and the impacts of those alternatives. The Board will also seek to narrow the number of proposed management options, especially for measures that would be recommended for implementation in federal waters. The Commission will then develop Draft Amendment 1, incorporating the identified management options, for public review and comment. Following consideration of public comment, the Commission will specify the management measures to be included in Amendment 1, as well as a timeline for implementation. In addition to issues identified in this PID, the Draft Amendment may include other issues identified during the public comment period for this PID.

The process and current timeline for completion of Amendment 1 is as follows:

<u>Step</u>	<u>Anticipated Date</u>
Approval of Draft PID by the Board	Aug 2018
Public review and comment on PID <i>Current step</i>	Aug – Oct 2018
Board review of public comment; Board direction on what to include in Draft Amendment 1	Oct 2018
Preparation of Draft Amendment 1	Oct 2018 – May 2019
Review and approval of Draft Amendment 1 by Board for public comment	May 2019
Public review and comment on Draft Amendment 1	May – Aug 2019
Board review of public comment on Draft Amendment 1	Aug 2019
Review and approval of the final Amendment 1 by the Board, Policy Board and Commission	Aug 2019

WHAT IS THE PURPOSE OF THIS DOCUMENT?

The purpose of this document is to inform the public of the Commission’s intent to gather information concerning Atlantic cobia and to provide an opportunity for the public to identify major issues and alternatives relative to the management of this species. Input received at the start of the amendment development process can have a major influence on the final outcome of the amendment. This document is intended to solicit observations and suggestions from fishermen, the public, and other interested parties, as well as any supporting documentation and additional data sources.

To facilitate public input, this document provides a broad overview of the issues already identified for consideration in the amendment; background information on the Atlantic cobia population, fisheries, and management; and a series of questions for the public to consider about the management of the species. In general, the primary question on which the Commission is seeking public comment is: **“How would you like management of the Atlantic cobia fishery to look in the future?”**

WHAT ISSUES WILL BE ADDRESSED?

The primary issues considered in this PID are:

- Recommended Management for Federal Waters
- Harvest Specification Process
- Biological Monitoring

ISSUE 1: Recommended Management for Federal Waters

Background: The interstate FMP, approved in November 2017, was the Commission’s first involvement in Atlantic cobia management (ASMFC, 2017). The interstate FMP initially established management measures designed to complement those of the CMP FMP. However, during the development of the interstate FMP, the SAFMC initiated Amendment 31, which removes Atlantic cobia from the CMP FMP. Amendment 31 was passed by the SAFMC and GMFMC in June 2018 (SAFMC, 2018a) and currently awaits final approval by the Secretary of Commerce.

Several measures in the interstate FMP were designed to match measures from the CMP FMP or included language that directly connects the two FMPs. For example, the interstate FMP’s RHL is “set equivalent to 99% of and monitored concurrently with the recreational allocation of the federal ACL”. In addition, “should the coastwide [commercial] ACL be met, a coastwide commercial closure will occur” (ASMFC, 2017). The removal of Atlantic cobia from the CMP FMP means that the SAFMC will no longer recommend a federal ACL for approval by NOAA Fisheries. Thus, the Commission must amend these and other portions of the interstate FMP to allow for future management of Atlantic cobia in the absence of a federal FMP.

In instances when there is a commission FMP for a species but no federal FMP, federal regulations for that species can be promulgated by NOAA Fisheries.

Specifically, the Commission recommends compatible management measures for commercial and recreational fishing in federal waters, as authorized by the ACFCMA (Sec. 5103). These measures may include those currently in the interstate FMP, such as minimum size, bag or possession, vessel limits, and annual harvest limits in pounds, but other management structures (as data permits), such as harvest limits in numbers of fish or management without annual harvest limits, could also be investigated for consideration.

Public Comment Questions:

- What types of regulations should the Commission recommend be implemented into federal waters, e.g. quota, bag limits, seasons, size limits?
- Should vessels fishing in federal waters be subject to cobia regulations of their state of landing, or
 - Should state jurisdictional boundaries be extended by latitude to apply federal regulations in sectioned areas of federal waters, or
 - Should a separate set of regulations be developed specifically for fishing in federal waters, or
 - Should the Commission consider some other strategy?

**ISSUE 2:
Harvest
Specification
Process**

Background: With the Commission assuming sole management authority for Atlantic cobia, the Board has also expressed a desire to consider alternative management strategies to those currently in place. Additionally, a stock assessment (SEDAR 58) is scheduled for completion shortly after the Board's consideration of Amendment 1 for final approval. A harvest specification process that includes several management options would maximize the Board's flexibility to react to the results of SEDAR 58 and future assessments or changes in the fishery in a timely manner. Ideally, this process would define measures that could be periodically considered for implementation through Board approval. Additionally, it could specify potential management responses if the stock were determined by an assessment to be overfished (where the population is too small to support a reference level of harvest) or experiencing overfishing (removal of fish faster than they are replaced through reproduction).

Several management strategies, some used in current management of Atlantic cobia, could be redefined or introduced for future consideration in the harvest specification process, including:

- Management through coastwide or state size, bag, or possession limits, seasons, or other limits
- Establishment and allocation of a Commission-defined coastwide harvest limit to recreational and commercial sectors
 - Allocation of coastwide recreational and commercial harvest limits to states or regions

- Management without a coastwide limit on harvest, such as fishing mortality-based management in which measures based on a target fishing mortality rate are set following an assessment and are left unchanged until the next assessment shows whether these measures resulted in a population increase or decrease; after which measures may be adjusted.
- Setting commercial and recreational management measures for one or multiple years
- Evaluation of recreational landings in numbers of fish rather than pounds
- Consideration of alternative data sources, such as state sampling programs, for evaluating stock health and management between assessments

Public Comment Questions:

For Both Commercial and Recreational Fisheries

- If a coastwide limit continues to be considered, how should it be set?
 - How should it be allocated?
 - To the commercial and recreational sectors?
 - To the states?
- What options should be considered if the stock status is overfished or overfishing is occurring or if harvest limits/quotas/targets are exceeded?
- Should management regimes without coastwide harvest limits be considered? If so, what could those look like?

For the Recreational Fishery

- What recreational management options should be allowed for consideration in the specification process?
- Should the current 3-year time period for evaluating recreational harvests against management targets be reduced?
- Should recreational harvests be evaluated in numbers of fish or pounds?

For the Commercial Fishery

- What commercial management options should be allowed for consideration in the specification process?
- Should commercial measures be set to remain in place for multi-year periods?
- Should a coastwide landings permitting mechanism be established through the states for commercial harvest of Atlantic cobia in federal waters?
 - Or, should the Commission recommend that NOAA fisheries require a federal permit to harvest cobia commercially in federal waters?

**ISSUE 3:
Biological
Monitoring**

Background: Biological monitoring programs are those that collect information such as fish length, weight, age, and sex. These attributes help describe the population structure, and by studying how they change over time, managers can make more informed regulatory decisions. For example, one of Virginia’s biological monitoring programs, the Marine Sportfish Collection Project, collects donated cobia carcasses to track characteristics of harvested fish over time. Information collected by this program was used to calculate average weights that informed Virginia’s 2018 regulations.

A critical component of biological monitoring programs, particularly those driven by citizen efforts (e.g. freezer donation programs), is having consistent participation from the fishing community. If the fishing community’s participation is only high during the beginning of a program or fluctuates considerably from year to year, the data become less reliable. However, monitoring programs also provide an opportunity for managers, stakeholders, and scientists to cooperate in data collection, communication, and management of the fishery.

Public Comment Questions:

- Should states be required by the FMP to collect biological data on cobia?
- Should the same biological monitoring requirements be required of all states or should requirements vary based on the size of the states’ fisheries (for example 1 fish length per 1,000 pounds harvested)?
- Should biological monitoring be conducted for the commercial sector, recreational sector, or both?
- What types of biological monitoring programs would you participate in? Examples include freezer donation or weigh-in stations.

**BACKGROUND
INFORMATION
ON THE MGMT
& STOCK
STATUS OF
ATLANTIC
COBIA**

Summary of Fishery Management

The Commission began coordinating interstate management of Atlantic cobia (*Rachycentron canadum*) in state waters (0-3 miles) in 2018. Management authority in federal waters lies with NOAA Fisheries. As outlined in the Commission’s Charter, fishery management plans shall be designed to prevent overfishing throughout the species’ range, be based on the best available science, minimize waste of fishery resources, protect fish habitat, provide for public participation, and allow for fair and equitable allocation among the states.

The Commission’s interstate Cobia FMP, approved in November 2017 (ASMFC, 2017), was developed to complement Atlantic cobia regulatory measures from Framework Amendment 4 to the SAFMC’s CMP FMP (SAFMC, 2016). Specific measures established by the interstate FMP for state waters include commercial size and possession limits and adherence to the commercial allocation of the federal ACL, as well as recreational size, vessel, and bag limits and an RHL set equivalent to 99% of the recreational allocation of the federal ACL. The current commercial ACL is 50,000 pounds, and the recreational ACL is 620,000 pounds,

resulting in an RHL of 613,800 pounds (Table 1). One percent of the recreational ACL is designated to account for harvest in *de minimis* states, which are those that have historically caught minimal (less than one) percentages of the coastwide recreational Atlantic cobia harvest. Coastwide commercial size and possession limits and recreational size, vessel, and bag limits from the interstate FMP match measures from the CMP FMP, but states are able to implement more restrictive measures.

One management aspect that is unique to the interstate FMP is allocation of the RHL into state harvest targets. States that have harvested significant percentages (greater than 1% of coastwide harvest) of Atlantic cobia – currently Virginia, North Carolina, South Carolina, and Georgia – are allocated percentages of the RHL based on historical harvests (Table 1). These allocations are regarded as harvest targets, and each state must implement recreational vessel limits and seasons (as needed to achieve state targets, see Table 2), in addition to coastwide size and bag limits, to achieve their target. Harvests are evaluated against targets as an average harvest over a 3-year time period. If the 3-year average harvest exceeds a state’s target, that state is required to revise their recreational vessel limit or seasons to achieve their target in the subsequent 3-year period (ASMFC, 2017).

Under the interstate FMP, states may qualify for *de minimis* status if they harvested less than 1% of the coastwide recreational harvest in 2 of the previous 3 years. *De minimis* states may match the recreational measures of an adjacent or the nearest non-*de minimis* state or adopt a year-round 1 fish vessel limit with a minimum size of 29 inches fork length. State recreational measures used to implement the interstate FMP for the 2018 fishing year are shown in Table 2.

Table 1. Recreational harvest targets for non-*de minimis* states for the 2018 fishing year, based on a Recreational Harvest Limit of **613,800** pounds.

State	GA	SC	NC	VA
Harvest Target (pounds)	58,311	74,885	236,313	244,292

Table 2. State regulatory measures for the 2018 fishing year.

State	Recreational Measures	Commercial Measures
NJ	<i>De minimis</i> ; same as Virginia	<u>Coastwide</u> Possession Limit: 2 fish per person Minimum Size: 33 in fork length or 37 in total length Vessel Limit: 6 fish If commercial fishing in federal waters is closed, commercial fishing in state waters is also closed. <u>Deviations</u> -Virginia possession limit is per licensee rather than per person -No commercial harvest in South Carolina state waters -GA possession limit is 1 fish per person and minimum size is 36 in fork length
DE	<i>De minimis</i> ; management pending	
MD	<i>De minimis</i> ; same as Virginia	
PRFC	<i>De minimis</i> ; same as Virginia	
VA	Bag Limit: 1 fish per person Minimum Size: 40 in total length Vessel Limit: 3 fish Season: June 1-September 30	
NC	Bag Limit: 1 fish per person Minimum Size: 36 in fork length Vessel Limits/Seasons: <u>Private</u> May 1-31: 2 fish June 1-Dec 31: 1 fish <u>For-Hire</u> May 1-Dec 31: 4 fish	
SC	Bag Limit: 1 fish per person Minimum Size: 36 in fork length or 40 in total length Vessel Limits: Southern Cobia Management Zone from June 1-April 30: 3 fish Other areas: 6 fish Season: Southern Cobia Management Zone: June 1-April 30 Other Areas: Open year-round -If recreational fishing in federal waters is closed, recreational fishing in all SC state waters is also closed.	
GA	Bag Limit: 1 fish per person Minimum Size: 36 in fork length Vessel Limit: 6 fish Season: March 1-October 31	
For all instances when a bag or possession limit is not equal to the vessel limit, the more restrictive rule applies.		

**This table summarizes only those regulations that fulfill requirements of the interstate FMP. State legislative documents should be referenced for comprehensive lists of regulations.*

Summary of Stock Status and Fishery

Atlantic cobia will undergo a benchmark stock assessment in 2019 through Southeast Data, Assessment, and Review (SEDAR) 58. The most recently completed stock assessment of Atlantic cobia, SEDAR 28, determined the GA/FL border as the demarcation between the Atlantic and Gulf of Mexico stocks. A Stock Identification Workshop is currently in progress to revisit questions about the stock boundary using more recent genetic and tagging information. Preliminary conclusions of the Stock Identification Workshop identify separate Atlantic and Gulf stocks and do not disagree with the current stock boundary at the GA/FL border. Final results of this workshop, the subsequent peer review, and stock identification resolution will be available in September 2018. Preliminary reports for this process are available at: <http://sedarweb.org/sedar-58-stock-id-process>.

SEDAR 28 determined overfishing was not occurring and the stock is not overfished (SEDAR, 2013). However, information from this assessment and recent landings trends have led to concerns about future stock status. Spawning stock biomass (SSB) is a measure of the weight (from which number is easily estimated) of adult fish, capable of producing offspring for future generations. If SSB is equal to the SSB needed to produce maximum sustainable yield (SSB_{msy}), the ratio of these numbers (SSB/SSB_{msy}) would be one. A ratio greater than one indicates SSB is greater than SSB_{msy} and the stock would be expected to sustain fishing at maximum sustainable yield (MSY), while a ratio less than one would indicate the stock is not likely able to sustain fishing at MSY and could become overfished. SSB peaked in the early 1990s and, to a lesser degree, more recently in 2002 (Figure 1). However, since 2002, SSB has shown a declining trend, approaching SSB_{msy} in 2011, the terminal year of SEDAR 28. The current ACL of 670,000 pounds (including both the commercial and recreational sectors) was set as a precautionary measure in the aftermath of this assessment.

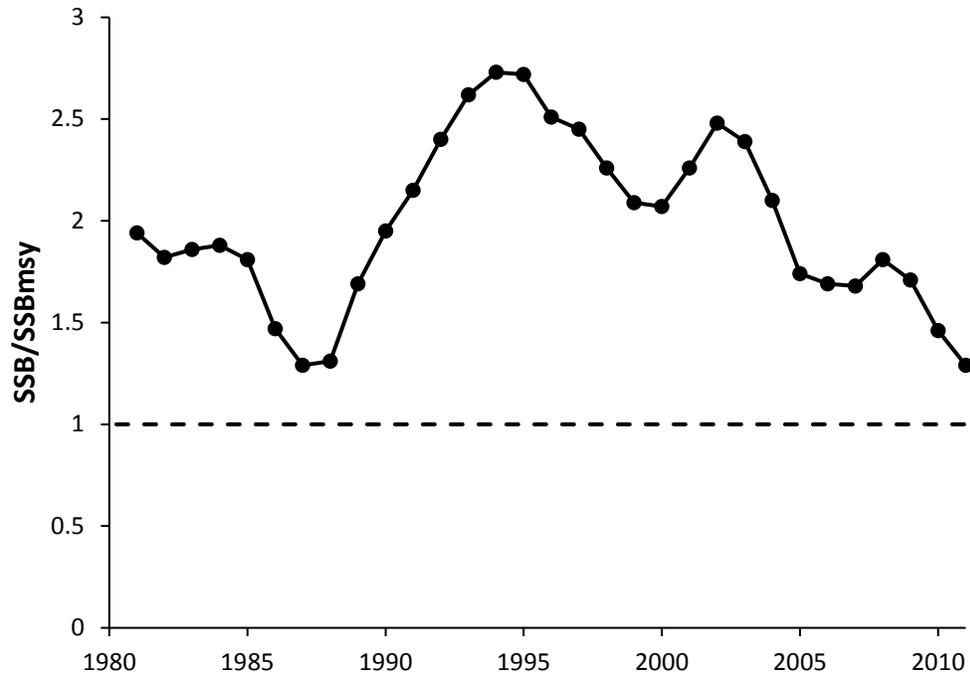


Figure 1. Cobia spawning stock biomass (SSB) relative to the MSY biomass (SSBmsy) reference for 1981-2011 (SEDAR, 2013).

The vast majority of Atlantic cobia harvest comes from the recreational sector, although the commercial sector has increased in more recent years (Figure 2). Total landings have generally increased since the 1980s. However, over the last 15 years, recreational landings have been highly variable without a strong positive or negative trend, while commercial landings have shown a more steady increase. More recently, concerns over management have been expressed due to fishing closures resulting from overages of the recreational ACL in two of the last three years and overages of the commercial ACL in each of the last three years. These overages and the inability of the CMP FMP to regulate catches in state waters, where the majority of the Virginia and North Carolina cobia fisheries occur, led to Commission involvement in cobia management through the interstate FMP.

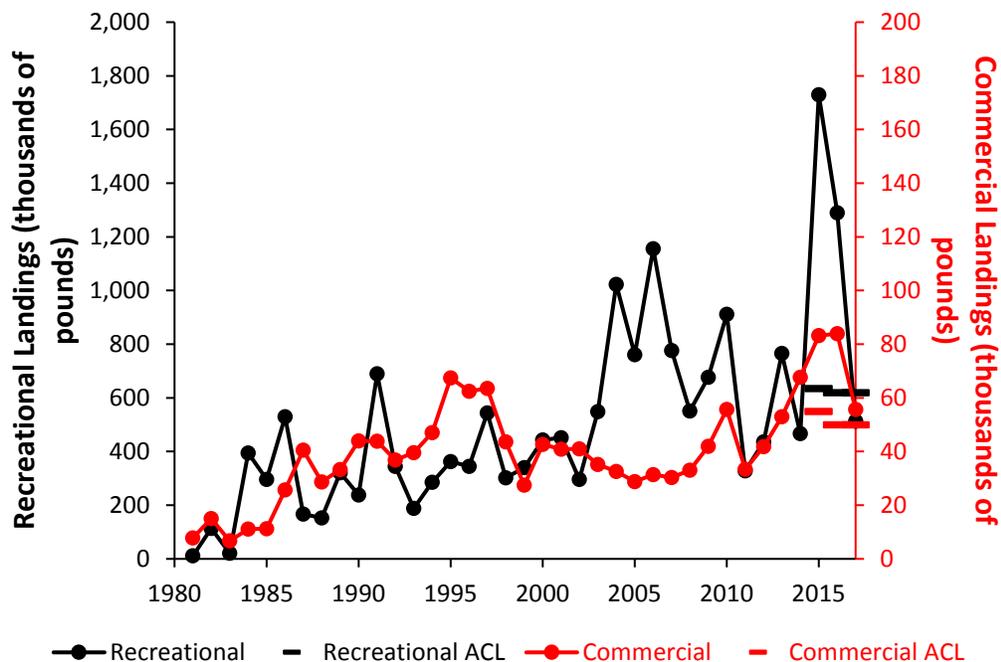


Figure 2. Recreational (black; left axis) and commercial (red; right axis) landings and recent Annual Catch Limits (ACL) for Atlantic cobia. Recreational landings were estimated using effort estimates from the Coastal Household Telephone Survey. Sources: Atlantic Coastal Cooperative Statistics Program (ACCSP) and Marine Recreational Information Program (MRIP) (June, 2018).

Distribution of Atlantic cobia landings has varied for the recreational sector but remained more consistent for the commercial sector. Proportions of annual coastwide recreational harvest vary throughout the time series, with Virginia and North Carolina harvesting the majority of Atlantic cobia in most years (Figure 3). In recent years, these proportions have been substantially impacted by recreational closures in federal waters, where Georgia and South Carolina fisheries are primarily executed, while fishing continued in the state waters of North Carolina and Virginia. Commercial harvests have historically come primarily from North Carolina and Virginia (Figure 4). In South Carolina, cobia is designated as a game fish in state waters, so all commercial harvest must occur in federal waters. In the most recent years, Virginia’s commercial fishery has grown noticeably, likely because of an exemption for its hook and line fishermen, implemented in 2014, which allowed them to keep up to 6 cobia per day instead of the two-per-licensee allowed for other commercial gears. However, as a result of the interstate FMP, that exemption was removed prior to the 2018 fishing season, so Virginia commercial landings are expected to decrease.

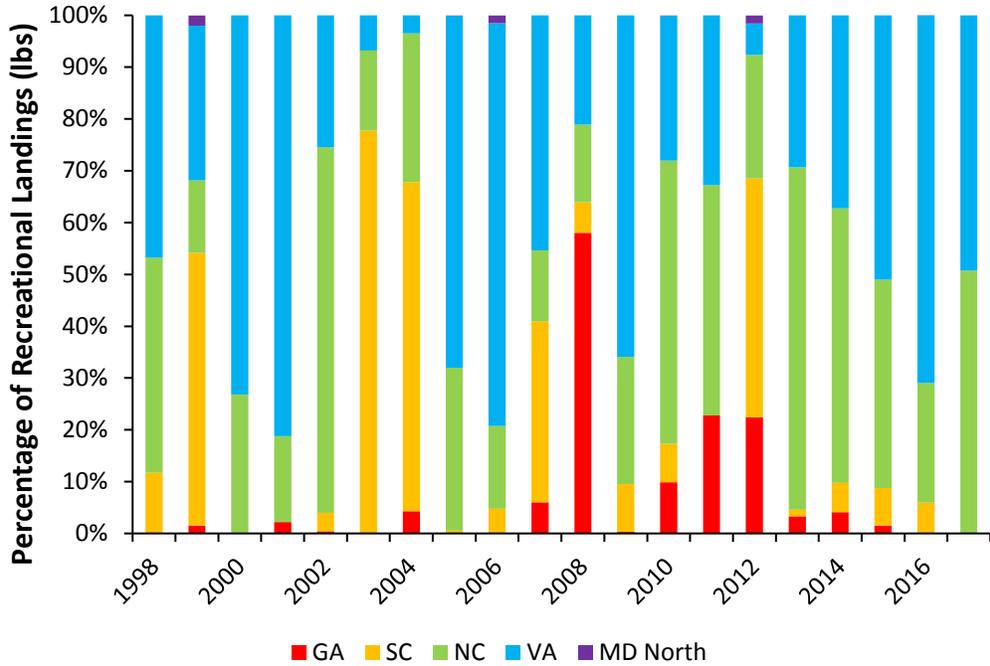


Figure 3. State/regional percentages of recreational landings of Atlantic cobia. Recreational landings were estimated using effort estimates from the Coastal Household Telephone Survey. Sources: ACCSP and MRIP (June, 2018).

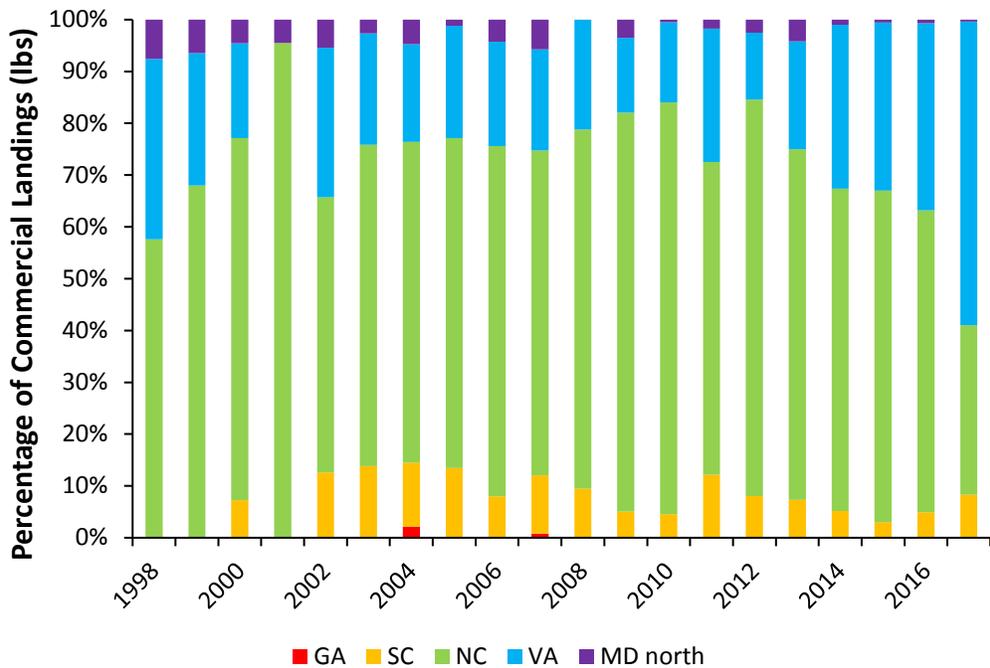


Figure 4. State/regional percentages of commercial landings of Atlantic cobia. Years with confidential landings for each state are omitted. Sources: ACCSP and MRIP (June, 2018).

Social and Economic Impacts

The following summarizes selected impact considerations that are mainly based on social and economic analyses in Chapter 4 of the Amendment 31 to the CMP FMP (see SAFMC, 2018a).

The ASMFC currently limits the Atlantic cobia RHL to the recreational Atlantic cobia ACL established by the SAFMC (ASMFC, 2017). However, if implementation of Amendment 1 leads to state level allocations based on an overall harvest level substantially higher than the current RHL, this change may create the potential for an increase in harvest of Atlantic cobia that could lead to positive short-term economic value² effects for the Atlantic cobia private recreational angler component. In addition, if for-hire trip demand increases due to Amendment 1 effects such as a higher RHL and a more predictable and consistent cobia regulatory environment, there could be beneficial aggregate economic value effects in the Atlantic cobia for-hire business component. Moreover, in some communities, it is possible that higher overall harvest levels could also translate to significant short-term local economic impact³ effects due to increases in Atlantic cobia fishing related expenditures (e.g. local spending lodging, restaurant meals, groceries, etc.) by for-hire vessel owners and crews as well as local and non-resident anglers in the recreational sector targeting Atlantic cobia (SAMFC, 2018a).

If ASMFC Atlantic cobia commercial management measures implemented in the interstate FMP are similar to the current federal CMP FMP regulations, the SAFMC (2018a) concluded that there should be no substantial near-term changes in commercial fishery economic value and economic impact effects compared to the current federal management regime. However, the SAFMC noted that it was uncertain how future ASMFC regulations might affect Atlantic cobia commercial harvest in federal waters (SAFMC, 2018a), hence making the distribution, magnitude, and direction (negative or positive) of possible economic effects unclear.

Relative to the current federal management regime, the SAFMC also concluded that the near-term social effects on the for-hire and private angler components of the recreational sector as well as the commercial sector are expected to be minimal because, in recent years, the majority of Atlantic cobia recreational and commercial harvest has occurred in North Carolina and Virginia state waters. In

² Estimates of economic value such as consumer and producer surplus should not be confused with the economic impact or contribution estimates associated with recreational or commercial fishing activities (SAFMC, 2018).

³ In this section, the term “economic impact” denotes an economic distributional analysis that estimates the aggregated economic contributions (e.g. jobs and household income) to local and/or regional economies associated with recreational or commercial fishing activities. However, these analyses should not be interpreted to represent the net impact effects if managed fish species were not available for harvest or purchase (SAFMC, 2018b).

contrast, long-term impacts on the social environment are expected to be “...highly dependent on future management measures...” implemented by ASMFC (SAFMC, 2018a) and therefore currently unknown.

While SAFMC estimates of cumulative economic effects of the federal Atlantic cobia closure actions are not available, it is apparent that these in-season closures in the federal waters by NOAA Fisheries have had a proportionally more negative economic effect on recreational and related fishing communities in Georgia and South Carolina compared to those found further north (SAFMC, 2018a). However, if ASMFC’s management measures lead to a situation such that the recreational sector based in South Carolina and Georgia have increased access in federal waters, it could possibly generate additional beneficial effects on the social and economic environments in these states.

In summary, social and economic impacts of Amendment 1 are quite dependent on management options chosen. Nevertheless, a broad goal of the shift from complementary management to management solely through the Commission is to increase flexibility and timeliness for state-level management strategies, allow for more consistent regulations, reduce fishing closures that have resulted in inequitable access to the resource, and foster a more predictable regulatory environment for both the recreational and commercial sectors.

References

- Atlantic Coastal Fisheries Cooperative Management Act, Title 16 U.S.C. §§ 5101-5108 (1993).
- Atlantic States Marine Fisheries Commission (ASMFC). 2012. Interstate Fisheries Management Program Charter. 1995. Revised February 2016.
- ASMFC. 2017. Interstate Fishery Management Plan for Atlantic Migratory Group Cobia.
- South Atlantic Fishery Management Council (SAFMC). 2016. Framework Amendment 4 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region. Charleston, SC. 160 pp.
- SAFMC. 2018a. Regulatory Amendment 31 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region. Charleston, SC. 194 pp.
- SAFMC 2018b. The Economic Contribution of Fisheries for Species Managed by the South Atlantic Fishery Management Council, Report May, 2018. Charleston, SC. 23 pp.
- Southeast Data, Assessment, and Review (SEDAR). 2013. SEDAR 28 – South Atlantic Cobia Stock Assessment Report. Available online at: http://sedarweb.org/docs/sar/S28_SAR_SACobia_WithAddendumFinal_5.16.2013.pdf