Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: South Atlantic State Federal Fisheries Management Board

FROM: Dr. Louis Daniel and Michael Schmidtke

DATE: April 25, 2017

SUBJECT: Cobia Management Options from the Working Group for South Atlantic Board Review

The Atlantic States Marine Fisheries Commission's (Commission) Cobia Plan Development Team (PDT) and Working Group have met on several occasions by conference call since the February 2017 South Atlantic State/Federal Fisheries Management Board (Board) meeting. The Draft Fishery Management Plan (FMP) should be on track for approval for public comment at the August Board meeting. Public Hearings would be in the late summer/early fall.

This memo provides the information discussed by the Working Group and solicits Board feedback for the various management options to be considered in the draft FMP.

Background:

Based on data through 2011, the SEDAR 28 (2013) stock assessment concluded that Atlantic cobia and Gulf cobia were not overfished (SSB>MSST) and overfishing was not occurring (F>MFMT). SEDAR 28 also incorporated genetic and tagging data, and the stock boundary was set at the Georgia/Florida line. The South Atlantic Fishery Management Council (Council) and the Gulf Fishery Management Council modified the stock boundary and updated the annual catch limits for Atlantic Migratory Group (AMG) cobia, located from Georgia through New York, and Florida east coast cobia through CMP Amendment 20B. The changes were implemented in March 2015.

In 2015 and 2016, AMG cobia landings exceeded the ACL and the overfishing level (OFL) recommended by the Council's Scientific and Statistical Committee (SSC) after SEDAR 28. As defined by the Council, landings greater than the OFL indicate that overfishing occurred in 2015 and 2016. NOAA Fisheries reduced the recreational season length of Atlantic cobia in 2016 and 2017.

As a result of the overages of the recreational ACL, the Commission was asked to consider complementary management of the AMG cobia stock. The Board directed the PDT to develop a complementary plan with the basic objectives to maintain catches within the Council prescribed catch limits and to provide states with the flexibility for maximum fishing opportunities for their respective stakeholders. The Board also initiated a Working Group, composed of Board members and proxies, to investigate potential allocation strategies.

Summary of the Fishery:

Recreational landings and commercial landings and ex-vessel values are presented in Tables 1 and 2. Landings north of Virginia are sporadic and will be included in the FMP. For this discussion, we focused on the 4 primary states that land AMG cobia: Georgia, South Carolina, North Carolina, and Virginia.

Table 1. Recreational landings of AMG cobia from 2005-2015 in pounds. Data sources: SEFSC

Year	VA	NC	SC	GA	Total
2005	577,284	322,272	5,793	3,358	908,707
2006	733,740	104,259	101,018	4,824	943,841
2007	322,887	90,197	268,677	64,708	746,469
2008	167,949	66,258	50,108	257,690	542,006
2009	552,995	123,061	76,229	3,997	756,282
2010	232,987	561,486	65,688	79,855	940,015
2011	136,859	121,689	3,565	90,375	352,488
2012	36,409	68,657	224,365	105,193	434,623
2013	354,463	492,969	19,130	29,224	895,786
2014	214,427	277,489	31,927	20,642	544,485
2015	718,647	630,373	123,952	67,804	1,565,186

* There are no MRIP-estimated recreational landings in numbers of AMG cobia in states north of Virginia.

Table 2. Commercial AMG cobia landings (pounds) and revenues (2014 dollars) by state/area, 2010-2015.

Year	GA/SC	NC	Mid-Atlantic*	Total
	Commercial Landing in Pounds			
2010	3,174	43,737	9,364	56,275
2011	4,610	19,950	9,233	33,793
2012	3,642	32,008	6,309	41,959
2013	4,041	35,496	13,095	52,632
2014	4,180	41,848	23,111	69,139
2015	3,555	52,315	27,277	71,790
Average	3,867	37,559	14,732	56,158
	Dockside Revenues (2014 dollars)			
2010	$11,377	$70,377	$19,976	$101,730
2011	$19,666	$37,893	$21,666	$79,224
2012	$15,554	$66,887	$14,597	$97,038
2013	$15,639	$79,397	$35,792	$130,828
2014	$13,320	$95,462	$67,972	$176,754
2015	$11,151	$147,160	$75,360	$233,672
Average	$14,451	$82,863	$39,227	$136,541

*Georgia and South Carolina landings are combined to avoid confidentiality issues. Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data. Mid-Atlantic States include Virginia, Maryland, New York, New Jersey. Landing are also reported from Rhode Island in New England.

BOARD DISCUSSION ISSUES:

1. Size and Bag Limits:

The current Council plan proposes a 1 fish bag limit and a 36" FL minimum size limit for federal waters recreational fishery. States appear prepared to complement these measures in state waters if they haven't already. The Working Group suggests the Commission FMP complement these actions and not provide opportunities to adjust at this time.

2. State-by-State Allocations:

Arguably, one method to provide states with the greatest flexibility in managing their recreational cobia fishery is to provide an allocation of the current ACL to each state. The Working Group has spent significant time reviewing the AMG cobia landings data, recognizing cobia are a pulse fishery that are considered a rare event species in the MRIP program.

The Council used the Southeast Fisheries Science Center (SEFSC) data for the SEDAR 28 Cobia stock assessment and those data have been certified as best available data by the SSC. The Board directed staff to use the SEFSC data in developing this plan, however, understanding and recognizing the differences in the two methods is important moving forward.

Concerns have been raised regarding the differences between the recreational landings data estimated from the Office of Science and Technology through the Marine Recreational Information Program (OST MRIP) and landings generated by the SEFSC. The primary difference in the methodologies center around average weights of the fish used to expand numbers harvested to pounds landed by state. The OST MRIP estimates are based on actual fish observed and may be estimated based on as few as one fish, while SEFSC estimates require a sample of at least 30 fish to generate an average (Table 3).

States without a sample size of 30 for a specific year may use an average over several years (e.g., Virginia) or be lumped with another state to meet the required sample size of 30 fish (e.g., SC and GA).

Table 3. Comparison of OST MRIP and SEFSC average weights for Virginia, North Carolina, South Carolina, and Georgia (2010-2015) (source: OST MRIP website; SEFSC).

State-Year	Cobia #	OST MRIP Landings	OST MRIP Weight (lbs.)	SEFSC Landings	SEFSC Weight (lbs.)
VA-2010	7,056	254,414	36.1	239,153	33.9
VA-2011	4,119	107,424	26.1	139,622	33.9
VA-2012	1,051	26,537	25.2	35,614	33.9
VA-2013	10,735	224,442	20.9	363,865	33.9
VA-2014	6,490	173,772	26.8	219,993	33.9
VA-2015	21,173	882,022	41.7	717,676	33.9
NC-2010	15,125	498,581	33.0	558,984	37.0
NC-2011	4,478	145,796	32.6	119,347	26.7
NC-2012	2,050	104,106	50.8	66,302	32.3
NC-2013	19,224	506,067	26.3	491,527	25.6
NC-2014	9,804	247,386	25.2	275,777	28.1
NC-2015	16,166	695,842	43.0	642,213	39.7
SC-2010	2,102	67,946	32.3	61,424	29.2
SC-2011	0	0	0	0	0
SC-2012	6,835	201,223	29.4	221,024	32.3
SC-2013	634	9,873	15.6	15,146	23.9
SC-2014	1,137	26,439	23.3	28,377	25.0
SC-2015	4,182	124,933	29.9	124,316	29.7
GA-2010	2,637	89,840	34.1	77,064	29.2
GA-2011	3,304	74,651	22.6	88,049	26.6
GA-2012	3,185	97,766	30.7	102,996	32.3
GA-2013	1,189	25,183	21.2	28,427	23.9
GA-2014	792	19,079	24.1	19,768	25.0
GA-2015	2,282	26,499	11.6	67,851	29.7

Staff and the Working Group expressed concerns regarding the average weights as being high. In some years, the average size exceeds the weight required to receive a citation for an outstanding catch.

Staff provided the Working Group with multiple views of the landings from both the OST MRIP and SEFSC that included head boat landings, various time series (3, 5, and 10 years), and an option that accounts for both historical and recent landings by multiplying the annual average landings from a 10 year time series by 50% and adding that value to 50% times the annual average landings for the most recent 5 years in the that time series (henceforth referred to as a 5yr/10yr average) (Tables 4-7).

Table 4. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (**2005-2014**) (Data source: SEFSC w/ headboat).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	51,051 lbs. 8.1%	63,873 lbs. 10.1%	64,391 lbs. 9.0%	64,132 lbs. 9.5%
South Carolina	91,174 lbs. 14.5%	67,751 lbs. 10.7%	83,054 lbs. 11.7%	75,402 lbs. 11.2%
North Carolina	279,163 lbs. 44.5%	303,329 lbs. 47.8%	221,266 lbs. 31.1%	262,297 lbs. 39.0%
Virginia	206,491 lbs. 32.9%	199,649 lbs. 31.5%	342,608 lbs. 48.1%	271,128 lbs. 40.3%
Total	627,879 lbs. 100%	634,602 lbs. 100%	711,319 lbs. 100%	672,959 lbs. 100%

Table 5. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (Data source: SEFSC w/ headboat).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	39,474 lbs. 4.0%	61,993lbs. 8.2%	71,100 lbs. 9.2%	66,546 lbs. 8.7%
South Carolina	58,845 lbs. 5.9%	80,088 lbs. 10.6%	95,212 lbs. 12.3%	87,650 lbs. 11.4%
North Carolina	471,250 lbs. 47.0%	320,015 lbs. 42.2%	253,529 lbs. 32.7.0%	286,772 lbs. 37.4%
Virginia	433,845 lbs. 43.2%	295,354 lbs. 39.0%	354,811 lbs. 45.8%	325,082 lbs. 42.4%
Total	1,003,414 lbs. 100%	757,450 lbs. 100%	774,652 lbs. 100%.	766,050 lbs. 100%

Table 6. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (**2005-2014**), including headboat landings (Data source: OST MRIP website).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	47,997 lbs. 8.6%	61,916 lbs. 10.6%	68,249 lbs. 10.0%	65,082 lbs. 10.3%
South Carolina	82,170 lbs. 14.7%	63,653 lbs. 10.9%	76,263 lbs. 11.1%	69,958 lbs. 11.0%
North Carolina	286,507 lbs. 51.3%	300,944 lbs. 51.5%	228,728 lbs. 33.4%	264,836 lbs. 41.7%
Virginia	141,584 lbs. 25.4%	157,318 lbs. 27.0%	311,639 lbs. 45.5%	234,478 lbs. 37.0%
Total	558,258 lbs. 100%	583,831lbs. 100%	684,879 lbs. 100%.	634,354 lbs. 100%

Table 7. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (**2006-2015**), including headboat landings (Data source: OST MRIP website).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	24,379 lbs. 2.5%	49,211 lbs. 6.6%	70,868 lbs. 9.1%	60,039 lbs. 7.8%
South Carolina	56,647 lbs. 5.7%	74,809 lbs. 10.0%	88,334 lbs. 11.3%	81,571lbs. 10.7%
North Carolina	483,890 lbs. 48.8%	340,418 lbs. 45.5%	274,266 lbs. 35.1%	307,342 lbs. 40.2%
Virginia	426,745 lbs. 43.0%	282,839 lbs. 37.8%	348,164 lbs. 44.5%	315,501 lbs. 41.3%
Total	991,661 lbs. 100%	747,277 lbs. 100%	781,632 lbs. 100%.	764,453 lbs. 100%

Excluded from all these analyses are landings data from north of Virginia. Using SEFSC data, those landings are:

2005 – Delaware – 1,480 lbs.

2006 and 2012– New Jersey – 27,863 lbs. and 69,655 lbs., respectively

2010 and 2016 – Maryland – 1,287 lbs. and 1,762 lbs., respectively.

Average landings and percentages by state vary based on the time series selected and the landings estimate used. As a result of concerns raised over the variability in average weights throughout the management unit and the observation that total numbers of fish harvested

were consistent between methods, we examined the landings by number of fish to eliminate any bias or concern relative to average weights. While any landings estimation method may be selected, using the 5/10yr averaging method for the 2005-2014 time series appears to smooth out the variability in the results from other methods and time series, and was used in this simple comparison (Table 8).

Table 8. AMG Cobia landings calculated as 5yr/10yr averages for 2005-2014 in pounds and numbers. State percentages of the coastwide totals of these landings were multiplied by an example ACL of 620,000 pounds to estimate potential state landings allocations in pounds under each allocation strategy (percentages from pounds versus percentages from numbers) (Data source: SEFSC w/ headboat).

State	5yr/10yr Pounds	Percent Allocation	ACL	5yr/10yr Numbers	Percent Allocation	ACL
Georgia	64,132 lbs.	9.5%	58,900 lbs.	2,221	10.2%	63,240 lbs.
South Carolina	75,402 lbs.	11.2%	69,440 lbs.	2,521	11.6%	71,920 lbs.
North Carolina	262,297 lbs.	39.0%	241,800 lbs.	8,932	41.2%	255,440 lbs.
Virginia	271,128 lbs.	40.3%	249,860 lbs.	7,999	36.9%	228,780 lbs.
Total	672,959 lbs	100%	620,000 lbs.	21,673	100%	620,000 lbs.

Based on the review of the Working Group, there was clear interest in considering numbers of fish to examine allocations among states, if it is a direction of the Board.

3. Seasonal Options:

Data are sparse for analysis of seasonal options outside of wave data and are variable based on the years chosen for review (Figure 1). Peak landings occur during wave 3 from Georgia through North Carolina (May-June) with limited landings after wave 3. Landings vary for Virginia with peaks occurring during waves 3 and 4 (July-August) and landings occurring as late as wave 5 (Sept-Oct).

Figure 2 provides coastwide landings for the most recent years (2013-2015) and indicates an extension of availability later into the fall (wave 5).

The Council examined the potential for changing the fishing year start date to May 1 using the most recent landings information (2013-2015) via a framework but later removed because fishing year changes can only be made via an amendment. Based on Council analysis, and recognizing that landings of AMG cobia are minimal prior to May 1, season lengths could be extended 3-4 days by delaying the coastwide opening until May 1(Table 5).

Based on review, coastwide seasonal options are limited. A January 1 start date for the fishing year and vessel limits that range from 1 to 6 fish, result in seasonal closures ranging from July 15 – August 22. Changing the fishing year to begin May 1, provides coastwide seasons that close ranging from July 19 – August 25.

State specific impacts of a coastwide seasonal closure vary. Based on the most recent years (2013-2015), the majority of individual state's catches are taken during waves 2 and 3 in Georgia (80%), South Carolina (82%), and North Carolina (90%), whereas 70% of the catch is taken during waves 4 and 5 in Virginia.

While Virginia had no wave 2 landings reported from 2006-2015, wave 2 accounted for nearly 100% of the landings in Georgia, and 16-26% of the landings in North Carolina and South Carolina respectively, in some years.

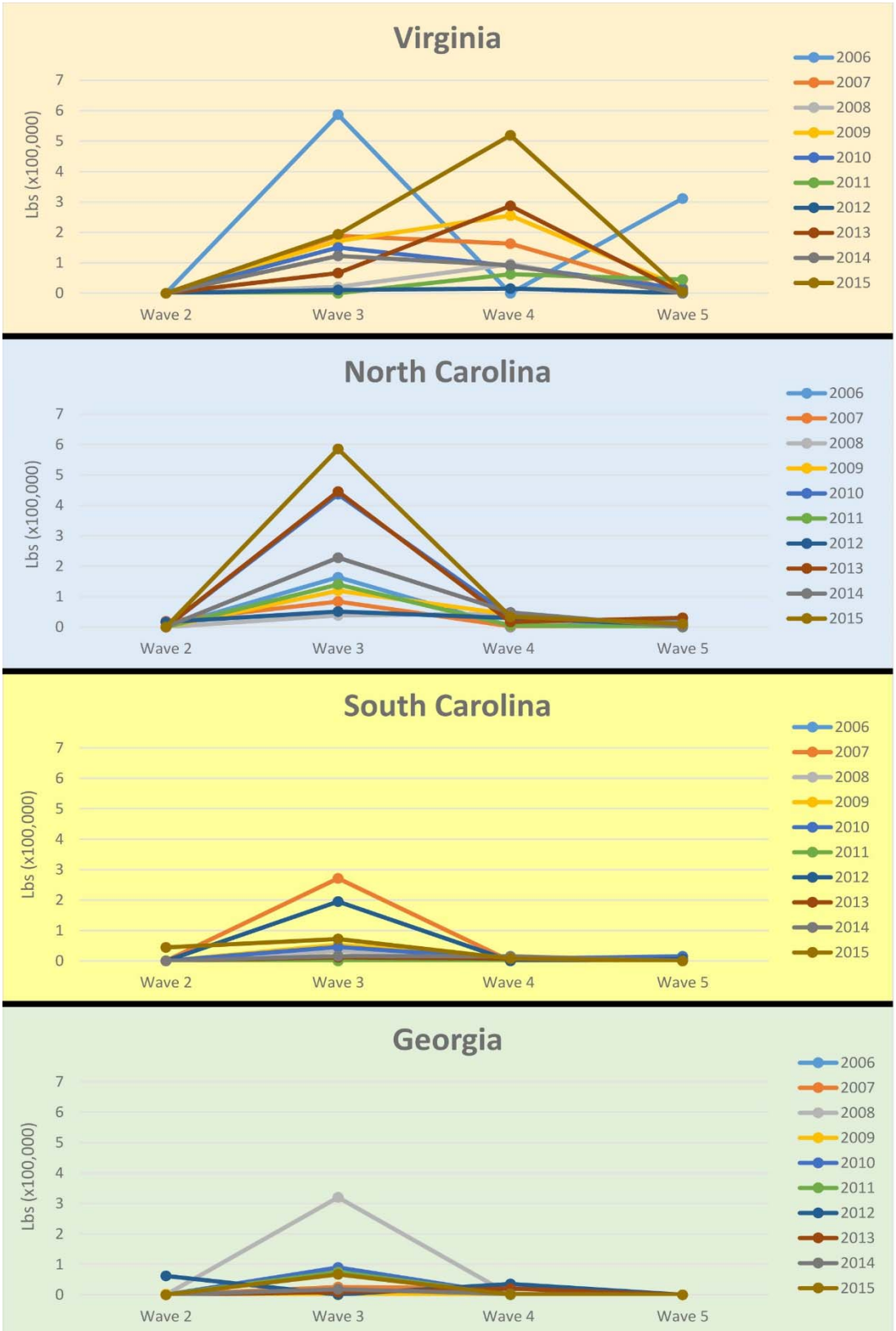

Figure 1. Recreational catch of Atlantic cobia by wave from 2006-2015 for Waves 2-5. Data sources: SERO and MRIP database—Framework 4.

Table 9. Framework 4 proposed but omitted Table 2.2.1. Estimated dates when Atlantic cobia recreational landings would meet the recreational ACL under the range of minimum size limits, bag limits, and vessel limits, if the fishing year is changed to May 1-April 30. Highlighted cells were the current preferred alternative prior to dropping season closures in Action 1.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	5-Jul	8-Jul	13-Jul	19-Jul	26-Jul	3-Aug	8-Aug	None	None
2 per Person	2-Jul	6-Jul	10-Jul	16-Jul	23-Jul	31-Jul	4-Aug	None	None
Vessel Limit									
1 per Vessel	2-Aug	7-Aug	14-Aug	25-Aug	20-Mar	None	None	None	None
2 per Vessel	14-Jul	18-Jul	23-Jul	31-Jul	8-Aug	18-Aug	24-Aug	None	None
3 per Vessel	8-Jul	12-Jul	16-Jul	23-Jul	30-Jul	8-Aug	13-Aug	None	None
4 per Vessel	6-Jul	9-Jul	14-Jul	21-Jul	27-Jul	5-Aug	10-Aug	None	None
5 per Vessel	5-Jul	8-Jul	13-Jul	20-Jul	26-Jul	4-Aug	9-Aug	None	None
6 per Vessel	3-Jul	7-Jul	11-Jul	18-Jul	24-Jul	1-Aug	6-Aug	None	None

Note: As with **Table 2.1.1** this analysis assumed consistent regulations in state and federal waters, and estimated the dates based on recreational landings from 2013-2015.

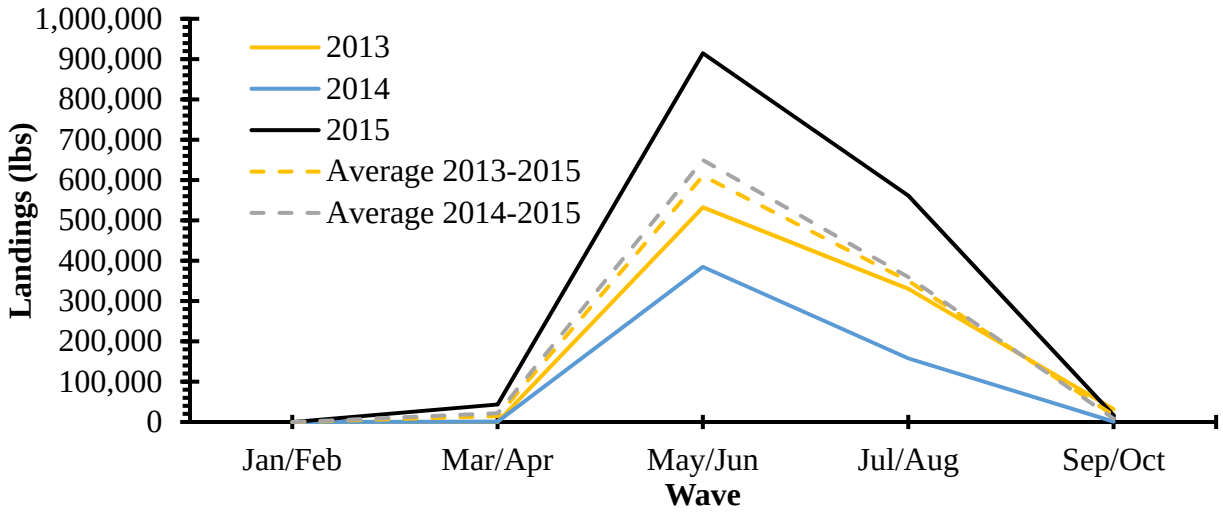

Figure 2. Framework Figure 2.2.1. Atlantic recreational landings for January-October of 2013, 2014, 2015, average 2013-2015 landings, and average 2014-2015 landings by two-month wave. The landings for 2015 are preliminary. Source: SEFSC Recreational ACL Dataset

A detailed analysis of state-specific landings information was conducted by Chris Wilson (NC Department of Marine Fisheries). The analysis was provided to members of the Working Group and the PDT. Summary findings illustrate the variability in the impacts of seasons, size, bag, and vessel limits on individual states. These data tend to indicate that mandated seasonal options remove flexibility from the states and the data are available, though confidence varies, for states to modify seasonal opening based on their fishery needs.
A summary table provides some of the general information from the state specific analysis (Table 10). The analysis also provides state specific information at the month level as opposed to wave. The analyst does not recommend reducing time periods tom lees than 1 month due to data limitations.

Table 10. Cobia Harvest reductions by state from a coastwide 36" FL size limit (36"), a coastwide 36" FL size limit with a 1 fish bag limit and season open May 1 (May 1), and a coastwide 36" FL size limit with a 1 fish bag limit and season open June 1 (June 1)

State	36"	May 1	June 1
Georgia	28%	37%	60%
SC	11%	58%	66%
NC	5%	49%	73%
VA	11%	44%	48%
Total	**11%**	**47%**	**61%**

In summary, variability in catch rates over the past decade indicate landings are increasing and have recently exceeded the ACL by a wide margin. A consistent size limit of 36" FL in state and federal waters along with a 1 fish bag limit is unlikely to constrain catches if recent annual harvests are an indication of future success. Consequently, vessel limits, season start dates, and

season lengths are the primary mechanisms examined to further constrain landings to achieve the FMP objective of maintaining catches within the ACL.\

Board Decisions/Discussion:

What set of years should the PDT use in the draft FMP for management options (years used and number of years)?

Use average weights (SEFSC or MRIP) or numbers of fish?

Are specific seasons options wanted for the FMP, or are they best left to the states to develop and have approved by the TC and Board?

If specific seasons are needed in the FMP, should they be based on a state-specific allocation? Are there other options to ensure equity and accountability?

The PDT expressed some interest in spawning season closures, suggesting an early season closure that extended through May would provide an increase in population egg production. The state of South Carolina has implemented a May closure in their southern management unit to reduce harvest and facilitate spawning. **Should the plan include options for similar closures in other states, adapted to the timing of spawning in those areas?**

Based on current state actions that implement 3-4 fish vessel limits, we are unclear as to how those limits may constrain catches to the level required for NMFS to re-open the EEZ to harvest. Providing access to the cobia resource in federal waters is a critical need for most states. Based on recent performance in the fishery, vessel limits greater than 2 may impact the fishery in the EEZ. However, later start dates or in season closures at the state level may provide NMFS with the assurance they need to minimize the chances of exceeding the ACL. **Are there Board-preferred options on how to complement the federal management strategy (for example, one option may include "extension" of state regulations into adjacent federal waters)?**

Regardless of the allocation scheme used, concern has been raised over tracking the ACL on a state or coastwide basis in real time using MRIP. While all states may have port agents to observe catches, effort data are unavailable until after waves are complete and could result in impacts despite best efforts to control. **Should the plan attempt to develop alternative quota monitoring methods to track the ACL on a scale that is finer than waves?** These efforts would have to be developed with NMFS and the Council.