Mackerel Cobia Advisory Panel and Cobia Sub-Panel
Cobia Fishery Performance Report
April 2017

The Mackerel Cobia Advisory Panel (AP) and the Cobia Sub-Panel are being asked to provide information to develop a fishery performance report (FPR) for cobia harvested on the Florida east coast through the Mid-Atlantic region. The purpose of the FPR is to assemble information from AP members' experience and observations on the water and in the marketplace to complement scientific and landings data. The FPR format is based on the Mid-Atlantic Council's FPRs (available here: http://www.mafmc.org/fishery-performance-reports/).

The FPR for cobia will have one section focused on Atlantic (GA-NY) cobia, and the other section focused on Florida east coast cobia, which is considered to be part of the Gulf of Mexico stock. This will be the first FPR for coastal migratory pelagics and will be provided to the Scientific and Statistical Committee (SSC) and the Socio-Economic Panel (SEP). The format of future FPRs may change based on input from the AP, SSC, SEP, and the South Atlantic Council.

Fishery Overview

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 Councils modified the stock boundary and updated the annual catch limits for Atlantic (GA-NY) cobia and Florida east coast cobia through CMP Amendment 20B. The changes were implemented in March 2015.

In 2015 and 2016, Atlantic cobia landings exceeded the ACL and the overfishing level (OFL) recommended by the SSC after SEDAR 28. As defined by the Council, landings > OFL indicate that overfishing occurred in 2015 and 2016. NMFS reduced the recreational season length of Atlantic cobia in 2016 and 2017. Additional detailed information about Atlantic cobia is available in Attachment 2 in the AP/Sub-Panel briefing book.

To inform management decisions for cobia, the AP/Sub-Panel is asked to provide input on:

- Trends in catch levels and any recent changes
- Markets and economic information
- Appropriateness of existing management measures
- Observations on environmental/ecological factors
- Other observations

The following general information on commercial and recreational landings trends and economics is being provided to elicit discussion and assist the AP/Sub-Panel in providing information to answer the specific questions that follow.

Atlantic Cobia- Recreational

Table 1 and **Figure 1** show recreational landings estimates of Atlantic cobia provided by the Southeast Fisheries Science Center (SEFSC), including MRIP estimates and headboat data. **Figure 2** shows the seasonality across the region through recreational landings by state by wave.

Table 1. Recreational landings of Atlantic cobia by state 2004-2016 (2016 landings are preliminary), including MRIP estimates and headboat data. Data source: SEFSC, March 2017

Year	NJ	DE	MD	VA	NC	SC	GA	TOTAL
2004	0	0	0	39,341	333,899	606,540	60,547	**1,040,327**
2005	0	1,480	0	595,644	320,267	3,788	1,353	**922,532**
2006	27,863	0	0	757,638	102,253	99,012	2,818	**989,584**
2007	0	0	0	332,239	88,190	266,670	62,701	**749,800**
2008	0	0	0	171,816	64,250	48,100	255,682	**539,848**
2009	0	0	0	570,491	121,052	74,220	1,988	**767,751**
2010	0	0	1,287	239,153	559,476	63,678	77,845	**941,439**
2011	0	0	0	139,622	119,678	1,554	88,364	**349,218**
2012	69,655	0	0	35,614	66,645	222,353	103,180	**497,448**
2013	0	0	0	363,865	492,998	19,159	29,304	**905,327**
2014	0	0	0	219,993	277,846	32,010	20,670	**550,519**
2015	0	0	0	717,676	642,906	125,365	68,448	**1,554,394**
2016	0	0	1,762	935,997	330,809	77,402	223	**1,346,193**

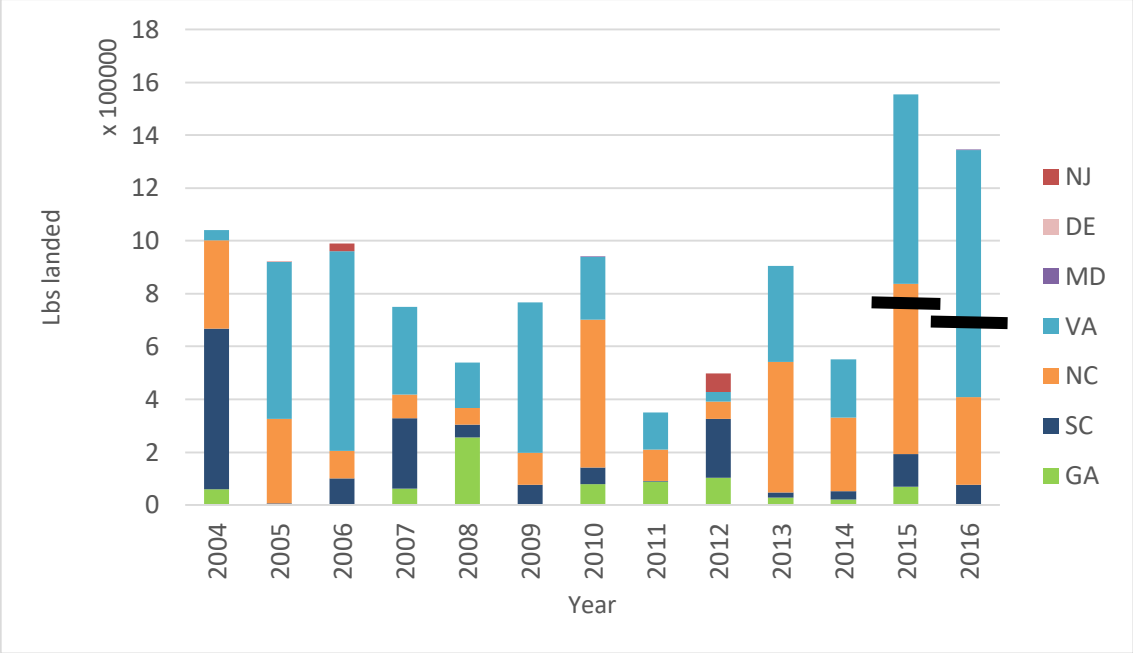

Figure 1. Recreational landings of Atlantic cobia by state 2004-2016 (2016 landings are preliminary), including MRIP estimates and headboat data. Data source: SEFSC, March 2017. The black bars in 2015 and 2016 represent the stock ACLs for Atlantic cobia.

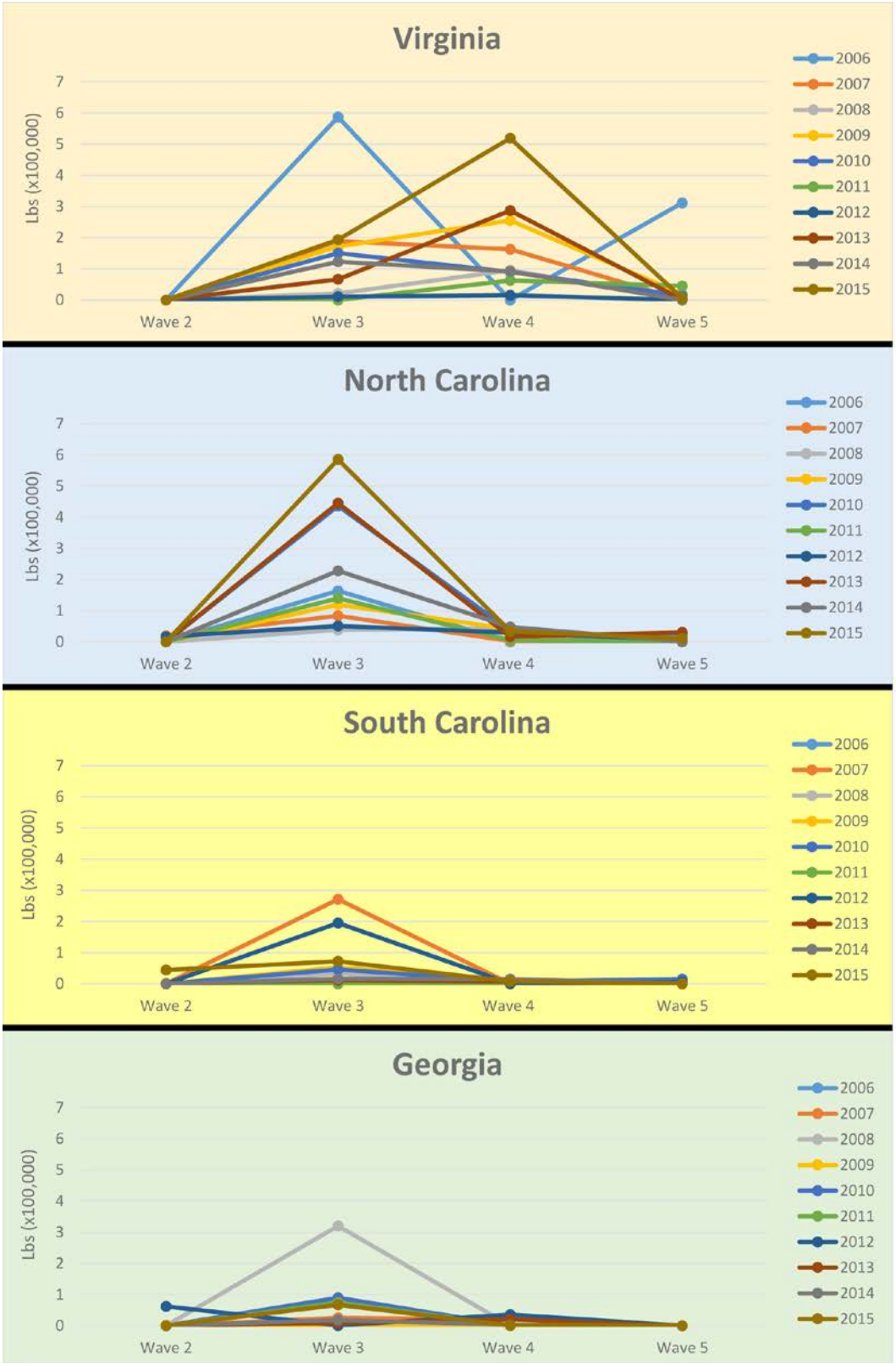

Figure 2. Recreational catch of Atlantic cobia (lbs ww) by wave from 2006-2015 for Waves 2-5. Data sources: SERO and MRIP database. The MRIP-estimated recreational landings of Atlantic cobia in states north of Virginia from 2006-2015 are minimal, with only small numbers reported in Delaware and New Jersey every few years. Additionally, MRIP estimates for 2016 (preliminary) show landings from Maryland.

Atlantic Cobia – Commercial

Table 3 shows landings of Atlantic cobia that were sold and revenue 2010-2015. **Figure 3** shows price per pound in actual (not adjusted for inflation) dollars by state for Atlantic from 2006 through 2015. The figure also shows the average price per pound for all three states in actual (not adjusted) dollars and adjusted dollars.

Table 3. Commercial Atlantic cobia landings (lb ww) and revenues (2014$) by gear, 2010-2015.

	Hook and Line	Gillnets	Others	Total
	Pounds (ww)			
2010	26,758	23,495	6,022	56,275
2011	18,322	9,177	6,294	33,793
2012	12,962	21,091	7,906	41,959
2013	28,356	13,343	10,933	52,632
2014	37,082	23,540	8,517	69,139
2015	37,702	36,417	9,030	83,148
Average	26,864	21,177	8,117	56,158
	Dockside Revenues (2014 $)			
2010	$49,095	$38,605	$14,030	$101,730
2011	$39,265	$18,242	$21,717	$79,224
2012	$29,677	$43,875	$23,486	$97,038
2013	$69,433	$30,206	$31,189	$130,828
2014	$99,959	$55,275	$21,520	$176,754
2015	$108,165	$100,130	$25,377	$233,672
Average	$65,932	$47,722	$22,886	$136,541

"Hook and line" includes Handline, longline, power assisted line, and troll line; "others" include traps, dredges/gigs/spears, other net gear, and unclassified gear. Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data.

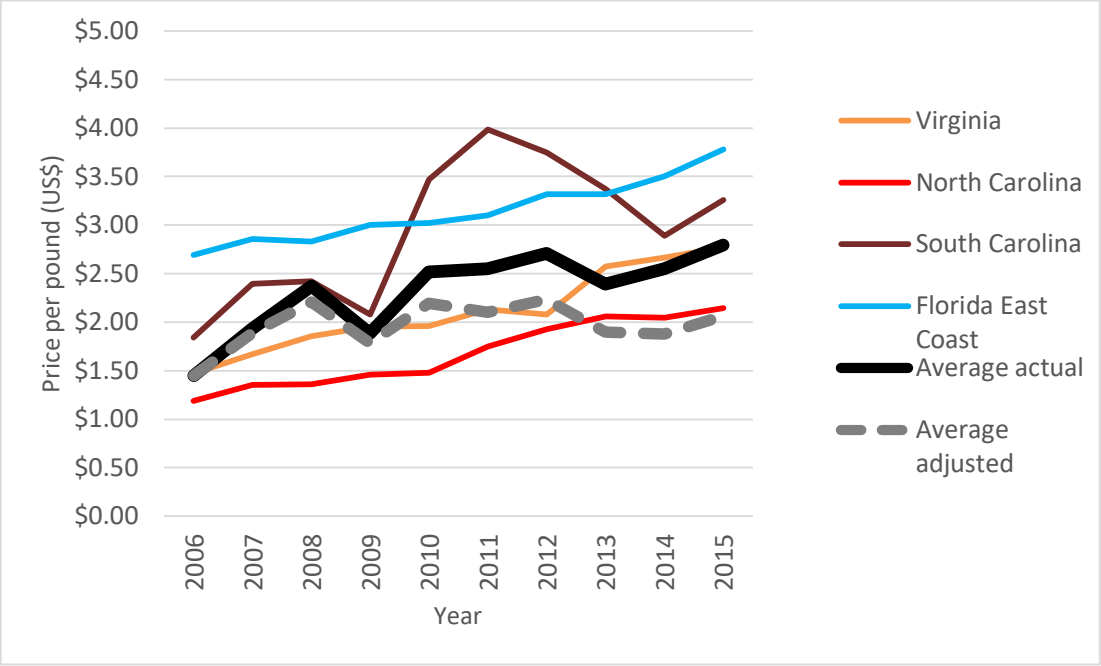

Figure 3. Price per pound (US$, not adjusted) for Virginia, North Carolina and South Carolina for commercial Atlantic cobia, and actual (not adjusted) average price (black line) and adjusted average price (gray dotted line).Source: NMFS Commercial Statistics website.

Florida East Coast Cobia- Recreational

Figure 4 shows recreational landings estimates of Florida east coast cobia provided by the Southeast Fisheries Science Center (SEFSC), including MRIP estimates and headboat data. **Figure 5** shows the seasonality of cobia catch by wave for the Florida east coast.

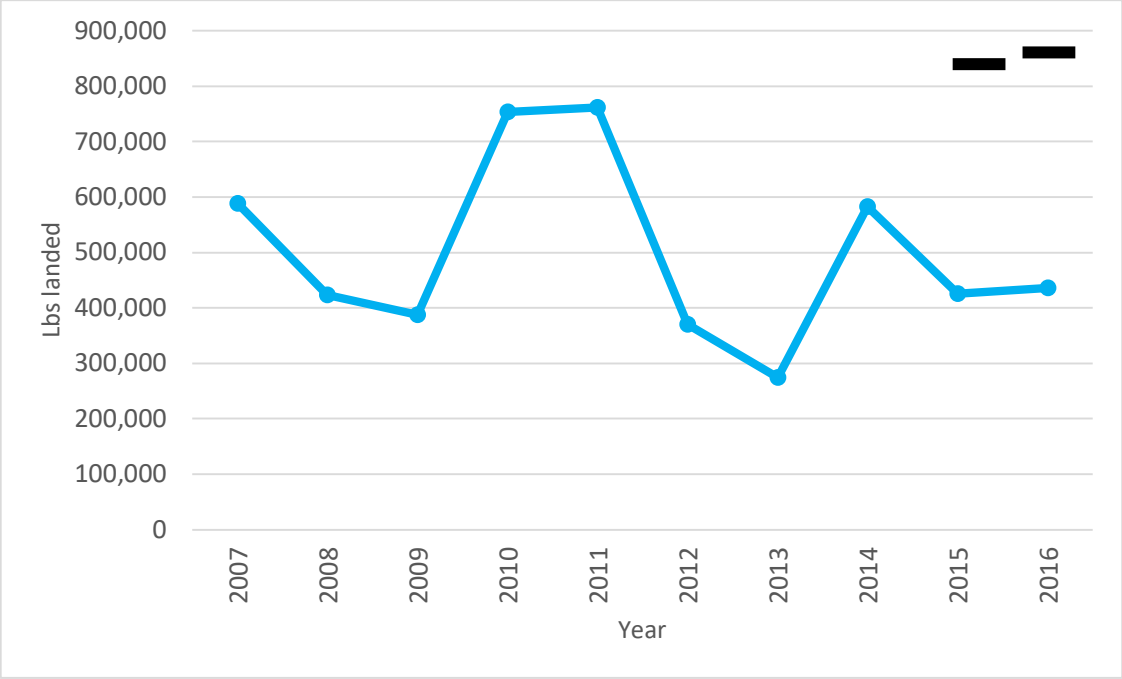

Figure 4. Recreational landings of cobia on the Florida east coast 2007-2016. Data sources: SEDAR 28 and MRIP Data Website. The black bars indicate the 2015 and 2016 recreational ACLs.

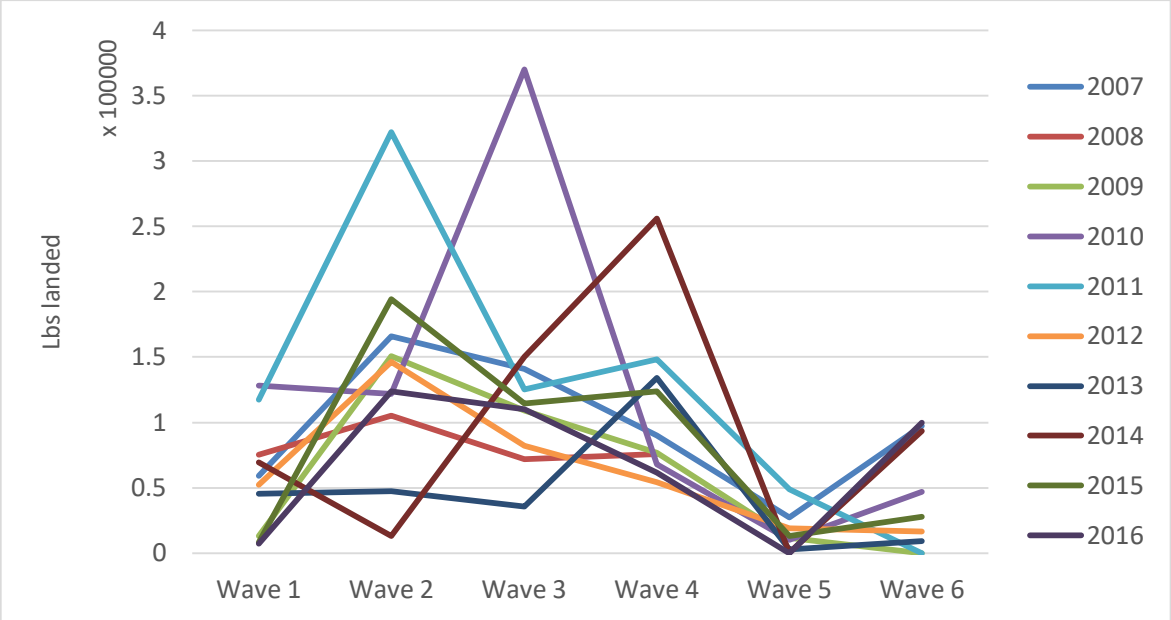

Figure 5. Recreational landings by wave of cobia on the Florida east coast. Data source: MRIP Data Website.

Florida East Coast Cobia – Commercial

Table 3 shows landings of Atlantic cobia that were sold and revenue 2010-2015. **Figure 6** shows price per pound in actual (not adjusted for inflation) dollars by state for Atlantic from 2006 through 2015. The figure also shows the average price per pound for all three states in actual (not adjusted) dollars and adjusted dollars.

Table 3. Commercial cobia landings from the Florida east coast (lb ww) and revenues (actual $) by gear, 2010-2015.

	Hook and Line	Gillnets	Dive Gear	Other Gear	Total
		Pounds (ww)			
2010	85,786	2,725	6,627	5,912	101,050
2011	136,664	1,846	11,906	5,388	155,804
2012	63,209	2,107	11,771	1,296	78,383
2013	45,997	3,401	9,367	410	59,175
2014	58,603			18,479	77,082
2015	43,801			12,300	56,101
Average	60,597	3,273	8,735	6,034	76,237
		Dockside Revenues (actual $)			
2010	$112,787	$12,534	$21,263	$6,829	$153,413
2011	$122,947	$12,151	$27,297	$9,247	$171,642
2012	$113,582	$10,491	$17,450	$10,813	$152,336
2013	$151,263	$8,726	$24,579	$11,843	$196,411
2014	$262,387	$7,411	$21,110	$14,542	$305,450
2015	$426,745	$5,180	$37,663	$13,910	$483,498
Average	$209,776	$6,619	$39,442	$4,275	$260,112

"Hook and line" includes Handline, longline, power assisted line, and troll line; "others" include traps, dredges/gigs/spears, other net gear, and unclassified gear. Source: NMFS Commercial Statistics.

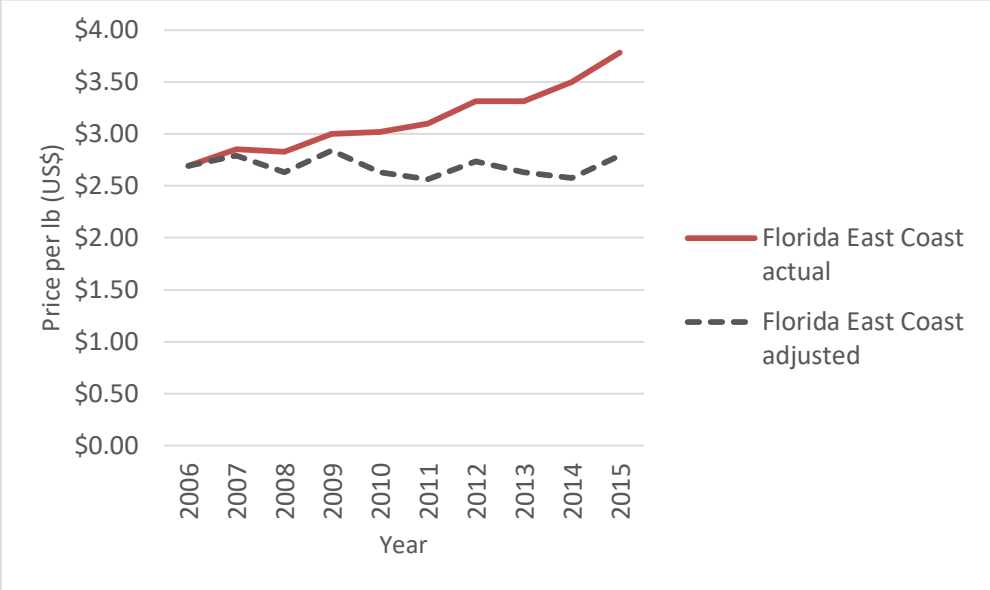

Figure 6. Price per pound (US$, not adjusted) for commercial cobia from the Florida east coast and adjusted price per pound (gray dotted line).Source: NMFS Commercial Statistics website.

Questions for Advisory Panel and Cobia Sub-Panel:

The AP/Sub-Panel is asked to provide the following information about cobia based on their expertise, as appropriate:

1) Catch levels over the past 5 years:
- For the commercial sector, how has price and demand for cobia changed?
- How has demand for charter/headboat trips targeting cobia changed?
- When/where are the fish available, and has this changed?
- Has the size of the fish changed?
- Have there been effort shifts to/from cobia?

2) Management measures:
- Is the minimum size limit and possession limit for the commercial sector appropriate?
- Is the minimum size limit and possession limit for the recreational sector appropriate?
- Are there new measures that the Council should consider?
- Are there other existing measures that should be changed?

3) Environmental/ecological
- Has there been a shift in cobia abundance/availability due to environmental factors such as mild winter, storms, etc.?
- Are you observing a range of sizes of fish?
- What are your observations concerning the timing and length of the cobia spawning season in your area?

4) Other
- Do you have suggestions for research priorities for cobia?
- What else is important for the Council to know about cobia?

South Atlantic Fishery Management Council
Mackerel Cobia Advisory Panel and Cobia Sub-Panel
Cobia Fishery Performance Report DRAFT
April 2017

At their April 2017 meeting, the South Atlantic Fishery Management Council's Mackerel Cobia Advisory Panel (AP) and Cobia Sub-Panel reviewed fishery information for cobia and developed a Fishery Performance Report (FPR). The purpose of the FPR is to assemble information from AP members' experience and observations on the water and in the marketplace to complement scientific and landings data. The FPR for cobia is the first CMP FPR, and will be provided to the Scientific and Statistical Committee (SSC) and the Socio-Economic Panel (SEP). The format of future FPRs may change based on input from the AP, SSC, SEP, and the South Atlantic Council.

Mackerel Cobia Advisory Panel
Ira Laks, Chair (*Charter/FL*)
Stephen Swann, Vice Chair (*Recreational/FL*)
Stephen Donalson (*Recreational/FL*)
Steve English (*Commercial/FL*)
Skip Feller (*Charter/VA/Mid-Atl liaison*)
David Forcinito (*Dealer/NC*)*
Manuel Herrera (*Commercial/FL*)
Ryan Howard (*Charter/GA*)
Bill Kelly (*Commercial/FL*)
Selby Lewis (*Commercial/NC*)*
Robert Olsen (*Charter/SC*)
Greg Peralta (*Recreational/SC*)
Gary Robinson (*Commercial/FL*)
Tom Roller (*Charter/NC*)
*unable to attend

Cobia Sub-Panel
Wes Blow *(VA)*
Bill Gorham *(NC)*
Howard Ellis, Jr *(SC)*
Bill Weeks *(GA)*

Fishery Overview
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 Councils modified the stock boundary and updated the annual catch limits for Atlantic (GA-NY) cobia and Florida east coast cobia through CMP Amendment 20B. The changes were implemented in March 2015.

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Detailed landings and economic information was provided to the AP and Sub-Panel. This document is attached at the end of the FPR

Atlantic (GA-NY) Cobia

Stock observations

Chesapeake Bay-
The cobia in the Chesapeake Bay seem to be moving to the northern part of the Bay, further north than they have ever been found. Historically, the cobia have been concentrated in the southern part of the Bay. There has been an increase in availability 40-50 miles north of where the fish are usually found, and there was a tournament there in Maryland recent years[1]. AP members pointed out that the increased availability in the northern Bay was in addition to the increased numbers of fish in the southern part of the Bay. There are also more fish available on the ocean front.

AP members report that there have been an increase in the catch in the past 3-4 years, even up to 18 fish in one day, for both private recreational and charter. Some members pointed out that the menhaden stock has increased in recent years due to success in the Atlantic States Marine Fisheries Commission (ASMFC)'s rebuilding plan, and this may be why there are more cobia in the Chesapeake Bay.

Some AP members report a decrease in the larger sized fish of Chesapeake cobia, and that a "big" fish has become smaller over time. Other AP members did not observe the same issue and felt that there were still abundant large fish in the Bay.

Females with eggs are caught all summer long and the fish may spawn more when they first arrive in the Bay, but will spawn throughout the summer. This may create challenges in developing management measures specific to spawning seasons.

Northeastern North Carolina-
The past years have been great years for catching lots of fish and catching large cobia. The pier fishermen have had good catches. Historically, the cobia show up in this area (Oregon Inlet) when the water temperature hits 68 degrees—this has always been the key water temperature to start seeing cobia. As the cobia move north, the catch starts to get smaller. In recent years, the cobia are showing up even when the water is still at 61-62 degrees. This may e

Beaufort Inlet (NC)-
Larger fish of 70-80 lbs were more common several years ago, but there are still catch of fish at 50-60 lbs. The menhaden stock has increased, which may contribute to the numbers of cobia. However, larger cobia are less common.

[1] The Maryland record for largest cobia occurred during an Ocean City tournament in 2016, at 94.6 lbs.

Southern South Carolina-
There are cobia that come into Port Royal sound to spawn every year, and there used to be three general areas where fishermen could easily find the cobia. However, those areas are not producing anymore. There seems to be a shift of the cobia from Port Royal to Calibogue Sound (which is further south, between Hilton Head Island and Dafuskie Island), and that area is becoming a more popular fishing area. The size of the fish has drastically reduced, with 80% of cobia caught being at the minimum size limit (33"FL) or slightly above. The historically productive reefs have dropped off in the last few years, and seems to correlate the release of the Waddell stock. When the Waddell stock area first released, cobia catch will be great for a few years and then drop off abruptly. Fishermen there also notice during the season, cobia may be available in abundance for 1-2 days, and the drop off again.

Effort
Chesapeake-
Recreational catch estimates in recent years for North Carolina and Virginia have been much higher, which may indicate an increase in available fish and/or an increase in recreational anglers' success. There has been an increase in popularity of the sight cast fishery, in which recreational boats with towers (or skiffs with step ladders) will spot the cobia and throw a jig or bait. Sight cast fishing is increasingly popular in the Chesapeake and also in areas of North Carolina. AP members report that clear water and calm winds are necessary for a good sight cast trip, so not all trips are successful. However, some sight cast fishery participants will go on trips in higher winds.

Previously popular species such as spadefish and flounder are not as available, and there has been a shift to cobia in recent years.

The Chesapeake is larger than Port Royal and it is easier for boats to spread out, but some fishermen feel that effort has increased significantly, especially on the weekends. Cobia fishing is easy to learn and to be successful, and this has contributed to the increase in effort.

North Carolina-
In Beaufort Inlet (NC), the number of recreational fishermen has significantly increased, especially on the weekends. The "old school" method is to chum the cobia, and then use hook and line to catch cobia. With the increase in menhaden and the cobia availability, the sight cast fishery is popular in this area. Because cobia fishing is relatively easy with no requirement for special equipment or a big boat, this has resulting in more small part-time for-hire businesses, which can have negative effects on the long-term for-hire businesses. Spring fishing has been bad for the past few years but cobia fishing has been good, and it is easy to fish.

Commercial market observations
The commercial portion of the Atlantic cobia fishery is primarily a bycatch fishery, because the possession limit is 2/person/day. There has been some increased interest and effort in the commercial portion of the fishery. [check minutes there will be additional info added here]

Demand in the Charter/Headboat sector
In Virginia, charter captains reported that there has been a significant increase in demand for trips targeting cobia, with some captains experiencing increases several times over in the last 5-10 years.

In North Carolina there is demand for cobia specifically, which may be due to clients' desire to post a photo on social media of a large fish like cobia.

In South Carolina, there is not necessarily a demand for cobia specifically for charter trips, but when cobia are available they will target them.

Florida East Coast Cobia

Stock observations
In Northeast Florida, the availability has been consistent and are available year-round. The cobia follow the large rays, and are available near shore when the rays are close to shore, and then move to deeper waters with the rays. Sight cast fishing peaks in the early spring but it is only for a short period each year. The rest of the year the cobia are available offshore but primarily as incidental catch. There are no problems with abundance and there are plenty of fish. AP members reported that sizes are the same, although one AP member noted that it did not seem fishermen see the big fish that they used to see (60-70 lbs).

In south Florida, the cobia are starting to occur with bull sharks on the edge of the reef, and it is not uncommon for a shark to eat a large cobia. Females with eggs are seen February through July. The average size of cobia is 18-40 lbs and that has been consistent, although sometimes there are very large cobia caught occasionally.

In the Florida Keys, cobia are found in 25-35 ft. on mostly sand bottom. Cobia may be following mud rays because they stir up the crabs and small fish on the bottom, and the cobia eat those. The size has been consistent but there do not seem to be as many cobia (or rays). There seem to be more cobia on the bay side but water quality issues affect fishing conditions. Cobia can be caught at any time of the year but are not encountered on every trip, so are primarily incidental catch. Cobia do not aggregate like they do in other areas, and are always on the move.

Effort

The population in NE Florida is growing quickly and the number of private recreational anglers has increased, with boat ramps crowded every weekend. There has been a shift from red snapper to cobia, because they are easy to catch and do not require bottom fishing.

There is less sight fishing in south Florida than there used to be, even though the conditions are ideal. There has been an increase in free divers, who shoots cobia off the backs of bull sharks on the edge of the reef. Recreational fishing overall has increased with the growth of social media.

In the Florida Keys, most cobia fishing is sight fishing in the channels between reef lines and islands on boats with tuna towers. The conditions for sight fishing are not as good on the bayside, and there are water quality issues in Florida Bay. Recreational anglers target cobia on trips targeting tuna, sailfish and other species when the current allows.

Commercial market observations
There is demand for cobia even though there are farm-raised cobia on the market, because wild caught is superior. The price is good because it is a 'boutique product' for local restaurants. When the cobia are in the area for south Florida, commercial vessels will purposely target cobia because there is a good price for them. In the Florida Keys, there is no directed commercial fishery but vessels will catch and sell cobia when they are available.

Demand for Charter/Headboats
Demand for cobia specifically on for-hire trips is consistent, but it is not the only species that people specifically ask for. For some captains, there are clients that return every year when cobia are available in the spring in northeast Florida.

BOTH STOCKS
Management measures
The pending increase for the recreational minimum size limit to 36" FL will allow for an additional year of spawning and this will be beneficial for the stock. The limit for cobia in Virginia state waters to only take one cobia per boat per day over 50" total length should be considered, because it will help protect the spawning stock biomass and is supported by the public. Gaffing should not be allowed because cobia can be netted safely, and there are too many inexperienced cobia anglers that do not know how to gaff without losing the fish.

The AP raised concerns about the inconsistency with units for tracking ACLs and landings ('as reported' and 'whole weight').

Research Recommendations
Additional research on the Chesapeake Bay being a unique group (like Port Royal) and could be negatively affecting by current effort and harvest levels. The AP also recommended more research on spawning.