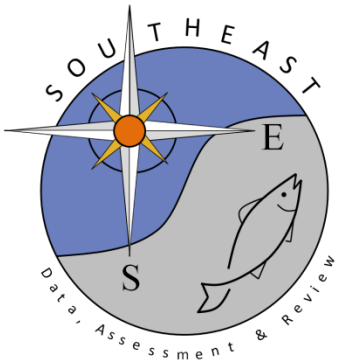
Snapper Grouper Advisory Panel Greater Amberjack Fishery Performance Report: April 2018

SAMFC Snapper Group Advisory Panel

SEDAR59-RD06

31 July 2018



Snapper Grouper Advisory Panel
Greater Amberjack Fishery Performance Report
April 2018

At their April 2018 meeting, the South Atlantic Fishery Management Council's (Council) Snapper Grouper Advisory Panel (AP) reviewed fishery information for greater amberjack and developed this 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 greater amberjack will be provided to the Scientific and Statistical Committee (SSC) and the Socio-Economic Panel (SEP) to complement material being used in the standard assessment (SEDAR 59) scheduled for completion in spring 2019 and to inform future management.

Advisory Panel Members:

David Moss (Chairman; Recreational/FL)
Jimmy Hull (Vice-Chairman; Commercial/Dealer/Retail/FL)
Robert Johnson (Charter/FL)
Rusty Hudson (Commercial/FL)
Vincent Bonura (Commercial/FL)
James Freeman (Commercial/FL)
Greg Mercurio (Charter/FL)
Richard Gomez (Charter/FL)
David Snyder (Consumer Rep/GA)
Deidra Jeffcoat (Charter/GA)
Gary Manigault Sr. (Charter/SC)
Kerry Marhefka (Commercial/Dealer/SC)
Jim Moring (Recreational/SC)
Jim Atack (Recreational/NC)
Red Munden (Conservation/NC)
Robert Lorenz (Recreational/NC)
Dick Brame (NGO/Recreational/NC)*
Robert Freeman (Charter/NC)
Andy Piland (Charter/NC)
Scott Buff (Commercial/NC)
Jack Cox (Commercial/Dealer/NC)
Todd Kellison (At-large/NOAA)
Ron Rozier (Recreational/GA)*
James Paskiewicz (Recreational/FL)*
*not in attendance

Fishery Overview

Summary information on the greater amberjack fishery in the South Atlantic region is presented in a Fishery Information Document (**Appendix A**) intended to provide an overview of several aspects of the fishery including life history of the species, stock status, management overview, and trends in landings and fishery economics for both the commercial and recreational (for-hire and private) sectors. The information was provided as background to elicit the discussion presented in this Fishery Performance Report. The Fishery Information Document presents data from 2000 through 2016.

Observations on Stock Abundance

There was general agreement among AP members that abundance of greater amberjack in the past five years has increased in the South Atlantic region. Fishermen report seeing all size classes and high numbers of juveniles in the spring. The stock off Florida migrates north during March, April, and May and south during September and October.

In the South Atlantic, the recreational fishery for greater amberjack originated in the 1960s.

Commercially, greater amberjack were not of much value until about 2008 because of regulatory changes (i.e., early closures and seasons). Before that time, while the species was abundant, fishermen were not interested in targeting them because they were of such little value.

North Carolina

Thirty years ago, amberjack used to be a common fish near shore and readily accessible to recreational fishermen. Nowadays, fishermen no longer see them from a pier as they used to. Fish don't seem to be in the surf zones anymore either; they are further offshore. Fishermen report seeing them going under the boat 12 or 18 miles out, and on certain wrecks.

Recreational fishermen call them "reef donkeys".

Commercially, greater amberjack began to be targeted in the 1980s. Nowadays, fishermen land 25,000 to 35,000 pounds a year of greater amberjacks, and it is an important fishery, both commercially and recreationally. The price of the fish is going up, because people are realizing that there is good value in it. It's a nice, white-meat fish.

In the 1980s greater amberjack were so thick that fishermen targeting gag would have a hard time getting the baits down to catch them. This was prior to implementation of annual catch limits. Annual catch limits have helped rebuild the fishery, and fishermen report seeing a lot more smaller fish now. They are hopeful that the big schools of jacks will come back.

Charter fishermen don't go out to try to catch them, but they can count on them being there. Most charter customers, 90% of them, want to take them home and everybody likes fighting them. Off of Cape Hatteras, it is an important fishery year-round, as long as the season is open. As long as the water is over 65 degrees, the fish are on the wrecks.

The Albatross Fleet is the original fleet of charter boats in Hatteras, and it has been running since before World War II. People were fishing for amberjacks in that area as early as 1937.

South Carolina & Georgia

Amberjack are accessible to fishermen anytime from April on, depending on how quickly the water warms up, into the fall. The stock is healthy and there are evident signs of recruitment. However, there is a lot of pressure on them off the Georgia coast since grouper are not as abundant as they were ten or fifteen years ago, and red snapper can't be harvested. Fishermen who hire charters love catching amberjack; 90% of them want to take them home.

Florida

Off St. Augustine, there is definitely a seasonality to the presence of greater amberjack and it's driven by water temperature. In the cooler months, greater amberjack are not found inshore (80-100 feet), but they are available year-round. Fishermen catch them year-round in the deeper water especially. In the summer months, they are abundant ten or twelve miles off on some of the artificial reefs and wrecks.

Off of "The Humps" (east central Florida) people catch amberjack when they go offshore to get tuna, especially if the tuna bite is slow. Further north, on the wrecks, amberjack seem to be present all year.

In the Lower Keys, charter fishermen recount an abundance of amberjack that were easy to catch. Over time, it has become more difficult to catch them, especially on artificial bait. This is why charter fishermen in that area typically do not target them.

Observations on Fish Size

North Carolina

Fishermen report seeing a lot of small (28-32 inches) fish in 80 to 90 feet of water in the spring time. The big fish don't appear until the fall of the year, by about August, when large schools migrate from Florida.

Commercial fishermen targeting vermilion snapper in 150 or 200 feet of water interact with these schools, but they're not really targeting greater amberjack.

Florida

Off Ponce Inlet, fishermen claim there are a lot more larger fish in his area than there were in the past in waters 160 feet and deeper. Smaller fish are more abundant towards shore, shallower than 100 feet. Greater amberjack school according to size.

Off the St. Augustine and Mayport areas, larger fish are in the deeper water, 21-28 fathoms (126-168 feet). Amberjack measuring 30 to 32 inches are found in waters from 80 to100 feet. In the early 1990s, however, fishermen used to catch 80 and 90-pounders nine miles from shore.

In recent years the stock has "leveled out"; it's typically true that the bigger fish are offshore and the smaller fish are inshore. Nowadays, large schools of juvenile amberjacks (18-22 inches) are found in shallow water in the summer, too.

In the 1950s and 1960s, off Daytona Beach, Florida, historic for-hire photos show a lot of amberjack, most of them caught between nine and 20 miles from the beach, and 40 pounds was the average. At that time, fishermen dressed the fish for their customers if they were over 35 pounds because of the worms found in parts of the filet. Nowadays, off the Florida Keys, fishermen catch greater amberjack averaging 35 pounds on the wrecks in the springtime.

Observations on Effort Shifts

For private recreational fishermen in southeast North Carolina, decreased abundance of gag and red grouper might soon lead to a shift towards targeting amberjack. Fishermen still go out to 140 or 180 feet of water to try to catch grouper, but since they can't keep very many and the fish don't seem to be there, they may instead try for some amberjacks on the other reefs and structure.

In the charter industry, customers are more willing to keep greater amberjack nowadays. In the 1980s, charter captains would to give their amberjack catch to soup kitchens but people are now realizing that they're good to eat. More recently, closures for other species have resulted in fishermen being more interested in greater amberjack. The cobia closure, for instance, led to charter customers in Georgia wanting to target amberjack more since customers wanted big fish.

Commercial representatives on the AP agreed that effort has shifted towards greater amberjack

in recent years, mostly due to price and closures of other reef fish species. It's relatively easy to catch a commercial trip limit and there is a much easier, more ready market for it. Either the market has caused the effort shift or it has been the result of unavailability of other snapper grouper species during parts of the year.

Observations on Commercial Discards

North Carolina

Sharks have become a huge problem; everything that is being discarded gets eaten. The tuna fishing in the area is no longer productive. Fishermen are hooking tunas, but they are landing only two out of 10 yellowfins off of Oregon Inlet in the summer. In the springtime, better than 50% of the catch of blackfin tuna is being lost to shark predation. The situation is the same for all fish being harvested, amberjacks included.

Fishermen recount a similar situation off Georgia and elsewhere in the region.

Florida

Off Ponce Inlet, Florida, there are very few commercial discards from 160 feet of water and beyond. A commercial fisherman estimates 10% discards from a 1,200-pound amberjack trip in 160 feet and deeper. Most of the commercial trips travel 60 to 80 miles out of Ponce Inlet to target commercial size amberjack and avoid undersize discards inshore of that depth.

It is easier for the recreational sector to avoid discards since they can target smaller fish inshore, a short distance from the inlet. They just have to locate a school of legal fish to avoid discards. Fishermen are not having a chance to discard undersized fish because the sharks are eating them.

Observations on Price and Demand

North Carolina

A lot of the commercial catch of greater amberjack off Morehead City is sold to Canada. When fishing for amberjack closes in the Gulf of Mexico, sometime in the middle of the summer, it affects the price and demand of South Atlantic fish.

Nowadays there is demand in the fall for amberjack in North Carolina, but that is usually about when the South Atlantic fishery closes.

Price has been going up every year. People are willing to experiment with other species, and they're finding that greater amberjack is a tasty fish.

South Carolina & Georgia

Commercial dealers may pay around $3.50/pound to the boat, up from a dollar.

Local restaurants use amberjack, not necessarily interchangeably, but for the same price per plate as grouper. A restaurant may charge $28 to $30 for a plate of amberjack. Greater amberjack is turning into a more affordable alternative for consumers in Georgia restaurants.

The amberjack surplus in December used to have to be sold to Canada. However, that is no longer the case; the fish is all sold domestically and that constitutes a big shift.

Florida
A wholesale dealer maintains that 95% of greater amberjack stay in the U.S. nowadays.

Off Ponce Inlet the price of amberjack is up (currently $2.25/pound) and demand is also up. Years ago, amberjack was considered a trash fish but that is no longer the case.

Observations on Demand for For-Hire Trips
Asked about an apparent increase in directed recreational trips in recent years, AP members offered that amberjack are not one of the primary species being targeted. Some AP members stated they were very surprised that the data would show an increase in targeted trips.

North Carolina
Charter customers off of Hatteras are very interested in catching greater amberjack as part of the trip. They may want to go tuna fishing and then ask to stop and catch a few jacks. On a bottom fishing trip, fishermen often jig for jacks as part of the trip.

South Carolina & Georgia
Some charter customers who have caught amberjack in the past sometimes want to go target them again. They do not take them all home, but they do like fighting them.

Florida
Off St. Augustine, charter boats don't normally target amberjack, but with current restrictions on different species, greater amberjack are part of a trip. Customers catch their limit on just about every trip, but they are not usually a target species. Just about every charter boat that goes out on a trip is going to catch their limit of amberjacks, if they're available, unless the customers specifically say they don't want them. Amberjack are an important fish to charter the charter business in northeast Florida. People go fishing on a charter boat to catch a big fish that pulls hard, and nothing fits that bill better than an amberjack.

Some charter boats in the Lower Keys do target amberjack for a few months, February through April, but only for part of the trip. They may troll for part of the day and stop on a wreck and drop a live bait down and catch an amberjack. Most of them are not kept, however. In the Lower Keys, charters target greater amberjack less than before. The same is true for headboats in the area. People will only take an amberjack if they can't get a snapper or a grouper. After a a slow day of trolling for dolphin or wahoo, fishermen often hit some of the wrecks on the way home to jig for amberjacks.

Observations on Community Dependence
There was general agreement that greater amberjack has become a very productive, important, and sustainable species for fishermen and for consumers throughout the South Atlantic region.

North Carolina
Morehead City, North Carolina, is dependent on greater amberjack. Commercial catch (about 25,000 pounds) supports the local economy, especially when other fisheries are closed in the fall of the year.

Charter customers in North Carolina expect to be able to catch greater amberjacks daily.

South Carolina & Georgia
In South Carolina communities, greater amberjack is one of the many fish that commercial fishermen are using to put together trips to make a living. The days have passed where one fish is the driver of one community. If the Charleston area didn't have amberjack, getting through some of the months would be tough.

Off Georgia, the fish has become well-liked by local fishermen due to its tendency to fight and seems to be gaining popularity among local restaurants.

Florida
In St. Augustine, Florida, the charter and commercial industries are dependent on greater amberjack.

In the Florida Keys, everyone who fishes commercially targets greater amberjack and the species is important to fishing communities and day-fishing operations

Observations on Management Measures
Asked whether the 36-inch minimum size limit for the commercial sector is still appropriate, a commercial fisherman from Morehead City, North Carolina, shared that there are many days when he only catches undersized, 35-inch fish. However, he thinks the current 36-inch commercial minimum size limit is appropriate.

A commercial fisherman from the Florida Keys disagreed and offered that the commercial minimum size limit ought to be lowered to 28 inches, same as the recreational limit. However, another member observed that if the commercial minimum size limit were reduced, the commercial annual catch limit would be landed much faster, in the spring of the year, since smaller fish are abundant during that period.

AP members offered that the Council should consider reducing the commercial minimum size limit to 28 inches, the same as recreationally, and continue to consider creating a commercial split season to spread the annual catch limit throughout the year, as proposed in Vision Blueprint Regulatory Amendment 27.

Asked whether the current 28-inch minimum size limit for the recreational sector is still appropriate, a charter captain from St. Augustine, Florida, stated that it is. However, for headboats and charter boats that don't fish deeper trips, raising the limit would take fish off their catch.

Environmental Observations
It was suggested that abnormally high water temperatures may affect the behavior of greater amberjack and cause them not to bite. AP members reiterated that sharks are abundant and could be impacting the ecology of greater amberjack populations in the region.

North Carolina & Georgia
Off Morehead City, North Carolina, there are wrecks that fishermen can count on being full of amberjack. Fishermen may not get their limit, however, because they won't always bite. Fish are also found over rocky bottom.

In Georgia, fishermen report finding amberjack on the ledges in 100 feet of water and a little more often on artificial reefs in about 70 feet of water.

Florida

Asked for observations on the timing or length of the greater amberjack spawning season, a charter captain off St. Augustine, Florida, stated that greater amberjack spawn in that area in April. That's when, every year, he sees huge schools of greater amberjack on the shelf edge in certain locations. According to another AP member, peak spawning off of Ponce Inlet occurs during April, May and June each year. An AP member from the Florida Keys agreed that fish in spawning condition are evident in the springtime each year.

An AP member from Daytona Beach, Florida, suggested that there was a misconception for some time since the 1970s among local fishermen: schools of banded rudderfish were called "amberines" since they were thought to actually be schools of juvenile amberjack.

In terms of recruitment fishermen report seeing juvenile fish inshore of 120 feet and all the way to beach.

Off St. Augustine, Florida, amberjack are found on big ledges and areas on the shelf edge; near wrecks, too. The fish don't typically like smaller pieces of bottom. In the Florida Keys, however, amberjack are reportedly found mainly on wrecks and not over bottom structure.

Appendix A. Greater Amberjack – Information Document

April 2018

Biology

Greater amberjack, *Seriola dumerili*, is a pelagic species in the Jacks family (Carangidae) (Manooch and Potts 1997a). This species occurs in the Indo-West Pacific, and in the Western and Eastern Atlantic Oceans. In the Western Atlantic, it occurs as far north as Nova Scotia, Canada, southward to Brazil, including the Gulf of Mexico (Carpenter 2002, Manooch and Potts 1997a, Manooch and Potts 1997b).

Spawning in the South Atlantic region occurs from January through June, with a peak in April and May. Harris et al. (2007) caught fish in spawning condition from North Carolina through the Florida Keys; however, spawning appears to occur primarily off south Florida and the Florida Keys (Harris et al. 2007). Greater amberjack in spawning condition were found in different depths, although the bulk of samples were from the shelf break. Tagging data indicated that greater amberjack are capable of extensive movement that might be related to spawning activity. Greater amberjack tagged off South Carolina have been recaptured off Georgia, east Florida, Florida Keys, west Florida, Cancun Mexico, Cuba, and the Bahamas (MARMAP, unpublished data).

This species is the largest jack with a maximum reported size of 190 cm (75 in) and 80.6 kg (177.7 pounds) (Paxton et al. 1989). Female greater amberjack are generally larger at age than males (Harris et al. 2007). Maximum reported age is 17 years (Manooch and Potts 1997a). According to Harris et al. (2007), the size at which 50% of males are mature is 644 mm FL (25 in), whereas all males are mature at 751-800 mm FL (29.5-31 in) and age 6. The size at 50% maturity among female greater amberjack is 733 mm FL (29 in). Age at 50% maturity for females was 1.3 years and all females were mature by 851-900 mm FL (33.5-35 in) and age 6.

Primary food items include fishes, such as bigeye scad, and invertebrates (Paxton et al. 1989).

Stock Status

The SEDAR 15 benchmark assessment (2008) was the first peer-reviewed assessment of South Atlantic greater amberjack. The assessment was completed in 2008 using data through 2006 and concluded that greater amberjack in the South Atlantic are **not overfished and overfishing is not occurring**. The fishing mortality (F) during the last year of the assessment (2006) was found to be about half of the fishing mortality that would produce maximum sustainable yield (F_{MSY}) ($F_{2006}/F_{MSY} = 0.531$). The spawning stock biomass (SSB) during the last year of the assessment was found to be just above the spawning stock biomass that would produce maximum sustainable yield (SSB_{MSY}) ($SSB_{2006}/SSB_{MSY} = 1.096$).

The Scientific and Statistical Committee (SSC) reviewed the SEDAR 15 assessment at its June 2008 meeting. The SSC deemed that SEDAR 15 was conducted using the best available science and recommended its use in managing the South Atlantic stock of greater amberjack. The overfishing limit (OFL) was set at the same level as the maximum sustainable yield (MSY) value and the acceptable biological catch (ABC) was set at the same level as optimum yield (OY), which is the yield at 75% F_{MSY}. A standard assessment of the South Atlantic stock of greater amberjack (SEDAR 59) is being conducted in 2018.

Management Overview

The Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP; SAFMC 1983) established a management regime for the fishery for snappers, groupers and related reef species under the area of authority of the South Atlantic Fishery Management Council and the territorial seas of the states, extending from the North Carolina/Virginia border through the Atlantic side of the Florida Keys.

The original FMP (effective 8/31/83) specified a 4-inch trawl mesh size and gear limitations.

In 1992, Amendment 4 (SAFMC 1991) to the Snapper Grouper FMP specified prohibited gear in the snapper grouper fishery including powerheads and bangsticks in designated special management zones (SMZs) off South Carolina. The amendment established a recreational minimum size limit for greater amberjack of 28 inches fork length (FL) and a 3-fish per person per day bag limit. For the commercial sector, a minimum size limit of 36 inches FL or 28 inches core length was established. Commercial harvest of greater amberjack above the recreational bag limit was prohibited annually during April south of Cape Canaveral, FL. The amendment also required offloading of snapper grouper species with head and fins intact, with the exception of greater amberjack.

In 1999, Amendment 9 (SAFMC 1998) to the Snapper Grouper FMP implemented the following for greater amberjack:

- Reduced the recreational bag limit to one fish per person per day.
- For commercial and for-hire vessels, during April each year, the amendment specified one greater amberjack per person per day or one per trip, whichever is more restrictive, in both state and federal waters.
- Prohibited commercial sale and purchase during April each year.
- Established a commercial quota of 1,169,931 pounds gutted weight (1,216,728 pounds whole weight) and prohibited harvest after the quota was met.
- Changed the fishing year from the calendar year to begin May 1.
- Prohibited coring (28 inches recreational and 36 inches commercial).
- Prohibited bag limit sales of greater amberjack when the commercial fishery closed.

Additionally, a commercial trip limit of 1,000 pounds was proposed in the original amendment but was not implemented until 2000.

Amendment 15B (SAFMC 2008) prohibited the sale of snapper grouper species harvested from or possessed in the exclusive economic zone under the bag limits and prohibited the sale of snapper grouper species harvested or possessed under the bag limits by vessels with a Federal charter vessel/headboat permit for South Atlantic snapper grouper regardless of where

the fish were harvested (i.e., state or federal waters).

In 2011, implementation of Regulatory Amendment 9 (SAFMC 2011a) increased the commercial trip limit for greater amberjack to 1,200 pounds gutted weight.

The Comprehensive ACL Amendment (SAFMC 2011b) specified annual catch limits (ACL) for many unassessed snapper grouper species, including greater amberjack. The commercial ACL for greater amberjack was set at 800,163 pounds whole weight and the recreational ACL was set at 1,167,837 pounds whole weight. Also in 2012, the Comprehensive Ecosystem-based Amendment 2 (SAFMC 2011c) limited the harvest of snapper grouper species in South Carolina SMZs to the recreational bag limit.

The fishing year (commercial and recreational) for greater amberjack was again changed in 2014 to begin March 1 through implementation of Regulatory Amendment 14 (SAFMC 2014).

Fishery-independent Trends

The Southeast Reef Fish Survey (SERFS) provides fishery-independent information for many Council-managed snapper grouper species. The survey uses a combination of fish traps (chevron traps) and bottom longline gear to sample reef species. Greater amberjack, however, are not often sampled in this survey as they are pelagic (not bottom-dwellers). Consequently, there are limited fishery-independent data in the South Atlantic for this species.

Fishery Performance

The following summary of greater amberjack landings was prepared using various data sources as detailed below:

ALS: The Accumulated Landings System (ALS) is the system used by the Southeast Fisheries Science Center (SEFSC) to track commercial landings in the South Atlantic. It includes commercial dealer reports. These data are provided to the Council each year.

SEFSC: These are the recreational data, which are a combination of the Marine Recreational Information Program (MRIP) survey data and the Southeast Region Headboat Survey (SRHS) data. The MRIP data are provided to the SEFSC in numbers and are subsequently converted to weight using a method unique to the Southeast Region. These data are transmitted to the Council each year.

Commercial Landings

Commercial landings of greater amberjack in pounds whole weight from 2000 through 2016 by state are presented in **Table 1**. Landings by state are presented graphically in **Figure 1** and total landings relative to the quota/ ACL are shown in **Figure 2**. Georgia landings were combined with South Carolina landings to maintain confidentiality.

Table 1. South Atlantic greater amberjack total commercial landings (pounds whole weight) and quota/ACL (where applicable) from 2000 through 2016, by state. Data for Georgia and South Carolina

were aggregated to maintain confidentiality. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1.

Year	Fishing Year	NC	SC + GA	FL	Total	Comm Quota/ACL
2000	00-01	32,305	103,255	712,123	847,683	1,216,728
2001	01-02	30,824	97,227	646,633	774,684	1,216,728
2002	02-03	30,157	129,405	554,451	714,013	1,216,728
2003	03-04	36,237	115,914	769,089	921,240	1,216,728
2004	04-05	27,648	147,369	740,404	915,420	1,216,728
2005	05-06	30,179	72,871	564,587	667,638	1,216,728
2006	06-07	27,371	106,161	477,430	610,962	1,216,728
2007	07-08	26,158	79,676	533,219	639,053	1,216,728
2008	08-09	41,013	100,307	639,457	780,777	1,216,728
2009	09-10	34,620	125,294	777,341	937,255	1,216,728
2010	10-11	18,504	96,502	802,102	917,108	1,216,728
2011	11-12	16,680	105,075	969,707	1,091,462	1,216,728
2012	12-13	21,731	219,793	748,221	989,745	800,163
2013	13-14	41,999	116,557	733,164	891,720	800,163
2014	14-15	106,364	119,971	565,630	791,965	800,163
2015	15-16	89,905	76,110	582,098	748,113	800,163

Source: ALS

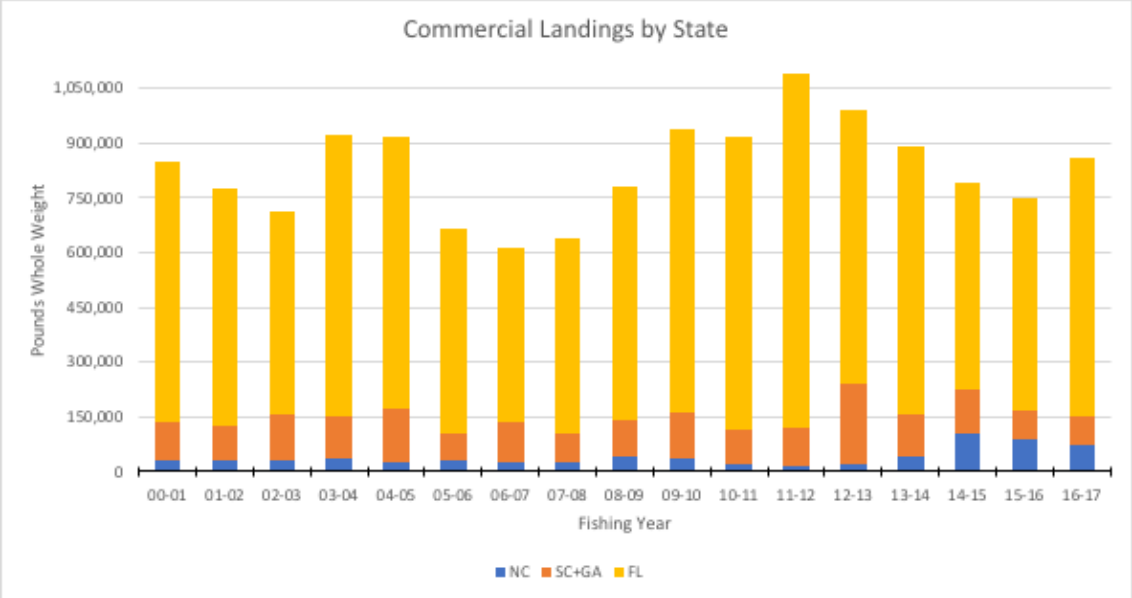


Figure 1. Commercial landings (pounds whole weight) of greater amberjack in the South Atlantic region from 2000 through 2016 by state. Data for Georgia and South Carolina were aggregated to maintain confidentiality. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1.
Source: ALS

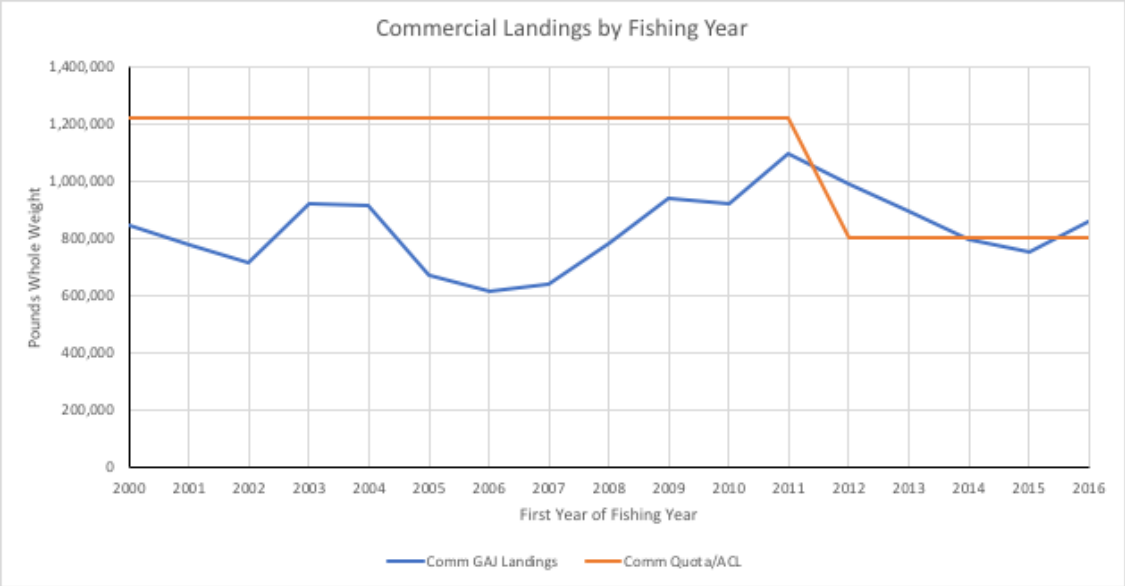


Figure 2. Commercial landings (pounds whole weight) of greater amberjack in the South Atlantic region from 2000 through 2015 (blue line) and quota/commercial ACL (orange line). From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1. Source: ALS

Greater amberjack commercial landings since 2000 have ranged from a low of 610,962 pounds whole weight in 2006 to a high of 1,091,462 pounds whole weight in 2011 (**Table 1**). The vast majority of greater amberjack landed commercially in the South Atlantic are landed in Florida. Over the time period examined, landings have generally fluctuated. After peaking in 2011, commercial landings of greater amberjack decreased until 2015 showing an increase thereafter (**Figures 1 & 2**). Landings exceeded the commercial quota/ACL during the 2012/2013 and 2013/2014 fishing years by about 22% and 10%, respectively. An in-season closure occurred during the 2015-2016 fishing year (on 1/21/16); however, landings only reached 92% of the commercial ACL[1].

Figures 3 & 4 show the seasonality and distribution of commercial landings, respectively. **Figure 3** displays the average monthly commercial landings of greater amberjack in the South Atlantic region from 2000 through 2016. **Figure 4** displays the same information by state. The commercial fishery for greater amberjack occurs mainly during later winter and early spring, except during April when the spawning season closure is in effect for the commercial sector. Commercial landings of greater amberjack peak annually during the month of May (**Figure 3**). Average landings during May are about three times the monthly average landings observed in June through January. **Figure 4** clearly shows that greater amberjack are harvested commercially almost exclusively in Florida.

[1] http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/historical/pdfs/sa_commercial_historical.pdf

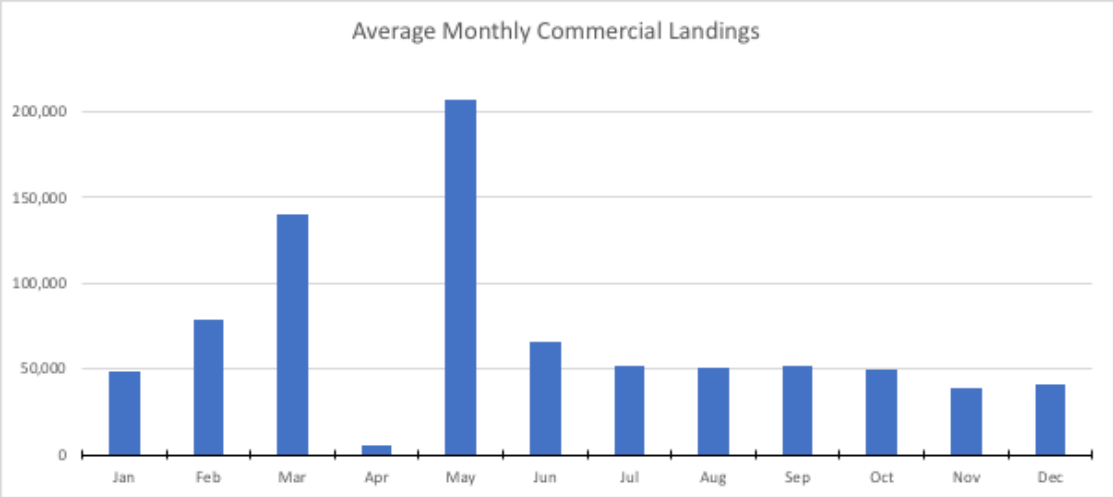


Figure 3. Average monthly commercial landings (pounds whole weight) of greater amberjack in the South Atlantic region, 2000-2016. Source: ALS.

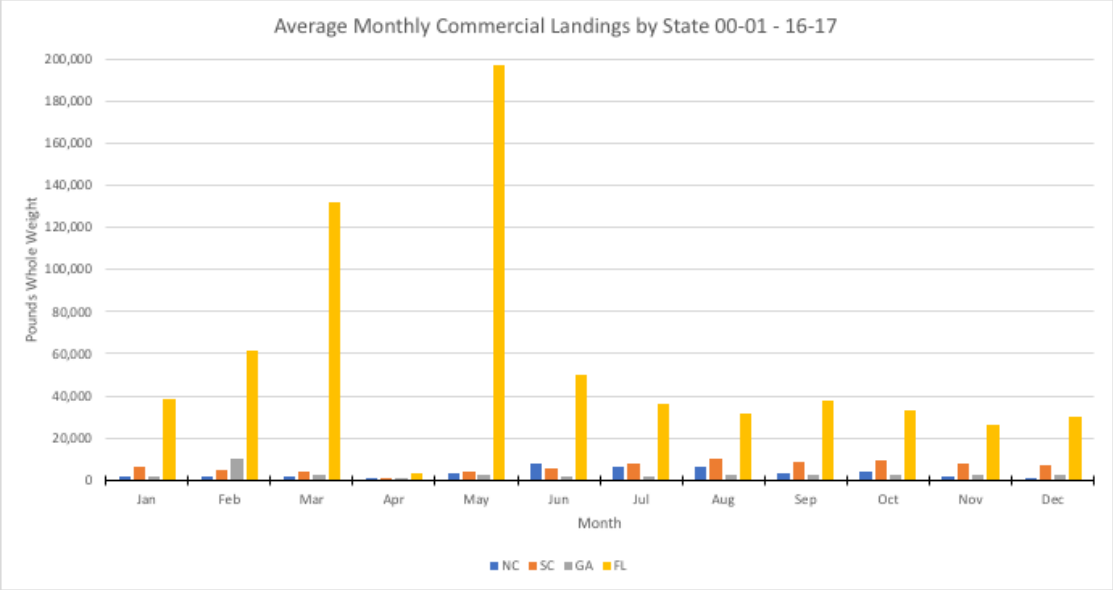


Figure 4. Average monthly commercial landings (pounds whole weight) of greater amberjack by state from 2000 through 2016.
Source: ALS.

Recreational Landings

Recreational landings of greater amberjack in pounds whole weight from 2000 through 2016 by state are presented in **Table 2**. Landings by state are presented graphically in **Figure 5.** Recreational landings of greater amberjack have ranged from a low of about 482,000 pounds whole weight in 2005/2006 to a high of almost 1.4 million pounds in 2008/2009 (**Table 2**). In terms of geographical distribution, similar to commercial landings, total recreational landings of greater amberjack can be attributed to Florida. During the time period examined, greater amberjack recreational landings in North Carolina were most prominent from 2008/2009 to 2010/2011 (**Figure 5**).

Table 2. South Atlantic greater amberjack total recreational landings (pounds whole weight) and recreational ACL (where applicable) from 2000 through 2016, by state. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1.

Year	Fishing Year	NC	SC	GA	FL	Total	Rec ACL
2000	00-01	142,988	116,311	21,697	660,700	941,697	
2001	01-02	98,295	24,359	5,046	773,374	901,076	
2002	02-03	149,609	62,360	7,739	650,040	869,749	
2003	03-04	153,755	85,994	28,114	834,166	1,102,030	
2004	04-05	56,361	110,504	20,573	452,803	640,242	
2005	05-06	63,825	11,504	38,513	368,153	481,994	
2006	06-07	322,214	24,024	27,857	731,025	1,105,119	
2007	07-08	102,670	83,065	45,046	944,784	1,175,565	
2008	08-09	461,072	67,007	38,909	828,742	1,395,731	
2009	09-10	439,504	66,910	26,434	705,052	1,237,900	
2010	10-11	389,645	55,455	20,100	713,964	1,179,165	
2011	11-12	113,297	12,882	827	402,219	529,225	
2012	12-13	204,431	18,859	3,554	500,495	727,339	1,167,837
2013	13-14	166,546	35,238	36,764	549,509	788,057	1,167,837
2014	14-15	72,343	57,819	50,095	716,179	896,436	1,167,837
2015	15-16	257,258	66,644	20,705	954,158	1,298,765	1,167,837
2016	16-17	215,881	49,867	23,236	827,056	1,116,039	1,167,837

Source: SEFSC

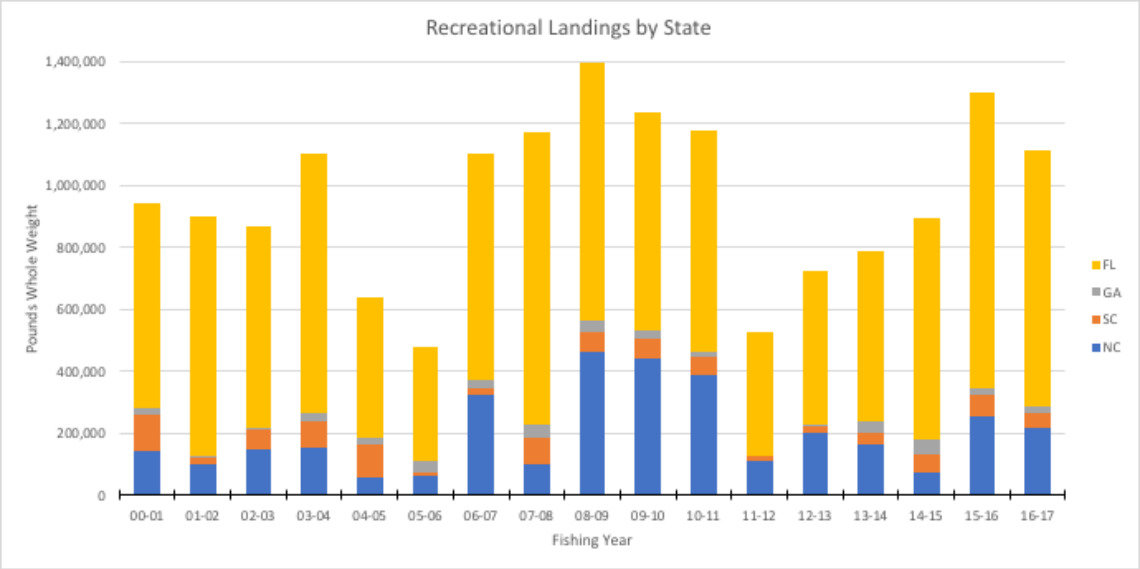


Figure 5. Recreational landings (pounds whole weight) of greater amberjack by state from 2000 through 2016. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1. Source: SEFSC.

Total landings by year are shown in **Figure 6**. The recreational ACL for greater amberjack was specified in 2012 using the SEDAR 15 (2008) stock assessment. That assessment used data from the Marine Recreational Fisheries Statistics Program (MRFSS). When the MRFSS was replaced with the current Marine Recreational Information Program (MRIP) in 2013, landings estimates from 2004 onwards were calibrated to MRIP "units" to allow for a continuous time series of catch to be available for all species from 2004 past the 2013 implementation of MRIP. However, the ACL for greater amberjack was set from an assessment using MRFSS numbers, therefore all landings for greater amberjack need to be back-calibrated to MRFSS "units" to allow the National Marine Fisheries Service to properly track the recreational ACL. Landings shown in **Figure 6**, however, are the standard MRIP calibrated numbers from 2004 onward; therefore, they should not be compared directly to the current recreational ACL (red line). Instead, the purple line in **Figure 6**, the back-calibrated MRFSS landings, shows the appropriate catch level for that comparison. Two significant drops in greater amberjack recreational landings occurred in 2005 and 2011 (**Table 2, Figure 6**). For fishing year 2016/2017, recreational landings surpassed the ACL by about 5% resulting in a closure effective 11/30/16[2].

[2]http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/recreational_historical/sa_recreational_historical/sa_recreational_historical.pdf

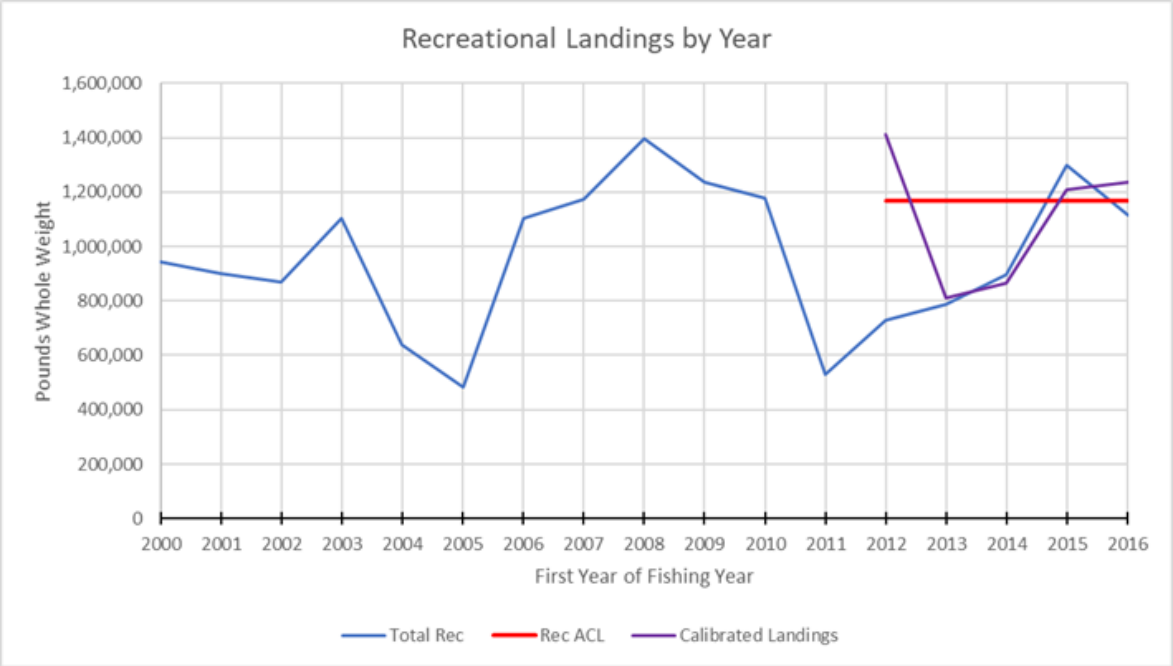


Figure 6. Total recreational landings (pounds whole weight) of greater amberjack in the South Atlantic region from 2000 through 2016 (blue line). Recreational ACL (red line) is shown since 2012, when first implemented. Calibrated landings since 2012 (comparable to the ACL) are shown in purple. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1. Source: SEFSC.

Average recreational landings of greater amberjack by state and by 2-month wave (as reported through the MRIP) are shown in **Figure 7**. As expected, the majority of greater amberjack recreational landings occur in wave 3 (May-June) and primarily in Florida, while North Carolina reports most recreational landings of greater amberjack in waves 3 and 4 (May-August; **Figure 7**). Directed (target or harvest) greater amberjack recreational trips for the South Atlantic region are summarized in **Figure 8**. The number of directed trips on greater amberjack show an increasing trend from 2005 through 2008 and again from 2012 onwards (**Figure 8**).

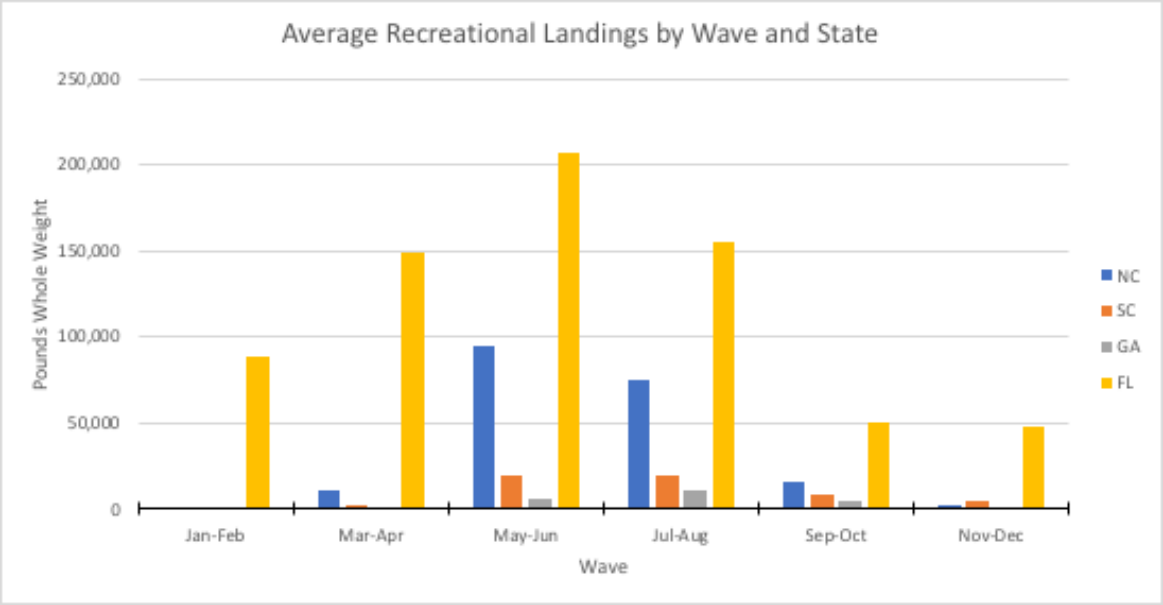


Figure 7. Average recreational landings of greater amberjack in the South Atlantic region by wave and by state from 2000 through 2016. Source: SEFSC.

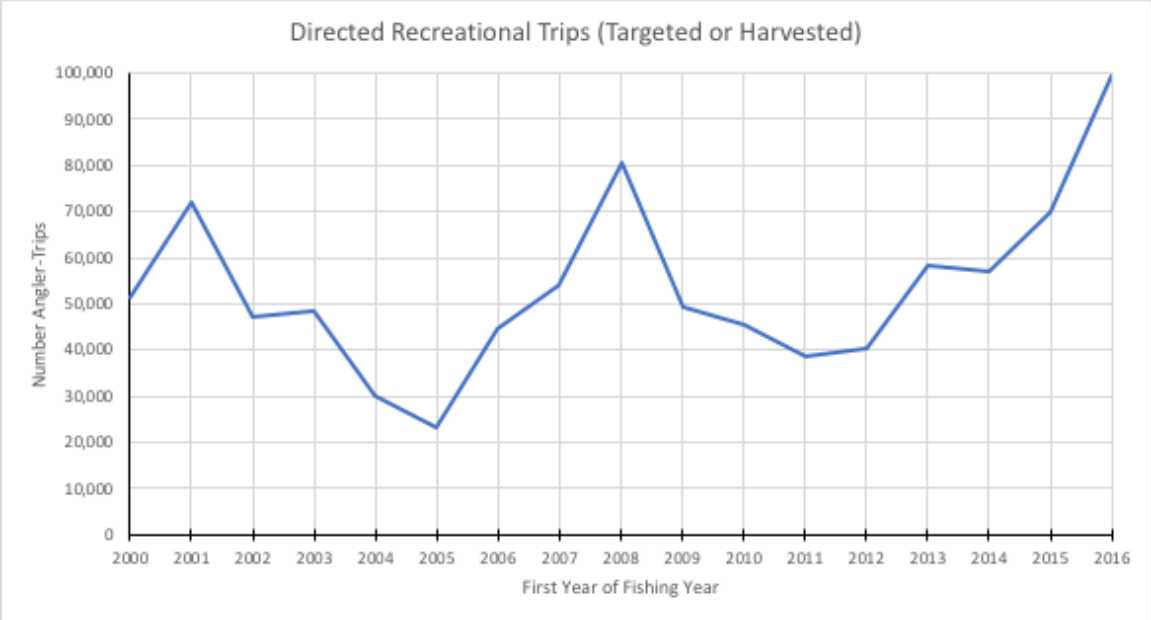


Figure 8. Directed greater amberjack recreational trips (targeted or harvest) in the South Atlantic region from 2000 through 2016. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1. Source: SEFSC.

Economic Performance

Metrics that are often readily available to evaluate economic trends for the commercial sector on a species by species basis (such as price per pound or ex-vessel value) are not available for the recreational sector. Nevertheless, trends in harvest and effort are often linked to economic trends in a recreational fishery, with harvest often being associated with

economic value and effort (the number of fishing trips) being associated with both value and economic impacts (i.e. jobs, income, business sales). As such, trends in harvest and effort can be used to broadly evaluate likely trends in the economic performance of a recreational fishery. Using the estimated recreational harvest (**Figure 6)** or effort (**Figure 8**) as a proxy for the economic performance of the fishery, it is clear that the economic performance of the recreational greater amberjack fishery has fluctuated over time with peaks in the late 2000s and in recent years. Since approximately 2012, recreational harvest and effort have generally increased in the recreational greater amberjack fishery, with the economic value and impacts of the fishery likely increasing as well.

Changing focus to the commercial sector, **Figure 9** shows the average inflation adjusted price per pound for greater amberjack regionally and state by state (in 2016 dollars) from 2000 through 2016. Total ex-vessel value for greater amberjack in the South Atlantic Region is presented in **Figure 10** in inflation adjusted figures (2016 dollars). For the beginning of the timeframe, the ex-vessel price per pound for greater amberjack was fairly flat until approximately the 2009/2010 fishing year when prices generally increased along with the overall ex-vessel value, which offset some the decrease in landings observed in recent years. The overall ex-vessel value peaked in fishing year 2011/2012 at approximately $1.24 million (2016 dollars), with ex-vessel value in 2015/2016 slightly lower at $1.16 million (2016 dollars).

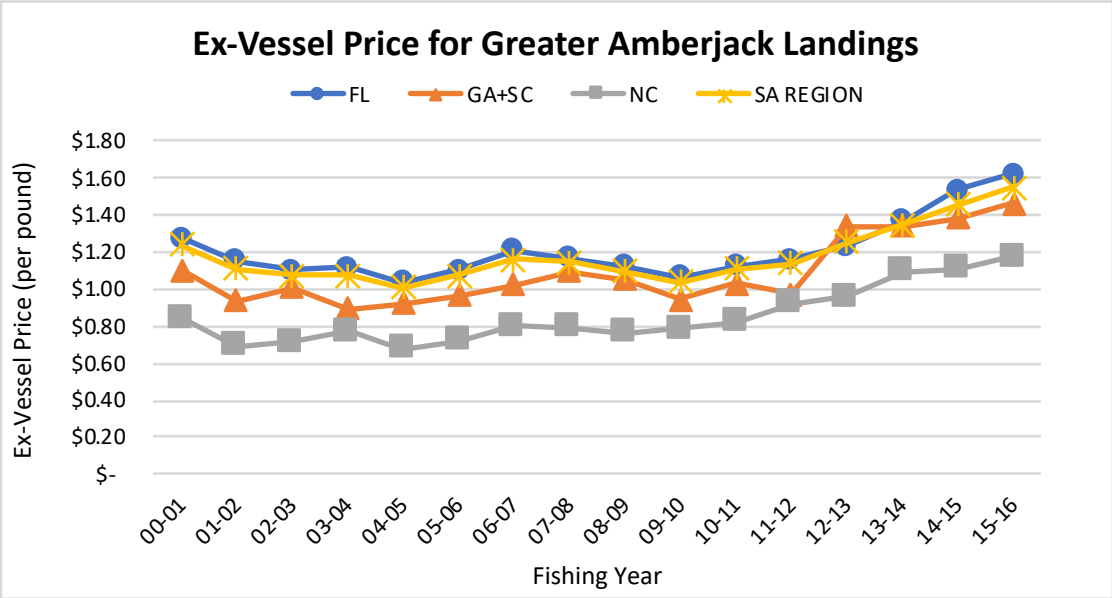


Figure 9. Average ex-vessel price per pound (2016 dollars) by state for commercial greater amberjack landings in the South Atlantic Region from 2000 through 2016. Data for Georgia and South Carolina were aggregated due to confidentiality concerns. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1Inflation adjustments use the U.S. GDP deflator. Sources: U.S. Bureau of Economic Analysis and SEFSC.

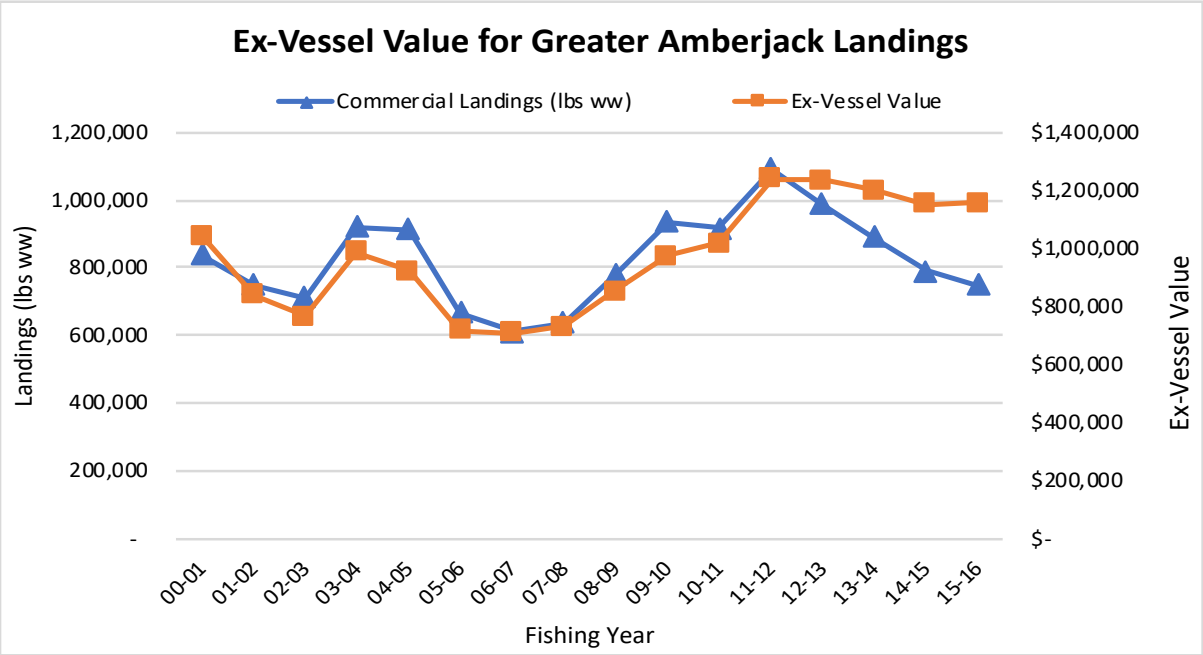


Figure 10. Weight and inflation adjusted (2016 dollars) ex-vessel value of commercial greater amberjack landings in the South Atlantic Region from 2000 through 2016. From 2000-2014 the fishing year started on May 1. In subsequent years, the fishing year started on March 1Inflation adjustments use the U.S. GDP deflator. Sources: U.S. Bureau of Economic Analysis and SEFSC.

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