Atlantic Bonito Management Issue Paper

January 28, 2026

I. ISSUE
Develop a rule to implement regulations on Atlantic bonito.

II. ORIGINATION
N.C. Marine Fisheries Commission (NCMFC)

III. BACKGROUND
Atlantic bonito (*Sarda sarda*) is a small tuna species in the mackerel/tuna family Scombridae. Its body is spindle-shaped, with bluish to greenish shades dorsally, fading to silvery below. The upper sides have numerous diagonal dark stripes, with underlying diffuse dark bars. Anglers often confuse Atlantic bonito with false albacore (*Euthynnus alletteratus;* also called little tunny) and skipjack tuna (*Katsuwonus pelamis*) due to similarity in size and coloration. In addition to general misidentification, there is also significant confusion regarding the use of the same common name for many of these species. Many people, including anglers, often use names like "bonito," "bonita," "little tunny,", and "skipjack" interchangeably, and these common names can vary regionally.

A predominantly coastal species, Atlantic bonito are found in the Eastern Atlantic from Oslo, Norway, to Port Elizabeth, South Africa, as well as in the Mediterranean and Black seas. In the Western Atlantic, they range from Nova Scotia, Canada, to the Gulf of Mexico, and south to northern Argentina, but are apparently absent from most of the Caribbean Sea (Collette and Nauen 1983). Atlantic bonito school with similarly sized Scombrid species (Yoshida 1980), and most likely migrate north during the summer and early fall and south in the winter, but there is a lack of scientific documentation of these migrations. Current tagging studies are underway by North Carolina State University, the Nature Conservancy, and the American Saltwater Guides Association to conduct research on Atlantic bonito migratory patterns on the East Coast of the United States.

Unfortunately, studies on age, growth, and reproductive biology for Atlantic bonito are lacking in the Western Atlantic (Calabrese and Merhoff 2023). This species is one of the most important small tuna species targeted in the Eastern Atlantic and Mediterranean and Black seas, and there are life history studies available from those areas. The average length at 50 percent maturity (L_{50}) for males is 36.3 cm fork length (FL) (14.3 inches), and for females is 42.2 cm FL (16.6 inches) (Cengiz 2013; Kahraman et al. 2014). The combined sex maximum size (L_{∞}) averages at 85 cm FL (33.5 inches, Valeiras et al. 2008; Muñoz-Lechuga et al. 2024), with males tending to grow slower and to larger sizes than females (Kahraman et al. 2014). In the Northwestern Atlantic, bonitos spawn in June and July, while in the Mediterranean spawning occurs between May and July (Collette and Nauen 1983).

Atlantic bonito have asynchronous ovarian development, with oocytes at all developmental stages found in females during the spawning season, suggesting that they are batch spawners (Kahraman et al. 2014). Bonito exhibit indeterminate fecundity with estimates ranging from 304,000 and 1,150,000 oocytes (Macías et al. 2005). Ortega et al. (2024) found that Atlantic bonito eggs hatch at temperatures ranging from 16 °C to 28 °C (61 °F to 82 °F), with optimal hatching success at 21°C to 22 °C (70 °F to 72 °F).

Atlantic bonito age determination and growth have been studied by means of otoliths, vertebrae, spines, and size frequency, with dorsal spines being better suited for reading ages than otoliths (Cengiz 2013; Muñoz-Lechuga et al. 2024). Most studies estimate a maximum age of five years (Valeiras et al. 2008; Baibbat et al. 2016; Sarr et al. 2025); however, Muñoz-Lechuga et al. (2024) estimate the maximum age up to seven years in the Northeast Atlantic and Mediterranean.

Description of the Fisheries
Though landings of Atlantic bonito have been historically low, over the last decade Atlantic bonito recreational coastwide landings (Massachusetts to the east coast of Florida) have increased while commercial landings have remained stable (Table 1; Figure 1). Trends in the N.C. recreational and commercial fisheries are discussed below, as well as how North Carolina's fisheries fit into the bigger coastwide picture. Due to the limited amount of data from both recreational and commercial fisheries, trends are described over multiple time periods, with major changes highlighted in the modern fisheries over the past decade.

Recreational Fishery

Atlantic bonito recreational catch data is estimated through the National Oceanic and Atmospheric Administration (NOAA) Fisheries' Marine Recreational Information Program (MRIP). However, MRIP data for Atlantic bonito has limited precision overall with percent standard errors (PSEs) often high enough (≥ 30) that NOAA Fisheries recommends caution if using data for management and sometimes high enough (> 50) that NOAA Fisheries recommends not using data for management (Table 1; NOAA Fisheries 2025). In North Carolina, recreational landings of Atlantic bonito, while episodic, have been trending upward since 2017, with above average landings from 2010 to 2015 (Figure 1). Finalized recreational landings ranged from 447 fish (8,019 pounds) in 2010 to 72,973 fish (268,260 pounds) in 2023 (Table 1). In the last 10 years, an average of 29,044 fish (105,387 pounds) were landed in North Carolina. Preliminary MRIP landing estimates (up to wave 5 [Sep-Oct]) suggest that 2025 will be a banner year for recreational harvest of Atlantic bonito in North Carolina with 96,013 fish (303,905 pounds) landed to date (Table 1; Figure 1). There is also evidence on social media of high harvests by anglers on private/rental boats and for-hire (charter) vessels. The predominant recreational gear is hook-and-line, and the most popular methods are either sight casting or trolling. However, anglers fishing with live bait such as juvenile Atlantic menhaden in the ocean has resulted in high catches in recent years. This technique is often more effective at catching bonito than sight casting or trolling. The majority of Atlantic bonito are landed in the spring on average but can be caught year-round in both state (≤ 3 miles) and federal (> 3 miles) waters of North Carolina by recreational anglers (Figure 2).

Since 2011, recreational landings on average primarily occurred on private/rental boats (Figure 3). From 2011 to 2017, private/rental boats contributed 86% of the total harvested number of fish on average, which increased to 92% from 2018 to 2024. The mean percentage of harvested fish from for-hire vessels (charter boats) decreased between these time periods, from 14% to 7%. Shore-based catches have been virtually non-existent up to 2023, when only an average of 5% of the total Atlantic bonito landings were from shore anglers. From 2011 to 2024, vessels intercepted by MRIP had an average of 4.66 anglers (95% CI (confidence interval) [4.35, 4.97], PSE = 3.4) per for-hire vessel (charter boat). Private/rental boats had 2.61 anglers on average (95% CI [2.36, 2.86], PSE = 4.9).

Estimated angler trips targeting or catching (landed or released) Atlantic bonito in North Carolina have been variable since 2011, with most trips occurring in state waters (Figure 4). From 2011 to 2017, an average of 56% of trips occurred in federal waters and decreased to 38% from 2018 to 2024. Targeted trips in state waters have steadily increased in the same time frame, i.e. 44% on average between 2011 to 2017 and 62% on average between 2018 to 2024.

Since 2017, recreational landings in federal waters have declined to 36%, and releases have decreased from 55% to 38% (Figure 5). However, the highest landings from federal waters over the past 30 years occurred in 2023 and 2024. Similarly, although targeted trips in federal waters dropped to 38% after 2017, the highest number of targeted trips over the past 30 years also took place in 2023 and 2024. Since 2017, there has been an overall increase in landings from state waters from 51% to 64% (Figure 5), as well as an increase in targeted trips from 46% to 63% (Figure 4). Landings from state waters have averaged 47% of the total Atlantic bonito harvest since 1994 compared to federal waters. Over the last 10 years, landings from state waters have ranged from 23% in 2015 to 89% in 2019 and 2020.

Since 1994, landings and releases in North Carolina's recreational fishery have been comparable on average, although annual release rates have varied widely, from 7% in 2015 to 97% in 2010 (Table 1). The average number of released Atlantic bonito has been higher in federal waters. However, this trend shifted after 2017, when 62% of North Carolina's Atlantic bonito catch was released in state waters (Figure 5). The number of fish released has ranged from 1,325 in 2015 to 59,926 in 2014, and recreational releases have accounted for approximately 31% of the catch in North Carolina since 2017 (Table 1).

North Carolina's recreational landings of Atlantic bonito have accounted for approximately 22% of the coastwide recreational landings from 1994 to 2024 (Figure 6A), although this percentage has been higher in recent years. From 2011 to 2024, recreational anglers in North Carolina harvested 31% of the coastwide recreational landings and 92% of the recreational landings in the South Atlantic (Table 2). There have been two notable exceptions in the last 10 years: in 2023, North Carolina's landings accounted for approximately 54% of coastwide recreational landings and less than 4% in 2017 (Table 2; Figure 6A).

On the US Atlantic Coast, recreational Atlantic bonito landings (in pounds) average 79% of the total Atlantic bonito coastwide landings (recreational and commercial). MRIP estimated landings on the Atlantic coast have been episodic since 1994, with strong increases in 2024 (Table 2) and the preliminary (through wave 5) estimated landings for 2025 (1,207,242 pounds; PSE = 16.3). This increase, while limited to only two years, is reflective of their increase in popularity with anglers on social media, as mentioned above. Average state landings (in pounds; 1994-2024) show that New Jersey, Massachusetts, and North Carolina have generated the bulk of the recreational landings (Figure 6B). In North Carolina, recreational landings of Atlantic bonito averaged 77,430 pounds during 1994-2024 (Table 1; Figure 1), accounting for 22% of the harvest along the east coast (Figure 6B). From 2011 to 2024, the South Atlantic region accounted for 27% of the total coastwide harvest (Figure 7), with North Carolina accounting for the majority of the harvest in the South Atlantic region (Figure 8).

Like for North Carolina, most of the coastwide recreational catches have been releases (Table 2). Over the last 30 years, N.C. recreational releases have averaged 27% of the total number of fish released coastwide, though have accounted for up to 85% (Figure 9). While there are no release mortality estimates for Atlantic bonito, similar pelagic species have release mortalities ranging from 0 to 39%; but values are dependent on hook type, hooking location, angling/handling time, and water temperature (Bartholomew and Bohnsack 2005; Marcek and Graves 2014).

Lengths from MRIP show the observed mean FL of Atlantic bonito landed has been variable over the last 30 years. There is no evidence of size truncation, with the size of fish landed most likely indicative of what is available to the fishery. From 2015 to 2024, lengths ranged from 11 to 34 inches FL, with an overall average of 18 inches. In 2024, the average FL was 15 inches for the recreational fishery, and lengths ranged from 11 to 27 inches (Figure 10). North Carolina has no data on the age of Atlantic bonito landed recreationally.

Commercial Fishery

Atlantic bonito tend to have low commercial value in the United States; however, it is one of the most important finfish species in the Eastern Atlantic and Mediterranean (Zengin et al. 2006; Sarr et al. 2025). Internationally, Atlantic bonito support artisanal and commercial fisheries and are caught with a variety of gears including purse seines, longlines, gill nets, hook-and-line, and trolling. In North Carolina, Atlantic bonito is incidentally caught by commercial fishers pursuing other species and is mainly harvested by gill nets and hook-and-line gear. Other gears including beach seines, trawls, and pound nets make up a very small percentage of the total commercial landings. The N.C. commercial fishery primarily harvests Atlantic bonito from April to June, with a smaller amount harvested from November to January (Figure 11). This trend is seen for all gears that harvest Atlantic bonito. From 1994 to 2014, the majority of the commercial harvest in North Carolina was in state waters (about 60%) and the remainder in federal waters (about 40%; Figure 12). Since 2015, harvest has shifted even more towards state waters, accounting for 73% of the total commercial landings through 2024 (Figure 12). This shift in landings from federal to state waters is especially evident in the gill net and hook-and-line fisheries.

N.C. commercial landings of Atlantic bonito averaged 16,581 pounds from 1994 to 2024, ranging from 6,576 pounds in 2022 to 42,372 pounds in 1997 (Table 1; Figures 12 and 13B). Commercial catches have remained close to the time series average since 2004 (Table 1; Figure 1). Preliminary data show possibly even higher landings in 2025. Up to September 2025, the landings of Atlantic bonito in the commercial fishery were 32,326 pounds (Table 1; Figure 1). From 1994 to 2024, landings from gill nets averaged 10,502 pounds, hook-and-line averaged 5,871 pounds, and other gears averaged 208 pounds annually. Overall, statewide average landings from gill nets and hook-and-line have decreased over the past 20 years (Table 3). From 1994 to 2004 gill net landings averaged 16,203 pounds and decreased to 7,367 pounds from 2005 to 2024. Hook-and-line catches decreased from a 1994 to 2004 average of 6,996 pounds to 5,251 pounds from 2005 to 2024. Other gear catches held relatively steady during the same time frames.

Commercial landings per trip of Atlantic bonito in North Carolina have been low but variable over the last 30 years, ranging from one to 1,450 pounds. N.C. commercial fishers averaged 45 pounds of Atlantic bonito per trip from 2005 to 2024, with most trips landing under 100 pounds (Table 4). Over the past 10 years, 77% of all commercial trips (state and federal waters) landing Atlantic bonito landed less than 50 pounds per trip. In North Carolina, the price per pound of Atlantic bonito has varied from $0.20 in 1995 to $2.26 in 2021 (Table 3).

Coastwide, commercial landings of Atlantic bonito ranged from 16,060 pounds in 2022 to 330,239 pounds in 1997 (Figure 13A). In North Carolina, total commercial landings of Atlantic bonito averaged 16,581 pounds during 1994-

2024 (Table 1; Figure 1), accounting for 18% of the harvest along the east coast (Figure 13B). Average commercial landings from 1994 to 2024 have been dominated by New Jersey (36%), followed by Rhode Island (20%) and North Carolina (18%) (Figure 13B). From 2005 to 2014, 19% of the commercial landings occurred in the North Atlantic region (Massachusetts to Connecticut), 60% in the Mid-Atlantic region (New York to Virginia), and 21% in the South Atlantic region (North Carolina to east coast of Florida). From 2015 to 2024, 50% of commercial landings occurred in the North Atlantic, 11% in the Mid-Atlantic, and 39% in the South Atlantic (Figure 14). In the South Atlantic region from 2015 to 2024, North Carolina and South Carolina accounted for 85% and 15% of the commercial landings, respectively (Figure 15). There were no commercial landings from Florida and Georgia during this time frame.

The mean length of Atlantic bonito landed by the N.C. commercial fishery has remained consistent over the last 30 years. From 2015 to 2024, lengths ranged from 11 to 28 inches FL, with an overall average of 19 inches FL. In 2024, the average length was 19 inches FL with a range of 13 to 25 inches FL (Figure 16). North Carolina has no data on the age of Atlantic bonito landed commercially.

Stock Status and Current Management

Little information exists on the status of Atlantic bonito in the Western Atlantic, and as a result their stock status is considered unknown. Internationally, small tunas, including Atlantic bonito, are assessed and managed by the International Commission for the Conservation of Atlantic Tunas (ICCAT) in the Small Tunas Species Group. Currently, the small tunas in the Atlantic are divided into five stock regions based on traditional ICCAT management areas: Northwest Atlantic, Southwest Atlantic, Northeast Atlantic, Southeast Atlantic, and Mediterranean. Atlantic bonito are one of 13 species in the Small Tunas Species Group. Of these 13 species, the seven most important, Atlantic bonito (31%), little tunny (18%), frigate tuna (13%) king mackerel (12%), Spanish mackerel (9%), bullet tuna (5%), and wahoo (4%), represent about 91% of nominal catches between 1950 and 2023. Although there is currently no ICCAT assessment or management plan for Atlantic bonito, it has been identified as a species for which more data should be collected for stock assessment (ICCAT 2019). Genetic studies have shown that there is genetic isolation between both sides of the Atlantic Ocean (Viñas et al. 2010), and clear heterogeneity among Eastern Atlantic and Mediterranean populations (Viñas et al. 2020). These studies suggest that Atlantic bonito might have multiple stock units in the Atlantic Ocean and the Mediterranean Sea that disagree with the management areas adopted by ICCAT (Viñas et al. 2020).

National fisheries regulations in the Eastern Atlantic have recently been implemented. The Turkish Ministry of Agriculture and Forestry has set a seasonal ban on all recreational and sport fishing for Atlantic bonito along all coastal regions from April 1 to August 14. These regulations are part of a nationwide initiative to safeguard marine biodiversity during peak spawning months. Outside of this time frame, regulations are a minimum size of 25 cm (10 inches) with a 5 kg (11 lb) daily limit per angler (Sport Fishing Türkiye 2025).

In the United States, the only state that has adopted regulations for Atlantic bonito is Massachusetts. In May of 2025, the Massachusetts Division of Marine Fisheries enacted the first-ever size and possession limits for both false albacore (little tunny) and Atlantic bonito. The minimum size limit for both species is 16 inches curved FL and reflects the estimated size-at-maturity for both species. Additionally, retention is limited to no more than five fish per person per day of both species combined and apply only to fish caught and possessed in state waters (0-3 miles). These new limits apply universally to all persons whether commercially or recreationally fishing; however, there are bycatch exemptions for commercial fish weirs and mechanized mackerel jigging operations, as sorting and discarding the bycatch would be unduly burdensome for these fisheries. Massachusetts has seen considerable growth in the fishery without the benefit of stock assessments, extensive understanding of species life history, or fishery management plans (FMPs) to control fishing mortality. As a result, the Massachusetts Division of Marine Fisheries chose to adopt these precautionary management measures until a time when a more robust science and management program is implemented. The new possession limits are designed to constrain recreational harvest approximately at current levels and discourage further expansion while curtailing the development of a directed commercial fishery (Commonwealth of Mass. DMF 2025).

Currently, there are no rules for management in place for Atlantic bonito in any other states, but some states are considering management. Management is not currently being pursued, though it has been discussed by the Atlantic States Marine Fisheries Commission (ASMFC), the South Atlantic Fishery Management Council, and the Mid-Atlantic Fishery Management Council (MAFMC). At the August 2016 MAFMC meeting, council staff recommended the Council consider developing management actions for the species in the future (including a

potential small tuna FMP), due to a high level of public concern for the species, particularly from the recreational sector. The ASMFC Interstate Fisheries Management Program Policy Board (Policy Board) tasked ASMFC staff in February 2022 to present an options paper on possible paths forward for management of Atlantic bonito and false albacore after concerns were raised regarding increased recreational harvest of juvenile fish in some state waters. Staff presented possible options for developing different paths to management for both Atlantic bonito and false albacore at the May 2023 ASMFC Policy Board meeting. The information also included the states' ability to regulate a species and timing to implement measures without an ASMFC FMP. ASMFC staff noted that if additional species were added to the ASMFC portfolio, it would increase the workload for ASMFC and state staff, some of which are already at full capacity. Although some member states are interested in management measures for these species, ASMFC's Policy Board decided not to pursue management at the interstate level. Similarly, management of Atlantic bonito through a small tuna FMP has not been pursued yet by a federal management body.

IV. AUTHORITY

North Carolina General Statutes
§ 113-134. RULES.
§ 113-182. REGULATION OF FISHING AND FISHERIES.
§ 113-221.1. PROCLAMATIONS; EMERGENCY REVIEW.
§ 143B-289.52. MARINE FISHERIES COMMISSION – POWERS AND DUTIES.

V. DISCUSSION

At its May 2024 business meeting, the NCMFC passed a motion to request N.C. Division of Marine Fisheries (NCDMF) staff develop an issue paper for Atlantic bonito management, including landings information and proposed rule language, using the previous sheepshead issue paper (February 11, 2013) as a model to follow. Discussions among commissioners noted concerns expressed by recreational stakeholders about angler behavior changing in targeting Atlantic bonito in more recent years and the potential need to implement a recreational bag limit. Further concerns expressed by the NCMFC identified limited information about Atlantic bonito in this part of the Atlantic Ocean and no measure of stock status for the population, and whether these recent increases in recreational catches may not be due to more fish, but rather due to changes in fishing tactics and new technologies available to recreational anglers to improve their success in catching Atlantic bonito when available in state waters. Commissioners did not express concern for commercial catches due to Atlantic bonito having a limited shelf life as a fresh product and not being desirable frozen as likely reasons behind no similar increase in commercial harvest. Potential waste of the resource was discussed, since there are no current limits on Atlantic bonito. The NCMFC also identified the need to learn more about the fisheries and develop rule language in order to implement regulations to get ahead of a potential problem. Commissioners continued discussions on Atlantic bonito at their August and November 2024, and May 2025 business meetings with an urgency to be proactive in their management and continued to stress the need to implement a bag limit in the recreational fishery.

At the August 2025 NCMFC business meeting, NCDMF staff presented background information, which outlined life history and catch characteristics of Atlantic bonito. Commissioners discussed that Atlantic bonito appear to behave differently off southeast North Carolina than in other locations along the coast, showing preference for structure and pondered if these preferences are associated with spawning thereby making Atlantic bonito more vulnerable to harvest. Commissioners mentioned that the presentation illustrated the increasing trends in the recreational landings with smaller fish being caught in recent years and discussed the potential for implementing both a bag limit and possibly a size limit on the recreational sector. A commissioner stressed that in their own capture of Atlantic bonito the fish have a mouth-to-gills structure more like Spanish mackerel and therefore the hooks are often closer to the gills creating higher potential for release mortality. The commissioner therefore expressed hesitation to consider a size limit as it could increase discards. Smaller Atlantic bonito appear later in the season often mixed in with Spanish mackerel and regardless will result in the catch of smaller fish. The stated intention behind the NCMFC adopting a rule to delegate broad proclamation authority to the Fisheries Director is to implement a recreational bag limit soon after the rule becomes effective. The NCMFC passed a motion for NCDMF staff to bring proposed rulemaking language for a five-fish recreational bag limit per person for Atlantic bonito to its November 2025 business meeting. At the November 2025 NCMFC business meeting several proposed rulemaking options were presented, followed by a brief discussion of next steps in the rulemaking process.

Summarizing the data described in detail above, landings from the recreational sector have increased in state waters over the last 10 years and North Carolina accounts for 22% of the overall coastwide landings. Additionally, trends in the number of recreationally harvested fish have increased while trends in the number of released fish have remained

stable over this time. Currently, there is no targeted commercial fishery for Atlantic bonito in North Carolina. Due to the opportunistic nature of the fishery, commercial trips typically land less than 50 pounds per trip, with trips exceeding 300 pounds making up less than 5% of the total number of trips in state and federal waters. Further, there appears to be no biological concern for the Atlantic bonito stock since there is no evidence of size truncation in the commercial and recreational fisheries over the past decade, and most fish are caught at or above the L_{50} (15 inches FL) except in the most recent two years of recreational data (2023, 2024). Likewise, there is no biological evidence that higher harvest in recent years is sustainable. While these trends do not indicate the need for immediate management, it would be prudent to continue to monitor landings and collect additional biological information for this species.

Management Options

There are several potential options to address Atlantic bonito management: status quo with informal monitoring (Option 1), formal monitoring of Atlantic bonito landings and delegate proclamation authority to manage time, area, means and methods, season, size, and quantity (Option 2), delegate proclamation authority to manage time, area, means and methods, season, size, and quantity, with a maximum five-fish quantity constraint for the recreational bag limit (Option 3), or establish a permanent five-fish per person per day recreational bag limit to cap harvest and prevent further expansion of the Atlantic bonito recreational fishery, and otherwise delegate proclamation authority for management (Option 4). Options 3 and 4 are inclusive of the formal monitoring contained in Option 2.

Option 1: Status Quo with Informal Monitoring

Status quo would not provide for management of Atlantic bonito because the NCMFC does not have a corresponding rule to do so. Currently, there is no baseline stock assessment of Atlantic bonito, which means there is no scientific basis for setting catch limits or other harvest restrictions. However, there is no biological evidence that higher harvest in recent years is sustainable. In 2023 and 2024 approximately 59% of the Atlantic bonito harvested in the recreational fishery were less than the size at which 50% of the fish are mature (L_{50}). Protecting fish so that they can reach spawning size is a common practice in fisheries management. If landings substantially increase there would be no rule in place to authorize the NCMFC or the Fisheries Director to implement management measures or address possible future user conflicts for Atlantic bonito. If the NCMFC selects Option 1, annual Atlantic bonito landings would continue to be tracked through the License and Statistics Annual Report, also known as the "Big Book", without the NCMFC needing to take formal action. However, this could result in landings substantially increasing without the NCMFC and NCDMF being aware of the trends or being able to address the trends if they were identified later.

Option 2: Formal Monitoring with Delegation of Proclamation Authority

Formal monitoring of landings by the NCDMF on an annual basis and the NCMFC adopting a rule that delegates authority to the Fisheries Director to issue a proclamation to address variable conditions in the Atlantic bonito fishery to manage time, area, means and methods, season, size, and quantity constitutes Option 2. Typically, size, and quantity in the form of commercial trip limit and recreational bag and/or vessel limits are the management measures used to reduce harvest and to ensure individuals can reach spawning size. However, if the management authority delegated to the Fisheries Director by the NCMFC is restricted to these management measures, the Fisheries Director would not be able to use time, area, means and methods, or season to manage harvest. In some instances, time, area, means and methods, or season management might be preferred management measures by fishermen or for the benefit of the resource. The proposed rule text for Option 2 includes formal monitoring and the additional constraint of NCMFC consent prior to issuance of a proclamation. Formal monitoring would mean annually providing a landings summary with trends in the fishery, length frequency distributions, updates on any biological studies, and any changes in management that may occur at the state and federal level to the NCMFC at its first business meeting after July 1, typically occurring in August. Including NCMFC consent in the rule provides the opportunity during a public meeting for the NCMFC to review and discuss the proposed issuance of a proclamation since there is no baseline stock assessment of Atlantic bonito and no FMP to address adaptive management when landings are variable year to year. As proposed, Option 2 would provide the Fisheries Director with the greatest scope of management measures to manage the Atlantic bonito fishery and flexibility to address variable conditions in the fishery, however, it does not address the NCMFC's motion for a five-fish recreational bag limit. That said, Option 2 would provide a mechanism to implement a five-fish bag limit. It is also possible no management measures would be implemented.

Option 3: Formal Monitoring with Delegation of Proclamation Authority with Quantity Constraint

A third option is for the NCMFC to adopt a rule that delegates authority to the Fisheries Director to issue a proclamation to address variable conditions in the Atlantic bonito fishery to manage time, area, means and methods, season, size, and quantity, not to exceed five fish per person per day for recreational purposes. It is important to note that the proposed rule text for Option 3 includes a constraint on the delegation of the NCMFC's authority to the Fisheries Director to "specify quantity, not to exceed five fish per person per day for recreational purposes." Setting a maximum ceiling on the recreational bag limit of five fish is consistent with the August 2025 NCMFC motion and serves to preserve the NCMFC's stated intent over time and through changes of individual directors and commissioners. The flexibility to set a lower bag limit is preserved, to address variable conditions in the fishery. The proposed rule text for Option 3, like Option 2, includes formal monitoring and the constraint of NCMFC consent prior to issuance of a proclamation.

Option 4: Formal Monitoring with a Five-Fish Bag Limit and Delegation of Proclamation Authority
Lastly, Option 4 is identical to Option 3, except the five-fish recreational bag limit is proposed in the permanent rule itself. Delegation by the NCMFC to the Fisheries Director to issue a proclamation to manage "quantity" would be limited to the commercial fishery; the five-fish recreational bag limit would be set in permanent rule. If the NCMFC intends for the recreational bag limit to be set at exactly five fish, then the recreational bag limit is not considered variable and that requirement should be set in permanent rule. If conditions change in the future after the rule is adopted, the Fisheries Director could employ the existing authority in 15A NCAC 03I .0102 to suspend the text applicable to the recreational bag limit and then issue a proclamation with NCMFC consent for a recreational bag limit other than at five fish. As with options 2 and 3, the proposed rule text for Option 4 includes formal monitoring and the constraint of NCMFC consent prior to issuance of a proclamation.

Summary
As was discussed above, there is a lack of life history data for this species in the western Atlantic and having more data would be beneficial for informing any management decisions. Age and growth, sex and maturity, and tagging studies would help fill data gaps for Atlantic bonito in the western Atlantic. However, lack of funding at the state level makes these studies difficult to pursue. Currently, the American Saltwater Guides Association, in collaboration with the Nature Conservancy and North Carolina State University, has started several studies with the aim of addressing some of the coastwide data gaps, including stock structure and migration. Thus, implementing precautionary management measures until a time when a more robust science is available could be warranted. Although the NCDMF is not actively seeking proactive management of Atlantic bonito management currently, ongoing research on Atlantic bonito could provide more insight on the appropriateness of management in North Carolina and the rest of the U.S. Atlantic coast.

In the context of the NCMFC's request to develop rulemaking language to manage Atlantic bonito, the NCDMF supports the use of recreational bag limits, recreational vessel limits, and commercial trip limits if the collected data indicates a need for such management. Annual review of Atlantic bonito landings would allow for consideration of other influencing factors that may cause the fisheries to expand in a calendar year and be considered an anomaly. Other influencing factors could include expanding markets for bait or food sources, an unusual year for Atlantic bonito movement into N.C. waters, or an expansion in the number of participants in the fisheries. Option 2 provides the Fisheries Director the greatest scope of management measures with flexibility to address variable conditions in the Atlantic bonito fishery and the opportunity for the NCMFC to review and discuss the proposed issuance of a proclamation. However, it does not address the NCMFC's motion for a five-fish recreational bag limit even though a mechanism to implement it is provided. The proposed Option 3 does specify quantity, not to exceed five fish per person per day for recreational purposes, and the flexibility to set a lower bag limit is preserved to address variable conditions in the fishery. This would allow for the precautionary management and bag limit requested by the NCMFC and it would also consider the uncertainties in Atlantic bonito life history and stock status. Option 4 sets a five-fish recreational bag limit but in doing so does not readily provide as much flexibility in managing the Atlantic bonito fishery.

Following the presentation of the proposed rule options at the November 2025 business meeting, one commissioner commented on their appreciation for the range of options that was presented and inclusion of the NCMFC consent prior to issuance of a proclamation. They mentioned that their intention with prior discussions on Atlantic bonito was to implement a five-fish recreational bag limit to start. However, after looking at all three of the proposed rule language options, they did not like the idea of being constrained to that number, and in their opinion, Option 2 would provide adequate flexibility for a fishery that could see changes through time. The NCMFC is scheduled to vote on its preferred management option for Atlantic bonito management at the February 2026 NCMFC business

meeting. That action would enable NCDMF staff to complete the required economic analysis of any proposed rule option selected in spring 2026, with a vote by the NCMFC on approval of notice of text for rulemaking at its May 2026 business meeting to formally begin the rulemaking process.

VI. PROPOSED RULES

OPTION 2

15A NCAC 03M .0524 is proposed for adoption as follows:

15A NCAC 03M .0524 ATLANTIC BONITO

The Fisheries Director may, with prior consent of the Marine Fisheries Commission, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following requirements on the taking of Atlantic bonito:

(1) specify time;

(2) specify area;

(3) specify means and methods;

(4) specify season;

(5) specify size; and

(6) specify quantity.

History Note: *Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;*
Eff. April 1, 2027

OR

OPTION 3

15A NCAC 03M .0524 is proposed for adoption as follows:

15A NCAC 03M .0524 ATLANTIC BONITO

The Fisheries Director may, with prior consent of the Marine Fisheries Commission, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following requirements on the taking of Atlantic bonito:

(1) specify time;

(2) specify area;

(3) specify means and methods;

(4) specify season;

(5) specify size; and

(6) specify quantity, not to exceed five fish per person per day for recreational purposes.

History Note: *Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;*
Eff. April 1, 2027

OR

OPTION 4

15A NCAC 03M .0524 is proposed for adoption as follows:

15A NCAC 03M .0524 ATLANTIC BONITO

(a) It shall be unlawful to possess more than five Atlantic bonito per person per day for recreational purposes.

(b) The Fisheries Director may, with prior consent of the Marine Fisheries Commission, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following requirements on the taking of Atlantic bonito:

(1) specify time;

(2) specify area;

(3) specify means and methods;

(4) specify season;

(5) specify size; and

(6) specify quantity, except as provided in Paragraph (a) of this Rule.

History Note: *Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;*
Eff. (Pending legislative review pursuant to S.L. 2019-198).

VII. PROPOSED MANAGEMENT OPTIONS

The following management options may be applied to Atlantic bonito:

Management Options
(+ Potential positive impact of action)
(- Potential negative impact of action)

Option 1: Status Quo - Informal monitoring of annual Atlantic bonito landings through the License and Statistics Annual Report ("Big Book")

- \+ No rule development for coastwide stock with limited data and unknown stock status
- \- Annual landings updates that track landings trends are unavailable
- \- No rule in place for implementing management measures if landings substantially increase
- \- Potential for overfishing stock since no regulations are protecting Atlantic bonito
- \- Does not address request from NCMFC for five-fish recreational bag limit

Option 2: Formally monitor Atlantic bonito landings, provide a landings summary (including trends in the fishery, length frequency distributions, updates on any biological studies, and any changes in management that may occur at the state and federal level), and adopt a rule delegating proclamation authority to the Fisheries Director, with prior consent of the NCMFC, to manage time, area, means and methods, season, size, and quantity, including commercial trip limit and recreational bag and/or vessel limits

- \+ Rule in place for implementing management measures if landings substantially increase
- \+ Potential to address resource issues that can reduce probability of overfishing
- \+ Management measures can be quickly adapted due to changing conditions or recommendations
- \+ Fisheries Director can address conflict or competition issues if issues develop among fishermen

+ Provides a mechanism to implement a five-fish recreational bag limit requested by the NCMFC
- Rule development for coastwide stock with limited data and an unknown stock status
- Does not address request from NCMFC for five-fish recreational bag limit in rule

Option 3: Formally monitor Atlantic bonito landings, provide a landings summary (as described in Option 2 above), and adopt a rule delegating proclamation authority to the Fisheries Director, with prior consent of the NCMFC, to manage time, area, means and methods, season, size, and quantity, including commercial trip limit and recreational bag and/or vessel limits, with a recreational bag limit not to exceed five fish per person per day

+ Rule in place for implementing management measures if landings substantially increase
+ Potential to address resource issues that can reduce probability of overfishing
+ Management measures can be quickly adapted due to changing conditions or recommendations
+ Fisheries Director can address conflict or competition issues if issues develop among fishermen
+ Provides a mechanism to implement a five-fish recreational bag limit requested by the NCMFC
+/- Maximum five-fish bag limit would cap recreational harvest, but would also limit access, and would be based on limited data
- Rule development for coastwide stock with limited data and an unknown stock status

Option 4: Formally monitor Atlantic bonito landings, provide a landings summary (as described in Option 2 above), and adopt a rule to set a five-fish recreational bag limit per person per day and delegate proclamation authority to the Fisheries Director, with prior consent of the NCMFC, to manage time, area, means and methods, season, size, and quantity, including commercial trip limit and recreational vessel limit

+ Rule in place for implementing management measures if landings substantially increase
+ Potential to address resource issues that can reduce probability of overfishing
+ Management measures can be quickly adapted due to changing conditions or recommendations
+ Fisheries Director can address conflict or competition issues if issues develop among fishermen
+ Addresses request from NCMFC for five-fish recreational bag limit
- Rule development for coastwide stock with limited data and an unknown stock status
- Inclusion of "unlawful" language automatically subjects proposed rule to legislative review process

Five-Fish Recreational Bag Limit

+ May limit harvest if anglers begin keeping more than they currently do
- May increase discards
- May serve as a target or goal for anglers to retain more than they currently do
+/- Maximum five-fish bag limit would cap recreational harvest, but would also limit access, and would be based on limited data
+/- Economic impact on recreational fisheries

VIII. RECOMMENDATION

The DMF recommends Option 2 because it provides the broadest range of management tools and the flexibility needed to respond to changing fishery conditions.

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Revised	October 1, 2025 October 30, 2025 December 18, 2025 January 28, 2026

IX. TABLES AND FIGURES

Tables

Table 1. Recreational harvest (number of fish landed and weight in pounds) and releases (number of fish) and commercial harvest (weight in pounds) of Atlantic bonito from North Carolina for the period 1994-2025. Data with an asterisk is preliminary (up to October for recreational and up to September for commercial) and not included in averages. PSE is Percent Standard Error. (Source: Marine Recreational Information Program and North Carolina Trip Ticket Program)

	Recreational						Commercial	
Year	# Landed	PSE	# Released	PSE	Weight Landed (lb)	PSE	Weight (lb)	Total Weight (lb)
1994	11,860	48.2	18,933	48.6	23,712	56.7	37,372	61,084
1995	10,528	73.8	2,407	49.2	41,312	80.6	34,717	76,029
1996	864	58.2	10,845	56.1	5,394	71.9	16,267	21,661
1997	31,090	41.4	29,816	52.7	162,980	41.8	42,372	205,352
1998	13,513	68.4	8,836	72.7	145,837	87.7	21,352	167,189
1999	6,045	44.8	2,682	73	38,657	44.2	23,291	61,948
2000	13,617	93.4	9,257	58.4	69,579	89.9	13,343	82,922
2001	7,722	48.2	5,001	56.1	23,603	50.7	16,531	40,134
2002	28,728	64	30,165	65.7	97,115	66.1	15,456	112,571
2003	2,275	58.8	12,968	50.9	6,685	51.2	27,379	34,064
2004	10,274	56.6	19,082	39.3	48,251	57.3	9,302	57,553
2005	2,102	76.6	42,363	98.6	9,388	73.8	11,672	21,060
2006	1,037	102.4	2,755	51.4	4,457	102.4	9,770	14,227
2007	7,685	48.1	4,523	41.8	34,693	46.3	16,085	50,778
2008	5,230	56.8	23,411	61.1	39,093	61.8	16,576	55,669
2009	1,380	71.8	2,561	92.2	13,799	85.4	9,981	23,780
2010	447	42.4	16,583	41.6	8,019	47.1	15,686	23,705
2011	21,235	73.1	28,618	42.1	287,458	66.4	11,039	298,497
2012	6,913	37.1	7,858	35.6	95,947	49.3	11,343	107,290
2013	19,182	59.9	4,609	41.3	99,252	55.4	10,506	109,758
2014	18,379	49.3	59,926	62.7	91,227	53.6	9,081	100,308
2015	16,973	44.8	1,325	60.8	102,408	42.8	20,989	123,397
2016	3,411	64.7	10,196	45.2	22,127	60.3	14,838	36,965
2017	1,999	45.6	40,094	75.6	9,579	53	11,345	20,924
2018	12,577	42.5	11,745	66.4	42,879	49.7	13,848	56,727
2019	35,875	66.6	24,033	66.1	122,931	48.6	14,045	136,976
2020	52,337	50.9	23,818	55.3	179,803	47.9	15,926	195,729
2021	20,178	26.6	7,793	44.5	104,789	29.1	7,351	112,140
2022	12,301	45.4	11,763	70.7	70,411	45.7	6,576	76,987
2023	72,973	40.4	31,930	70.4	268,260	36.8	17,876	286,136
2024	61,813	34.4	7,513	48.6	130,686	43.2	12,100	142,786
2025	96,013*	26.9*	36,892*	27.5*	303,905*	28.6*	32,326*	336,231*
Average	16,469	56	16,562	58	77,430	58	16,581	94,011

A PSE value greater than 50 indicates very imprecise estimates.

A PSE value between 30 and 50 indicates using the data with caution.

A PSE value less than 30 indicates estimates have a relatively low margin of error.

Table 2. Coastwide recreational landings and releases (numbers of fish) by state, 2011-2024. (Source: Marine Recreational Information Program)

Landings

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Massachusetts	14,556	12,460	0	30,620	11,521	1,283	2,732	24,139	68,356	27,580	8,700	55,620	12,170	158,770
Rhode Island	0	11	8,944	1,282	1,245	0	10,277	10,947	32,643	10,590	2,949	1,186	23,891	80,315
Connecticut	0	0	0	3,181	0	847	375	2,626	12,113	5	351	0	1,275	2,170
New York	0	0	0	6,031	11,938	0	41	0	7,453	3,770	2,015	0	25,921	4,708
New Jersey	6,983	0	17,830	60,979	0	9,487	53,719	13,119	92,962	13,631	6,294	34,471	27,179	67,779
Delaware	0	0	0	140	0	0	0	643	124	0	0	0	571	2,450
Maryland	4,921	0	104	15	0	0	24	3,789	529	158	0	0	4,576	6,388
Virginia	4	0	0	0	121	0	310	1,940	0	1,931	0	74	2,803	1,406
North Carolina	**21,235**	**6,913**	**19,182**	**18,379**	**16,973**	**3,411**	**1,999**	**12,577**	**35,875**	**52,337**	**20,178**	**12,301**	**72,973**	**61,813**
South Carolina	0	6	0	0	0	131	0	2,488	1,509	102	2,021	0	751	34,584
Georgia	301	811	0	0	329	0	0	981	1,148	119	0	0	1,273	8,400
Florida	0	0	0	0	0	259	0	19	0	0	0	264	0	5,798
Grand Total	48,000	20,201	46,060	120,627	42,127	15,418	69,477	73,268	252,712	110,223	42,508	103,916	173,383	434,581

Releases

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Massachusetts	0	251	2,192	41,634	12,983	13,377	242	378,413	23,917	20,509	96,060	99,491	10,913	427,466
Rhode Island	0	0	10,544	9,254	5,315	23,193	503	26,211	34,741	7,337	5,094	4,467	27,653	70,918
Connecticut	0	0	0	1,389	0	6,045	0	10,086	21,662	0	25	1,103	6,343	6,937
New York	0	0	534	1,429	4,561	0	2,012	1,527	11,999	9,448	3,504	28,170	7,618	74,471
New Jersey	0	0	60,412	175,714	0	0	5,623	12,571	8,388	17,562	17,363	218,590	25,322	185,142
Delaware	0	0	0	619	0	0	0	1,648	15	2	0	0	88	3,440
Maryland	0	0	0	1,645	0	0	4,873	4,153	5,009	0	0	0	0	2,181
Virginia	4,957	0	0	0	0	0	59	0	0	0	0	0	0	5
North Carolina	**28,618**	**7,858**	**4,609**	**59,926**	**1,325**	**10,196**	**40,094**	**11,745**	**24,033**	**23,818**	**7,793**	**11,763**	**31,930**	**7,513**
South Carolina	0	6,181	45,664	2,200	458	2,447	8,949	4,477	3,689	0	656	0	0	902
Georgia	0	0	0	0	0	0	171	0	249	15,362	0	0	2,273	1,306
Florida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	33,575	14,290	123,955	293,810	24,642	55,258	62,526	450,831	133,702	94,038	130,495	363,584	112,140	780,281

Table 3. North Carolina commercial landings in pounds by gear and value, 1994-2024. (Source: North Carolina Trip Ticket Program)

	Gear					
Year	Gill Nets	Hook & Line	Other*	Total	Value	Price/Pound
1994	30,848	5,742	782	37,372	$14,201	$0.38
1995	29,576	4,999	143	34,717	$6,943	$0.20
1996	5,880	10,015	372	16,267	$3,843	$0.24
1997	35,689	6,119	564	42,372	$9,455	$0.22
1998	17,030	4,260	63	21,352	$24,199	$1.13
1999	11,083	12,196	12	23,291	$20,832	$0.89
2000	6,240	7,089	14	13,343	$18,798	$1.41
2001	11,814	4,689	28	16,531	$10,433	$0.63
2002	5,058	10,384	14	15,456	$11,741	$0.76
2003	19,494	7,763	122	27,379	$18,563	$0.68
2004	5,521	3,706	76	9,302	$9,086	$0.98
2005	174	10,898	600	11,672	$7,286	$0.62
2006	5,501	4,099	170	9,770	$10,503	$1.08
2007	4,382	11,683	20	16,085	$20,403	$1.27
2008	8,310	8,101	165	16,576	$19,937	$1.20
2009	3,359	6,422	200	9,981	$14,060	$1.41
2010	12,985	2,435	266	15,686	$20,152	$1.28
2011	5,160	4,890	989	11,039	$20,041	$1.82
2012	7,173	3,879	291	11,343	$15,833	$1.40
2013	2,666	7,721	119	10,506	$15,460	$1.47
2014	3,969	4,771	341	9,081	$14,386	$1.58
2015	13,100	7,664	225	20,989	$32,905	$1.57
2016	10,487	4,346	6	14,838	$26,780	$1.80
2017	7,084	4,130	131	11,345	$20,261	$1.79
2018	8,248	5,552	48	13,848	$25,228	$1.82
2019	10,256	3,705	84	14,045	$15,556	$1.11
2020	10,824	5,062	41	15,926	$12,835	$0.81
2021	4,649	2,646	56	7,351	$16,620	$2.26
2022	4,689	1,775	112	6,576	$12,544	$1.91
2023	15,744	1,972	160	17,876	$30,287	$1.69
2024	8,583	3,279	238	12,100	$19,733	$1.63

*Other gear includes seines, trawls, and pound nets

Table 4. North Carolina commercial Atlantic bonito percent harvest (pounds per trip), based on daily landings and gear, 2005-2024. Note: Other gears not shown due to data confidentiality. (Source: North Carolina Trip Ticket Program)

	State			Federal			Overall		
Pounds per trip	Gill Net	Hook & Line	All Gears	Gill Net	Hook & Line	All Gears	Gill Net	Hook & Line	All Gears
≤ 50	79%	49%	76%	91%	73%	79%	81%	69%	77%
51-100	11%	21%	12%	5%	14%	11%	10%	15%	11%
101-150	4%	12%	5%	1%	5%	3%	3%	6%	4%
151-200	2%	5%	2%	1%	3%	3%	2%	4%	2%
201-300	2%	6%	2%	1%	3%	2%	2%	3%	2%
301-400	1%	3%	1%	0%	2%	1%	1%	2%	1%
401-500	0%	2%	1%	0%	1%	0%	0%	1%	1%
501-1,000	1%	2%	1%	0%	1%	1%	1%	1%	1%
>1,000	0%	0%	0%	0%	0%	0%	0%	0%	0%

Figures

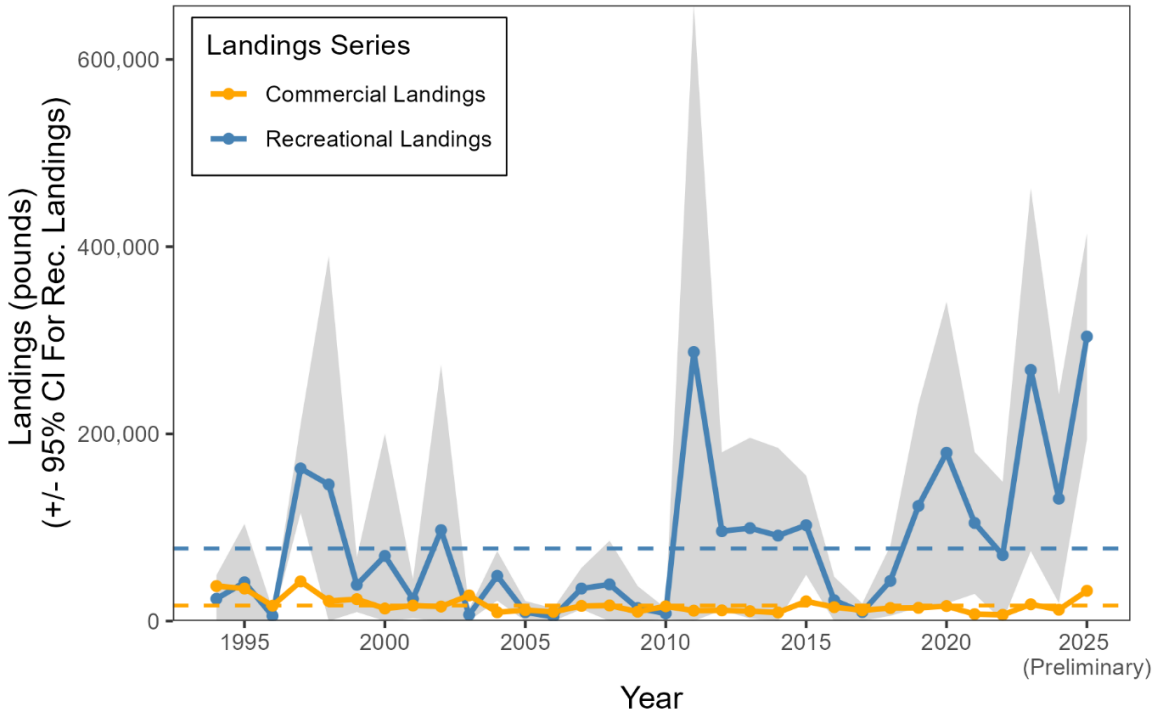

Figure 1. North Carolina commercial and recreational Atlantic bonito landings (pounds), 1994-2024, with the time series average, represented by a dashed line, for both sectors (Recreational average: 77,430 pounds; Commercial average: 16,581 pounds). Data for 2025 is preliminary (up to October for recreational and up to September for commercial) and not included in the time series average. The light gray shading represents 95% confidence intervals. (Source: North Carolina Trip Ticket Program and Marine Recreational Information Program)

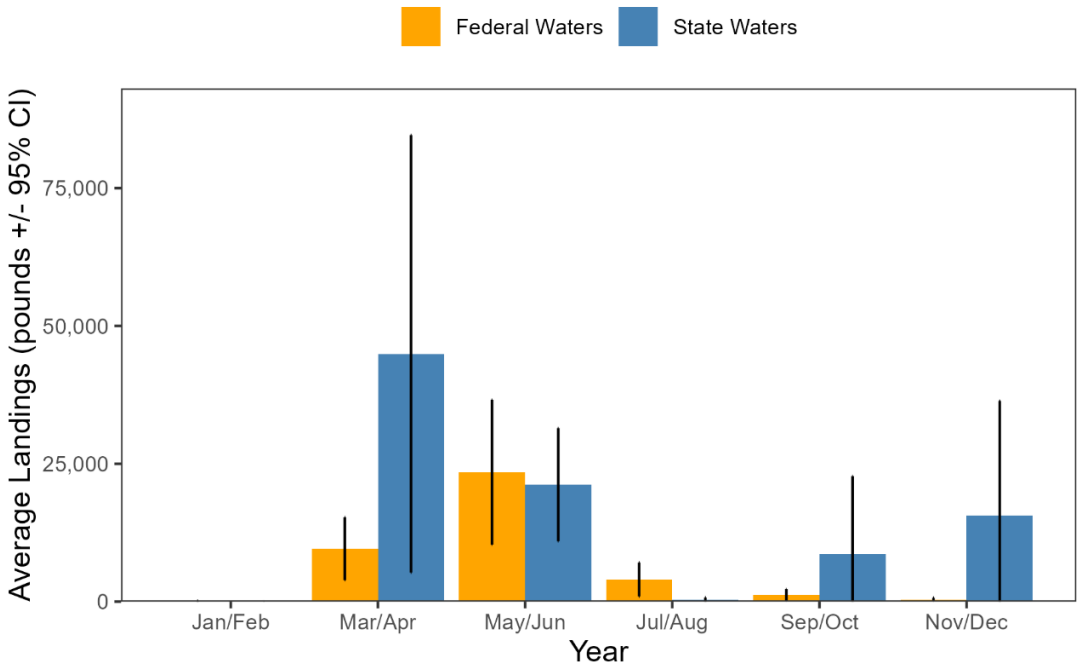

Figure 2. North Carolina recreational Atlantic bonito landings (pounds) by sampling period (wave) and fishing area (state (0-3 miles) and federal waters (>3 miles)), 2005-2024. Landings from January and February are in single digits. The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

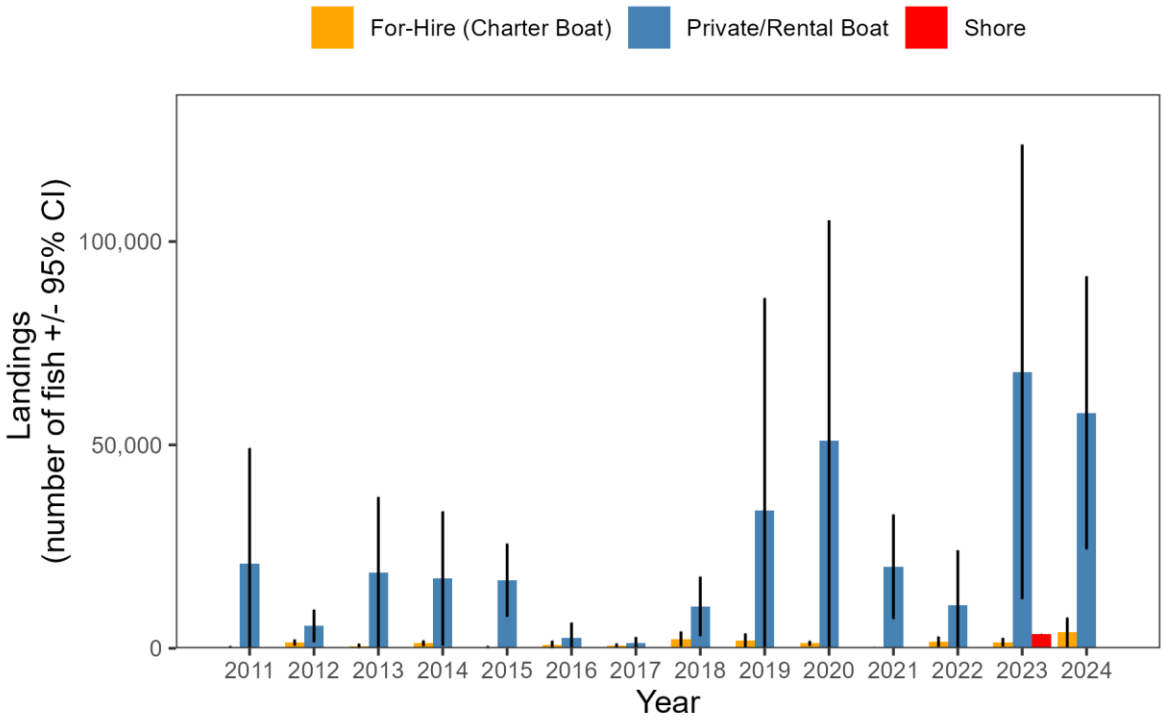

Figure 3. North Carolina recreational harvest (numbers) by fishing mode, 2011-2024. The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

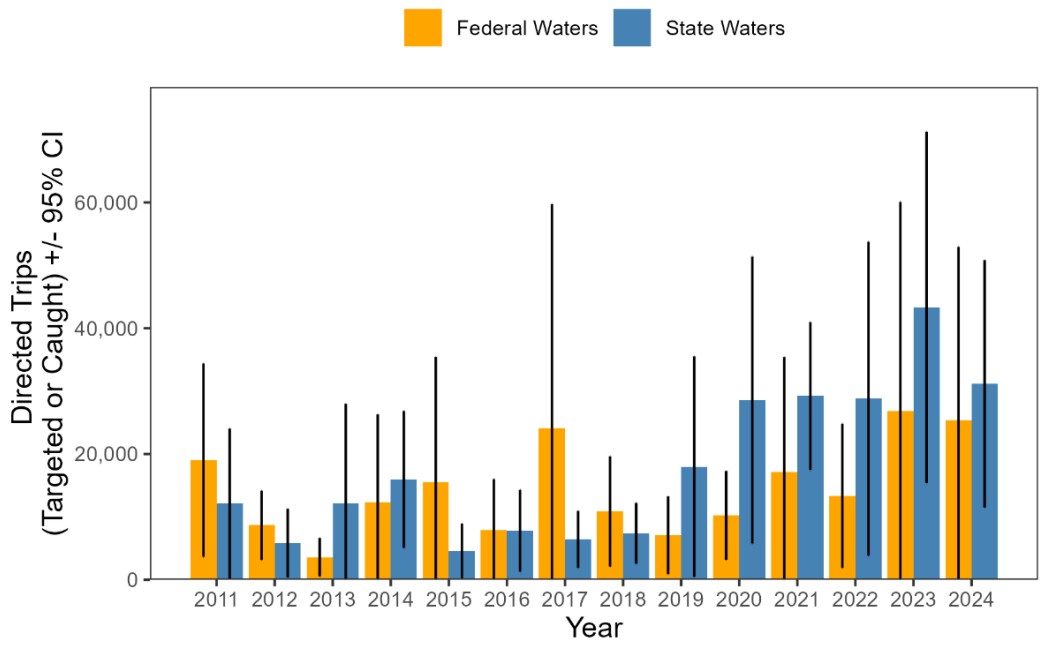

Figure 4. Directed recreational trips in North Carolina in state (0-3 miles) and federal (>3 miles) waters, 2011-2024. The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

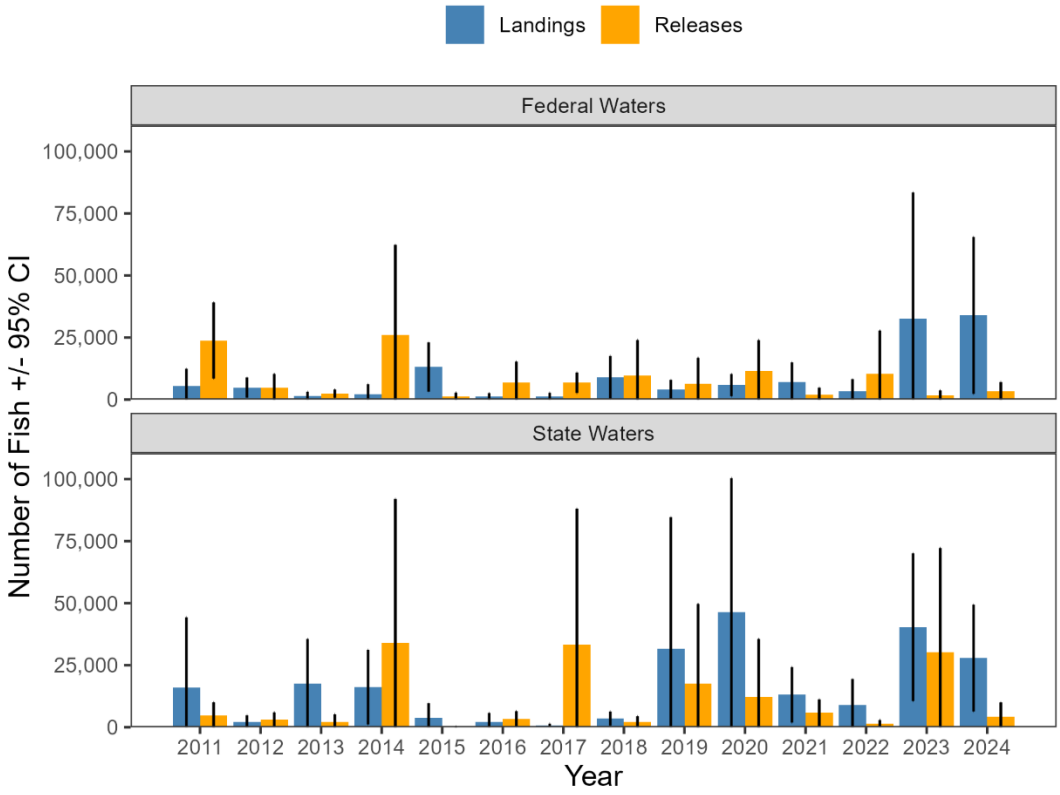

Figure 5. North Carolina recreational Atlantic bonito landings and releases by water classification, 2011-2024. The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

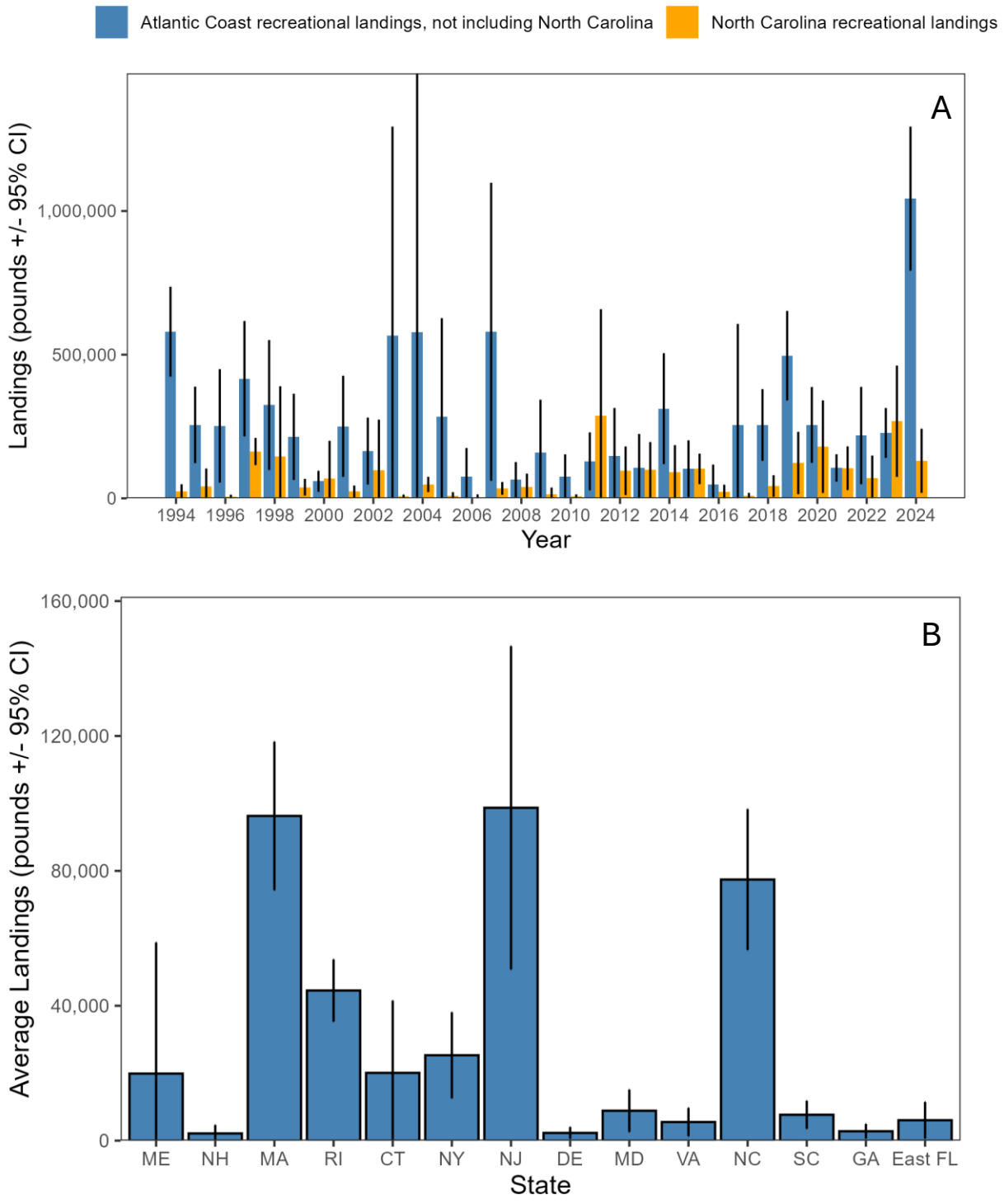

Figure 6. Coastwide and North Carolina recreational Atlantic bonito landings (pounds; A), and average landings, 1994-2024 (pounds; B). The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

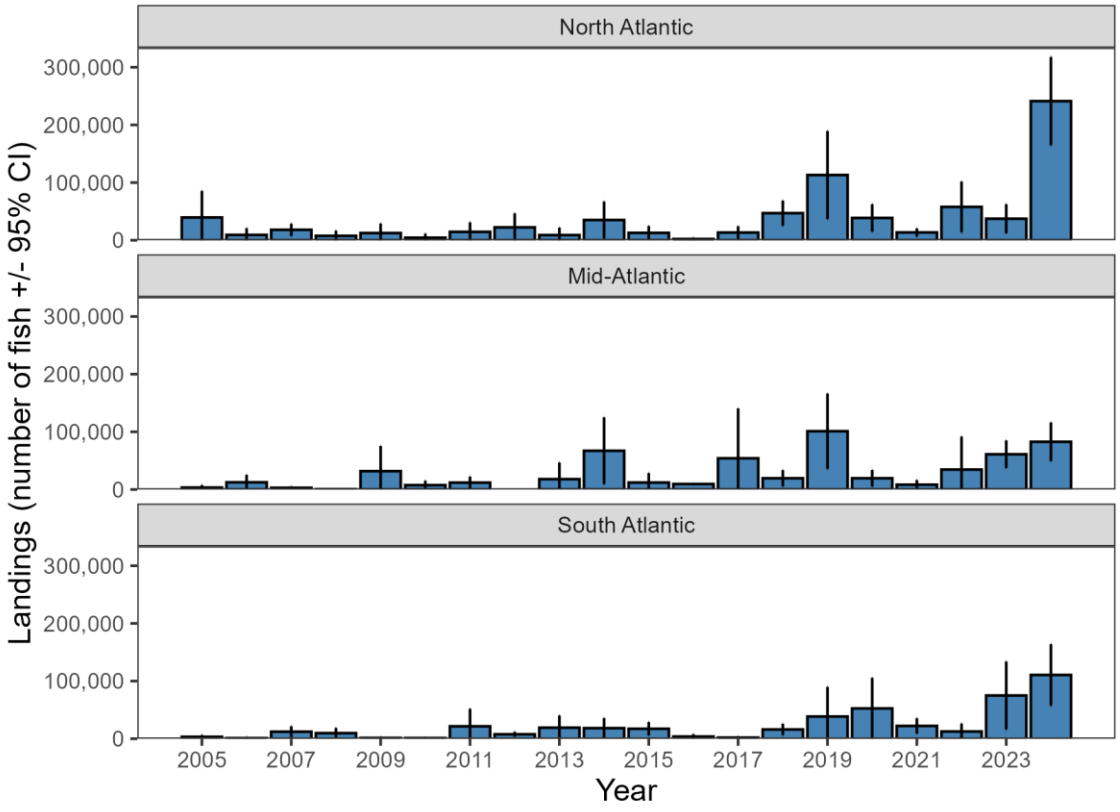

Figure 7. Coastwide recreational landings (numbers of fish) by region, 2005-2024. The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

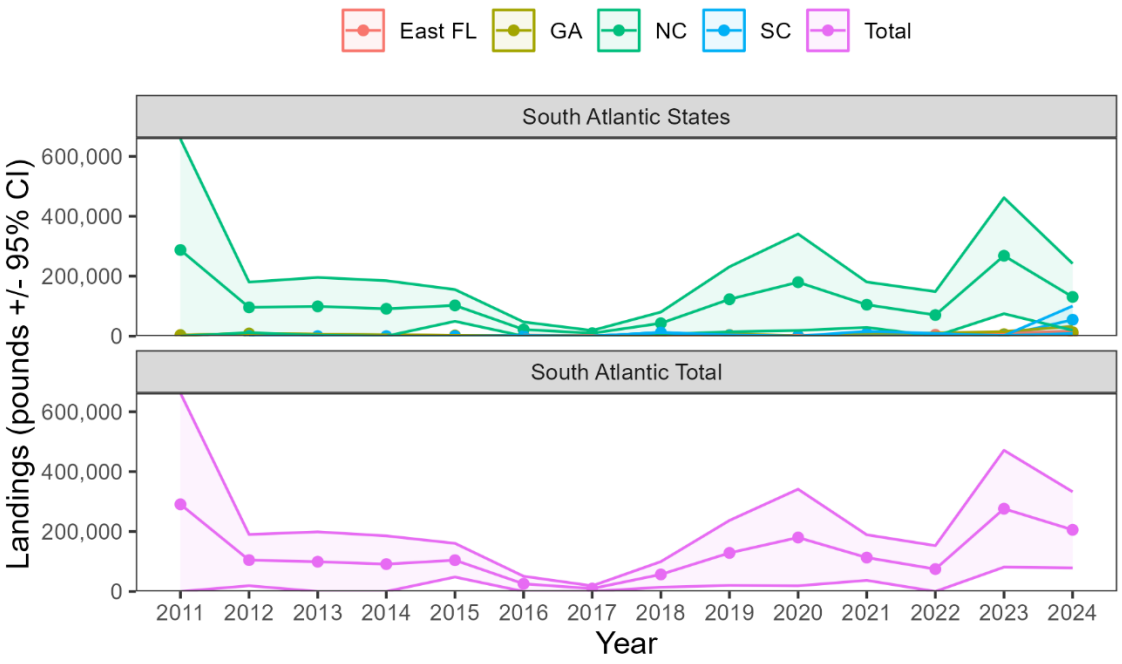

Figure 8. South Atlantic recreational landings (pounds) by state, 2011-2024. The shaded areas represent 95% confidence intervals. (Source: Marine Recreational Information Program)

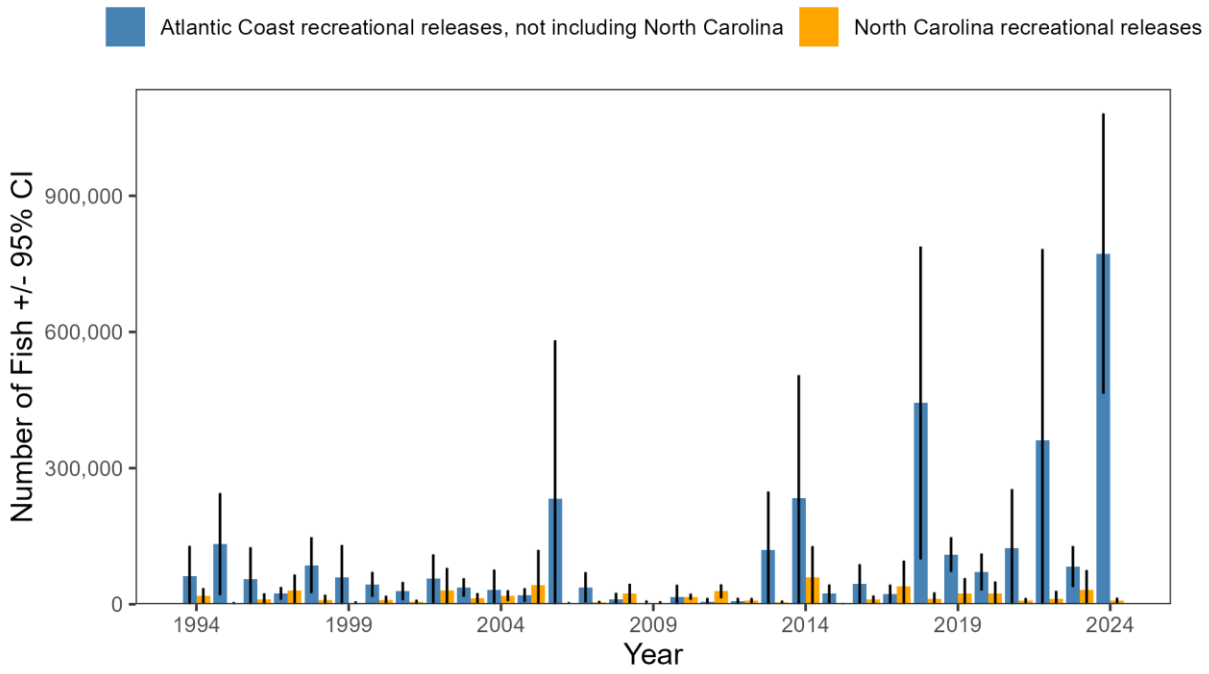

Figure 9. Coastwide and North Carolina recreational Atlantic bonito releases (number of fish), 1994-2024. The black lines represent 95% confidence intervals. (Source: Marine Recreational Information Program)

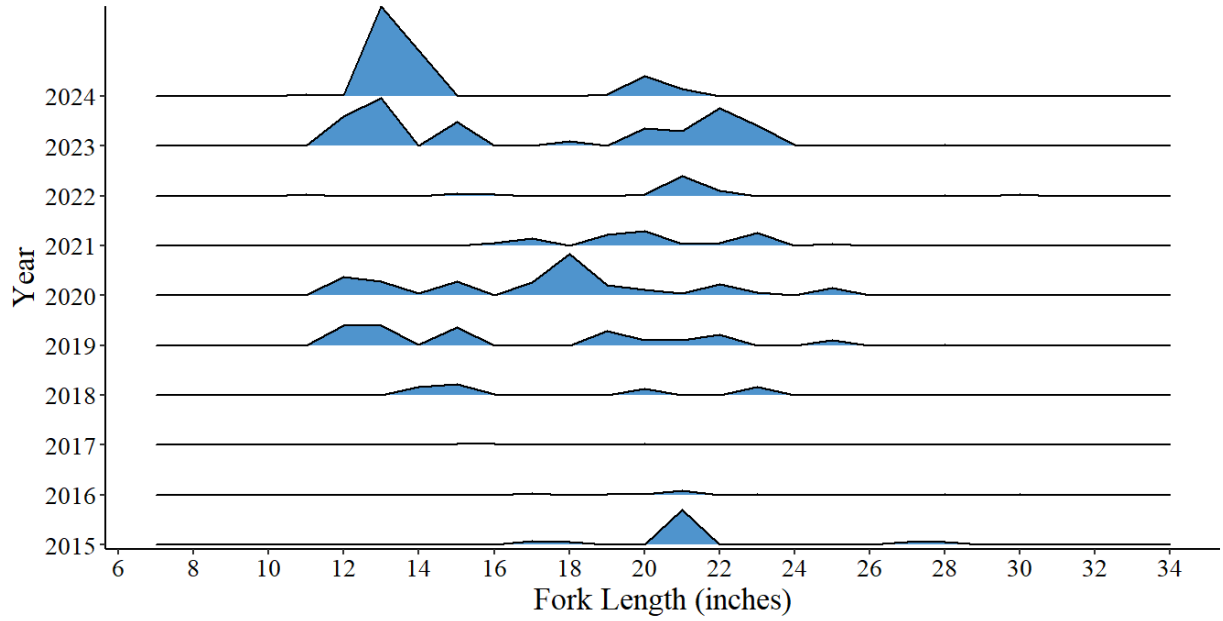

Figure 10. Recreational length frequency (fork length, inches) of harvested Atlantic bonito, 2015-2024. (Source: Marine Recreational Information Program)

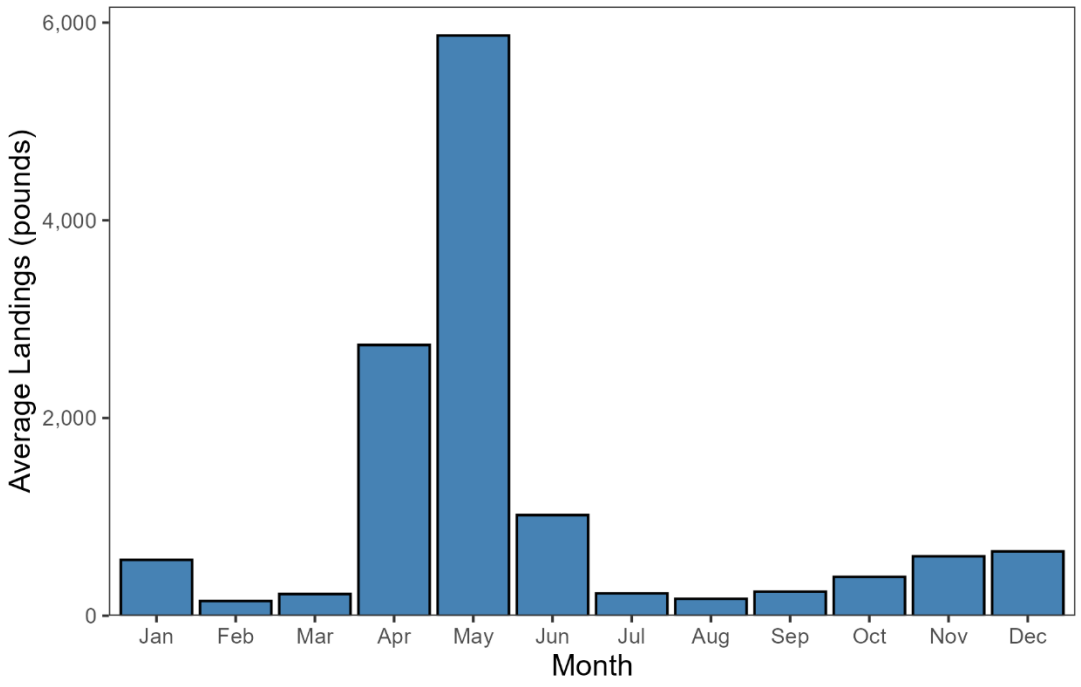

Figure 11. Total North Carolina commercial landings by month, 2005-2024. (Source: North Carolina Trip Ticket Program)

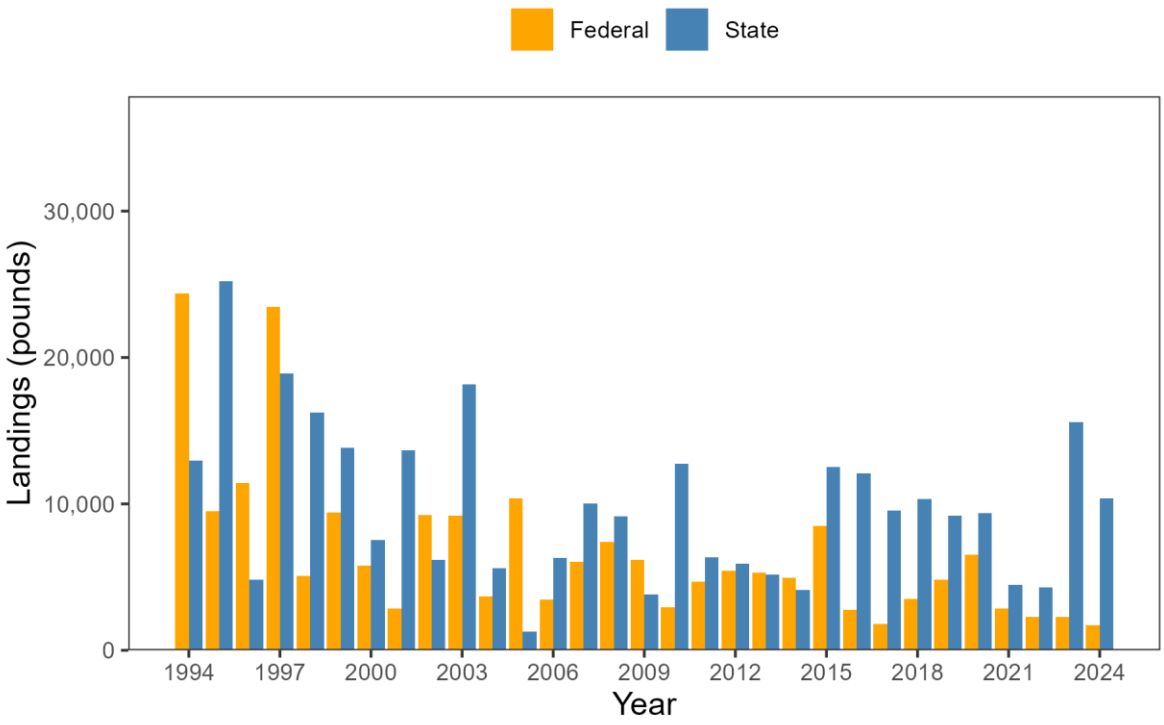

Figure 12. North Carolina commercial Atlantic bonito landings (pounds) by state (0-3 miles) and federal waters (>3 miles), 1994-2024. (Source: North Carolina Trip Ticket Program)

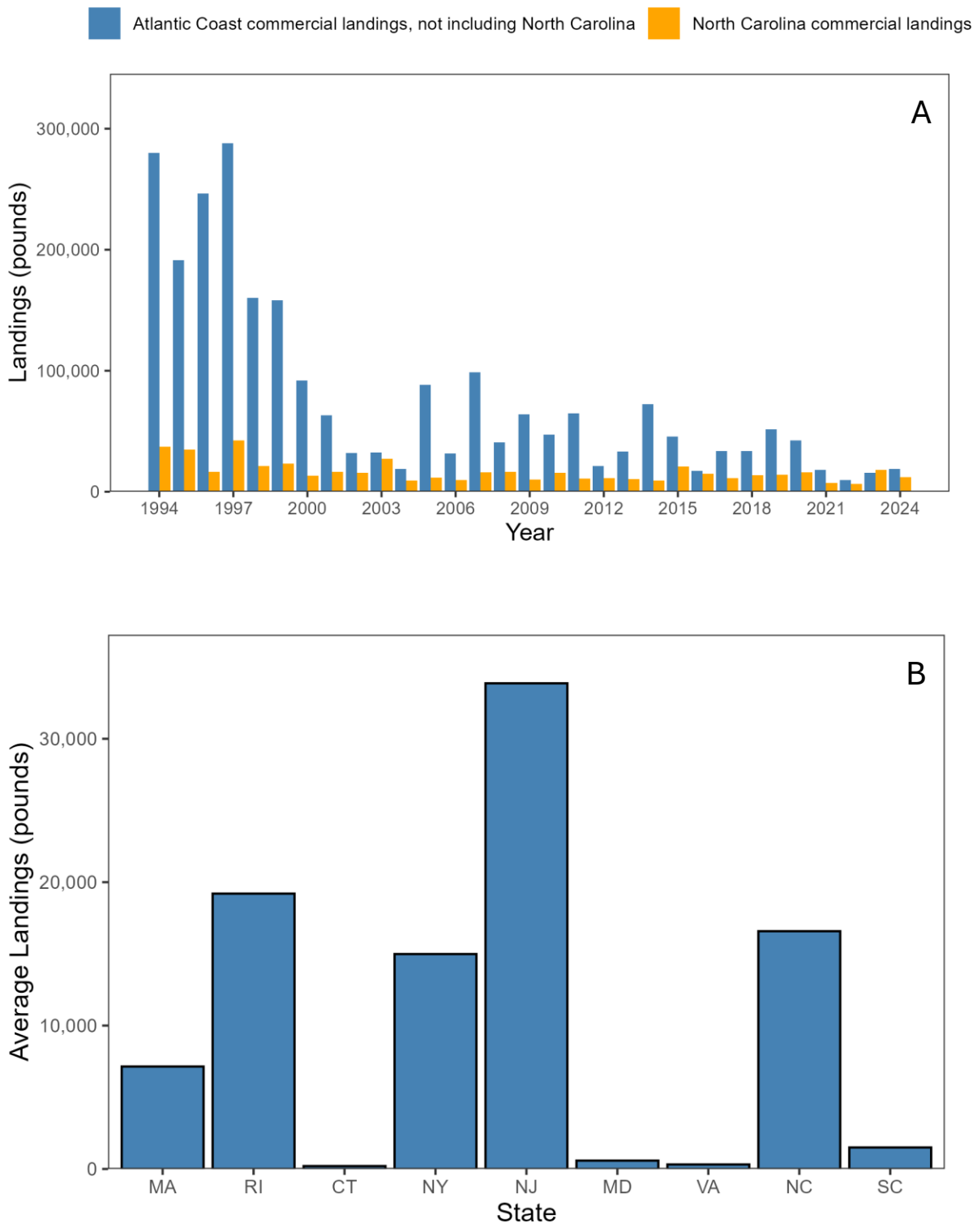

Figure 13. Coastwide and North Carolina commercial Atlantic bonito landings (pounds; A), and average landings, 1994-2024 (pounds; B). (Source: Atlantic Coastal Cooperative Statistics Program and North Carolina Trip Ticket Program)

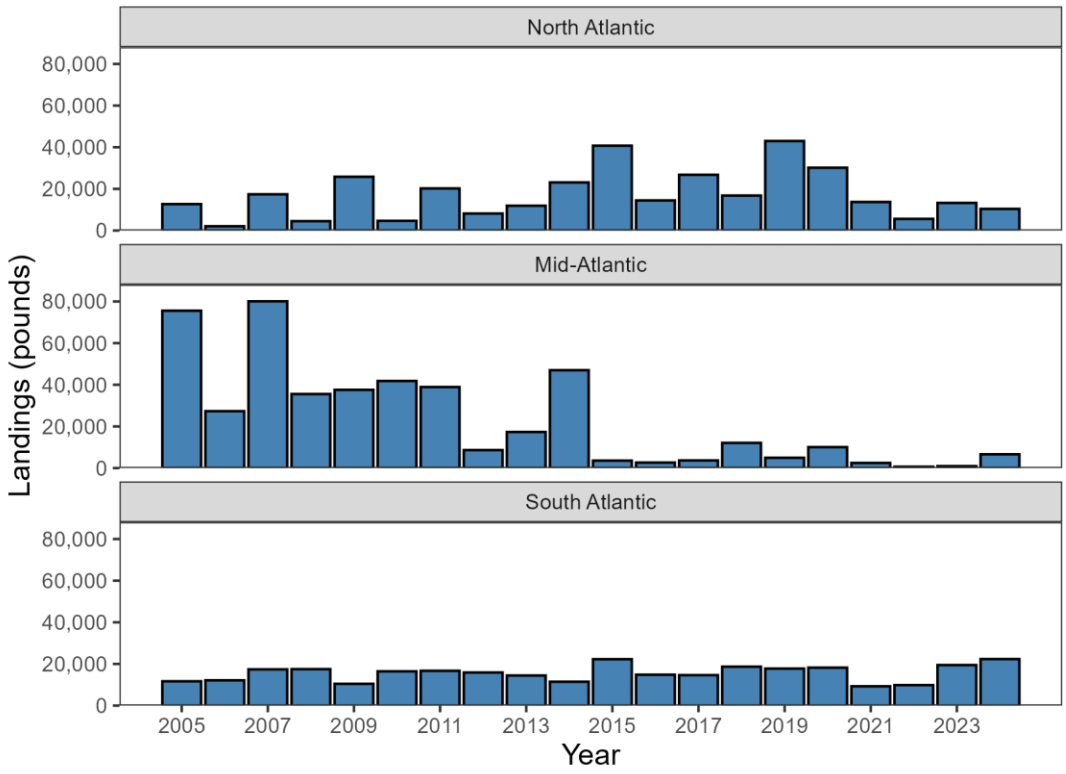

Figure 14. Coastwide commercial landings (pounds) by subregion, 2005-2024. (Source: Atlantic Coastal Cooperative Statistics Program)

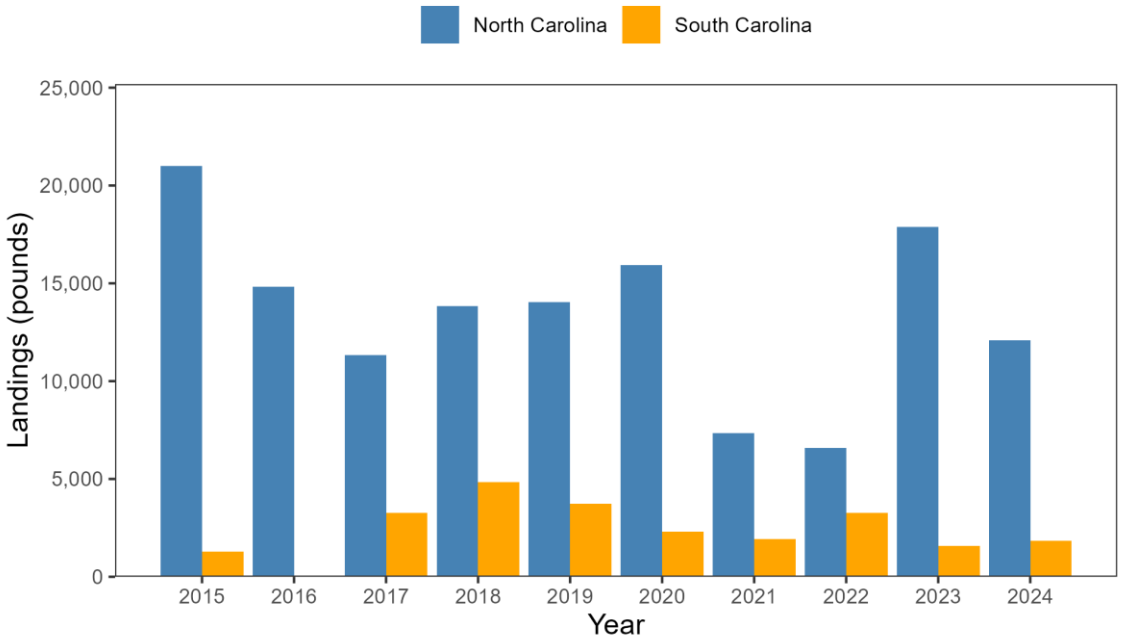

Figure 15. South Atlantic commercial landings (pounds) by state, 2015-2024. Florida and Georgia reported no landings during this time frame. (Source: Atlantic Coastal Cooperative Statistics Program)

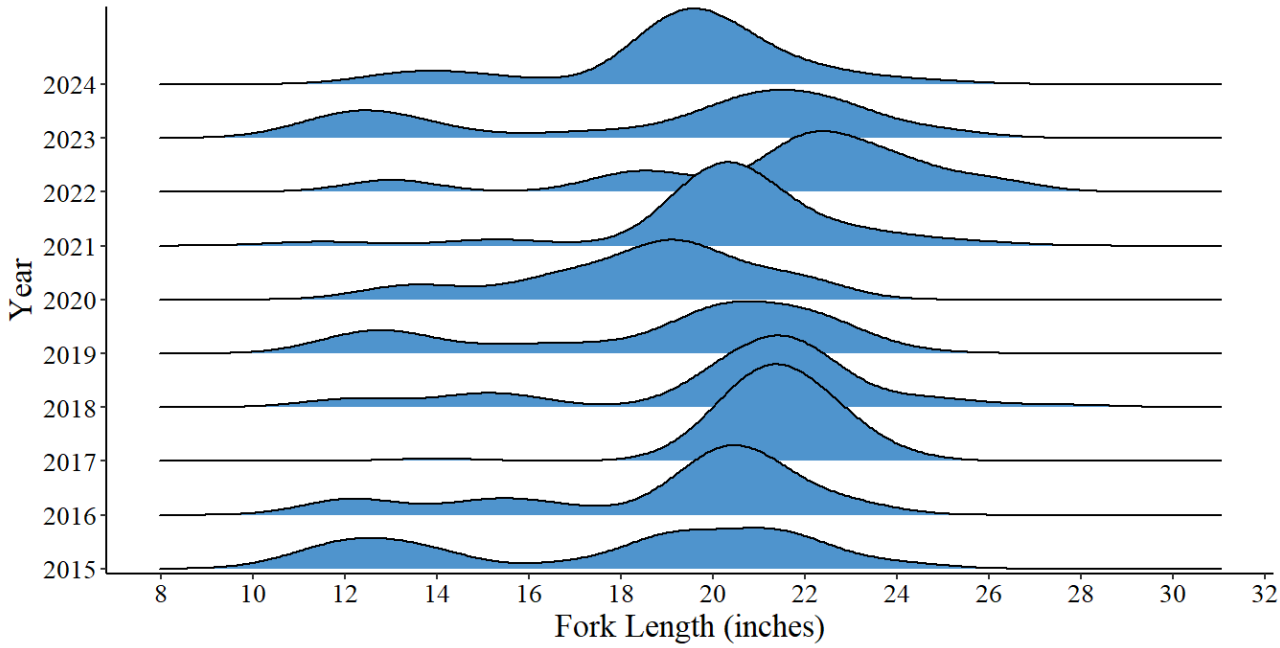

Figure 16. North Carolina commercial Atlantic bonito length frequency distribution, 2015-2024. (Source: NCDMF fish house sampling data)

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