

SC For-Hire Logbook Validation

FY 2015 Proposal

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1. Overview

1.1. Sponsor

David Van Voorhees, Mike Cahall

1.2. Focus Group

Survey Design and Evaluation

1.3. Background

The South Atlantic and Gulf of Mexico Fishery Management Councils are currently investigating options regarding for-hire logbook reporting requirements for vessels with federal charter permits. A Technical Subcommittee has been formed with representatives from the South Atlantic Fisheries Management Council, Gulf of Mexico Fisheries Management Council, NOAA Fisheries Southeast Fisheries Science Center and the Southeast Regional Office, NOAA Fisheries Highly Migratory Species Office, the Atlantic States Marine Fisheries Commission (ASMFC), Gulf States Marine Fisheries Commission, Atlantic Coast Cooperative Statistics Program (ACCSP) and the Marine Recreational Information Program (MRIP) to look at data collection and reporting requirement options. This technical subcommittee was formed to provide recommendations for both councils to consider. ACCSP and South Carolina will work closely with this group to ensure that the validation methodology developed in this project will meet MRIP certification and satisfy all requirements from the council for-hire logbook reporting initiative.

1.4. Project Description

As for-hire logbook programs are implemented, an opportunity exists to more fully utilize these logbooks for both effort and catch validation. However, previous MRIP projects on For-Hire Logbooks (Donaldson, 2013) noted the need for compliance monitoring, and further development of validation methodologies. This proposal will use data from existing South Carolina for-hire logbooks, in combination with additional APAIS site based intercepts of charter boats, to evaluate and recommend methods to match logbook reports to dockside intercepts. The proposal supports additional APAIS site assignments in South Carolina as well as consultant time. Consultants will review SC logbook data, create procedures to match reports, and make recommendations on methodology and minimum amount of matching site assignments for validation and survey design purposes. The sampling period for increased charter boat assignments will be May through October 2016, with data analysis following.

Accurate and timely recording of catch and effort from all sectors of commercial and recreational fisheries is critical for proper management of fisheries resources. South Carolina has an ongoing charter boat logbook program consisting of trip level reports submitted monthly. SC charter logbooks contain records of catch, effort and discards at a trip level, submitted monthly from the charter boat sector of the industry. In cooperation with NOAA fisheries, South Carolina will determine if the current standardized logbook may be considered as an MRIP certified logbook program design with the APAIS serving as a validation data collection program.

South Carolina will take advantage of NOAA's many resources including: access to consultants specializing in survey design, expert staff, funding, and lessons learned from previous for-hire pilot studies. Cooperation with NOAA will be critical to eliminate reporting duplication and ensure the logbook provides for a national and regional database. Evaluation of data elements collected from the existing logbook program will be conducted to determine their purpose and a refined list of data elements may be created based on critical needs. Harvest and discard estimates from the South Carolina for-hire logbook will meet the requirements for managing fisheries under the Magnuson-Stevens Reauthorization Act (including Atlantic HMS or jointly by the states and NOAA Fisheries) while providing for the regional database.

1.5. Public Description

1.6. Objectives

To create a new Standardized Validation and adjustment method where logbook reporting is more fully utilized in generating estimates of For-hire catch and effort coastwide. Furthermore, the project aims to have the SCDNR for-hire Logbook be accepted by NMFS MRIP as a viable data collection and use the data to derive recreational for-hire catch and effort estimates in SC.

1.7. References

2011 Charter Paper - Condensed Version 3 (SCDNR)

2. Methodology

2.1. Methodology

The for-hire fishery in South Carolina is very diverse. For-hire vessels offer trips from every coastal and several inland counties in the state, when trips are fishing in saltwater. Anglers on these trips target a variety of species ranging from giant blue marlin

found in the offshore waters of the continental shelf to anadromous species such as hickory shad taken in coastal saltwater rivers and their tributaries. All of these areas are included in the APAIS sampling site directory. For-hire vessels range from 60 foot Sportfishing vessels carrying 6 anglers to 16 foot Jon boats with only a captain and his client onboard. By state law, vessels carrying saltwater fishermen on a for-hire basis are required to complete and submit trip-level reports for charter fishing activity. Most of the for-hire vessels in SC target species that are managed by the South Atlantic Fisheries Management Council (SAFMC), the Atlantic States Marine Fisheries Commission (ASMFC), or the National Marine Fisheries Service (NMFS). Data from mandatory charter boat reporting are made available internally and to staff of these agencies for stock assessments and other management decisions. Data collected by the charter boat logbooks include: fishing method, specific location, target species, number of anglers fishing on the vessel, hours fished, and catch and effort data. In addition, data collected through this program can act as a quality control measure for the estimates derived from the MRIP For-Hire Telephone Survey and APAIS charter boat mode survey.

Charter boat trip logs will be coded and entered into a pre-existing access database on a monthly basis. If reports are incomplete or potentially incorrect, staff will contact charter vessel owners/captains to fill in any data gaps to ensure accurate and complete information. The computer files will be edited and shared monthly with survey design and statistical consultants for evaluation during the pilot project period of performance. A annual report will be prepared (sans confidential information) and made available to resource management groups and the general public to demonstrate data use (e.g. species composition, catch per unit effort, and seasonality of catch).

In January 2014, NMFS began to require headboats that hold federal permits to harvest federally managed species, such as snapper and grouper, to report via an electronic platform. This real-time data collection approach has improved the completeness and timeliness of data collection for species that must adhere to strict quota monitoring regulations. The SCDNR Fisheries Statistic Section (FSS) partnered with NMFS to design and initiate a parallel electronic platform for charter boats, carrying six or fewer anglers. Bluefin Data designed the NMFS electronic platform, and agreed to provide SCDNR equal rights to the platform through a contractual agreement in fiscal year 2015. The electronic charter boat trip reports platform became available in January 2016 for charter boat license holders. The data is automatically integrated into the FSS Compliance Tracking System and uploaded to the charter database. Although the electronic data collections from charter vessel operators has begun under a volunteer basis, staff will promote the electronic platform through outreach and education, with the intent of having a vast majority of operators utilizing the platform. In order to maintain and make changes/edits to the electronic platform, SCDNR has continued a contractual agreement with Bluefin Data to assist with all aspects of the data platform including but not limited to loading licensing files, providing routine error-free data downloads to the agency, and assisting users with troubleshooting and use of the platform.

2.2. Region

South Atlantic

2.3. Geographic Coverage

South Carolina

2.4. Temporal Coverage

2016-2017

2.5. Frequency

Monthly

2.6. Unit of Analysis

Vessel trip

2.7. Collection Mode

logbook (paper, web reporting)

3. Communication

3.1. Internal Communication

Bi-weekly conference calls will communicate pertinent material among team members.

3.2. External Communication

Monthly reports will be made available to the MRIP Operations Team. Additionally, if information is required in a more timely fashion it will be provided to the MRIP Operations Team as requested.

4. Assumptions/Constraints

4.1. New Data Collection

N

4.2. Is funding needed for this project?

Y

4.3. Funding Vehicle

Grant, Work order, Cooperative agreement, ACCSP

4.4. Data Resources

SC License (for-hire vessels), SC logbook data, MRIP APIAS assignments and intercept data

4.5. Other Resources

SCDNR Staff, MRIP staff, ACCSP staff, and Consultants expertise

4.6. Regulations

South Carolina Code of Laws (50-9-560, 50-9-1915): Recreational saltwater fishing licenses; fees.

For the privilege of operating a charter fishing vessel in the salt waters of this State, the owner or operator must purchase an annual charter vessel license for each vessel for the following fee to:

- (1) Carry six or fewer passengers, \$150
- (2) Carry seven to 49 passengers, \$250
- (3) Carry 50 or more passengers, \$350

Charter fishing vessel and public pier logs; penalties.

Charter fishing vessels shall maintain a log of the number of persons carried each trip, number of hours engaged in fishing, number of fish by species caught each day, and other information considered necessary by the Department. The logs must be submitted to the Department monthly by the tenth day of the following month.

A person licensed to operate a charter fishing vessel who fails to maintain or submit a log as required is guilty of a misdemeanor and, upon conviction, must be fined not less than twenty-five dollars nor more than five hundred dollars, or imprisoned for not more than thirty days, and a subsequent charter fishing vessel license must not be issued until the requirements of this subsection are met.

4.7. Other

South Carolina retains publishing rights on programming code to perform matching for publication. The work will be shared with consultants for review and modification as necessary but South Carolina maintains intellectual property.

5. Final Deliverables

5.1. Additional Reports

5.2. New Data Set(s)

5.3. New System(s)

Standardized validation and adjustment methodology for logbook reporting of catch and effort.

6. Project Leadership

6.1. Project Leader and Members

First Name	Last Name	Title	Role	Organization	Email	Phone 1	Phone 2
Mike	Cahall	Director	Team Member	ACCSP	mike.cahall@accsp.org	703 842-0780	
Amy	Dukes	Statistics Leader	Team Leader	SCDNR	DukesA@dnr.sc.gov	843-953-9365	

First Name	Last Name	Title	Role	Organization	Email	Phone 1	Phone 2
Brad	Floyd	SC-AP AIS Coordinator	Team Member	SCDNR	FloydB@dnr.sc.gov	843-953-9047	
Eric	Hiltz	Database Manager	Team Member	SCDNR	HiltzE@dnr.sc.gov	843-953-9012	
Janelle	Mueller	Contractor	Team Member	NOAA - ECS Federal	janelle.mueller@noaa.gov	301-427-8140	
Dave	Van Voorhees	Chief, Fisheries Statistics Division	Team Member	NOAA	dave.van.voorhees@noaa.gov	301-427-8189	
Geoff	White	Recreational Program Manager	Team Leader	ACCSP	geoff.white@accsp.org	703-842-0785	

7. Project Estimates

7.1. Project Schedule

Task #	Schedule Description	Prerequisite	Schedule Start Date	Schedule Finish Date	Milestone
1	Complete ACCSP and SC confidentiality documents, placing data work under SC laws. ACCSP standard confidentiality request form in addition to the South Carolina Non-disclosure form. This would allow for the trip level logbook data to be used for analysis, but the "rule of 3" (fishermen, dealers, and vessels) must be followed for any data summarization in project reports		06/16/2016	08/16/2016	N

Task #	Schedule Description	Prerequisite	Schedule Start Date	Schedule Finish Date	Milestone
2	Perform double the base charter mode (CH) site assignments as add-on assignments as per APAIS standard procedures, approx. 9 assignments per month for 6 months (May – October 2016) = 54 additional assignments.		06/16/2016	10/31/2016	Y
3	Determine the validity of the code sequence prepared by SCDNR staff.		06/16/2016	06/16/2017	N
4	Analyze and evaluate existing for-hire logbook data to determine adequate sampling needs.		06/16/2016	12/31/2016	N
5	Review data for years 2013-2016 of SC for-hire logbook data to investigate linking fields between the SC logbook and MRIP APAIS intercepts.		06/16/2016	06/16/2017	N
6	Compare, Analyze and evaluate 2016 for-hire logbook data to determine the level of matching necessary to consider a logbook report valid for use in management practices.		06/16/2016	06/16/2017	Y
7	Monthly progress reports submitted via PIMS to include a very high- level update on each task associated with the project.		06/16/2016	06/16/2017	Y

Task #	Schedule Description	Prerequisite	Schedule Start Date	Schedule Finish Date	Milestone
8	Consultant Tasks: Review of record matching work to date and continue development. Review/develop sample allocation methods for logbook validation Review/develop estimates of combined logbook/intercept effort/catch		06/16/2016	06/16/2017	Y

7.2. Cost Estimates

Cost Name	Cost Description	Cost Amount	Date Needed
Operations	ACCSP project monitoring, data entry & processing	\$0.00	
Operations	SC data collection:9 add-on assignments per month for 6 months May-Oct 2016 = 54	\$27648.00	09/30/2016
Consultants/Contracts	Survey Design and Statistical Review	\$40000.00	09/30/2016
TOTAL COST		\$67648.00	

8. Risk

8.1. Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach
Data collected will not be valid and will not be an accurate representation of the for-hire fishery.	1)The comparison of the SCDNR for-hire logbook data to the collected APAIS for-hire intercept data will prove that the logbook data is not suited to be used by NMFS to derive recreational for-hire catch and effort estimates in SC. 2)For-hire vessel captains do not provide accurate catch and effort data on logbook forms. 3)There will be no change in the data that Fisheries Managers utilize to make management decisions.	Medium	Outreach efforts must be made to ensure that SCDNR constituents understand the need and importance of accurate and complete data collections to ensure that management decisions for catch/effort estimates can be derived from quality fishery dependent data.

9. Supporting Documents

"2011 Charter Paper - Condensed Version 3 (SCDNR)", page 1

SUMMARY OF CALENDAR YEAR 2011 CHARTER VESSEL LOGBOOK DATA

The South Carolina Code of Laws requires permitted charter fishing vessels to submit daily trip logs for all charter fishing trips to the South Carolina Department of Natural Resources (SCDNR) on a monthly basis. Charter logs must specify:

- The number of anglers fishing
- The number of hours fished
- Target species
- An approximate fishing location using a gridded map of coastal South Carolina
- Fishing locale: estuarine, nearshore (≤ 3 miles), or offshore (> 3 miles)
- The species, number caught, and estimated total weight kept for each species caught

SCDNR compiles charter log data, which are used by state and federal fisheries managers to aid in fish stock assessment, to set species-specific fishery limits (e.g. bag limits, slot lengths), and to make decisions regarding fishery health on both state and regional scales. Data gathered from charter logs are used for federally-mandated fishery compliance reports to support the management of South Carolina's fishery resources. Complete and accurate charter log records, as well as the timely receipt of these records by the SCDNR, are critical to maintain viable, healthy, and productive fisheries in South Carolina. The SCDNR Office of Fisheries Management offers its sincere thanks to all charter captains for their time and effort in maintaining and submitting monthly charter log reports in a timely and accurate manner. This summary describes calendar year 2011 charter data as compiled by the Statistics Section of the SCDNR Office of Fisheries Management for "Class One" (six or fewer anglers) charter fishing vessels.

In 2011, 463 vessels registered for Class One charter permits, with approximately 94% of registered vessels reporting at least one charter trip. This continues an increasing trend in the annual number of vessels seeking charter permits (Figure 1), as well as a gradual trend toward a greater number of trips among fewer vessels over the past decade. The average number of trips per reporting vessel was 25, with an average of 107 total hours fished throughout the year. A single trip per day per charter vessel was typical

(94% of all trips); the other 6% of the time, individual vessels had between two and four trips in a day. In 2011, a total of 11,108 charter trips was reported (6% increase over 2010), including approximately 38,000 anglers (4.8% increase over 2010). These numbers are consistent with a gradual increase in the annual number of charter trips over the past decade, and an atypical increase in the annual number of anglers fishing (Figure 1). Total effort in 2011 was 46,400 boat hours (1.1% increase over 2010) and 159,500 angler hours (1.2% decrease over 2010).

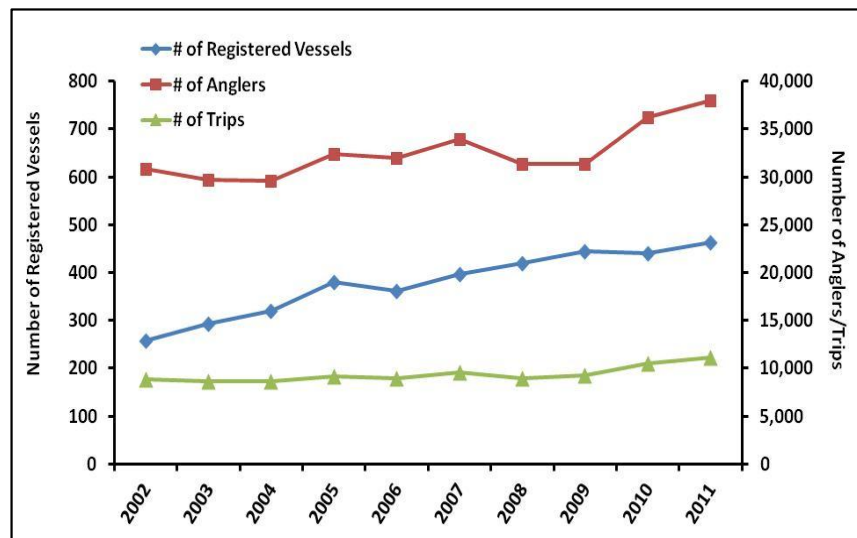


Figure 1. Annual number of vessels obtaining Class One charter permits (primary Y-axis), annual number of reported charter trips and annual total number of anglers on charter trips (secondary Y-axis), 2001-2011.

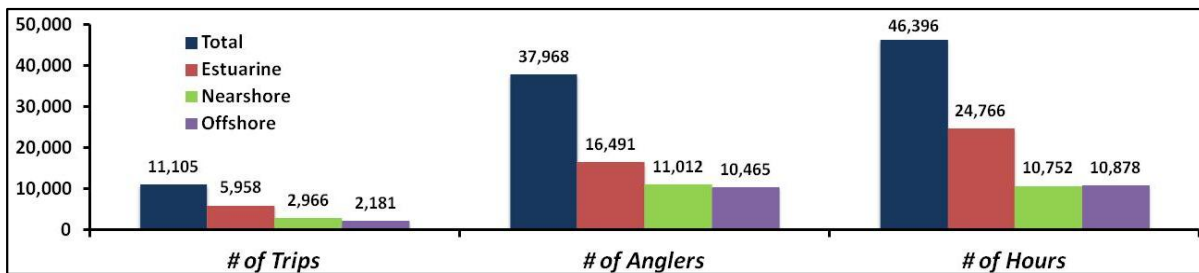


Figure 2. Number of Class One charter trips, number of anglers fishing, and total number of boat hours in calendar year 2011.

Nearly 54% of all charter trips in 2011 occurred in estuarine waters, with the remaining trips favoring nearshore (27%) over offshore (19%) trips (Figure 2). Offshore trips continued a pattern of slight annual decline in trip and angler numbers that has been evident since at least 2008, while estuarine trips rose 1.3% and nearshore trips rose 3.2% compared with 2010. Estuarine total effort included nearly 16,500 anglers, and as estuarine trips generally involve anglers actively fishing individual rods and reels, effort is reported as 24,800 angler hours. Approximately 11,000 anglers took nearshore trips and 10,400 anglers took offshore trips during 2011. Total fishing effort nearshore and offshore is generally given in boat hours, and was reported as nearly 22,000 boat hours, split evenly between the two locales (Figure 2). Estuarine trips averaged 2.7 anglers and 4 hours, nearshore trips averaged 3.7 anglers and 3.6 hours, offshore trips averaged 4.8 anglers and 5.0 hours per trip.

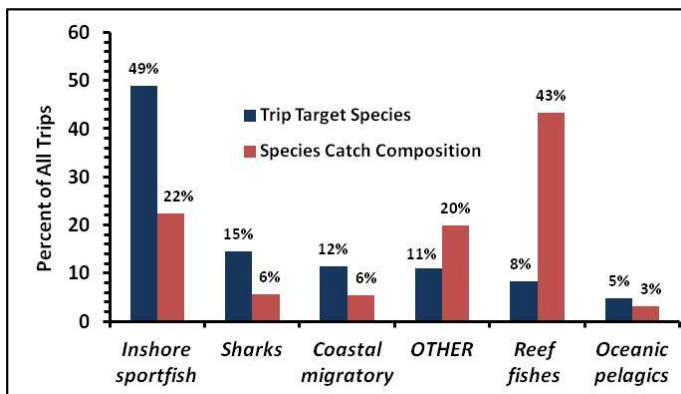


Figure 3. Trip target species and percent of total catch composition for all charter trips taken during calendar year 2011.

Generally, trips characterized by bottom fishing were more popular than trips using trolling methods; approximately 44% of all trips employed bottom fishing, 10% utilized trolling, and 8% employed a mixture of both methods. An additional 38% of anglers were fly/cast fishing. Although charter vessel captains are encouraged to be specific regarding intended target species, a single target species was not always provided. To simplify trip target reporting, SCDNR identified groups of species based on fish habitat and ecology, then assigned reported target species to one of these groups. Overall, inshore sportfish species (red drum, spotted seatrout, and tarpon) comprised the most targeted group of fish, representing 49% of trip targets (Figure 3). Sharks and coastal migratory pelagics (Spanish and king mackerel, cobia) comprised the next most highly sought after groups, followed by reef fishes (amberjack, black sea bass, grouper, grunts, porgy, sheepshead, snapper, spadefish) and oceanic pelagics (dolphin, marlin, sailfish, tuna, wahoo). Assorted "other" fishes accounted for 11% of trip target species.

Charter trips in 2011 reported a total catch of more than 245,000 fish encompassing approximately 101 species. In total, 79% of all fish caught were released (194,000 fish), while 51,313 fish were landed with an estimated total landing weight of 202,400 pounds. Reef fishes comprised the greatest percentage of species caught (43%), followed by inshore sportfish (22%), coastal migratory pelagics (6%), sharks (6%), and oceanic pelagics (3%). Approximately 40 assorted "other" species accounted for 20% of all fish caught (Figure 3). Individually, black sea bass and red drum were the most frequently caught species, and accounted for 52% of all fish caught (Figure 4). Together, ten species (black sea bass, Spanish mackerel, dolphin, vermilion snapper, red drum, flounder, bluefish, Atlantic sharpnose sharks, red porgy, and whiting) accounted for 81% of all fish kept.

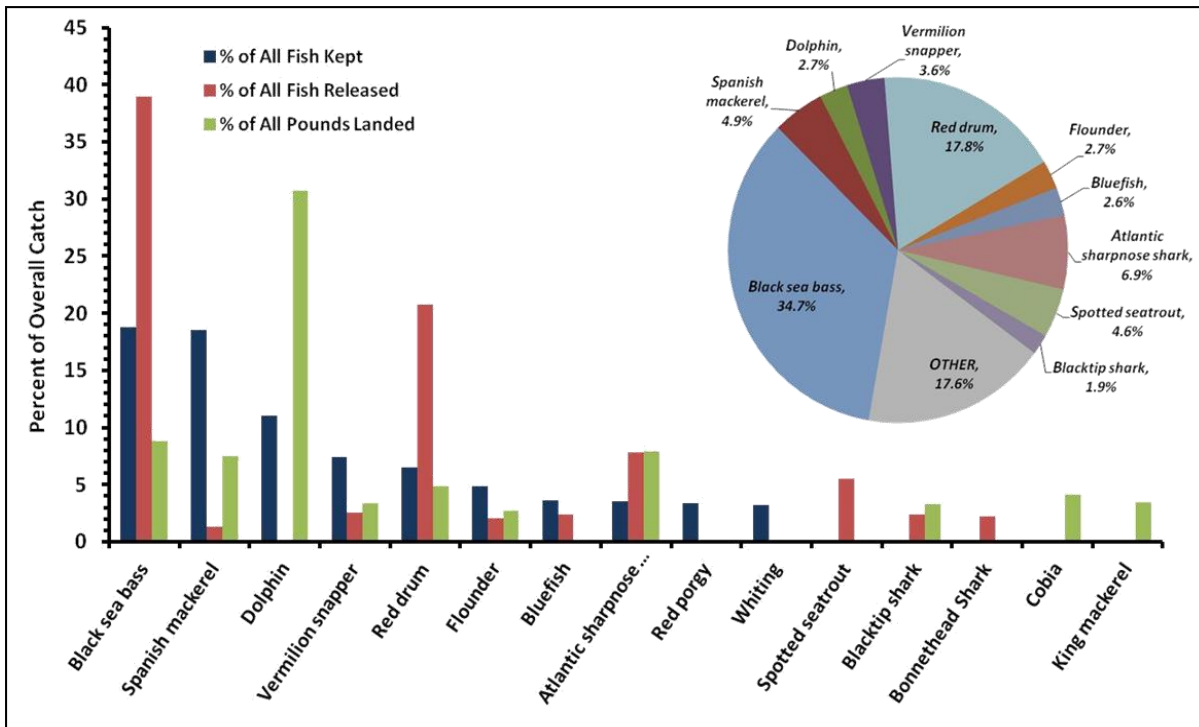


Figure 4. Ten individual species comprising the greatest percentage of charter vessel catch (pie chart); and the greatest percentage of fish kept, released, and pounds landed (bar graph) on charter trips during 2011.

Four species accounted for greater than 50% of the total pounds landed (dolphin, black sea bass, Atlantic sharpnose sharks, and Spanish mackerel), with dolphin alone accounting for 31% of the total landed pounds. Black sea bass, red drum, spotted seatrout, and three shark species (Atlantic sharpnose, blacktip, bonnethead) accounted for 78% of all fish released (Figure 4). Overall, the release of popular South Carolina sportfish continued to be strong, with high release rates for red drum (92%), spotted seatrout (95%), blue marlin, white marlin, and sailfish (100%).

Fishing locations, as denoted on the South Carolina map provided with each charter vessel logbook, could be ascertained from 83% of submitted charter logs, and from this information it was evident that a greater proportion of the total fishing effort occurred along the southern portion of coastal South Carolina (the Georgia state line to the Stono River). Approximately 41% of all charter trips during 2011 occurred in this area. Along the central coast (the Stono River to the N. Santee River), 23% of all charter trips occurred. The northern region of the coast (the N. Santee River to the North Carolina state line) included 19% of charter trips. No location was provided for 17% of charter trips. Twelve trips reported landing fish in South Carolina but fishing in Georgia state waters.

Additionally, 204 vessels (47% of reporting vessels) reported charter trips (average: 22 trips) along the southern region of the coast. A total of 153 vessels reported fishing only in this region. Along the central coast, 173 vessels reported trips (average: 14 trips), with 97 vessels fishing exclusively in this region. A total of 103 vessels reported trips along the northern portion of the coast (average: 21 trips), with 73 vessels fishing exclusively in this region. However, this distribution does not necessarily indicate more charter vessels are registered in this southern region, as many smaller vessels are trailered to various locations along the coast, and larger vessels occasionally leave ports in one region but actively fish along a different portion of the coast.

Where a trip target species and fishing location were possible to determine, targets were dominated by inshore sportfish species. This was largely due to the great number of trips targeting red drum and spotted seatrout, and was most evident along the central coast (Figure 5). In the northern region of the coast, the large proportion of fish in the assorted “other” group was primarily due to a greater number of trips targeting flounder here. Almost 77% of all charter trips targeting flounder occurred in the northern region. In the southern region, sharks comprised 19% of trip targets, and 53% of all trips targeting sharks

occurred in this region. Trips targeting coastal migratory pelagics were also more abundant along the southern and northern portions of the South Carolina coast, largely due to many trips targeting Spanish mackerel in each of these regions (Figure 5). Along the southern stretch of the coast, cobia fishing contributed toward the greater targeting of coastal migratory pelagics in this region. The charter fishery directed at cobia in South Carolina continued to be based almost exclusively in Beaufort County. Statewide, approximately 2.5% of charter trips (277 trips) targeted cobia during 2011; where location could be assigned, 95% of these trips occurred in Beaufort County. Finally, trips targeting oceanic pelagics comprised 5% of trips along the southern coast compared to $\leq 2\%$ along the rest of the coast; this is mainly attributed to many more charter trips targeting dolphin, wahoo, and marlin offshore of this portion of the coast than throughout the rest of the state.

Charter catch composition by region of the coast was more variable than trip target species by region of the coast, primarily due to differences in the proportion of trips devoted to fishing in estuarine, nearshore, and offshore waters in each region. Charter trips in estuarine waters were the most popular type of trip in each region; however, estuarine trips comprised 88% of all charter trips in the central region versus 53% and 45% of trips in the northern and southern regions, respectively. Catch in the central region was dominated by inshore sportfish and reef fishes, which accounted for 66% and 15% of total catch composition in this region, respectively (Figure 5). Catch composition in the northern region was dominated by reef fishes and the “other fishes” (primarily bluefish and flounder). The highest diversity of catch composition was evident in the southern region of the coast.

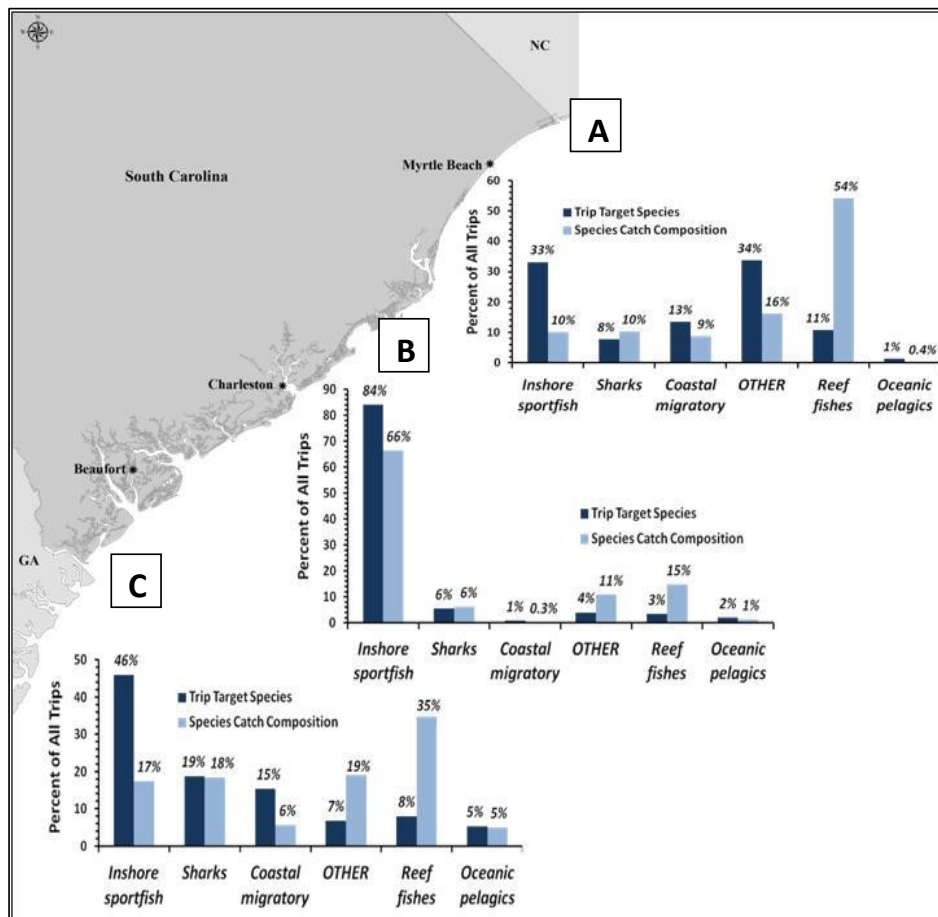


Figure 5. Trip target species and catch composition by species groups by region along the South Carolina coast. Geographic regions represent (A) NC state line – N. Santee River, (B) N. Santee River – Stono River, and (C) Stono River – GA state line. These data are drawn from the 83% of charter logs where fishing location could be