Commercial Discard Length Composition for South Atlantic Scamp and Yellowmouth Grouper

Sarina F. Atkinson

SEDAR68-DW-16

5 March 2020
Updated: 27 August 2020

Please cite this document as:

Atkinson, Sarina F. 2020. Commercial Discard Length Composition for South Atlantic Scamp and Yellowmouth Grouper . SEDAR68-DW-16. SEDAR, North Charleston, SC. 8 pp.

Commercial Discard Length Composition for South Atlantic Scamp and Yellowmouth Grouper

Sarina F. Atkinson[1]

August 2020

[1]Cooperative Institute for Marine & Atmospheric Studies, Rosenstiel School of Marine & Atmospheric Science, University of Miami, 4600 Rickenbacker Causeway, Miami, FL 33149

Corresponding author: sarina.atkinson@noaa.gov

Introduction

The commercial Reef Fish Observer Program (RFOP) and Shark Bottom Longline Observer Program (SBLOP) are managed by the NOAA Fisheries, Southeast Fisheries Science Center (SEFSC). Data from these two programs were used to characterize the length compositions from commercial discards in the South Atlantic for scamp and yellowmouth grouper. The observer programs were designed to collect specific catch and bycatch information for selected vessels and information collected includes trip, gear, and geographic characteristics.

In 2007, the South Atlantic Fisheries Foundation began collecting catch and discard data from the snapper grouper vertical hook-and-line fishery of the South Atlantic on volunteer vessels (Helies and Jamison 2013). Data collection protocols were consistent with the Gulf of Mexico RFOP, therefore stored in the RFOP database, and will be referred to as RFOP data. The collection of these data was dependent on funding and varied in annual coverage. Data were available from 2007 to 2016 with no observers deployed on vessels in 2012 and 2013 due to a lack of project funding.

The SBLOP became mandatory (with few exceptions, an observer must be allowed onboard the selected vessel) in January 2002 in both the South Atlantic and the Gulf of Mexico for bottom longline vessels that hold shark permits (Mathers et al. 2018). Bottom longline SBLOP data were available since 2005 when the observer program moved to SEFSC. Prior to 2005, the SBLOP was maintained by the University of Florida and the SEFSC does not have access to these data (Morgan et al. 2010). The SBLOP database also includes data for the snapper-grouper vertical line fishery from North Carolina to Western Florida (Enzenauer et al. 2015). This mandatory program began in 2014. Vessels were randomly selected within each of the three fishing regions (the Carolinas; Georgia to Cape Canaveral, Florida; and southern Florida).

Methods

Data were available from both the RFOP and SBLOP databases from 2005 to 2016. At sea observers provide extensive information on fish hauled onboard a vessel including: condition (alive, dead, barotrauma), disposition (kept, discarded dead, discarded alive, etc.), whether the fish was vented before release, length, and weight. Lengths were converted to fork length (cm) and provided here by 2cm bins. Fishing areas were categorized according to statistical grids and may be referenced using the areas designated under the RFOP (Figure 1).

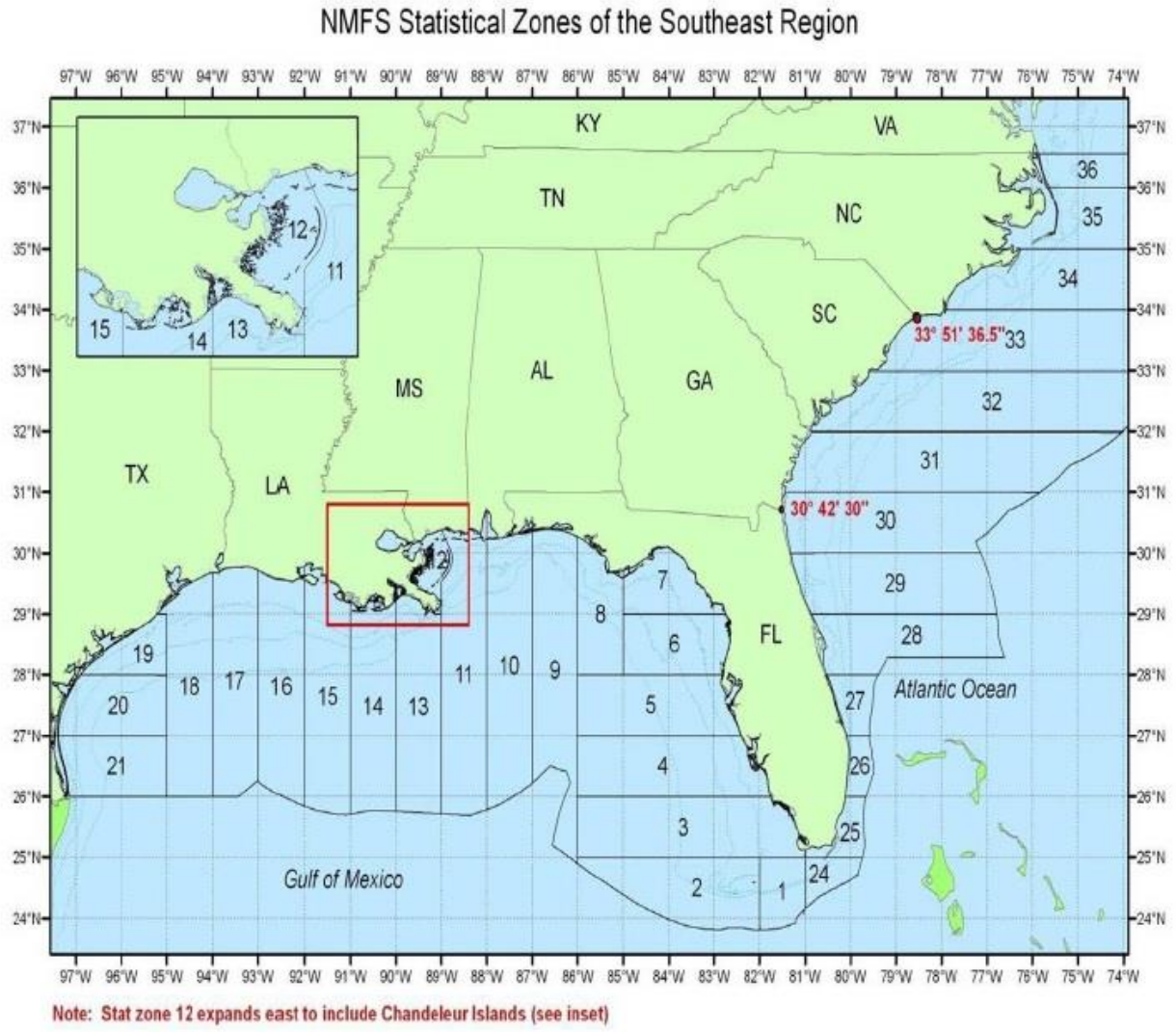


Figure 1. Statistical grids for the South Atlantic and Gulf of Mexico from the RFOP training manual (NMFS 2019).

Results and Discussion

The observer data were partitioned by data source (RFOP, SBLOP) and gear/fishery type (bottom longline, vertical line) for the South Atlantic. Table 1 summarizes the number of observations available for each source. Fish kept for bait, released alive, released dead, and unknown were included in the discarded portion. Fish designated as unknown include unknown fate (either kept or discarded) as well as released unknown (dead or alive). SBLOP data had 10 discarded scamp and yellowmouth grouper among longline and vertical line trips. Therefore, all SBLOP data were excluded from analyses. Only RFOP data on vertical line trips were summarized. Scamp and yellowmouth grouper were combined in analyses because only 5 yellowmouth grouper were discarded across all gears and datasets. Therefore, results will use scamp when referring to both scamp and yellowmouth grouper data.

The minimum size limit for scamp has been 20 inches (50.8 cm) since 1992. Since 2010, there have also been seasonal closures from January 1 to April 30 each year. Only three scamp were

observed and measured during the closed season. All other interactions were during the open fishing season. Results for longline and vertical line gears explore the length compositions by year to show differences in discard patterns under these management regulations.

Table 1. Summary of Data Available for the South Atlantic.

Data Source	Gear Type	Trips caught scamp	Vessels caught scamp	Number of measured scamp	Number of measured scamp discards
RFOP	Vertical Line	72	27	2,586	545
SBLOP	Longline	11	6	34	4
SBLOP	Vertical Line	18	8	109	6

Vertical Line Data

Limited data were available for the South Atlantic. The RFOP data had 545 measured and discarded scamp for vertical line (bandit or handline) trips. Table 2 shows the number of discarded and kept scamp by year along with the number of trips for each. The most discards were in 2007 when the pilot project first began to observe vessels in the snapper grouper vertical hook-and-line fishery. Years with less than three observed vessels were aggregated with adjacent years to retain confidentiality. Most of the trips fished off the coast of Georgia and South Carolina (Figure 2). Figure 3 displays the overall length composition and most scamp were discarded for being under the minimum size limit (Figure 4).

Table 2. Kept and discarded scamp by year for vertical line trips.

	Discards		**Kept**	
Year	**N**	**Trips**	**N**	**Trips**
2007 - 2008	468	24	1,131	30
2009	33	4	220	7
2010 - 2011	26	6	250	12
2013 - 2015	7	5	246	13
2016	11	5	191	8

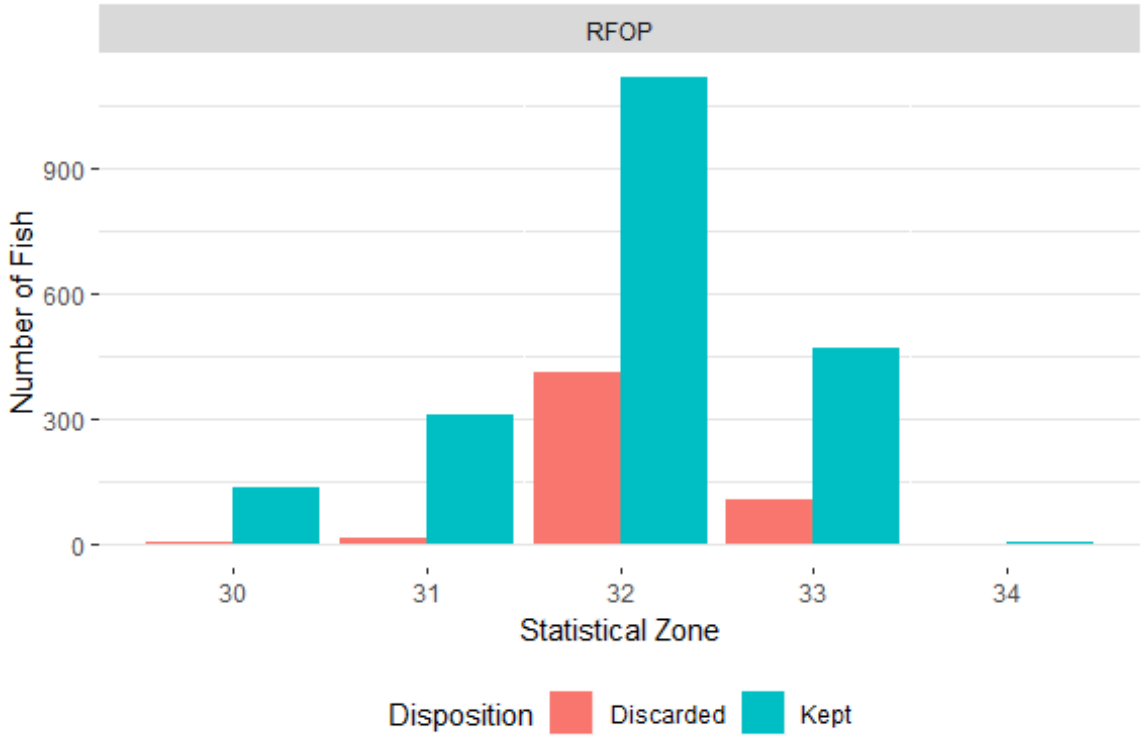


Figure 2. Frequency of where scamp were caught on vertical line trips, where statistical zones are defined in Figure 1.

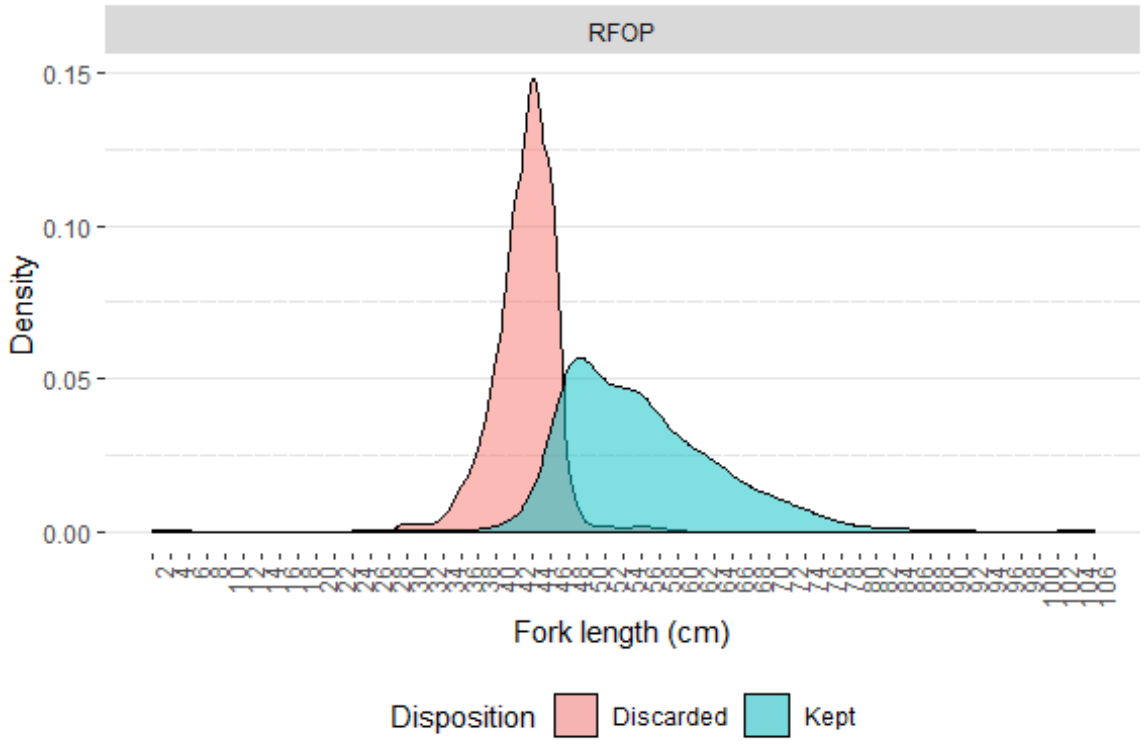
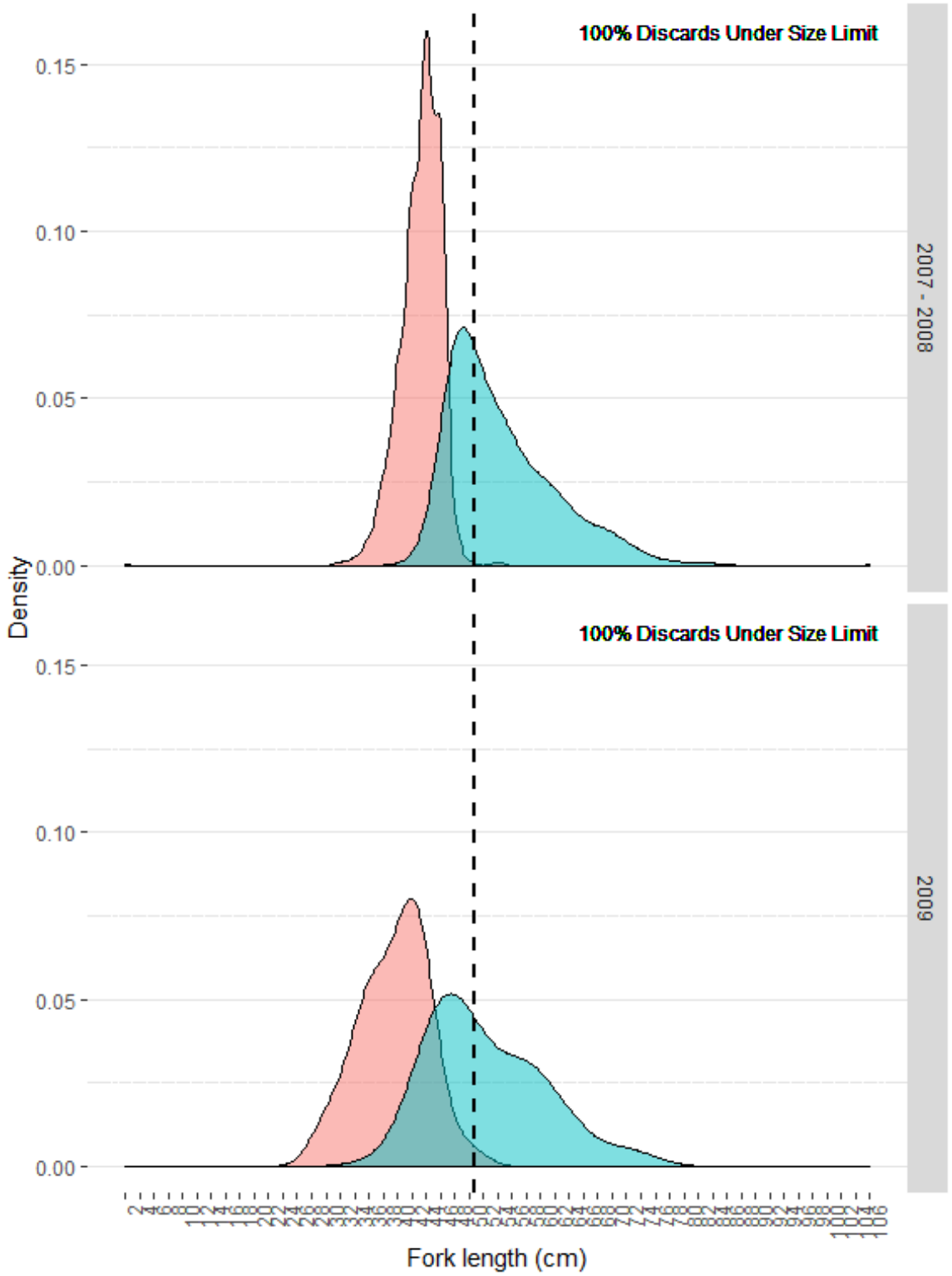


Figure 3. Overall smoothed length composition for scamp for vertical line trips.


100% Discards Under Size Limit
0.15
0.10
0.05
0.00
2007 - 2008
100% Discards Under Size Limit
0.15
0.10
0.05
0.00
2009
Density
Fork length (cm)

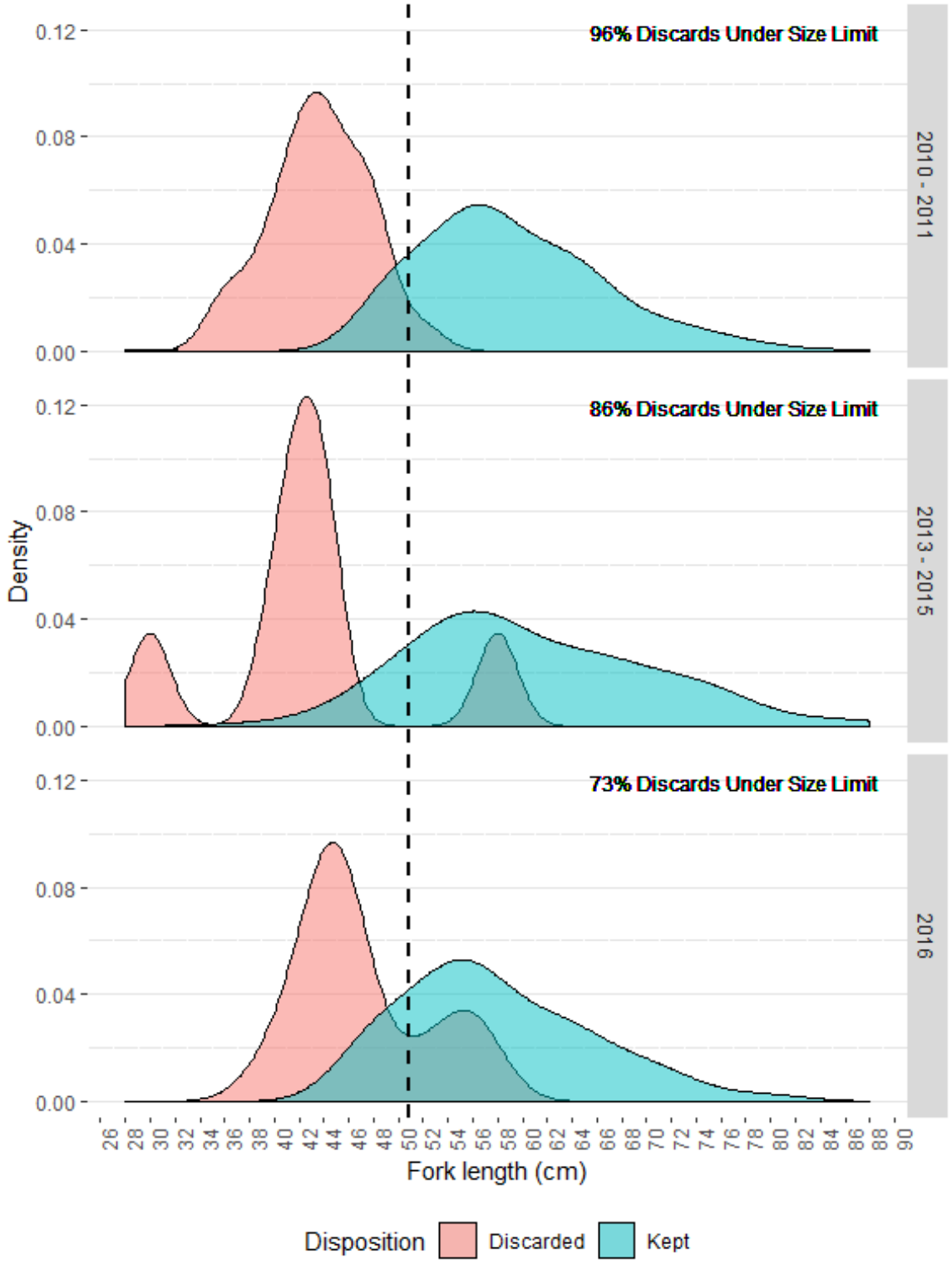


Figure 4. Smoothed length composition for scamp by year for RFOP vertical line trips. The dotted line indicates the minimum size limit. The percentage reported represents measured fish below the minimum size limit.

References

Enzenauer, M. P., S. J. B. Gulak, B. M. Deacy, and J. K. Carlson. 2015. Characterization of the southeastern U.S. Atlantic mid-shelf and deepwater reef fish fisheries. NOAA Technical Memorandum NMFS-SEFSC-679, 18 p.

Helies, F. C. and J. L. Jamison. 2013. Continuation of Catch Characterization and Discards within the Snapper-Grouper Vertical Hook-and-Line Fishery of the South Atlantic United States. GSAFFI 113.

Mathers, A. N., B. M. Deacy, H. E. Moncrief-Cox, and J. K. Carlson. 2018. Characterization of the shark bottom longline fishery. 2017. NOAA Technical Memorandum NMFS-SEFSC-727, 21 p.1-21. doi: 10.25923/f1n6-r841.

Morgan, A., P. W. Cooper, T. Curtis, G. H. Burgess. 2010. Overview of the U.S. East Coast Bottom Longline Shark Fishery, 1994-2003. *Marine Fisheries Review*, 71(1) p.23-38.

NMFS. 2019. Characterization of the U.S. Gulf of Mexico and Southeastern Atlantic Otter Trawl and Bottom Reef Fish Fisheries Observer Training Manual. National Marine Fisheries Service, Southeast Fisheries Science Center, Galveston Laboratory.

Scott-Denton, E., P. F. Cryer, J. P. Gocke, M. R. Harrelson, D. L. Kinsella, J. R. Pulver, R. C. Smith, J. Williams. 2011. Descriptions of the U.S. Gulf of Mexico Reef Fish Bottom Longline and Vertical Line Fisheries Based on Observer Data. *Marine Fisheries Review*, 73(2) p.1-26.