Updated Commercial Catches of Sandbar in the U.S. Atlantic and Gulf of America (1993-2024)

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SEDAR 101-DW-28

Updated commercial catches of sandbar sharks in the U.S. Atlantic and Gulf of America (1993-2024)

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ABSTRACT

This document presents commercial landings of sandbar sharks (*Carcharhinus plumbeus*) from the U.S. Atlantic and Gulf of America for 1993-2024. Mexican landings are also presented from the Gulf of America. Information on the geographical distribution of commercial landings and gear-specific information of commercial landings is included.

KEYWORDS

Catch, Landings, Commercial fishing, Long lining, Shark fisheries, Observer programs, Sandbar sharks, Carcharhinus plumbeus

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1. Background

Updated commercial catch series from 1993-2024 are presented for the SEDAR 101 sandbar data workshop. Commercial landings data sources from the Gulf of America, Atlantic Ocean coasts, and catch data from Puerto Rico and the US Virgin Islands, along with Mexican landings from the Gulf of America were examined. Information on the geographical distribution (state of landing) and gear-specific information of commercial landings (by major gear groups) is presented.

2. Catch streams - Methods

2.1. Commercial landings

Time range. Data collected since the implementation of the 1993 FMP for Sharks of the Atlantic Ocean has been reassessed and is presented for the period 1993-2024. Data from the various data sources to their inception years was also examined but is not included as part of the catch series in this document.

Data sources. Commercial landings for 1993-2024 were collected from several data sources and combined to make a complete catch time series. ALS (Accumulated Landings System, referred to as general canvas data in earlier data workshop papers for commercial catches), the FIN (Fisheries Information Network) databases – GulfFIN (Gulf Fisheries Information Network) and ACCSP (Atlantic Coastal Cooperative Statistics Partners), PDC (Pelagic Dealer Compliance, referred to as QMS in previous data workshop papers), and eDealer, the Atlantic Highly Migratory Species (HMS) Division's collection program for HMS commercial landings. A discussion of shark data sources is described in SEDAR 21-DW-07.

The magnitude of the catches outside of the US EEZ is unknown but believed to be small, with the exception of the Mexican catches. Mexican landings of sandbar sharks in the Gulf of America were reconstructed as described in the Mexican landings section below, Section 2.2.

Landings for Puerto Rico and the U.S. Virgin Islands were gathered from the Accumulated Landings System (ALS) database and the Caribbean Commercial Vessel Logbook database (2012-2024); however no catches of sandbar sharks are found. Additionally no landings of sandbar in these Caribbean areas exist according to the Atlantic Coastal Cooperative Statistics Program (ACCSP) or eDealer data sources.

To address the data quality and completeness of each data source, a table of *data uncertainty* was created by the analysts (**Figure 1**). Data sources used in this assemblage cover different geographical regions and different time periods. Additionally, as federal shark reporting regulations were enacted, data quality of data sources changed over time (i.e., federal reporting requirements in 1993, Shark Research Fishery with observer requirements in 2008, species-specific reporting requirements in 2013). **Figure 1** lists the U.S. commercial landings data sources used in the catch series (1993-2024), the region each data source covers, and the relative comparative confidence level the data analysts have using the data for assessing sandbar landings. Higher numbers in this table indicate higher levels of uncertainty. As several of these same data sources are used in

reconstructing the catch series to the beginning year of the assessment, confidence levels are included back to the original dates of each data collection.

Catch series assemblage. Shark landings from GulfFIN, ACCSP, and eDealer are combined, removing trip-level duplication, and creating a single data set for the Gulf of America and Atlantic coasts. Consolidated data are then compared to the ALS data and to the PDC (also known as QMS) for any missing landings.

Regions are assigned to the data of Gulf of America, South Atlantic, and North Atlantic regions. The boundary between the Gulf of America and the South Atlantic is defined in the Code of Federal Regulations § 635.27(b)(1) as "a line beginning on the East Coast of Florida at the mainland at 25°20.4′ N lat., proceeding due east. Any water and land to the south of that boundary is considered, for the purposes of setting and monitoring quotas, to be within the Gulf of America region." The North and South Atlantic regions are separated between North Carolina and Virginia with North Carolina and south being assigned as the South Atlantic, and states Virginia and north assigned as the North Atlantic. The exception to this was when FIN area codes are available with the records, then any North Carolina landings with a FIN area of '635' or less are assigned as North Atlantic.

Gears are primarily grouped to the NMFS "Category Type" for each landing. Using the categorical information, the following long line gears, which account for 91% of the sandbar landings from 1993-2024, are included with LONG LINES: Drift with hooks, Set with hooks, Reef fish, Shark, Bottom, Surface, Surface-midwater, Trot, Vertical, and Not specified Long Lines. For GILL NETS, which account for 4.5% of the sandbar landings, the following gears are included: Runaround, Runaround drift, Floating anchor, Floating drift, Sink anchor, Sink drift, Other, Not specified, and Trammel Nets. The following gears are included with HANDLINE gears (2.7% of the sandbar shark landings): Hand line, Hook and Line, Electric hook and line, Manual hook and line, Rod and reel, Electric or hydraulic reel, Diving gear by hand, Other hand lines, and trolls. For TRAWLS, which are reported to catch just under 0.25% of the total sandbar sharks, include Otter trawls, Bottom otter trawls (for fish, shrimp), Midwater otter trawls, Scottish seine, Skimmer trawls, Other trawls, and Fly nets are included. OTHER GEARS account for less than 1 percent of the reported landings and include Pots and Traps (general, for fish, and for lobster), Floating traps (Shallow), Pound nets, Cast nets, Combined gears, Purse seine (general and Other), Haul seines, Other seines, other fixed nets, Dredge, and Spears. Reports that were NOT CODED for a gear make up 1.5% of the total reports.

The PDC data, which is a collection of bi-monthly summary reports that were used for HMS quota monitoring from 1993-2012, does not include gear information. Gears were assigned to the sandbar records in this data set using the gear assemblage information from the consolidated FINS+eDLR+ALS data set, after unclassified sharks were apportioned to species (discussed below). To maintain consistency with the process used for apportioning unclassified reports to species, the gear composition was determined according to the year, region, and species.

Unclassified sharks. While reports of sharks as "unclassified" was standard in the mid to late-1990's, it is now virtually non-existent with sharks reported to species as the norm. In the 1990s, unclassified sharks comprised 38.9% of the sharks reported, 16.1% in the 2000s, less than 2.0% in the 2010s, and 0% reported since 2014.

For the 1993-2024 catch series, unclassifieds comprise 17.8% of the total sharks reported (including smoothhound and spiny dogfish). This includes several unclassified *types* including general shark, pelagic shark, small coastal shark, family Carcharhinidae, and genus Carcharhinus.

The most recent SEDAR data workshops addressed unclassified sharks by distributing them to species based on proportions in the data of a) year, state, gear, and area fished whenever possible; b) year, state and gear; c) year and state; or d) only state if other values were not available in the data. Other methods proportionally allocated unclassified reports to sandbar sharks by using the proportion of sandbar sharks in the large coastal shark (LCS) complex (in the total U.S. landings estimates) and multiplying the unclassified sharks by that value to estimate the weight of sandbar sharks likely listed as unclassified (1996-2009; SEDAR 21). The method of apportioning different unknown shark codes to different groups of shark species was not applied here, as inconsistent use and availability exists between different states and data sources. Additionally, the use of three of these unclassified shark species codes were reassigned in 2013 to represent general shark fin species and general shark bellies. Instead, all unclassified shark reports were pooled together as a single unclassified group prior to apportionment to species.

Species proportions were created from the consolidated FINS+eDLR+ALS+PDC data set, without unclassified records, and data apportioned by year, gear, region and species. 'Region' was selected rather than 'state' information for two main reasons. First, for some states, no species-specific information existed and only reports of unclassified shark existed for the entire year making proportions difficult to apply. Secondly, the state information available in the PDC data represents the location of the fish house, rather than the location of landing; however the region information was corrected to represent the region of landing,thus allowing for more accurate apportion creation.

Weights to Numbers. The data are collected in landed or dressed weight. Weights are converted from dressed weight to number of sharks. In SEDAR 11, various methods were used to apply to pre-1993 data (1981 to 1985, average weight of 35.9; 1986 to 1993, average weight of 34.5). From 1994 onward, the average weight was determined from data provided directly by the bottom longline shark fishery observer program.

For this catch series, commercial landings in numbers were calculated by dividing annual landings in weight by average weights from the Southeast Gillnet Observer Program (GNOP) and the Reef Fish and Shark Bottom Longline Observer Programs (collectively referred to as BLLOP hereforth) as appropriate. All weights from the GNOP and BLLOP were predicted from fork length measurements taken by observers in gillnet and longline fisheries, respectively, using a weight-length regression (Natanson et al. 2022). Additional information on weight average calculations for this assessment can be found in the data workshop paper, SEDAR 101-DW-22. Since there were no observations of sharks caught on hook and line/hand line fisheries, average weights for hook and line/hand lines were assumed equal to those from the bottom longline fishery.

2.2. Mexican landings

The Mexican catch series was reconstructed using data from Bonfil and Babcock (2005) ((SEDAR 11-DW-06) for the years 1976-2000, combined with data available through

Mexico's Conapesca fisheries statistics on-line site: (https://www.gob.mx/conapesca/documentos/anuario-estadistico-de-acuacultura-y-pesca).

In summary, estimates of sandbar landings and numbers of sharks from these data were calculated following the methods presented by Bonfil and Babcock (2005) and by the recommendations from the SEDAR 11 Data Workshop (SEDAR 11-Stock Assessment Report). Here it was determined that sandbar sharks were only caught in the 'large shark', or "tiburón", category (>1.5 m TL) and only in the states of Tamaulipas, Veracruz and Yucatán. Sandbar sharks were to comprise 7% of the large sharks (in live weight) in Yucatán, and 7.3% in Tamaulipas and Veracruz. Average weights of 29.5 kg in Yucatán and 38 kg in Tamaulipas and Veracruz were applied to the weights to convert the catch to numbers of sharks. It was decided during the workshop that the entire tiburon landings reported for these regions would be used in the calculations, as there is no scientific evidence of nursery areas in Mexican waters and therefore all sandbar sharks would have come from the United States. In SEDAR 54, the catch history for Mexican landings was maintained for 1981-2004 and then estimated with values by using the last year of data (2004 data) through 2009.

When reconstructing the series, two numbers were updated for landings of large sharks in Tamaulipas and one data point for Veracruz from the original data set. Landings in 2005 were updated from 220 mt of large sharks to 593 mt for Tamaulipas and from 336 mt to 1121 mt for Veracruz. In 2007, landings were updated from 775 mt to 756 mt for Tamaulipas. A table of large shark, or "tiburónes", landings in metric tons, live weight, as reported from the Conapesca data, is presented in Table X. Landings, in dressed weight, and numbers of sandbar shark that have been calculated from the Conapesca data are presented in Table X.

Landings of sandbar shark were then estimated from Tamaulipas, Veracruz, and Yucatan using the percentages of adopted in SEDAR 11 – 7% for Yucatan, 7.3% for Tamaulipas and Veracruz. Numbers of sharks were then calculated from the landings using the average weights presented in the same paper – 29.5 kg in Yucatán and 38 kg in Tamaulipas and Veracruz. Estimated landings and numbers of sandbar sharks from Mexican commercial data are presented in Table X.

3. Catch series - Results

Data are checked for confidentiality and are not directly displayed if fewer than three dealers report for any set of summarized variables.

Comparing ALS data to FINS+eDLR adds an additional 13% of sandbar landings (2.6 million lbs, dw) to the time series, with 90% of these landings attributed to Florida (60% to the Gulf of America and 33% to the South Atlantic), over 5% to South Carolina, and the remaining weight to Georgia, Mississippi, and North Carolina. Comparing the combined FINS+eDLR+ALS data to PDC results in additional 7% of sandbar landings (1.6 million lbs, dw), two-thirds of which were landed between 1995 and 1999.

Landings of sandbar sharks show a sharp decline since 2008 (**Tables 1-2; Figures 2-3**), which is expected due to the management changes which began that year, heavily curtailing sandbar landings. The management measures stipulated that only vessels accepted into the Shark Research Fishery (SRF) and fished with a NOAA Fisheries observer on board could

target and land sandbar sharks.

Prior to 2008, the highest landings since these measures went into effect occurred in 1994, with over 3 million lb, dw landed that year, with almost 60% of the landings occurring in the Gulf of Mexico. After 2008, the highest landings are observed in 2009 and 2015 where over 165,000 lb, dw were landed each year. Average annual landings from 2008 to 2024 are over 114,000 lb dw.

Most sandbar landings occur in Florida (**Figure 4-7**) and higher total quantities landed in the Gulf of America, followed closely by the South Atlantic. Sandbar catch levels and locations, since 2008, are entirely dependent upon the SRF's participating vessels in the SRF (*average # of participating vessels per year? 3?*).

Commercial landings by gear (**Tables 3-4; Figures 8-12)** are dominated by longlines (over 85% of the annual catches), with gillnets between 4-10%. Other notable gears include "Handline", which includes Hand line, hook and line, and by Hand' fishing, and 'Trawl'.

Unclassifieds. In the 1993-2024 consolidated data set, 12.6% of the total shark landings reported to species (including dog shark) was reported as sandbar shark, and 17.8% of the total shark landings were reported as unclassified shark. After apportioning to species, sandbar weight increased by 34%, or 7.4 million lbs, dw, 47% of which was apportioned to the years 1993 and 1994. The graphics in **Figure13** show the assemblage of shark reports by management groups + Unclassifieds as reported, and the composition after apportioning.

4 - Pre-1993 data

Unreported Catches. Unreported LCS landings were provided by Mr. Chris Brannon to the National Marine Fisheries Service (NMFS) during the 1996 SEW. These landings have been part of the LCS database since then and have been included here as well.

These landings correspond to the Gulf of Mexico during 1986, 1987, 1990 and 1991, while half of the landings correspond to the Gulf of Mexico and the other half to the mid Atlantic during 1988 and 1989. For the Gulf of Mexico, Brannon estimated that landings were approximately 2/3 blacktip sharks, with the remaining third being a combination of sandbar sharks and other LCS species. For the Atlantic, Brannon reported that landings were approximately 80% sandbar sharks, with the remaining being a combination of blacktip sharks and other LCS species. The SEDAR 11 Catch Working Group (WG) did not have any way of determining what amount, if any, of these catches were included in landing reports. Given the general belief that landings before the current reporting systems were underreported, the WG made the assumption that none of the catches were included and kept these data separate, listing them as unreported.

Following the information provided by Mr. Brannon, for the years 1986, 1987, 1990, and 1991, it was assumed that 11% (0.33x0.33) of the total landings in the Gulf of Mexico consisted of sandbar sharks. For 1988 and 1999, 40% (0.5x0.8) of the total landings in the Atlantic consisted of sandbar sharks. We thus kept the catch history derived in SEDAR 11 for 1986-1991.

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Figure 1. Data Uncertainty table for domestic Sandbar shark Commercial Catch Sources. Suggestions for the level of uncertainty for commercial landings sources are provided. These numbers are relative and are based on "expert opinion" of the data in regards to sandbar shark landings. The lowest uncertainty levels are suggested for datasets and time periods that provide high confidence in values needed for sandbar shark catch series construction. The highest uncertainty values are assigned to datasets and time periods where data may be incomplete, inaccurate, or a mixture of both. Source: suggested method borrowed from SEDAR 68 - GOM Scamp (pers. comm. S. Atkinson, M. Pawluk).

Uncertainty table for commercial catch sources for Sandbar shark

Year	ALS	GulfFIN	ACCSP	PDC	eDealer	Percentage of catch Per Uncertainty Level		Recommended Uncertainties for Year Ranges
	TX-NC, Caribbean	TX-FL	FL-ME	TX-ME, Caribbean	TX-ME, Caribbean	0.1	0.05	
1950 - 1971			0.2					0.2
1972 - 1986	0.2		0.2					0.2
1987 - 1992	0.2	0.2	0.2					0.2
1993 - 2007	0.1	0.1	0.1	0.1				0.1
2008 - 2012	0.1	0.05	0.05	0.1		12.98	87.02	0.06
2013 - present	0.1	0.05	0.05		0.05			

Table 1. Commercial landings of sandbar sharks in weight (lb dw), 1993-2024 by region. * = Values are considered confidential and cannot be published.

YEAR	GOA	ATL
1993	1,252,213	1,018,897
1994	1,834,722	1,255,278
1995	1,210,812	1,013,883
1996	720,413	1,133,683
1997	959,370	701,915
1998	498,169	716,942
1999	514,706	1,144,000
2000	721,864	1,015,426
2001	864,470	839,279
2002	982,612	1,253,615
2003	830,966	874,730
2004	839,390	866,560
2005	466,637	820,779
2006	1,142,065	927,466
2007	305,805	482,497
2008	30,268	64,936
2009	117,402	55,888
2010	54,914	91,771
2011	51,069	94,642
2012	26,348	52,166
2013	40,231	44,509
2014	38,036	82,370
2015	53,250	112,645
2016	52,244	62,928
2017	74,051	47,048
2018	63,324	71,011
2019	47,655	103,895
2020	*	22,549
2021	59,989	49,250
2022	53,904	32,905
2023	*	*
2024	105,375	19,581

Table 2. Commercial numbers of sandbar sharks in numbers, 1993-2024 by region. * = Values are considered confidential and cannot be published.

YEAR	LONG LINES	GILL NETS	HANDLINE/H&L	TRAWLS	Other Gears
1993	1,763,369	3,228	133,174	365	370,975
1994	2,841,675	65,265	124,536	8,049	50,475
1995	2,043,215	59,399	67,327	8,046	46,708
1996	1,692,328	57,441	66,632	22,156	15,540
1997	1,462,264	10,544	145,665	6,760	36,051
1998	1,026,685	41,693	61,995	73,355	11,384
1999	1,537,859	22,059	57,014	30,739	11,035
2000	1,645,181	49,733	22,236	1,925	18,214
2001	1,582,418	50,844	60,881	782	8,823
2002	2,027,592	63,216	138,431	2,567	4,421
2003	1,596,041	64,682	36,582	212	8,179
2004	1,615,700	53,014	36,769	13	454
2005	1,187,369	39,455	26,818	17,918	15,857
2006	1,857,664	122,779	7,506	4,434	77,147
2007	549,614	125,671	3,490	6,117	103,410
2008	52,063	40,556	368		2,216
2009	169,719	122	3,007	*	190
2010	123,737	19,105	*		2,565
2011	130,767	8,875	2,534	*	3,042
2012	57,999	15,447	*	*	566
2013	80,895	3,381	*	*	12
2014	108,771	11,620			15
2015	142,083	*		*	
2016	85,370	*	*		
2017	98,181	*	*	*	
2018	118,768	*	*		*
2019	140,750	*		*	
2020	49,298	*			
2021	109,038	*	*		
2022	86,809	*			
2023	*	*		*	
2024	121,141	*			

Figure 2. Commercial landings of sandbar sharks by year and region in weight (lb, dw), 1993-2024. Top panel: data are summarized annually; bottom panel: regional data are shown as annual percentages.

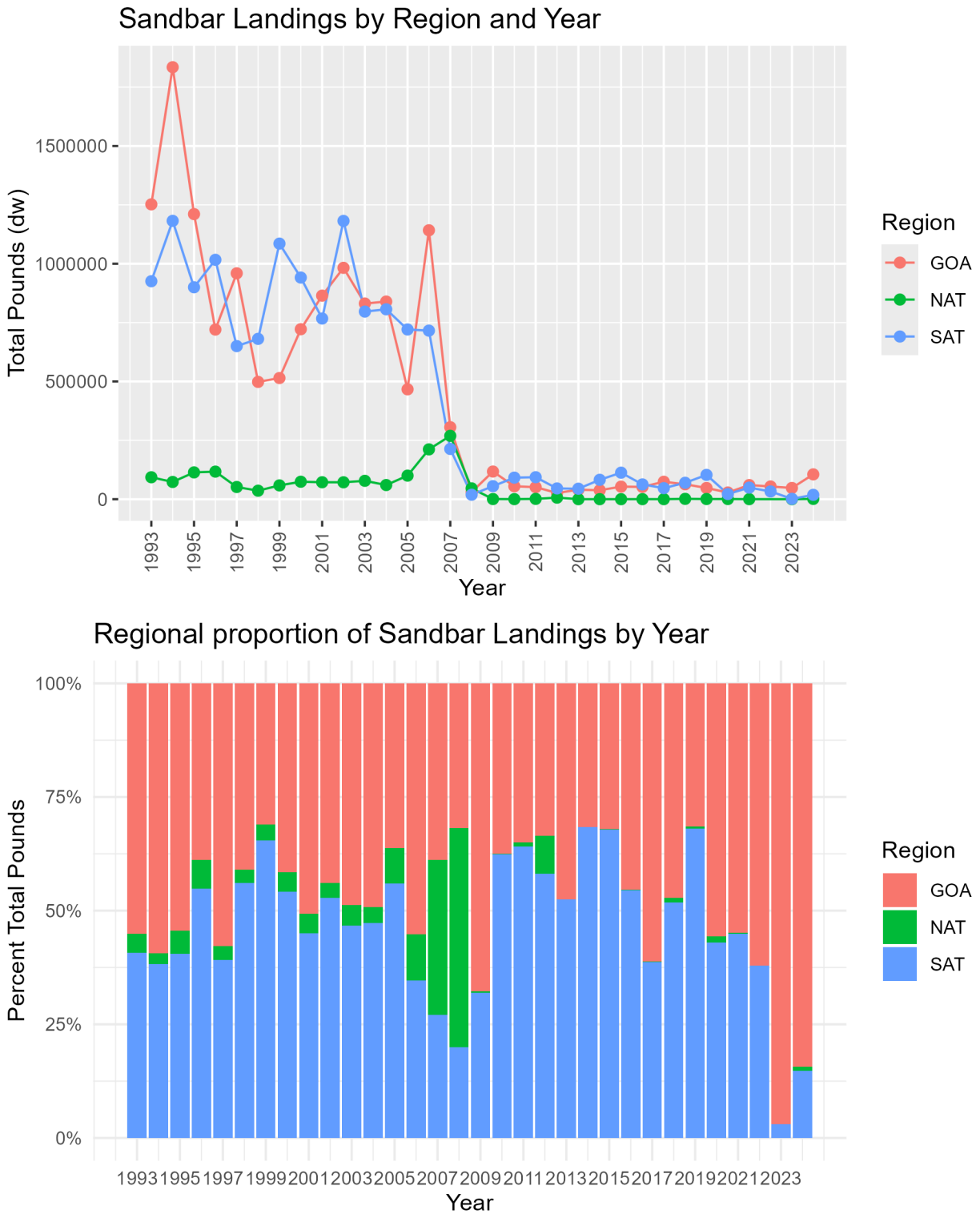

Figure 3. Commercial landings of sandbar sharks stacked by year and region in weight (lb, dw) by gear, 1993-2024.

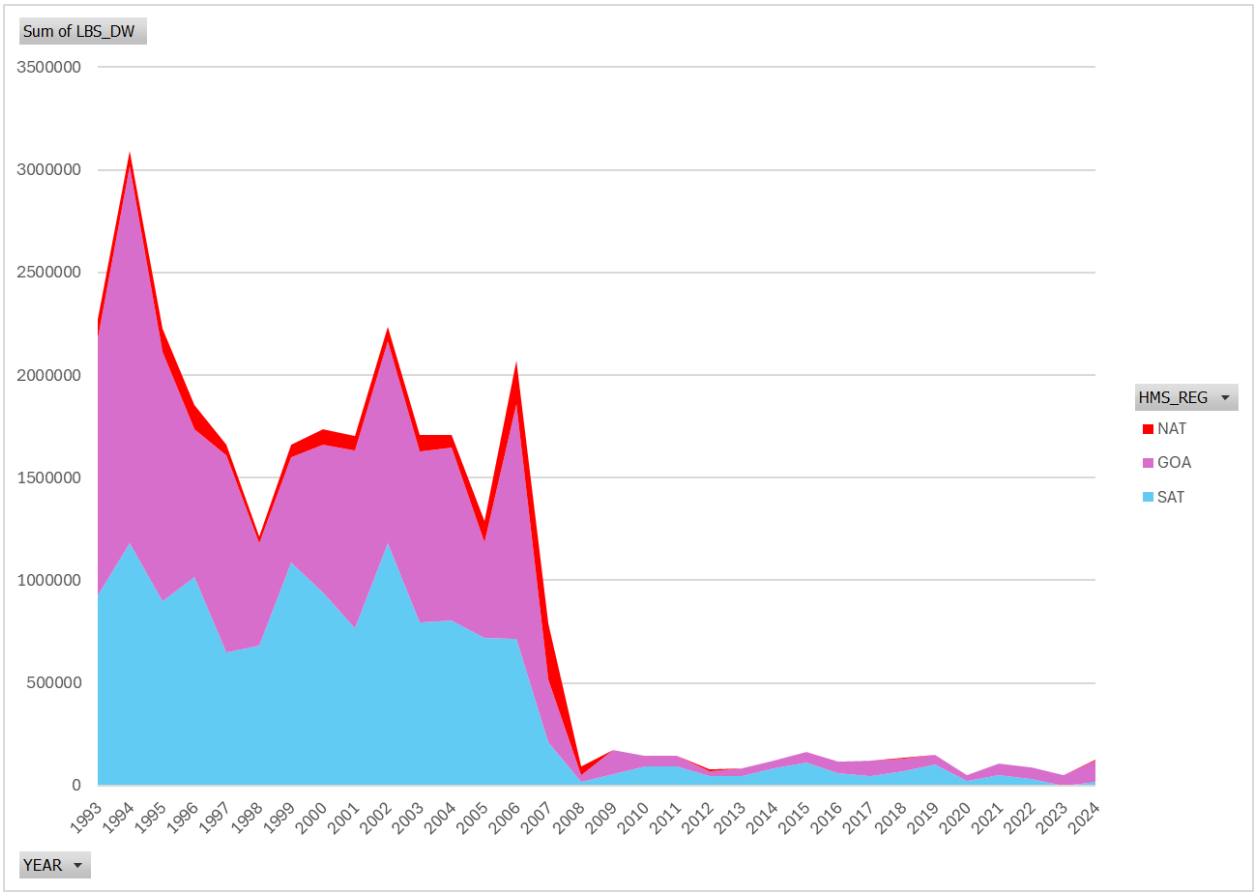

Figure 4. Commercial landings of sandbar sharks by year and state in weight (lb, dw) by gear, 1993-2024.

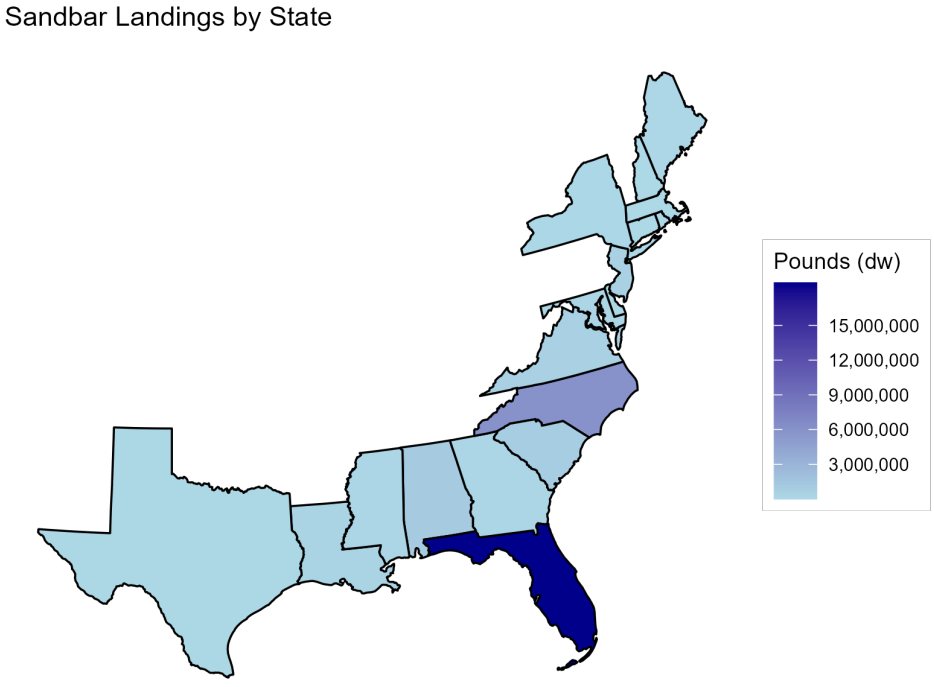

Figure 5. Commercial landings of sandbar sharks in weight (lb, dw) by state, 1993-2024. States are arranged from west to east, and then south to north.

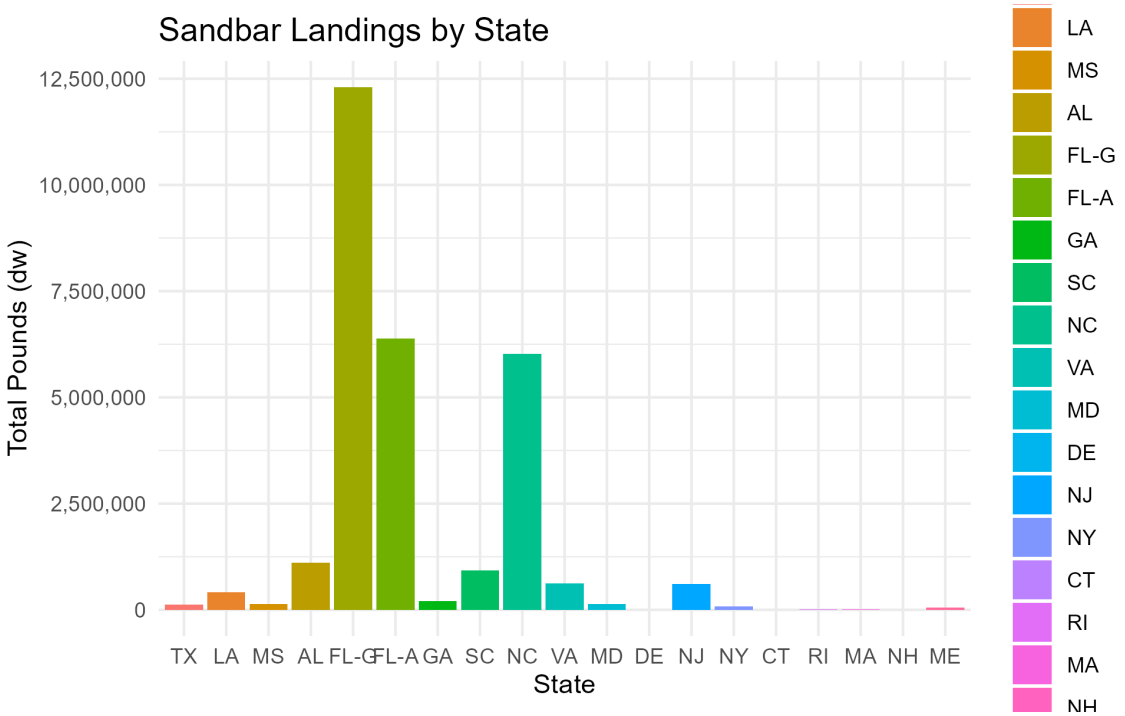

Figure 6. Commercial landings of sandbar sharks in weight (lb, dw) by year and state, 1993-2024. States are arranged from west to east, and then south to north.

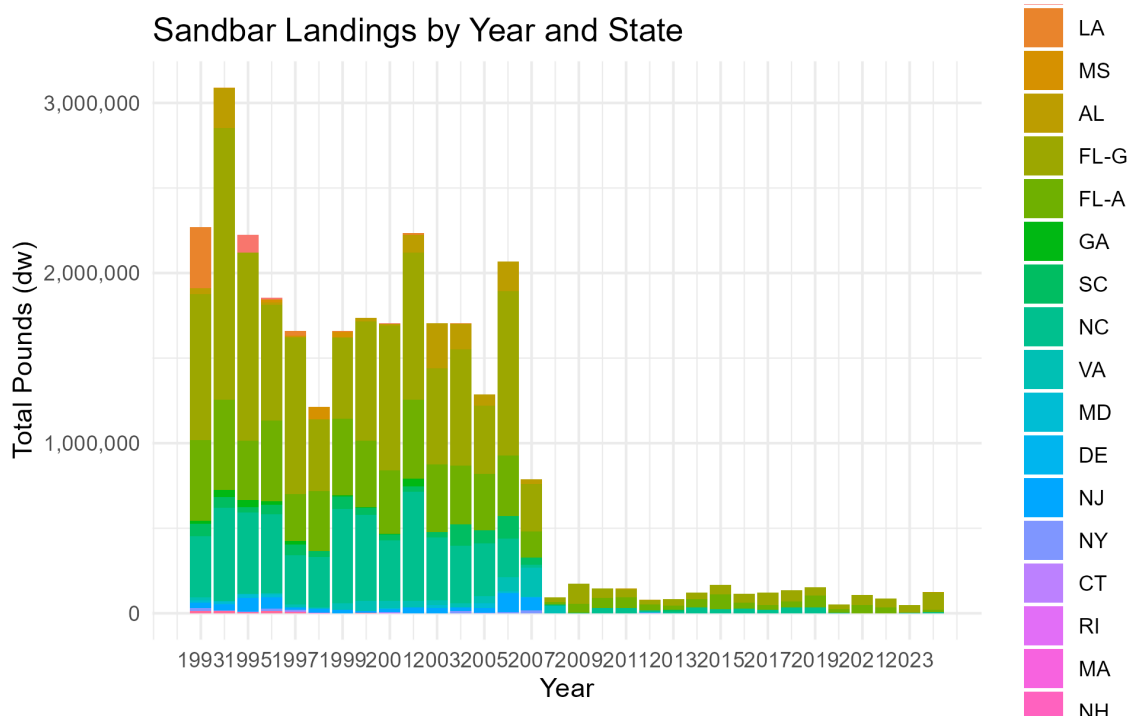

Figure 7. Commercial landings of sandbar sharks by year and state in weight (lb, dw) by gear, 1993-2024. Top panel: landings in the North Atlantic Region (NAT); middle panel: landings in the South Atlantic Region (SAT); bottom panel: landings in the Gulf of America (GOA).

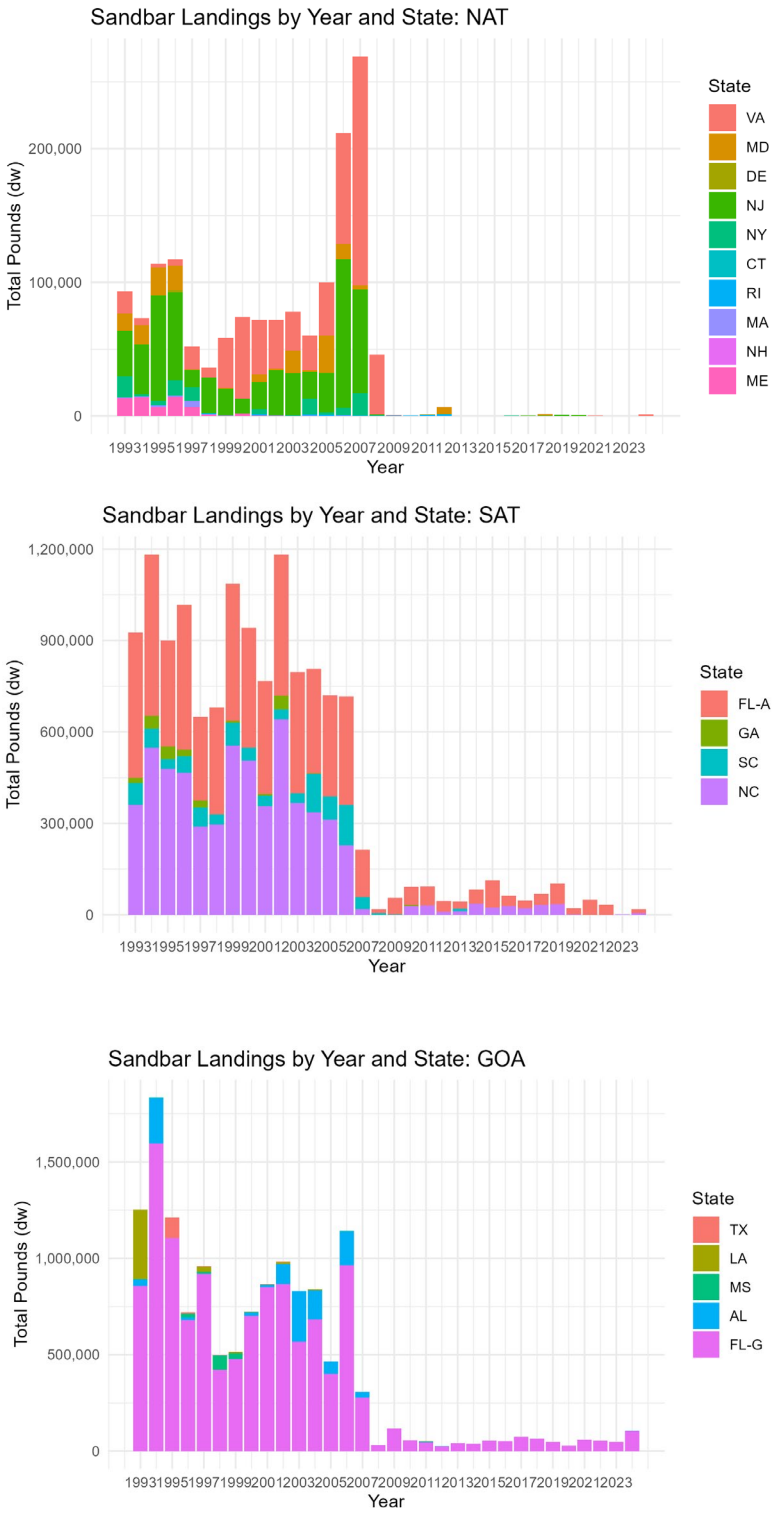

Table 3. Commercial landings of sandbar sharks in weight (lb, dw) by gear, 1993-2024.

YEAR	LONG LINES	GILL NETS	HANDLINE/H&L	TRAWLS	Other Gears
1993	1,763,369	3,228	133,174	365	370,975
1994	2,841,675	65,265	124,536	8,049	50,475
1995	2,043,215	59,399	67,327	8,046	46,708
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2001	1,582,418	50,844	60,881	782	8,823
2002	2,027,592	63,216	138,431	2,567	4,421
2003	1,596,041	64,682	36,582	212	8,179
2004	1,615,700	53,014	36,769	13	454
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2007	549,614	125,671	3,490	6,117	103,410
2008	52,063	40,556	368		2,216
2009	169,719	122	3,007	*	190
2010	123,737	19,105	*		2,565
2011	130,767	8,875	2,534	*	3,042
2012	57,999	15,447	*	*	566
2013	80,895	3,381	*	*	12
2014	108,771	11,620			15
2015	142,083	*		*	
2016	85,370	*	*		
2017	98,181	*	*	*	
2018	118,768	*	*		*
2019	140,750	*		*	
2020	49,298	*			
2021	109,038	*	*		
2022	86,809	*			
2023	*	*		*	
2024	121,141	*			

Table 4. Commercial landings of sandbar sharks by gear in numbers, 1993-2024.

YEAR	LONG LINES	GILL NETS	HANDLINE/H&L	TRAWLS	Other Gears	Grand Total
1993	82107	0	7022	0	0	89129
1994	241163	0	10627	0	3967	255757
1995	174756	32629	5950	930	3910	218175
1996	170176	38751	7330	413	1389	218059
1997	135867	5902	14300	3	2795	158867
1998	130174	3766	8406	0	1270	143616
1999	147489	4791	4955	41	871	158147
2000	96266	20901	2024	0	254	119446
2001	140778	18836	5627	91	810	166142
2002	159676	78476	11157	0	351	249658
2003	131580	18854	3044	0	684	154162
2004	140784	19589	3218	2	41	163632
2005	90980	28298	2079	2593	1230	125179
2006	148288	50321	650	326	6925	206510
2007	40410	24128	263	2568	7782	75151
2008	3524	7168	25		161	10878
2009	12160	36	202	*	*	12448
2010	9351	5145	106		214	14816
2011	9690	1212	191	79	240	11412
2012	4160	2007	349	*	44	6562
2013	5603	*	*	*	*	7032
2014	8631	*			*	11338
2015	9996	8768		*		18768
2016	6170	7561	*			13816
2017	6859	*	101	*		13547
2018	8209	3983	*		*	12206
2019	10663	2347		*		13014
2020	*	*				3522
2021	6597	*	*			6640
2022	5540					5540
2023	*	*		*		3214
2024	7964	*				9082

Figure 8. Proportions of gears in commercial landings of sandbar sharks in weight (lb, dw). Left panel: 1993-2024. Right panel: 2008-2024.

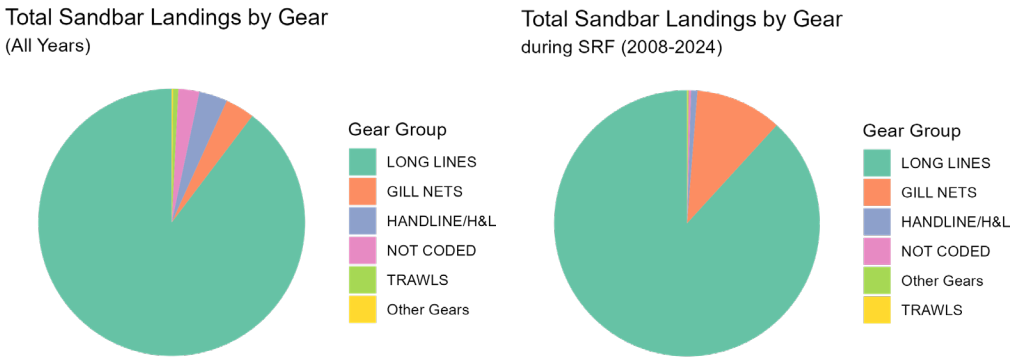

Figure 9. Commercial landings of sandbar sharks in weight (lb, dw) by gear and region, 1993-2024. Top panel: Aggregated weight. Bottom panel: region by percentage.

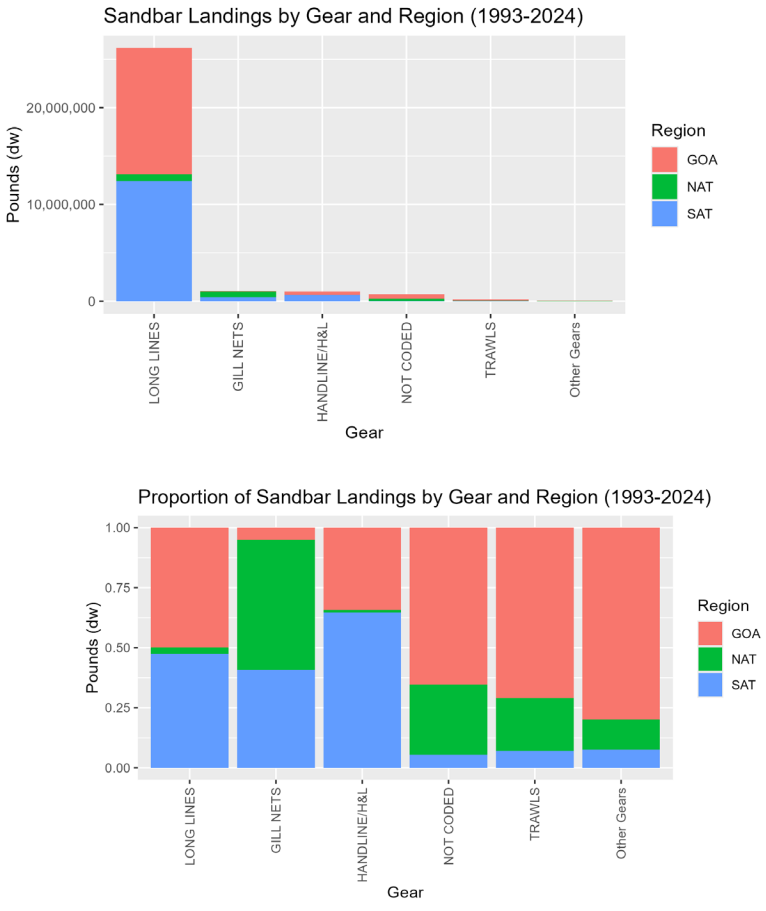

Figure 10. Commercial landings of sandbar sharks in weight (lb, dw) by gear and region, 2008-2024. Top panel: Aggregated weight. Bottom panel: region by percentage.

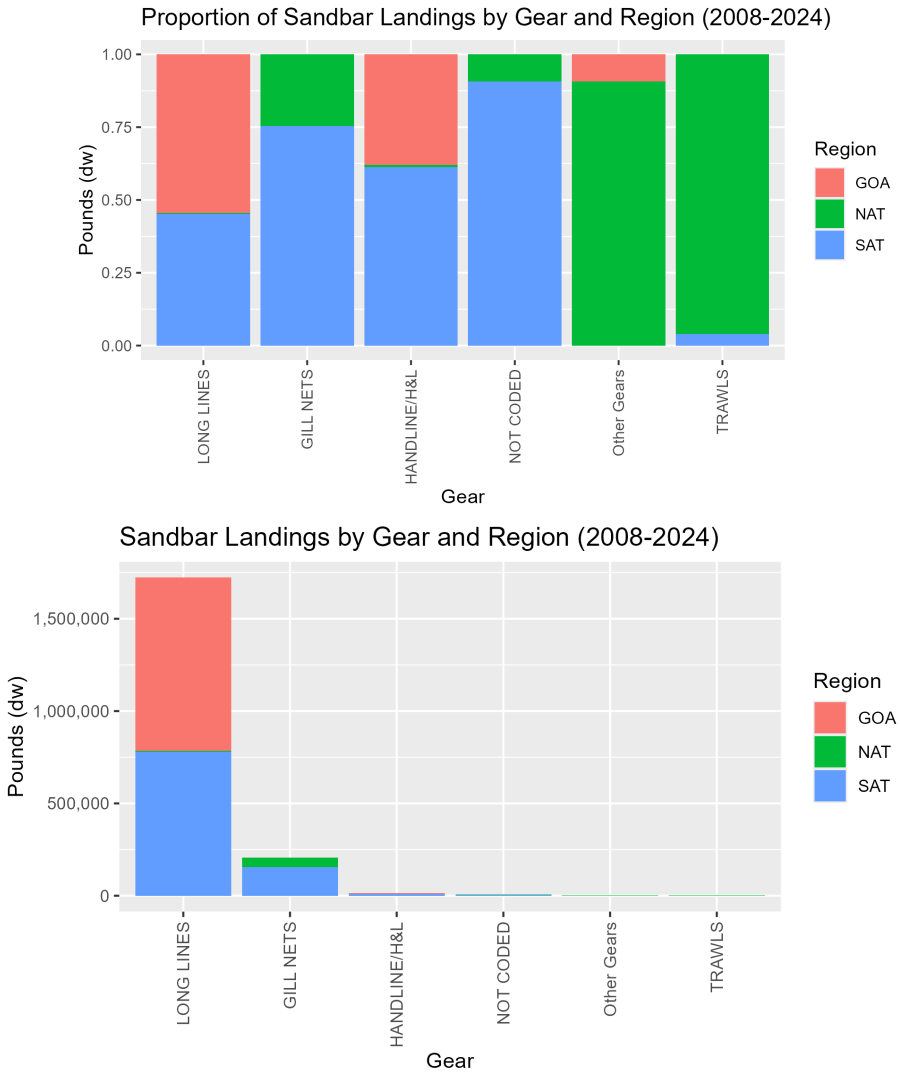

Figure 11. Percentage of commercial landings of sandbar sharks in weight by gear and year, 1993-2024. Top panel: For the Gulf of America (GOA); middle panel: For the South Atlantic; and bottom panel: the North Atlantic regions.

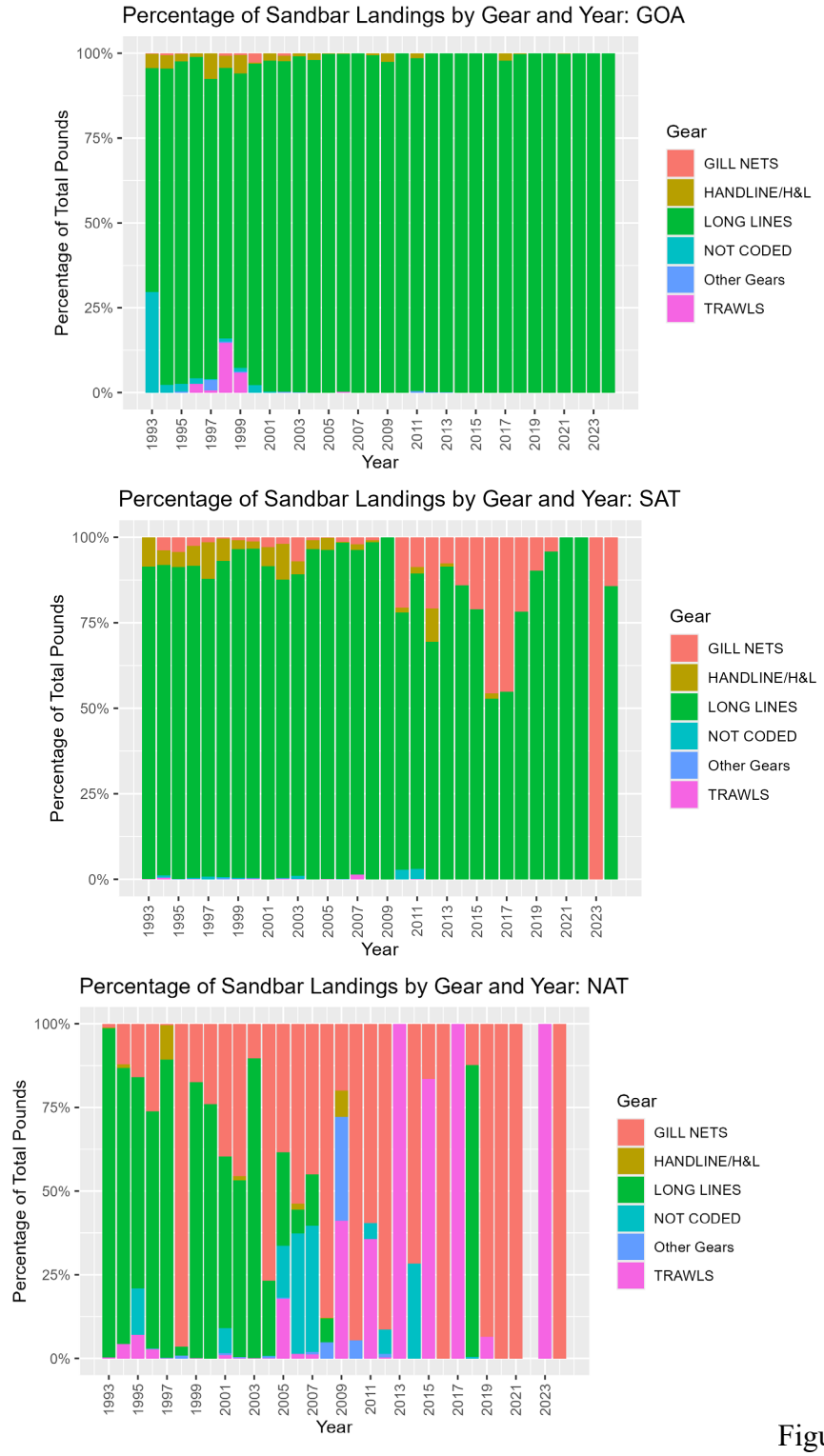

Figure .

Figure 12. Percentage of commercial landings of sandbar sharks in weight by gear and year, 1993-2024. Top panel: aggregated weight; middle panel: by percentage; bottom panel: distribution without longline gears.

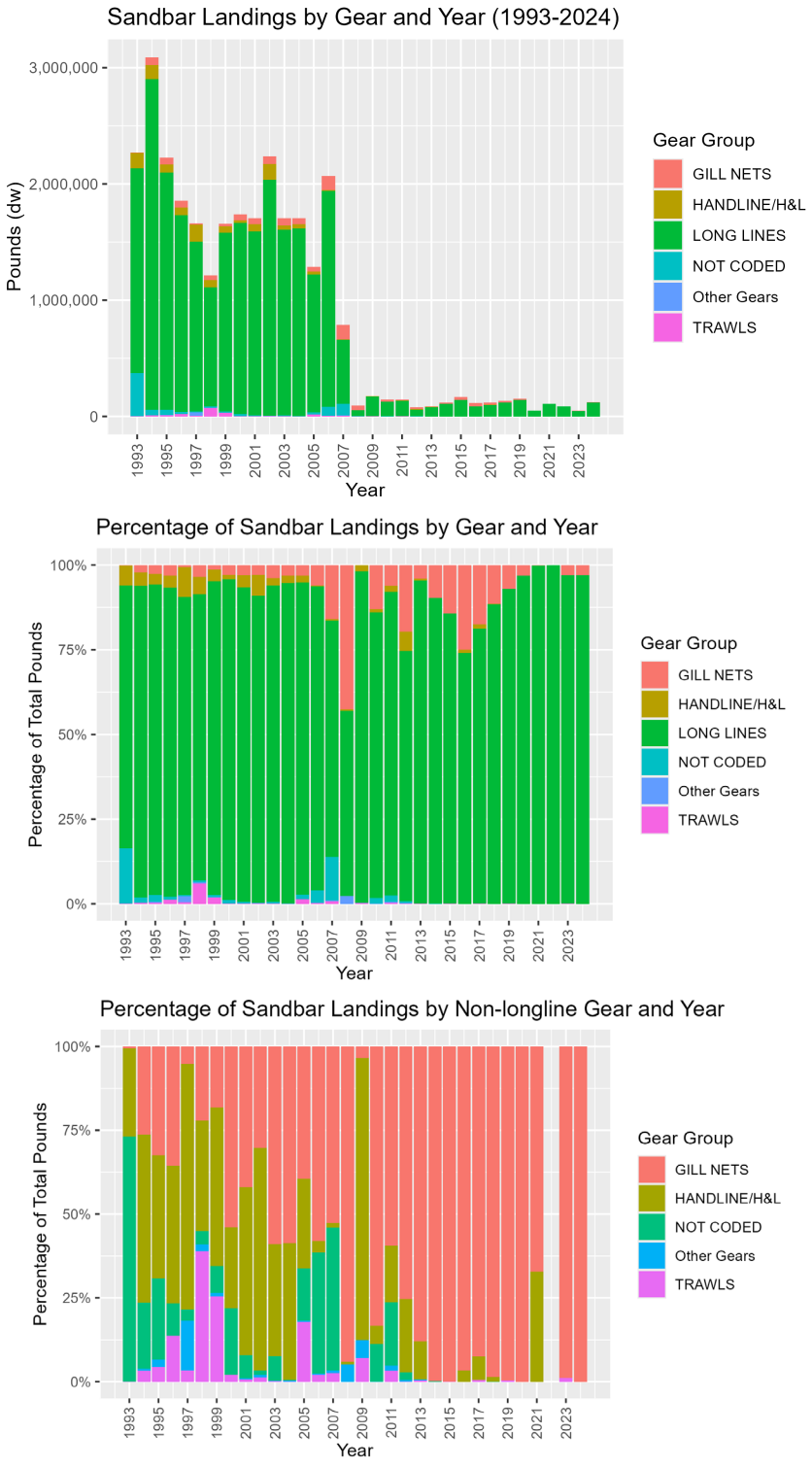

Figure 13. Percentage of commercial landings of all sharks reported, in management gouprs + unclassified reports, 1993-2024. Top panel: aggregated weight; middle panel: by percentage; bottom panel: distribution without longline gears.

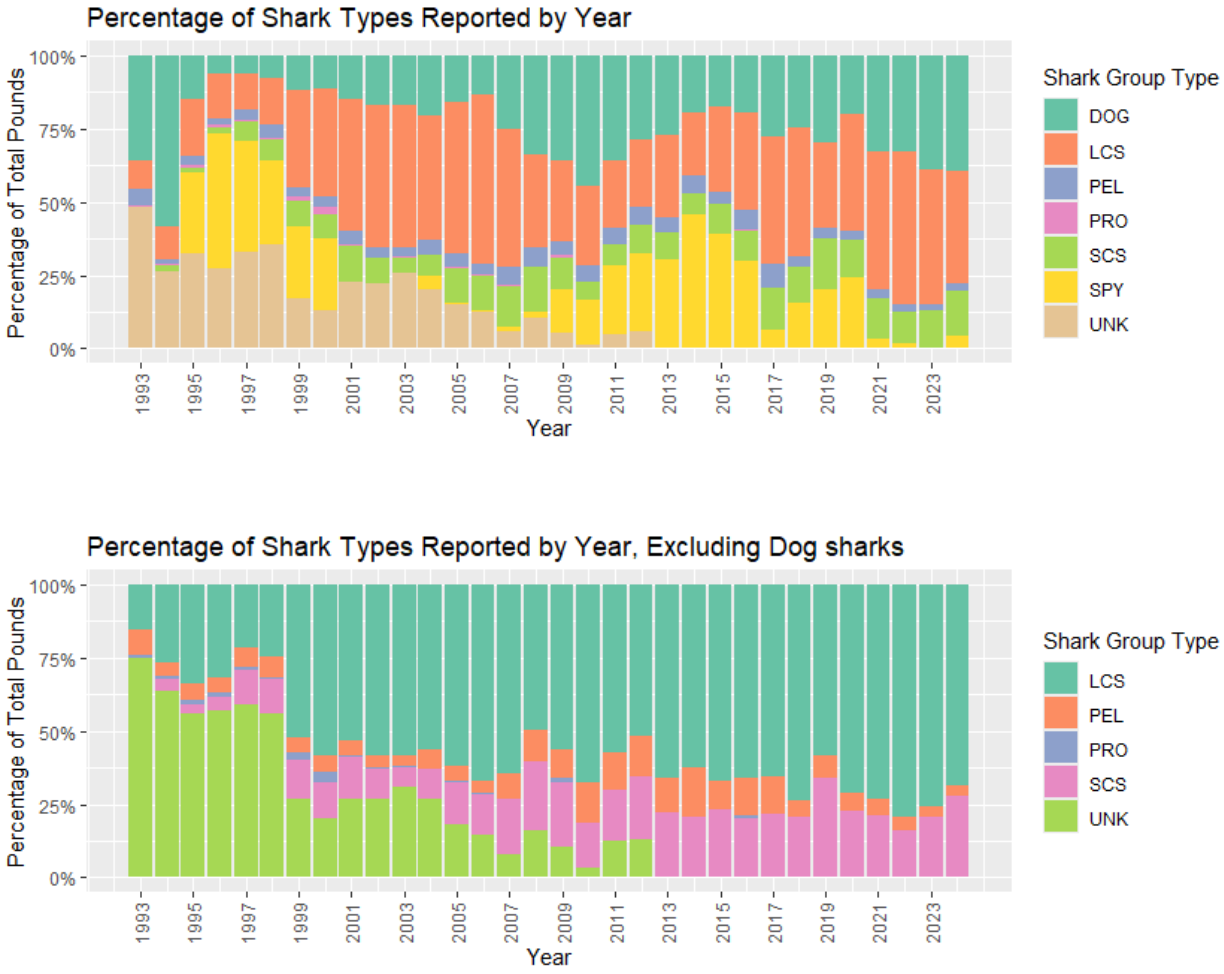

Figure X. Map of the Gulf of Mexico showing the Mexican states of Tamaulipas, Veracruz, Tabasco, and Campeche sampled during the 1993-1994 Castillo et al. (1998) monitoring study.

Table X. Mexican landings of "tiburónes" (sharks greater than 150 cm TL) for the three states (tons ww) used for Sandbar estimations. Source: Conapesca.

Year	Tamaulipas	Veracruz	Yucatán
1976	75	234	213
1977	155	190	251
1978	133	667	369
1979	203	738	121
1980	371	1351	277
1981	703	3676	679
1982	286	3461	1939
1983	423	2719	2139
1984	466	3133	2012
1985	378	1239	2025
1986	372	1935	2078
1987	494	1425	1377
1988	631	2283	1486
1989	573	1617	1741
1990	666	1823	2509
1991	551	1670	2019
1992	622	1823	2095
1993	593	1731	1942
1994	707	1685	1753
1995	1136	1683	1881
1996	1044	2047	2014
1997	697	2381	1023
1998	981	1519	1006
1999	784	1414	1578
2000	729	1652	1037
2001	814	1738	637
2002	698	1314	489
2003	751	974	427

2004	776	933	400
2005	593	1121	477
2006	562	1155	568
2007	756	842	425
2008	647	503	153
2009	520	505	170
2010	807	550	243
2011	531	282	179
2012	507	545	222
2013	1060	344	111
2014	654	652	126
2015	662	904	203
2016	874	1405	139
2017	1046	2209	185
2018	1912	1990	254
2019	1897	854	424
2020	2060	947	374
2021	2569	1354	267
2022	2349	1608	424
2023	2190	1634	515
2024	2785	1164	528

Table X. Estimated Mexican landings of sandbars by state (lb dw).

	Sandbar landings, lb dw				Sandbar landings, numbers			
Year	Tamaulipas	Veracruz	Yucatán	TOTAL	Tamaulipas	Veracruz	Yucatán	TOTAL
1976	12688	26963	23791	63442	145	452	503	1100
1977	17446	22205	28549	68200	299	367	593	1259
1978	15860	77716	44409	137986	257	1289	672	2218
1979	23791	85646	12688	122125	392	1426	286	2104
1980	42823	157018	30135	229976	717	2810	855	4382
1981	82474	428232	76130	586836	1358	7102	1605	10065
1982	33307	402855	215702	651864	553	6687	4582	11822
1983	49167	317209	237906	604282	817	5253	5055	11125
1984	53925	364790	223632	642347	900	8053	4756	13709
1985	44409	144330	225218	413957	730	2394	4786	7910
1986	42823	225218	229976	498018	719	3739	4911	9369
1987	57098	166535	152260	375892	954	2753	3254	6961
1988	72958	266455	164948	504362	1219	4411	3512	9142
1989	66614	188739	193497	448850	1107	3124	4114	8345
1990	77716	212530	282316	572562	1287	3522	5929	10738
1991	63442	195083	223632	482157	1085	3227	4771	9083
1992	72958	212530	233148	518636	1202	3522	4951	9675
1993	69786	201427	215702	486915	1146	3344	4589	9079
1994	82474	196669	195083	474227	1366	3256	4140	8762
1995	131642	196669	209358	537669	2195	3252	4445	9892
1996	122125	237906	223632	583664	2017	3856	4760	10633
1997	80888	277558	114195	472641	1347	4600	2418	8365
1998	114195	177637	111023	402855	1895	2935	2377	7207
1999	91991	164948	174465	431404	1515	2732	3729	7976
2000	85646	191911	115781	393339	1408	3192	2451	7051

2001	94246	201228	70722	366195	1564	3339	1512	6414
2002	80815	152136	54290	287242	1341	2524	1160	5025
2003	86952	112771	47407	247129	1443	1871	1013	4327
2004	89846	108024	44409	242279	1491	1792	949	4232
2005	68658	129791	52958	251407	1139	2154	1132	4425
2006	65069	133727	63061	261857	1080	2219	1348	4646
2007	87531	97488	47185	232203	1452	1618	1008	4078
2008	74910	58238	16987	150135	1243	966	363	2572
2009	60181	58455	18880	137516	999	970	402	2371
2010	93429	63654	27006	184089	1550	1056	575	3181
2011	61471	32707	19826	114004	1020	543	422	1985
2012	58678	63073	24638	146389	974	1047	525	2546
2013	61234	68454	12365	142053	1016	1136	263	2415
2014	75682	75518	14042	165242	1256	1253	299	2808
2015	76644	104689	22552	203885	1272	1737	480	3489
2016	101162	162637	15415	279214	1678	2698	328	4704
2017	121062	255730	20500	397292	2009	4243	437	6689
2018	221360	230397	28216	479973	3673	3823	601	8097
2019	219630	98917	47126	365673	3644	1641	1004	6289
2020	238523	109598	41505	289626	3958	1818	886	6660
2021	297392	156798	29643	483833	4934	2602	631	8167
2022	271971	186127	47057	505155	4513	3088	1002	8603
2023	253543	189215	57125	499883	4207	3139	1217	8563
2024	322501	134804	58650	515955	5351	2237	1249	8837

Figure X. Sandbar sharks as estimated from Mexico commercial landings from 1976-2024. Top panel: Sandbar shark landings, lb, dw. Bottom panel: Sandbar sharks, numbers as estimated from average lengths.