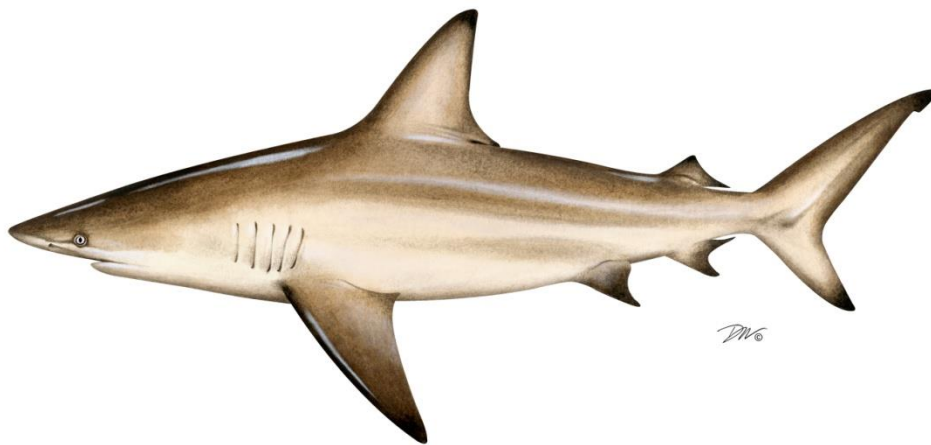


ATLANTIC STATES MARINE FISHERIES COMMISSION
REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN
FOR COASTAL SHARKS
2019 FISHING YEAR



Prepared by the Coastal Sharks Plan Review Team

Approved March 30, 2021

**REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN AND STATE COMPLIANCE FOR
COASTAL SHARKS FOR THE 2019 FISHERY**

Management Summary

<u>Date of FMP Approval:</u>	August 2008
<u>Amendments:</u>	None
<u>Addenda:</u>	Addendum I (September 2009) Addendum II (May 2013) Addendum III (October 2013) Addendum IV (August 2016) Addendum V (October 2018)
<u>Management Unit:</u>	Entire coastwide distribution of the resource from the estuaries eastward to the inshore boundary of the EEZ
<u>States With Declared Interest:</u>	Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida
<u>Active Boards/Committees:</u>	Coastal Shark Management Board, Advisory Panel, Technical Committee, and Plan Review Team

I. Status of the Fishery Management Plan

The Atlantic States Marine Fisheries Commission (ASMFC; Commission) adopted its first [fishery management plan \(FMP\) for coastal sharks in 2008](#). Coastal sharks were initially managed under this plan as six different complexes: prohibited, research, small coastal, non-sandbar large coastal, pelagic and smooth dogfish. The Board does not actively set quotas for any shark species. The Commission follows National Oceanic and Atmospheric Administration's (NOAA Fisheries) openings and closures for small coastal sharks, non-sandbar large coastal shark, and pelagic sharks. Species in the prohibited category may not be possessed or taken. Sandbar sharks may only be taken with a shark fishery research permit. All species must be landed with their fins attached to the carcass by natural means. This was adjusted through subsequent addenda listed below. The Interstate Fishery Management Plan for Coastal Sharks (FMP) established the following goals and objectives.

GOAL

The goal of the Interstate Fishery Management Plan for Coastal Sharks is “to promote stock rebuilding and management of the coastal shark fishery in a manner that is biologically, economically, socially, and ecologically sound.”

OBJECTIVES

In support of this goal, the following objectives for the FMP include:

1. Reduce fishing mortality to rebuild stock biomass, prevent stock collapse, and support a sustainable fishery.
2. Protect essential habitat areas such as nurseries and pupping grounds to protect sharks during particularly vulnerable stages in their life cycle.
3. Coordinate management activities between state and federal waters to promote complementary regulations throughout the species' range.
4. Obtain biological and improved fishery related data to increase understanding of state water shark fisheries.
5. Minimize endangered species bycatch in shark fisheries.

The FMP has been adapted through the following addenda:

[Addendum I \(September 2009\)](#)

Approved in September 2009, Addendum I modified the FMP to allow commercial fishermen to process (remove the fins of) smooth dogfish at sea from March – June of each year, but also requires a 95-5% carcass to fin ratio for all dressed smooth dogfish carcasses. This Addendum also removed recreational smooth dogfish possession limits, as well as the 2-hour gill-net check requirement for commercial fishermen, which applied to all shark species.

[Addendum II \(May 2013\)](#)

Approved in May 2013, Addendum II modified Addendum I to allow commercial fishermen to process (remove the fins of) smooth dogfish at sea year-round but requires a 12-88% fin-to-carcass ratio for all dressed smooth dogfish carcasses. This ratio was consistent with the Shark Conservation Act of 2010. Addendum II also allocates state-shares of the upcoming federal smoothhound shark quota based on historical landings from 1998-2010.

[Addendum III \(October 2013\)](#)

Addendum III modifies the species groups to ensure consistency with NOAA Fisheries. It creates two new species groups (Blacknose and Hammerhead Species Groups). The addendum also increases the recreational size limit for all hammerhead species to 78" fork length.

[Addendum IV \(August 2016\)](#)

Addendum IV allows smooth dogfish carcasses to be landed with corresponding fins removed from the carcass as long as the total retained catch, by weight, is composed of at least 25 percent smooth dogfish, consistent with federal management measures.

[Addendum V \(October 2018\)](#)

Addendum V allows the Board to respond to changes in the stock status of coastal shark populations and adjust regulations through Board action rather than an addendum, ensuring greater consistency between state and federal shark regulations. Addendum V allows the Board to change a suite of commercial and recreational measures, such as recreational size and possession limits, season length, and area closures (recreational and commercial), in addition to the current specifications for just the commercial fishery, throughout the year when needed.

Under this provision, if the Board chooses to adjust measures through Board action, the public will be able to provide comment prior to Board meetings, as well as at Board meetings at the discretion of the Board Chair. Additionally, the Board can still implement changes in shark regulations through an addendum.

In 2019, in response to measures implemented by NOAA Fisheries through Amendment 11 for Federal Highly Migratory Species (HMS) Permit Holders, the Board approved changes to the recreational size limit for Atlantic shortfin mako sharks in state waters, specifically, a 71-inch straight line fork length (FL) for males and an 83-inch straight line FL for females. These measures were implemented in response to the 2017 Atlantic shortfin mako stock assessment that found the resource is overfished and experiencing overfishing. The states were required to implement the changes to the recreational minimum size limit for Atlantic shortfin mako by January 1, 2020.

Additionally in 2019, the Board moved to require non-offset circle hooks for the recreational shark fishery in state waters with an implementation date of July 1, 2020. The Board chose to do so after NOAA Fisheries requested that the states implement a circle hook requirement for the recreational fishery consistent with the measures approved in HMS Amendment 11.

Table 1. List of commercial shark management groups

Species Group	Species within Group
Prohibited	Sand tiger, bigeye sand tiger, whale, basking, white, dusky, bignose, Galapagos, night, reef, narrowtooth, Caribbean sharpnose, smalltail, Atlantic angel, longfin mako, bigeye thresher, sharpnose sevengill, bluntnose sixgill and bigeye sixgill sharks
Research	Sandbar sharks
Non-Blacknose Small Coastal	Atlantic sharpnose, finetooth, and bonnethead sharks
Blacknose	Blacknose sharks
Aggregated Large Coastal	Silky, tiger, blacktip, spinner, bull, lemon, and nurse sharks
Hammerhead	Scalloped hammerhead, great hammerhead and smooth hammerhead
Pelagic	Shortfin mako, porbeagle, common thresher, oceanic whitetip and blue sharks
Smoothhound	Smooth dogfish and Florida smoothhound sharks

II. Status of the Stocks

Stock status is assessed by species or by species complex if there is not enough data for an individual assessment. Fourteen species have been assessed domestically, three species have been assessed internationally, and the rest have not been assessed. Table 2 describes the current stock status of several shark species along with references for the stock assessments.

In December 2020, SEDAR completed a benchmark assessment of the Atlantic blacktip (*Carcharhinus limbatus*) shark stock (SEDAR 65). While NOAA Fisheries and ASMFC are still

reviewing the results of the assessment, it appears the stock is not overfished and overfishing is not occurring.

In June 2020, the International Commission on the Convention of Atlantic Tunas (ICCAT)'s Standing Committee on Research and Statistics (SCRS) completed an assessment of Porbeagle sharks (*Lamna nasus*). While NOAA Fisheries and ASMFC are still reviewing the results of the assessment, preliminary review indicates that Northwest Atlantic stock is considered to be overfished with overfishing not occurring. Previously from the 2009 assessment, NOAA Fisheries established a 100-year rebuilding plan for porbeagle sharks; the expected rebuilding date is 2108.

The 2017 International Commission on the Convention of Atlantic Tunas (ICCAT) assessment of the North Atlantic population of shortfin mako (*Isurus oxyrinchus*) indicates that the stock is overfished and overfishing is occurring. Multiple models were explored and new data sources were integrated. Combined probability of overfishing occurring and the stock being in an overfished state was 90% across all models.

The 2017 Southeast Data and Assessment Review (SEDAR 54) stock assessment for sandbar sharks (*Carcharhinus plumbeus*) indicates the stock is overfished and not experiencing overfishing. This assessment used a new approach (Stock Synthesis) instead of the State Space Age Structure Production Model that was used in the previous assessment (SEDAR 21). A replication analysis conducted using the prior model (updated with data through 2015) resulted in the same stock status as the new model (overfished, no overfishing occurring). The rebuilding date for sandbar sharks is 2070.

The 2016 stock assessment update (SEDAR 21) for Atlantic dusky sharks (*Carcharhinus obscurus*) indicates the stock is overfished and experiencing overfishing. This latest review functioned as an update to the 2011 assessment, so no new methodology was introduced. However, all model inputs were updated with more recent data (i.e. 2010-2015 effort, observer, and survey data). The rebuilding plan for dusky sharks is 2107.

In 2015, a benchmark stock assessment (SEDAR 39) was conducted for the smoothhound complex, including smooth dogfish (*Mustelus canis*), the only species of smoothhound occurring in the Atlantic. The assessment indicates Atlantic smooth dogfish are not overfished and not experiencing overfishing.

The North Atlantic blue shark (*Prionace glauca*) stock was assessed by ICCAT's Standing Committee on Research and Statistics (SCRS) in 2015. Similar to the results of the previous 2008 stock assessment, the assessment indicated the stock is not overfished and not experiencing overfishing. However, scientists acknowledge there is a high level of uncertainty in the data inputs and model structural assumptions; therefore, the assessment results should be interpreted with caution.

SEDAR 34 (2013) assessed the status of Atlantic sharpnose sharks (*Rhizoprionodon terraenovae*) and bonnetheads (*Sphyrna tiburo*). The Atlantic sharpnose shark stock is not overfished and not experiencing overfishing. The stock status of bonnethead stocks (Atlantic and Gulf of Mexico) is considered unknown. Assessment results indicated the stock is not overfished with no overfishing occurring, however all available data pointed towards separate stocks. As the assessment framework would not allow stocks to be split, the assessment continued under a single stock scenario. The results of the assessment were rejected by reviewers noting that the stocks need to be assessed independently. A benchmark assessment is recommended for both stocks of bonnetheads.

A 2011 benchmark assessment (SEDAR 21) of blacknose (*Carcharhinus acrontus*) sharks indicated the stock is overfished and experiencing overfishing. As described in the Magnuson-Stevens Act, NOAA Fisheries must establish a rebuilding plan for an overfished stock. As such, the rebuilding date for blacknose sharks is 2043.

A 2009 stock assessment for the Northwest Atlantic and Gulf of Mexico populations of scalloped hammerhead sharks (*Sphyrna lewini*) indicated the Northwest Atlantic stock is overfished and experiencing overfishing. This assessment was reviewed by NOAA Fisheries and deemed appropriate to serve as the basis for U.S. management decision. In response to the assessment findings, NOAA Fisheries established a scalloped hammerhead rebuilding plan that will end in 2023. However, since the assessment, research has determined that in the U.S. Atlantic, a portion of animals considered scalloped hammerheads are actually a cryptic species, recently named the Carolina hammerhead (*Sphyrna gilberti*). Little to no species-specific information exists regarding the distribution, abundance and life history of the two species, therefore for now, both species are currently managed under the name scalloped hammerhead. SEDAR will conduct a research track assessment of hammerhead species starting in 2021 (SEDAR 77).

Table 2. Stock Status of Atlantic Coastal Shark Species and Species Groups

Species or Complex Name	Stock Status		References/Comments
	Overfished	Overfishing	
Pelagic			
Porbeagle	Yes	No	Porbeagle Stock Assessment, ICCAT Standing Committee on Research and Statistics Report (2020); Rebuilding ends in 2108 (HMS Am. 2)
Blue	No	No	ICCAT Standing Committee on Research and Statistics Report (2015)
Shortfin mako	Yes	Yes	ICCAT Standing Committee on Research and Statistics Report (2017)
All other pelagic sharks	Unknown	Unknown	
Aggregated Large Coastal Sharks (LCS)			
Atlantic Blacktip	No	No	SEDAR 65 (2020)
Aggregated Large Coastal Sharks - Atlantic Region	Unknown	Unknown	SEDAR 11 (2006); difficult to assess as a species complex due to various life history characteristics/ lack of available data
Non-Blacknose Small Coastal Sharks (SCS)			
Atlantic Sharpnose	No	No	SEDAR 34 (2013)
Bonnethead	Unknown	Unknown	SEDAR 34 (2013)
Finetooth	No	No	SEDAR 13 (2007)
Hammerhead			
Scalloped	Yes	Yes	SEFSC Scientific Review by Hayes et al. (2009); Rebuilding ends in 2023 (HMS Am. 5a)
Blacknose			
Blacknose	Yes	Yes	SEDAR 21 (2010); Rebuilding ends in 2043 (HMS Am. 5a)
Smoothhound			
Atlantic Smooth Dogfish	No	No	SEDAR 39 (2015)
Research			
Sandbar	Yes	No	SEDAR 54 (2017); Rebuilding ends 2070 (HMS Am. 2)
Prohibited			
Dusky	Yes	Yes	SEDAR 21 update (2016); Rebuilding ends in 2108 (HMS Am. 5b)
All other prohibited sharks	Unknown	Unknown	

III. Status of the Fishery

Specifications (Opening, closures, quotas)

NOAA Fisheries sets quotas for coastal sharks through the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan and its amendments. The opening dates, closure dates, and quotas are detailed in Table 3. All non-prohibited coastal shark management groups opened on January 1, 2019. NOAA Fisheries closes commercial shark fisheries when 80% of the available quota is reached. When the fishery closes in federal waters, the Interstate FMP dictates that the fishery also closes in state waters. For 2019, the fishery did not close for any of the species groups before December 31.

Table 3. Commercial quotas and opening dates for 2019 shark fishing season

Species Group	Region	2019 Annual Quota (mt dw)	Season Opening Dates
Aggregated Large Coastal Sharks (LCS)	Atlantic	168.9	January 1, 2019
Hammerhead Sharks	Atlantic	27.1	
Non-Blacknose Small Coastal Sharks (SCS)	Atlantic	264.1	January 1, 2019
Blacknose Sharks (South of 34° N. Latitude only)	Atlantic	17.2	
Smoothhound sharks	Atlantic	1,802.6	January 1, 2019
Blue Sharks	No regional quotas	273.0	January 1, 2019
Porbeagle Sharks		1.7	
Pelagic Sharks other than Porbeagle or Blue		488.0	
Shark Research Quota (Aggregated LCS)		50.0	
Sandbar Research Quota		90.7	

Commercial Landings

Preliminary commercial landings of Atlantic large coastal sharks species in 2019 were 513,513 pounds (lbs) dressed weight (dw), an 18% increase from 2018 landings (Table 4; Figure 1). Commercial landings of small coastal shark species in 2019 were 424,907 lbs dw, a 7% increase from 2018 landings (Table 5; Figure 1). 2016 Landings for small coastal shark species were the lowest for the time series over the last 9 years and a result of the early closure of both blacknose and non-blacknose sharks south of 34°00' N. latitude on May 29, 2016. Commercial landings of Atlantic pelagic sharks were 139,936 lbs dw, which represents an approximate 16% decrease from 2018 landings (Table 6; Figure 1). **Please note: preliminary landings are subject to change and staff is working to resolve discrepancies between data in the ACCSP data warehouse and the annual SAFE report provided by NOAA Fisheries.**

Table 4. Commercial landings of authorized Atlantic large coastal sharks by species (lbs dw), 2011-2019. Source: ACCSP Data Warehouse, December 2020.

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019
Great hammerhead	0	371	7,406	13,538	36,892	20,454	17,646	31,876	50,858
Scalloped hammerhead	0	15,800	27,229	24,652	13,197	12,329	4,919	8,238	10,302
Smooth hammerhead	110	3,967	1,521	601	304	125	1,193	737	918
Unclassified	35,618	9,617	0	0	0	0	0	0	0
Hammerhead Total	35,728	29,755	36,156	38,791	50,393	32,908	23,758	40,851	62,078
Blacktip	176,136	215,403	256,277	282,009	229,823	248,470	205,138	170,969	129,535
Bull	49,927	24,504	33,980	32,372	33,737	31,417	23,802	23,163	47,323
Lemon	45,448	21,563	16,791	13,047	18,158	19,205	12,005	12,293	18,283
Nurse	0	81	0	0	24	0	0	0	65
Silky	992	29	186	289	1,246	446	702	239	723
Spinner	4,113	10,643	26,892	25,716	33,002	55,610	62,314	83,006	82,102
Tiger	36,425	23,245	16,561	29,062	28,460	14,896	6,324	5,657	20,660
Unclassified	50,711	53,705	0	0	0	0	0	0	0
Aggregated LCS Total	363,752	349,173	350,687	382,495	344,450	370,044	310,286	295,326	298,691
Sandbar	94,295	46,446	46,868	82,308	112,610	62,984	47,023	98,476	152,745
Hammerhead, Aggregated LCS, Sandbar Total	493,775	425,374	433,711	503,594	507,453	465,936	381,067	434,653	513,513

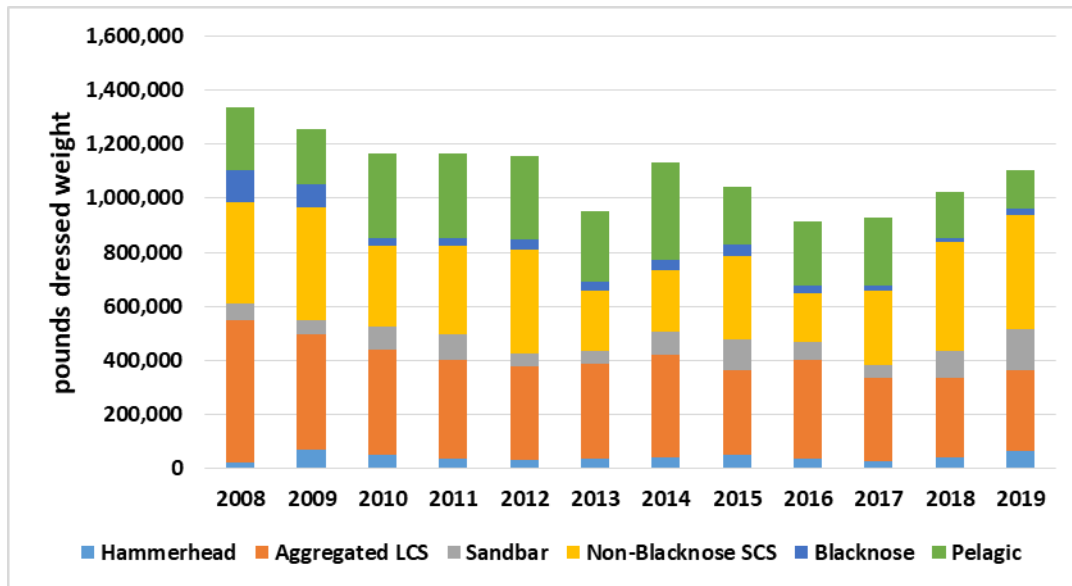
Table 5. Commercial landings of authorized Atlantic small coastal sharks by species (lbs dw), 2011-2019. Source: ACCSP Data Warehouse, December 2020.

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019
Blacknose	28,373	37,873	33,382	38,437	45,405	26,842	17,241	15,711	25,238
Bonnethead	28,284	19,907	22,845	13,221	5,885	1,688	6,077	6,059	5,915
Finetooth	52,318	15,922	19,452	19,026	8,712	5,647	19,874	23,356	13,014
Atl. Sharpnose	214,382	345,625	183,524	198,568	293,128	175,890	251,289	374,291	405,978
Unclassified assigned to SCS	36,639	492	0	0	0	0	19,874	0	0
SCS Total	359,996	419,819	259,203	269,252	353,130	210,067	294,481	419,417	450,145

Table 6. Commercial landings of authorized pelagic sharks by species off the Atlantic coast of the United States (lbs dw), 2011-2019. Source: ACCSP Data Warehouse, December 2020.

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019
Blue	13,370	17,200	9,767	17,806	1,114	607	4,272	0	0
Porbeagle	5,933	4,250	54	6,414	0	0	C	1,092	150
Shortfin Mako	207,630	198,841	199,177	218,295	141,720	160,829	184,993	77,988	68,637
Unclassified Mako	0	0	0	0	0	0	0	0	0
Oceanic whitetip	2,435	258	62	22	0	0	0	0	0
Thresher	47,462	63,965	48,768	116,012	72,463	78,219	61,990	88,079	71,149
Unclassified pelagic	33,884	28,932	0	0	0	0	0	0	0
Pelagic Total	310,714	313,446	257,828	358,549	215,297	239,655	251,375	167,159	139,936

Figure 1: Commercial landings of coastal sharks off the east coast of the United States by species group, 2008-2019. Source: ACCSP Data Warehouse, December 2020



Recreational Landings

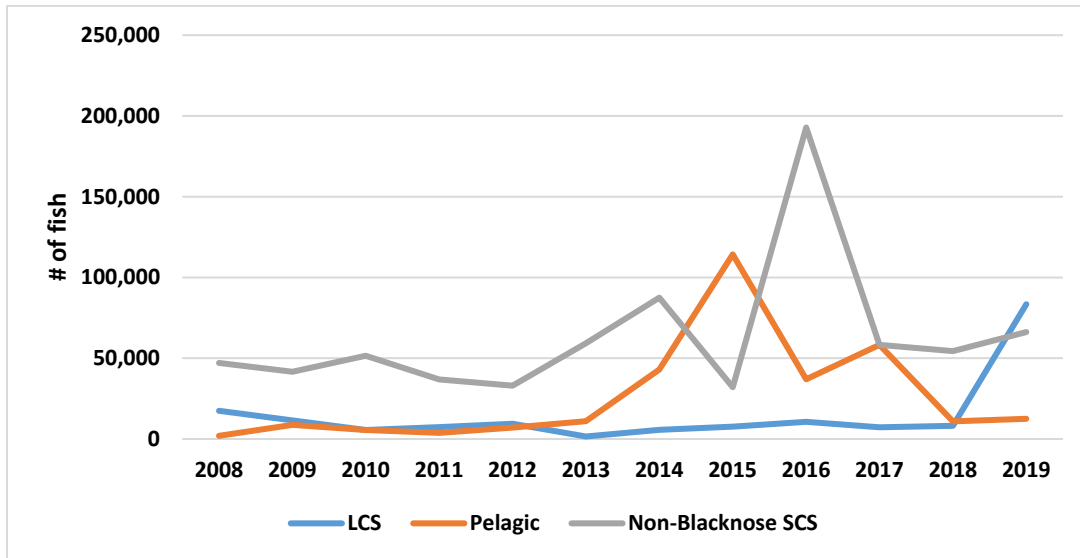
Approximately 162,108 sharks were harvested during the 2019 recreational fishing season, an increase from 2018 landings by approximately 91% (Table 7; Figure 2). In 2019, the aggregated LCS group comprised 38% of total harvest, followed by 30% from the non-blacknose small coastal shark group, 25% from the smoothhound group, and 6% from the pelagic shark group.

Table 7. Estimated recreational harvest of all Atlantic shark species by species group in numbers of fish, 2011-2019. Source: ACCSP Data Warehouse, December 2020

Species Group	2011	2012	2013	2014	2015	2016	2017	2018	2019
Aggregated LCS	7,397	9,386	1,547	5,704	7,622	10,596	7,215	8,128	83,431
Hammerhead	178	41	600	900	1	799	0	0	0
Pelagic*	3,806	7,034	11,057	43,047	114,282	37,009	58,259	10,943	12,505
Blacknose	573	0	70	4,146	1,211	225	13	0	0
Non-Blacknose SCS	36,851	33,005	59,208	87,480	32,065	192,855	58,239	54,416	66,172
Sandbar	1,125	857	399	1,873	1,252	5	2,604	0	0
Prohibited	23	15	16	2	0	0	6	0	0
Smoothhound	0	0	46,115	55,792	88,316	145,689	58,446	40,725	56,373
Total	49,952	50,338	72,895	143,152	156,433	244,749	184,782	114,212	218,481

*Pelagic sharks include Gulf of Mexico landings.

Figure 2: Estimated recreational harvest for LCS, non-blacknose SCS, and pelagic species by species group, in numbers of fish, 2008-2019. Source: ACCSP Data Warehouse, December 2020.



IV. Status of Research and Monitoring

Under the Interstate Fishery Management for Coastal Sharks, the states are not required to conduct any fishery-dependent or independent studies; however, states are encouraged to submit any information collected while surveying for other species. This section describes the research and monitoring efforts through the 2019 fishing year, where available.

The Cooperative Atlantic States Shark Pupping and Nursery (COASTSPAN) Survey appears in multiple state monitoring efforts. The survey monitors the presence of young-of-year and juvenile sharks along the east coast. It is managed and coordinated by NOAA’s Northeast Fisheries Science Center (NEFSC) through the Apex Predators Program based at the NEFSC’s Narragansett Laboratory in Rhode Island. Longline and gillnet sampling, along with mark-recapture techniques are used to determine relative abundance, distribution, and migration of sharks utilizing nursery grounds from Massachusetts to Florida. In 2019, COASTSPAN program participants were the Massachusetts Division of Marine Fisheries, North Carolina Division of Marine Fisheries, Virginia Institute of Marine Science, South Carolina Department of Natural Resources, Georgia Department of Natural Resources, and University of North Florida (samples Georgia and north Florida state waters). In addition, the survey is conducted in summer months in Narragansett and Delaware Bays. Standardized indices of abundance from COASTSPAN surveys are used in the stock assessments for large and small coastal sharks.

Massachusetts

During 2019, the Massachusetts Division of Marine Fisheries (MADMF) intensified its research on the fine-scale predatory behavior of white sharks (*Carcharodon carcharias*) off the coast of Massachusetts using a variety of methods. First, the existing acoustic receiver array was expanded to fill gaps around Cape Cod and to include the majority of towns along the Massachusetts coastline. Second, tagging efforts were expanded into Cape Cod Bay. Third, a gridded acoustic array was deployed off Head of the Meadow Beach (Truro) with the Center for Coastal Studies to examine fine-scale movements of sharks as they relate to the habitat. Fourth, real-time acoustic receiver technology was tested off Newcomb Hollow Beach (Wellfleet) and Head of the Meadow Beach. Fifth, acceleration data logging tags (ADLs) were deployed on white sharks to record very fine-scale movements at sub-second intervals, including tailbeat frequency, amplitude, body posture, and swimming depth; these data will be used to examine swimming patterns (e.g., traveling, resting, hunting, foraging, mating), bioenergetics, and, ultimately, provide estimates of the intensity of white shark predation on gray seals. As a result, 50 white sharks were tagged with acoustic transmitters off the Outer Cape (n=46) and in Cape Cod Bay (n=4) in 2019; six of these also carried acceleration data logging tags for up to two days. This brings the total to 203 individuals tagged since 2009. These efforts were conducted with funding and logistical support from local nonprofits, including the Atlantic White Shark Conservancy.

Rhode Island

Fishery-independent monitoring is limited to coastal shark species taken in the RI Division of Fish & Wildlife, Marine Fisheries Section (RIDEM DMF) monthly and seasonal trawl survey. During the 2019 calendar year the only coastal shark species captured in the trawl survey was smooth dogfish. A summary of fishery-independent monitoring for coastal sharks is summarized in Figure 3 below.

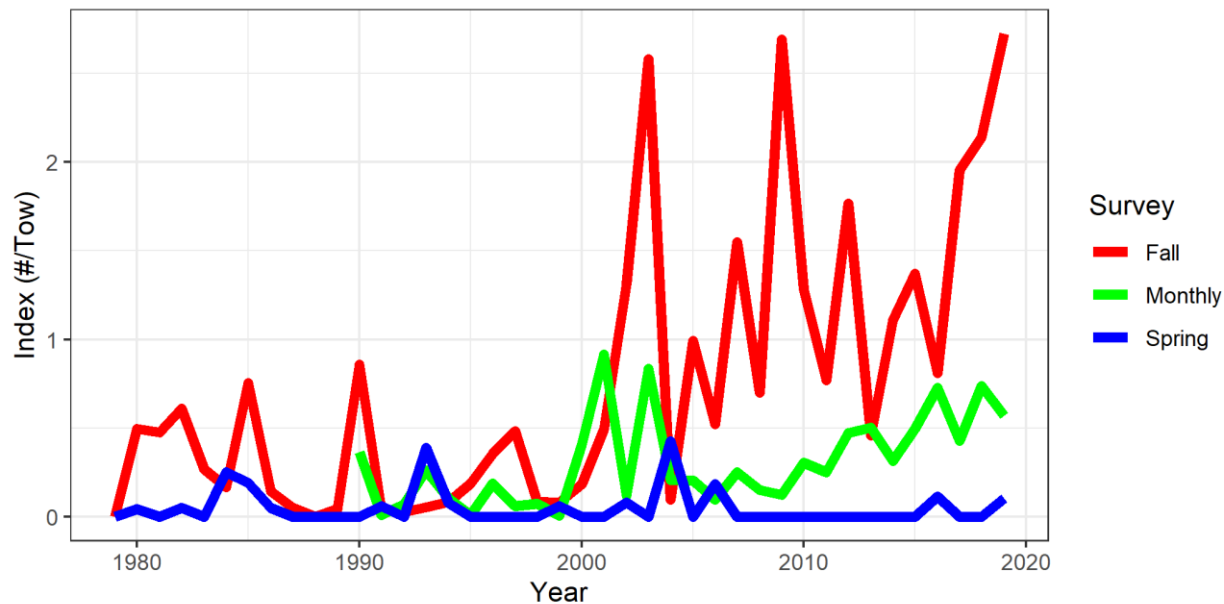


Figure 3. Smooth dogfish (*Mustelus canis*) annual mean number per tow from the RIDEM DMF bottom trawl surveys.

Connecticut

The Connecticut Department of Energy and Environmental Protection (CT DEEP) monitors the abundance of marine resources in nearby coastal waters with the Long Island Sound Trawl Survey. Spring (April, May and June) and fall (September and October) surveys are conducted each year. Other than smooth dogfish, coastal sharks are not encountered by the Long Island Sound Trawl Survey. Smooth dogfish are caught most often in the fall and the fall indices are presented below (Table 10; Figure 4). More information on the Long Island Sound Trawl Survey report can be found [here](#).

Table 10. Long Island Trawl Survey Fall Smooth Dogfish indices (geometric mean catch/tow)

Year	Kg/tow	Count/tow
1996	1.16	0.80
1997	1.09	0.59
1998	1.32	0.72
1999	1.27	0.93
2000	2.85	1.88
2001	3.02	1.69
2002	6.09	3.58
2003	6.18	3.10
2004	2.95	1.44
2005	2.70	1.41
2006	2.46	0.94
2007	6.23	2.27

2008	1.25	0.63
2009	2.8	1.13
2010	-	-
2011	3.66	1.43
2012	4.69	2.41
2013	7.93	4.13
2014	11.05	5.78
2015	11.70	7.30
2016	8.30	5.24
2017	14.82	8.29
2018	9.57	7.17
2019	10.66	6.01

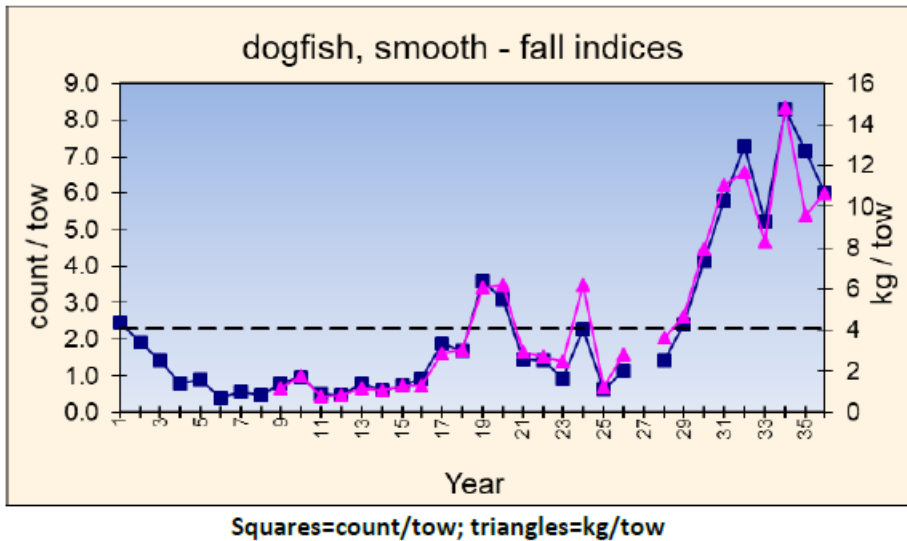


Figure 4. CT DEEP Smooth Dogfish Long Island Sound Trawl Survey

New York

While the New York Department of Environmental Conservation (NY DEC) does not currently conduct fishery-independent monitoring programs for Atlantic coastal sharks, multiple research permits were issued in 2019 for the collection of information on sand tiger sharks (*Carcharias taurus*), blue sharks, sandbar sharks, shortfin mako sharks, common thresher sharks (*Alopias vulpinus*), blacktip sharks, and smooth dogfish sharks by the Wildlife Conservation Society (WCS)/New York Aquarium; Stony Brook University; and the O’Seas Conservation Foundation. In 2019, WCS/New York Aquarium caught and released 18 sand tiger sharks and one shortfin mako; Stony Brook University caught and sampled 12 sand tiger sharks, one sandbar shark, and one common thresher shark; the O’Seas Conservation Foundation collected and tagged 100 smooth dogfish sharks, 7 blue sharks, one common thresher shark, one blacktip shark, and one sandbar shark. Information on each shark (morphometrics and sex), as well location, date, biological samples collected, telemetry gear deployed, and final disposition of the animals were recorded.

New Jersey

New Jersey does not currently conduct any fishery-independent monitoring programs specifically for Atlantic coastal sharks, but does encounter sharks from the state’s Ocean Stock Assessment Survey. In 2019, the survey caught approximately 4,346 lbs. of various species of Atlantic coastal sharks (Figure 5). Sharks from the New Jersey Ocean Stock Assessment Survey were collected by a 30-meter otter trawl every January, April, June, August, and October since 1989. Tows are approximately 1 nautical mile and are performed via a stratified random sampling design. Latitudinal strata are identical to those used by the National Marine Fisheries Service groundfish survey. Longitudinal boundaries are defined by the 18-30, 30-60, and 60-90 foot isobaths. Smooth Dogfish are cumulatively weighed and measured by total length in centimeters. All other shark species are sorted by gender, weighed individually, and measured by total length in centimeters.

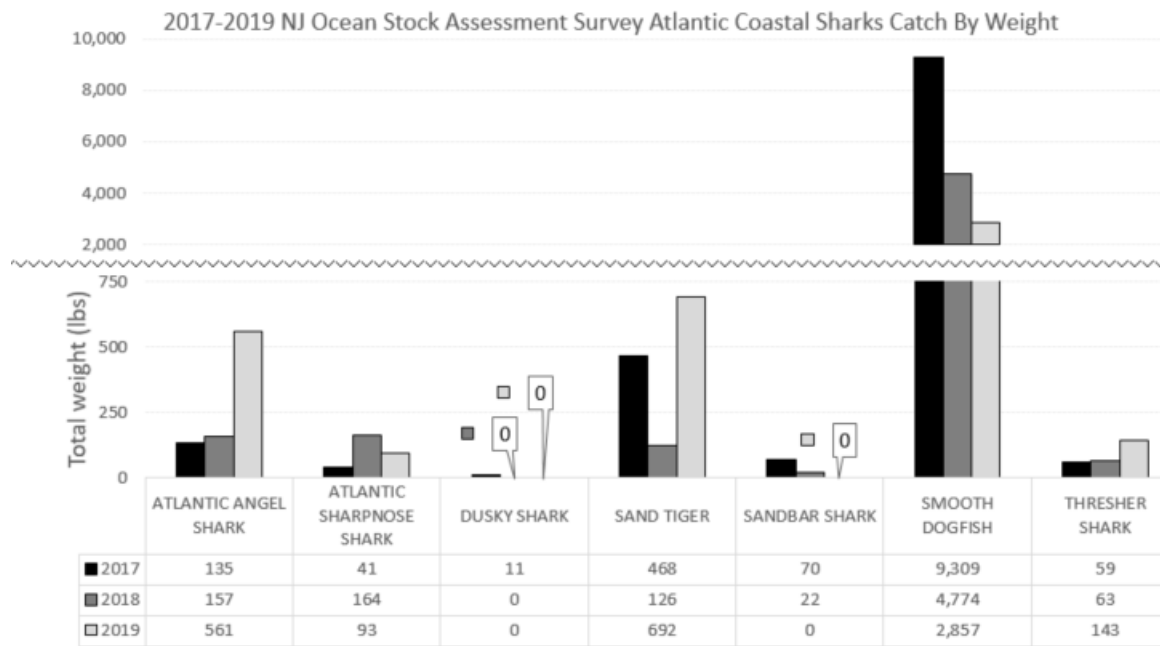


Figure 5. NJ 2019 Ocean Stock Assessment Survey Atlantic Coastal Sharks

Delaware

Delaware conducts a 30' adult trawl survey and a 16' juvenile trawl survey in the Delaware Bay. In the adult trawl survey, smooth dogfish are the most common shark species caught (Figure 6), with sand tiger shark (Figure 7) and sandbar sharks (Figure 8) taken in low numbers. Thresher, Atlantic angel (*Squatina dumeril*), Atlantic sharpnose (Figure 9) and dusky shark were caught in the past, but rarely. Sand tiger shark catch per nautical mile increased in 2019 and was the highest for the time-series. Sandbar shark catch per nautical mile decreased in 2019 relative to 2018 but it was still the seventh highest level of abundance. smooth dogfish catch per nautical mile increased in 2019 but is still relatively low compared to the early 2000's. In the juvenile trawl, the species caught include sand tiger shark (Figure 10), sandbar sharks (Figure 11) and smooth dogfish (Figure 12). Apart from smooth dogfish, the capture of coastal sharks in the juvenile trawl is a rare occurrence.

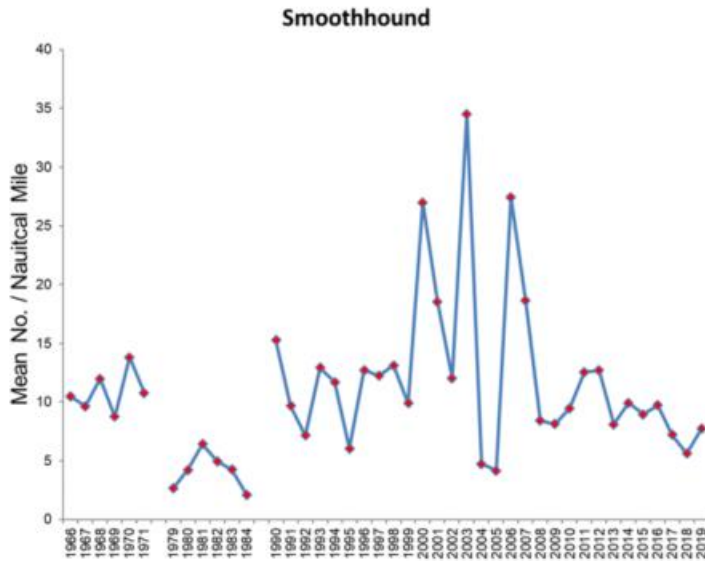


Figure 6. Smooth dogfish relative abundance (mean number per nautical mile), time series (1966 – 2019) as measured in 30-foot trawl sampling in the Delaware Bay.

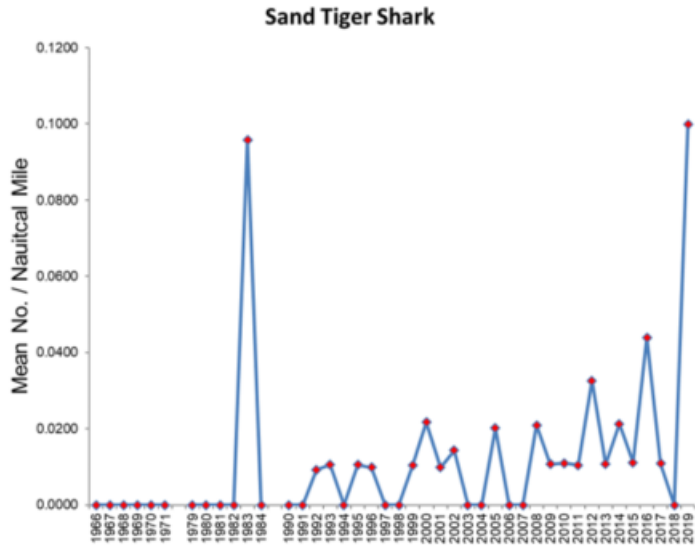


Figure 7. Sand tiger shark relative abundance (mean number per nautical mile), time series (1966 – 2019) as measured in 30-foot trawl sampling in the Delaware Bay.

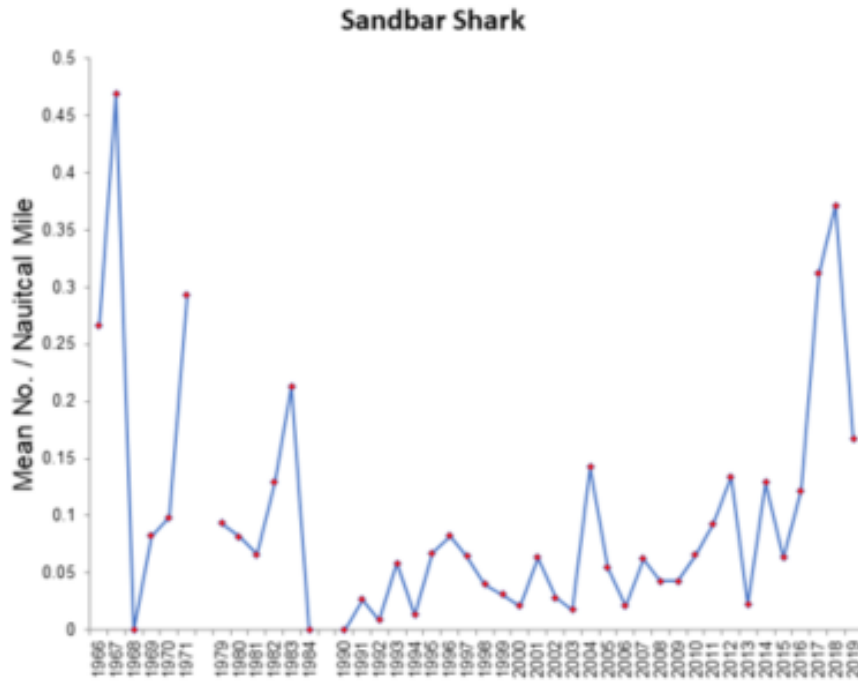


Figure 8. Sandbar shark relative abundance (mean number per nautical mile), time series (1966 – 2019) as measured in 30-foot trawl sampling in the Delaware Bay.

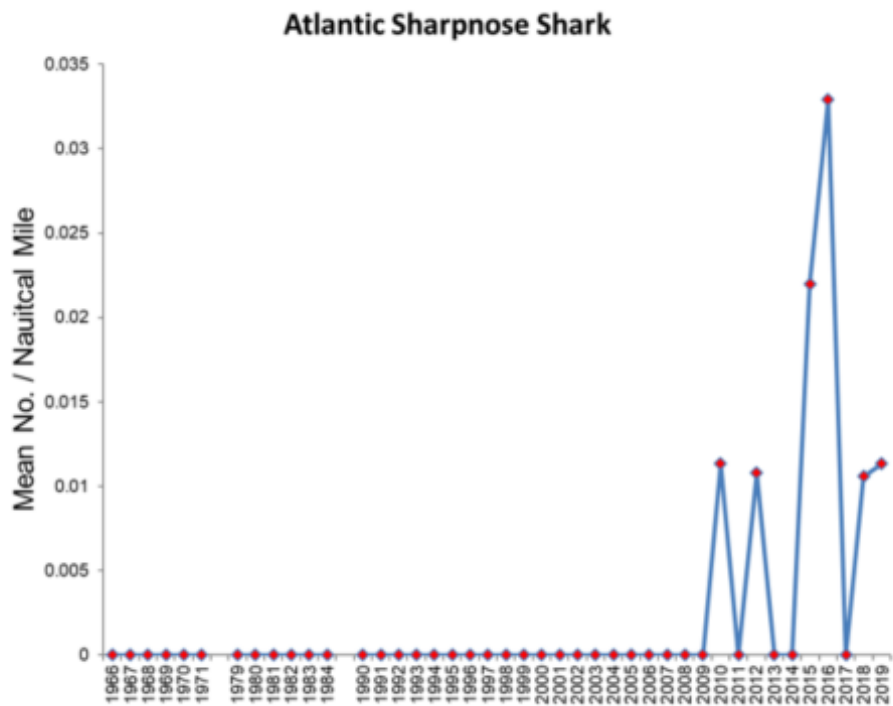


Figure 9. Atlantic sharpnose shark relative abundance (mean number per nautical mile), time series (1966 – 2019) as measured in 30-foot trawl sampling in the Delaware Bay.

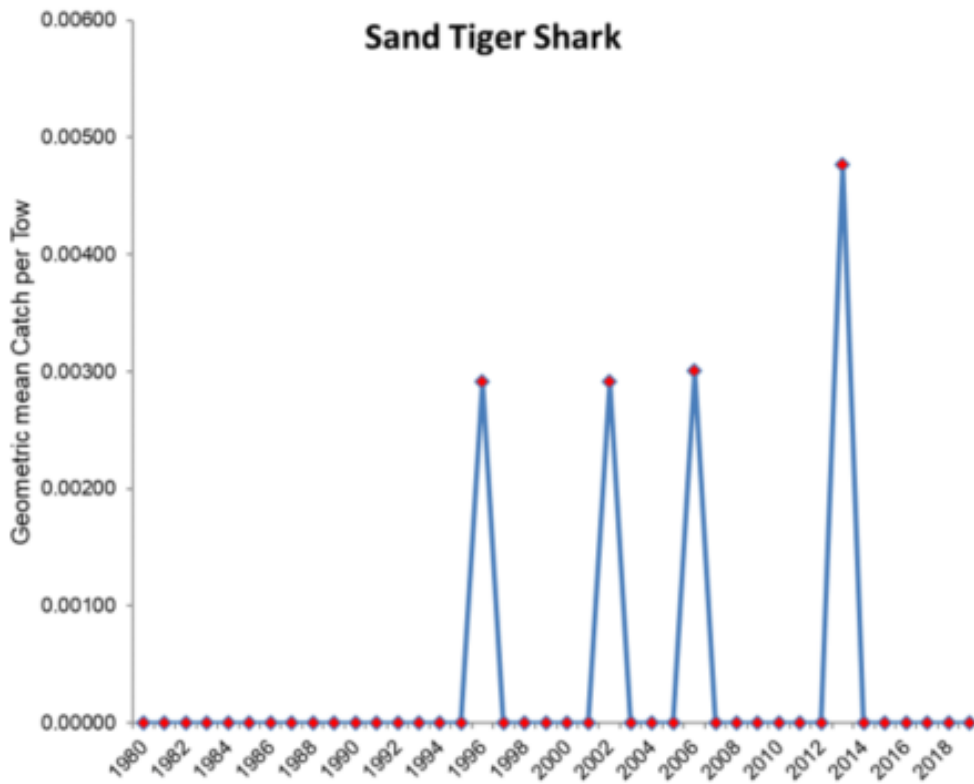


Figure 10. Index of sand tiger shark, time series (1980 – 2019) as measured by 16-foot trawl sampling in the Delaware Estuary.

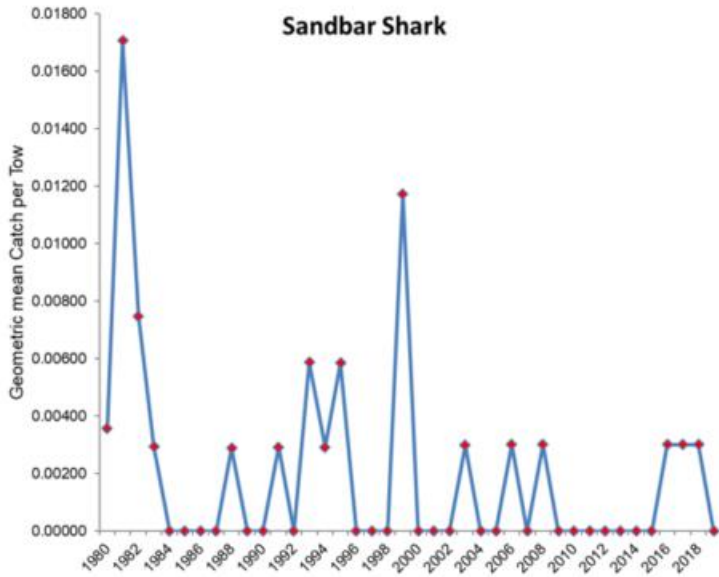


Figure 11. Index of sandbar shark, time series (1980 – 2019) as measured by 16-foot trawl sampling in the Delaware Estuary.

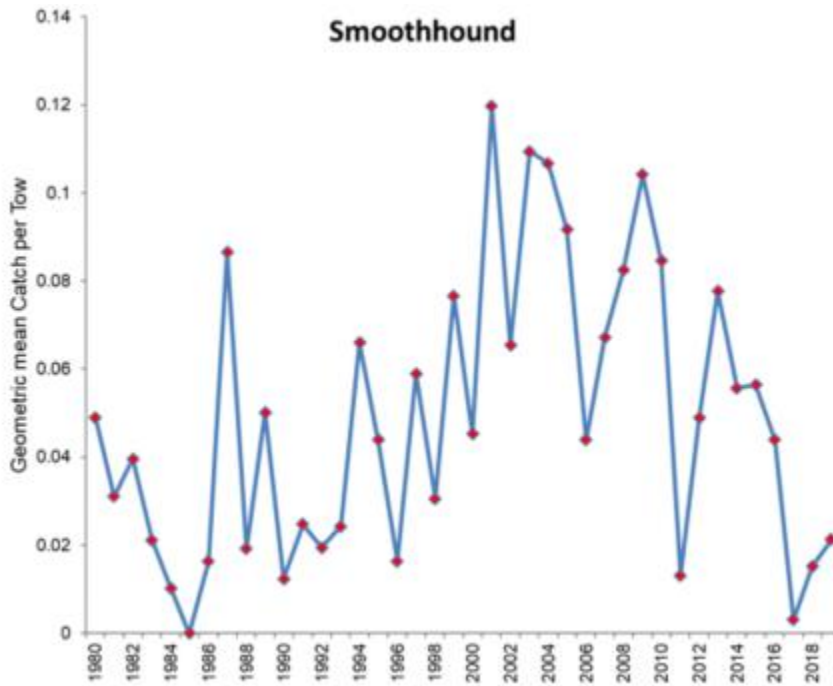


Figure 12. Index of young-of-year smooth dogfish abundance, time series (1980 – 2019) as measured by 16-foot trawl sampling in the Delaware Estuary.

Maryland

No fishery-independent monitoring for Atlantic coastal sharks was conducted in Maryland state waters. Limited biological sampling of catch onboard a commercial offshore trawler targeting nearshore horseshoe crabs occurred monthly from June through October. Six Atlantic angel sharks were caught and released from those trawls in June and August.

Virginia

The VIMS Virginia Shark Monitoring and Assessment Program (VASMAP) began in 1973 with the VIMS Longline Survey, which is one of the longest running longline surveys in the world. The program has provided data on habitat utilization, age, growth, reproduction, trophic interactions, basic demographics, and relative abundance for dominant shark species.

Beginning in 2012, a separate longline survey conducted by the Virginia Institute of Marine Science designed specifically to target young-of-yearsandbar sharks in the lower Chesapeake Bay and Eastern Shore was initiated. The new survey follows a stratified random sampling design, rather than a fixed survey design, and falls under the broader COASTSPAN umbrella survey.

In 2019, sandbar shark was the most commonly encountered species by the offshore survey, followed by Atlantic sharpnose shark, sand tiger shark, blacktip shark, tiger shark (*Galeocerdo cuvier*), spinner shark (*Carcharhinus brevipinna*), blacknose shark, dusky shark, great white shark, and scalloped hammerhead (Table 11). Seasonal patterns in survey catches were also evident with June and September showing higher overall catches of sharks, followed by July and August.

COASTSPAN catches of neonate sandbar shark (≤ 71 cm total length) were highest in magnitude during July in the lower Chesapeake Bay, followed by August and June. In the coastal lagoons of the Eastern Shore, peak neonate catch occurred in June followed by July and August (Table 12). For 2019, neonate total catch was slightly higher in the coastal lagoons of the Eastern Shore when compared to that of the lower Chesapeake Bay.

Table 11. Monthly catch summaries for key shark species encountered during offshore longline cruise conducted by VASMAP, 2019 pooled across the standard six sampling sites. Effort is expressed as total longline soak time of 100 hooks

Month	Effort (hrs)	Sand Tiger	Sandbar	Tiger	Atlantic Sharpnose	Spinner	Dusky	Great White	Blacknose
Jun	30.3	4	21	3	17	2	0	0	1
Jul	32.3	14	32	8	27	2	0	0	1
Aug	31.0	5	1	1	10	0	0	1	3

Sep	31.9	0	73	1	9	7	2	0	0
Total		23	127	13	63	11	2	1	5

Table 12. Neonate catch summaries for each monthly COASTSPAN cruise, 2019, pooled across the sampling sites with the lower Chesapeake Bay and coastal lagoons of the Eastern Shore. Effort is expressed as total longline soak time of 50 hooks.

Lower Chesapeake Bay

Month	Effort (hrs)	Neonate
Jun	10.1	13
Jul	8.5	61
Aug	10.0	45
Total		119

Lagoons, Eastern Shore

Month	Effort (hrs)	Neonate
Jun	7.7	77
Jul	7.5	75
Aug	7.5	41
Total		193

North Carolina

Fishery-Dependent

The North Carolina Division of Marine Fisheries (NCDMF) conducts both fishery-dependent and independent sampling within state waters. Fishery-dependent sampling of North Carolina commercial fisheries has been ongoing since 1982 (conducted under Title III of the Interjurisdictional Fisheries Act and funded in part by the U.S. Department of Commerce,

National Marine Fisheries Service). Predominant fisheries sampled included the ocean gill net, estuarine gill net, ocean trawl, long haul seine/swipe net, beach seine, and pound net fisheries.

Shark species were sampled from 53 commercial trips in 2019 with July having the highest number of sampled trips (Table 13). Of the shark species sampled through fishery-dependent monitoring, most were Atlantic sharpnose with 178 individuals sampled (Table 14).

Table 13. North Carolina 2019 fishery-dependent shark sampling summary by month.

Month	Total Trips Sampled
January	7
February	3
March	6
April	7
May	9
June	4
July	10
August	3
September	0
October	3
November	1
December	0
Total	53

Table 14. North Carolina 2019 fishery-dependent shark sampling summary by species for total number of individuals and total sampled weight.

Shark Species	#Total Individuals	Weight (kg)
Atlantic sharpnose	178	252
Blacktip	10	81
Bonnethead	5	11
Hammerhead	10	110
Smoothhound	3	5
Thresher	3	31

Fishery-Independent

The NCDMF initiated a fishery-independent red drum longline survey in the Pamlico Sound in 2007 for developing an index of abundance for adult red drum; this project also allows for capture and tagging of Atlantic coastal sharks in cooperation with the NEFSC Cooperative Shark Tagging Program. In 2019, the red drum longline survey resulted in the capture of one bull shark (*Carcharhinus leucas*) and three Atlantic sharpnose sharks (Table 15).

The NCDMF initiated a fishery-independent gill net survey in 2001 and expanded its coverage in 2008 to include the Cape Fear and New Rivers and the near shore (0-3 miles) Atlantic Ocean from New River Inlet south to the South Carolina state line. The Atlantic Ocean portion of the survey was discontinued in June of 2015 due to low catches of target species, none of which were sharks. The objective of this project is to provide annual, independent, relative abundance indices for key estuarine species in the Pamlico Sound and the Pamlico, Pungo, Neuse, New, and Cape Fear rivers. The survey employs a stratified random sampling design and utilizes multiple mesh gill nets (3.0 inch to 6.5 inch stretched mesh, by ½ inch increments). In 2019, 10 species of shark were encountered in the gill net survey, with Atlantic sharpnose (n=217) representing the highest abundance (Table 16).

Table 15. Summary of shark captures from NCDMF fishery-independent longline survey for 2019. Minimum, maximum, and average shark total length (TL) are reported.

Shark Species	Number Measured	Minimum TL (mm)	Maximum TL (mm)	Average TL (mm)
Bull	1	978	978	978
Atlantic sharpnose	3	513	536	525

Table 16. Summary of shark captures from NCDMF fishery-independent gill net survey for 2019. Minimum, maximum, and average shark total length (TL) are reported.

Shark Species	Number Measured	Minimum TL (mm)	Maximum TL (mm)	Average TL (mm)
Atlantic Sharpnose	217	230	805	410
Blacknose	5	365	432	404
Blacktip	28	453	1,158	849
Bonnethead	58	411	947	684
Bull	26	565	1,231	686
Dusky	11	275	1,120	664
Finetooth	1	1,180	1,180	1,180
Sandbar	105	420	1,140	655
Scalloped hammerhead	2	368	480	424
Smoothhound	39	437	691	534

South Carolina

Data related to the presence and movement of sharks in South Carolina’s coastal waters will continue to be collected as encountered within the context of existing fishery-dependent or fishery-independent programs conducted by the South Carolina Department of Natural Resources (SCDNR). Currently, data are collected from estuarine waters by the SCDNR COASTSPAN survey and the SCDNR trammel net survey. The COASTSPAN survey monitors the presence and abundance of young-of-year and juvenile sharks in the estuaries and bays of

South Carolina. The survey operates from April-September using gillnets, longlines, and drumlines to sample index stations. Species captured are measured, sexed, tagged, released, and physical and water quality parameters are recorded (Table 17).

The SCDNR trammel net survey is designed to sample recreationally important species in shallow estuarine waters. Sharks are not a target species, but their abundance as well as length and sex data are recorded (Table 17). Stations selected based on suitable habitats are randomly sampled using a multi-panel gillnet to encircle a section of marsh. Species captured are measured, sexed if possible, select species (no sharks) are tagged and released, and physical and water quality data are recorded.

The presence and abundance of juvenile and adult coastal sharks in the bays, sounds and coastal waters of South Carolina are documented by the Adult Red Drum and Coastal Shark Longline survey. This survey uses a stratified-random approach to sample for adult red drum and coastal sharks. The survey operates annually from August to December using longlines to sample suitable habitat for targeted species. Species captured are measured, sexed, tagged, and released, and physical and water quality parameters are recorded. Species encountered and tagged for all surveys are reported in Table 17. The data gathered from these programs are shared with the NMFS Apex Predators Program and are utilized in stock assessments and management decisions in South Carolina.

Table 17. Number of sharks captured and tagged by South Carolina Department of Natural Resources' Cooperative Atlantic States Shark Pupping and Nursery Habitat Survey (COASTSPAN), Trammel Net Survey, and Coastal Longline survey in 2019.

Shark Species	COASTSPAN		TrammelNet		CoastalLongline Survey	
	Captured	Tagged	Captured	Tagged	Captured	Tagged
Atlantic Sharpnose	154	0	62	0	801	0
Blacknose	2	0	0	0	144	138
Blacktip	104	47	8	0	109	80
Bonnethead	243	171	203	0	22	20
Bull	6	6	0	0	3	2
Dusky	0	0	0	0	1	1
Finetooth	425	78	47	0	74	67
Great Hammerhead	1	1	0	0	2	1
Lemon	10	9	29	0	4	1
Nurse	0	0	0	0	3	0
Sandbar	336	307	12	0	191	173
Sand Tiger	0	1	0	0	2	1
Scalloped/Carolina Hammerhead	92	3	0	0	33	5
Smooth Dogfish	0	1	0	0	0	0
Spinner	4	0	2	0	48	5
Tiger	2	2	0	0	26	9

Georgia

Fishery-Dependent

Although a directed fishery for sharks does not exist in Georgia waters, there is a fishery-dependent sampling project conducted by the Coastal Resources Division (CRD) that can result in the incidental capture of coastal sharks. The Marine Sportfish Carcass Recovery Project, a partnership with recreational anglers along the Georgia coast, is used to collect biological data from finfish such as Red Drum, Spotted Seatrout, Southern Flounder, Sheepshead, and Southern Kingfish. Participating anglers deposit fish carcasses in chest freezers located at public access points along the Georgia coast. In 2019, a total of 5,645 fish carcasses were donated through this program. No coastal shark species were included.

Fishery-Independent

Georgia has several fishery-independent surveys that sample in areas where coastal shark species are encountered and one survey specifically designed to sample sub-adult sharks in Georgia's inshore waters.

Coastal Longline Survey (SEAMAP)

Sampling occurs in inshore and nearshore waters of southeast Georgia. Sampling occurs from mid-June through mid-December. Sampling gear consists of a bottom-set 926 m, 600 lb. test monofilament mainline configured with 60, 0.5 m gangions made of 200 lb. test monofilament. Each gangion consists of a longline snap and a 15/0 circle hook. Thirty hooks are baited with squid, and 30 are baited with mullet. Soak time for each set is 30 minutes. During 2019, CRD staff deployed 140 sets consisting of 8,392 hooks and 68.5 hours of soak time. A total of 462 sharks were captured, representing ten species (Table 18).

Shark Nursery Survey (COASTSPAN)

The University of North Florida assumed field operations for this survey in 2016. Data for the complete time series are maintained by the NMFS Apex Predators Program in Narragansett, RI (contact: Cami McCandless).

Ecological Monitoring Trawl Survey (EMTS)

Each month, a 40 ft flat otter trawl with neither a turtle excluder device nor bycatch reduction device is deployed at 36 stations across six estuaries. At each station, a standard 15-minute tow is made. During this report period, 417 tows/observations were conducted, totaling 104.58 hours of tow time. A total of 72 sharks, representing 4 species, were captured during 2019 (Table 18).

Marine Sportfish Population Health Survey (MSPHS)

The Marine Sportfish Population Health Survey (MSPHS) is a multi-faceted ongoing survey used to collect information on the biology and population dynamics of recreationally important

finfish. The Altamaha River system and the Wassaw estuary has been sampled since 2003 using entanglement gear. The St. Andrew estuary was added in 2019.

During the June to August period, young-of-year Red Drum in the Altamaha River system and Wassaw and St. Andrew estuaries are collected using gillnets to gather data on relative abundance and location of occurrence. During the September to November period, fish populations in the Altamaha River system and Wassaw estuaries are monitored using monofilament trammel nets to gather data on relative abundance and size composition. In 2019, a total of 324 gillnet and 225 trammel net sets were made, resulting in the capture of 210 individuals representing 4 species of coastal sharks (Table 18).

Table 18. Numbers of coastal sharks captured in Georgia fishery-independent surveys in 2019 by species and by survey.

	SEAMAP	EMTS	MSPHS
SHARK, ATLANTIC SHARPNOSE	212	17	9
SHARK, BLACKNOSE	103	---	---
SHARK, BLACKTIP	25	3	---
SHARK, BONNETHEAD	52	51	191
SHARK, BULL	1	---	---
SHARK, FINETOOTH	11	---	5
SHARK, LEMON	---	---	5
SHARK, SANDBAR	43	1	---
SHARK, SCALLOPED HAMMERHEAD	6	---	---
SHARK, SPINNER	6	---	---
SHARK, TIGER	3	---	---
ALL SPECIES COMBINED	462	72	210

Florida

Florida Fish and Wildlife Conservation Commission had no fisheries-independent monitoring programs for coastal sharks during the 2019 calendar year.

V. Status of Management Measures and Issues

Fishery Management Plan

Coastal Sharks are managed under the Interstate FMP for Coastal Sharks, which was adopted in August 2008 and effective in January 1, 2009, Addendum I (2009), Addendum II (2013), and Addendum III (2013). The FMP addresses the management of 40 species and establishes a suite of management measures for recreational and commercial shark fisheries in state waters (0 – 3 miles from shore). In 2016, Smooth dogfish was added to NOAA Fisheries’ Atlantic Highly Migratory Species FMP through Amendment 9; as part of the Amendment, a new requirement that smooth dogfish harvest need to make up at least 25% of the retained catch in order for

fishermen to be able to remove their fins at sea. The Commission later in the year approved Addendum IV (2016) to maintain consistency between state and federal FMP.

ASMFC will continue to respond to changes in the Atlantic Highly Migratory Species FMP and make changes as necessary to the interstate FMP.

VI. Implementation of FMP Compliance Requirements for 2019

Addendum III to the Coastal Sharks FMP was implemented in March 2014. All states must demonstrate through the inclusion of regulatory language that the following management measures were implemented.

i. Recreational Minimum Size Limits

This modifies Section 4.2.4 Recreational Minimum Size Limits in the FMP.

Sharks caught in the recreational fishery must have a minimum fork length of 4.5 feet (54 inches) with the exception of smooth hammerhead, scalloped hammerhead, great hammerhead, smoothhound, Atlantic sharpnose, blacknose, finetooth, and bonnethead.

Smooth hammerhead, scalloped hammerhead and great hammerhead must have a minimum fork length of 6.5 feet (78 inches).

Smoothhound, Atlantic sharpnose, blacknose, finetooth and bonnethead do not have recreational minimum size limits.

Table 4.4. Recreational minimum size limits, 2019.

No Minimum Size	Minimum Fork Length of 4.5 Feet		Minimum Fork Length of 6.5 Feet
Smoothhound Atlantic sharpnose Finetooth Blacknose Bonnethead	Tiger Blacktip Spinner Bull Lemon Nurse	Shortfin mako* Porbeagle Thresher Oceanic whitetip Blue	Scalloped hammerhead Smooth hammerhead Great hammerhead

***Per Amendment 11 (2019) in response to the 2017 Assessment, minimum size limit (fork length) for Shortfin makos is now a 71-inch straight line fork length (FL) for males and an 83-inch straight line FL for females 83 inches or 6.9 feet. States will implement these measures for states waters by January 1, 2020.**

States must require the use of non-offset, corrodible, non-stainless steel circle hooks when fishing for sharks recreationally, except when fishing with flies or artificial lures, in state waters. Implementation is required per Board action no later than July 1, 2020.

ii. Commercial Species Groupings

This modifies Section 4.3.3 Commercial Species Groupings (and the appropriate sub-sections, outlined below). Two new species groups ('Blacknose' and 'Hammerhead') are created.

This FMP establishes eight commercial 'species groups' for management (Table 1): Prohibited, Research, Smoothhound, Non-Blacknose Small Coastal, Blacknose, Aggregated Large Coastal, Hammerhead, and Pelagic. These groupings apply to all commercial shark fisheries in state waters.

VII. PRT Recommendations

State Compliance

All states with a declared interest in the management of sharks have submitted compliance reports and have regulations in place that meet or exceed the requirements of the Interstate Fisheries Management Plan for Coastal Sharks and associated addenda for the 2019 fishing year.

De Minimis Status

This FMP does not establish specific *de minimis* guidelines that would exempt a state from regulatory requirements contained in this plan. *De minimis* shall be determined on a case-by-case basis. *De minimis* often exempts states from monitoring requirements in other fisheries but this plan does not contain any monitoring requirements.

De minimis guidelines are established in other fisheries when implementation and enforcement of a regulation is deemed unnecessary for attainment of the fishery management plan's objectives and conservation of the resource. Due to the unique characteristics of the coastal shark fishery, namely the large size of sharks compared to relatively small quotas, the taking of a single shark could contribute to overfishing of a shark species or group. Therefore, exempting a state from any of the regulatory requirements contained in this plan could threaten attainment of this plans' goals and objectives.

Massachusetts is the only state that has been granted *de minimis* status. Massachusetts can continue to have *de minimis* status until their landings patterns change or they request a discontinuation.

In some cases, it is unnecessary for states with *de minimus* status to implement all regulatory requirements in the FMP.

- A. Massachusetts has implemented all regulations with two exceptions: it is exempt from the possession limit and closures of the aggregated large coastal and hammerhead shark fisheries.

Research Priorities

Species-Specific Priorities

- Investigate the appropriateness of using vertebrae for aging adult sandbar sharks. If appropriate, implement a systematic sampling program that gathers vertebral samples from entire size range for annual aging to allow tracking the age distribution of the catch as well as updating of age-length keys.¹
- Determine what is missing in terms of experimental design or/and data analysis to arrive at incontrovertible conclusions on the reproductive periodicity of sandbar sharks.
- Continue work on reconstruction of historical catches of sandbar sharks, especially catches outside of the US EEZ.
- Investigate the length composition of the F3 Recreational and Mexican fisheries for sandbar sharks more in depth as this fishery is estimated to have a large impact on the stock mainly due to selecting age-0 fish.
- Research to estimate the degree of connectivity between the portions of the sandbar stock within the US and outside of the US EEZ.
- Study the distribution and movements of the sandbar stock relative to sampling coverage. It is possible that none of the indices alone track stock-wide abundance trends.
- Develop and conduct tagging studies on dusky and blacknose stock structure with increased international collaboration (e.g., Mexico) to ensure wider distribution and returns of tags. Expand research efforts directed towards tagging of individuals in south Florida and Texas/Mexico border to get better data discerning potential stock mixing.
- Investigate sex- and life stage-specific movements of blacktip sharks to determine if migratory behaviors change based on maturity or reproductive condition. Additionally blacktip sharks should be tagged throughout their range, including the northern extent of the population range off New York, to gain a more complete understanding of migratory and residency patterns.

General Priorities

- Update age and growth and reproductive studies for all species currently assessed, especially for studies with low sample sizes or over 20 years old.
- Determine gear-specific post-release mortality estimates for all species currently assessed.
- Determine life history information for data-poor species that are currently not assessed.
- Examine female sharks during the pupping periods to determine the proportion of reproductive females. Efforts should be made to develop non-lethal methods of determining pregnancy status.
- Expand or develop monitoring programs to collect appropriate length and age samples from the catches in the commercial sector by gear type, from catches in the recreational sector,

¹ Recent bomb radiocarbon research has indicated that past age estimates based on tagging data for sandbar sharks may be correct and that vertebral aging may not be the most reliable method for mature individuals. See Andrews *et al.* 2011.

and from catches taken in research surveys to provide reliable length and age compositions for stock assessment.

- Continue investigations into stock structure of coastal sharks using genetics and conventional, and electronic tags to determine appropriate management units.
- Evaluate to what extent the different CPUE indices track population abundance (e.g., through power analysis).
- Explore modeling approaches that do not require an assumption that the population is at virgin level at some point in time.
- Increase funding to allow hiring of additional HMS stock assessment scientists. There are currently inadequate staff to conduct stock assessments on more than one or two stocks/species per year.

References

Andrews et al. 2011. Bomb radiocarbon and tag-recapture dating of sandbar shark (*Carcharhinus plumbeus*). Fisheries Bulletin. 109: 454-465.

Stock Assessment and Fishery Evaluation (SAFE) Report for Atlantic Highly Migratory Species. 2018. NOAA Fisheries, April 9, 2019.

< <https://www.fisheries.noaa.gov/resource/document/2018-stock-assessment-and-fishery-evaluation-report-atlantic-highly-migratory> >

APPENDIX 1. OVERVIEW OF COASTAL SHARK REGULATIONS

Coastal Sharks FMP Regulatory Requirements

1. Recreational seasonal closure (Section 4.2.1)
 - a. Recreational anglers are prohibited from possessing silky, tiger, blacktip, spinner, bull, lemon, nurse, scalloped hammerhead, great hammerhead, and smooth hammerhead in the state waters of Virginia, Maryland, Delaware and New Jersey from May 15 through July 15—regardless of where the shark was caught.
 - b. Recreational fishermen who catch any of these species in federal waters may not transport them through the state waters of VA, MD, DE, and NJ during the seasonal closure.
2. Recreationally permitted species (Section 4.2.2)
 - a. Recreational anglers are allowed to possess aggregated large coastal sharks, hammerheads, tiger sharks, SCS, and pelagic sharks. Authorized shark species include: aggregated LCS (blacktip, bull, spinner, lemon, and nurse); hammerhead (great hammerhead, smooth hammerhead, scalloped hammerhead); tiger sharks; SCS (blacknose, finetooth, Atlantic sharpnose, and bonnethead sharks); and, pelagic sharks (blue, shortfin mako, common thresher, oceanic whitetip, and porbeagle). Sandbar sharks and silky sharks (and all prohibited species of sharks) are not authorized for harvest by recreational anglers.
3. Landings Requirements (Section 4.2.3)
 - a. All sharks (with exception) caught by recreational fishermen must have heads, tails, and fins attached naturally to the carcass. Anglers may still gut and bleed the carcass by making an incision at the base of the caudal peduncle as long as the tail is not removed. Filleting sharks at sea is prohibited.
 - b. All sharks (with exception) harvested by commercial fishermen within state boundaries must have the tails and fins attached naturally to the carcass through landing. Fins may be cut as long as they remain attached to the carcass (by natural means) with at least a small portion of uncut skin. Sharks may be eviscerated and have the heads removed. Sharks may not be filleted or cut into pieces at sea.
 - c. Exception: Fishermen holding a valid state commercial permit may process smooth dogfish sharks at sea out to 50 miles from shore, as long as the total weight of smooth dogfish shark fins landed or found on board a vessel does not exceed 12 percent of the total weight of smooth dogfish shark carcasses landed or found on board.
4. Recreational Minimum Size Limits (Section 4.2.4)
 - a. Sharks caught in the recreational fishery must have a fork length of at least 4.5 feet (54 inches) with the exception of Atlantic sharpnose, blacknose, finetooth,

bonnethead and smoothhound which have no minimum size. Hammerhead species must have a fork length (FL) of 6.5 feet (78 inches).

- b. (Effective January 1, 2020 via Board action, May 2019)** recreational size limit for Atlantic shortfin mako sharks in state waters is 71-inch straight line FL for males and 83-inch straight light FL for females.
5. Authorized Recreational Gear (Section 4.2.5)
 - a. Recreational anglers may catch sharks only using a handline or rod & reel. Handlines are defined as a mainline to which no more than two gangions or hooks are attached. A handline must be retrieved by hand, not by mechanical means.
 - b. (Effective July 1, 2020 via Board action, October 2019)** Non-offset, corrodible, non-stainless steel circle hooks are required when fishing for sharks recreationally, in state waters. The only exception is when fishing with flies or artificial lures
6. Possession limits in one twenty-four hour period (Section 4.2.7 and 4.3.6)
 - a. Recreational and commercial possession limits as specified in Table 9.
 - b. Smooth dogfish harvest is not limited in state waters and recreational shore-anglers may harvest an unlimited amount of smooth dogfish.
7. Commercial Seasonal Closure (Section 4.3.2)
 - a. All commercial fishermen are prohibited from possessing silky, tiger, blacktip, spinner, bull, lemon, nurse, scalloped hammerhead, great hammerhead, and smooth hammerhead in the state waters of Virginia, Maryland, Delaware and New Jersey from May 15 through July 15. Fishermen who catch any of the above species in a legal manner in federal waters may transit through the state waters listed above if all gear is stowed.
8. Quota Specification (Section 4.3.4)
 - a. When NOAA Fisheries closes the fishery for any species, the commercial landing, harvest, and possession of that species will be prohibited in state waters until NOAA Fisheries reopens the fishery.
9. Permit requirements (Section 4.3.8)
 - a. State: Commercial shark fishermen must hold a state commercial license or permit in order to commercially catch and sell sharks in state waters.
 - b. Federal: A federal Commercial Shark Dealer Permit is required to buy and sell any shark caught in state waters.
 - c. Display and research permit is required to be exempt from seasonal closure, quota, possession limit, size limit, gear, and prohibited species restrictions. States are required to include annual information for all sharks taken for display throughout the life of the shark.

10. Authorized commercial gear (Section 4.3.8.3)

- a. Commercial fishermen can only use one of the following gear types (and are prohibited from using any gear type not listed below) to catch sharks in state waters.
 - i. **Rod & reel.**
 - ii. **Handlines.** Handlines are defined as a mainline to which no more than two gangions or hooks are attached. A handline is retrieved by hand, not by mechanical means, and must be attached to, or in contact with, a vessel.
 - iii. **Small Mesh Gillnets.** Defined as having a stretch mesh size smaller than 5 inches.
 - iv. **Large Mesh Gillnets.** Defined as having a stretch mesh size equal to or greater than 5 inches.
 - v. **Trawl nets.**
 - vi. **Shortlines.** Shortlines are defined as fishing lines containing 50 or fewer hooks and measuring less than 500 yards in length. A maximum of 2 shortlines are allowed per vessel.
 - vii. **Pounds nets/fish traps.**
 - viii. **Weirs.**

11. Bycatch Reduction Measures (Section 4.3.10)

- a. Any vessel using a shortline must use corrodible circle hooks. All shortline vessels must practice the protocols and possess the recently updated federally required release equipment for pelagic and bottom longlines for the safe handling, release, and disentanglement of sea turtles and other non-target species, all captains and vessel owners must be certified in using handling and release equipment.

12. Smooth Dogfish

- a. Each state must identify their percentage of the overall quota (Addendum II, 3.1)
- b. Smooth dogfish must make up at least 25%, by weight, of total catch on board at time of landing. Trips that do not meet the 25% catch composition requirement can land smooth dogfish, but fins must remain naturally attached to the carcass (Addendum IV, 3.0; modifies Addendum II Section 3.5).

Table 19. Possession/retention limits for shark species in state waters

Recreational	<i>Shore-angler</i>	1 shark (of any species except prohibited) per person per day; plus one Atlantic sharpnose, and bonnethead
	<i>Vessel-fishing</i>	1 shark (of any species except prohibited) per vessel per trip; plus one Atlantic sharpnose, and bonnethead per person, per vessel

Commercial	<i>Directed permit</i>	Variable possession limit for aggregated large coastal sharks and hammerhead shark management groups. The Commission will follow NMFS for in-season changes to the possession limit. The possession limit range is 0-55, the default is 45 sharks per trip. No limit for SCS or pelagic sharks.
	<i>Incidental permit</i>	3 aggregated LCS per vessel per trip and 16 pelagic or SCS (combined) per vessel per trip