

# Atlantic States Marine Fisheries Commission

## Coastal Sharks Management Board

*April 30, 2019  
2:45 – 3:15 p.m.  
Arlington, Virginia*

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*R. Miller*) 2:45 p.m.
2. Board Consent 2:45 p.m.
  - Approval of Agenda
  - Approval of Proceedings from October 2018
3. Public Comment 2:50 p.m.
4. Final Rule for Highly Migratory Species Amendment 11 (Shortfin Mako) 3:00 p.m.
  - Review Final Rule and NOAA Fisheries Request for Complementary Measures (*K. Brewster-Geisz*)
  - Technical Committee Report (*K. Rootes-Murdy*)
  - Consider Complementary Management Measures (*R. Miller*) **Final Action**
5. Consider Approval of 2018 FMP Review and State Compliance Reports 3:10 p.m.  
(*K. Rootes-Murdy*) **Action**
6. Other Business/Adjourn 3:15 p.m.

The meeting will be held at the Westin Crystal City, 1800 S. Eads Street, Arlington, Virginia; 703.486.1111

# MEETING OVERVIEW

## Coastal Sharks Management Board Meeting

**April 30, 2019**

**2:45 – 3:15 p.m.**

**Arlington, Virginia**

Chair: Roy Miller (DE) Assumed Chairmanship: 5/2017	Vice Chair: Pat Geer	Law Enforcement Committee Representative: Greg Garner
Coastal Shark Technical Committee Chair: Bryan Frazier (SC)	Coastal Shark Advisory Panel Chair: Vacant	Previous Board Meeting: October 2018
Voting Members: MA, RI, CT, NY, NJ, DE, MD, VA, NC, SC, GA, FL, NMFS, USFWS (14 votes)		

### 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2018

3. Public Comment – At the beginning of the meeting public comment will be taken on items not on the Agenda. Individuals that wish to speak at this time must sign in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

<b>4. Final Rule for NOAA Fisheries Highly Migratory Species Amendment 11 (3:00-3:10 p.m.) Final Action</b>
<p><b>Background</b></p> <ul style="list-style-type: none"> <li>• The 2017 ICCAT stock assessment on North Atlantic shortfin mako indicates that the resource is overfished and overfishing is occurring. In response to the results, NOAA Fisheries implemented emergency rule measures in March 2018 to reduce landings by approximately 72-79 percent and initiated Draft Amendment 11.</li> <li>• In February, NOAA Fisheries finalized Amendment 11 and implemented new measures to protect shortfin mako sharks (<b>Briefing Materials</b>)</li> <li>• The Technical Committee met to review the new measures, and provide recommendations to the Board on potential action. (<b>Briefing Materials</b>)</li> </ul>

**Presentations**

- Amendment 11 and Request for Complementary Measures by K. Brewster-Geisz
- Technical Committee Report by K. Rootes-Murdy

**Board Actions for Consideration at this Meeting**

- Implement Complementary Measures on shortfin mako sharks as outlined in Amendment 11 in state waters

**5. Consider Approval of 2018 FMP Review and State Compliance (3:10-3:15 p.m.) Action****Background**

- State compliance reports are due August 1.
- The Plan Review Team reviewed each state report and drafted the 2018 FMP Review. (Briefing Materials)

**Presentations**

- Overview of the 2018 Fishery Management Plan Review by K. Rootes-Murdy

**Board Actions for Consideration at this Meeting**

- Accept the 2018 Fishery Management Plan Review and approve *de minimis* requests

**8. Other Business/Adjourn**

## Coastal Sharks

**Activity level: Low**

**Committee Overlap Score:** low (some overlaps with South Atlantic Board species)

### Committee Task List

- TC – August 1<sup>st</sup>: Annual compliance reports due

**TC Members:** Bryan Frazier (SC, TC Chair), Carolyn Belcher (GA), Brent Winner (FL), Greg Skomal (MA), Chris Scott (NY), Lee Paramore (NC), Conor McManus (RI), Greg Hinks (NJ), Jack Musick (VIMS), Angel Willey (MD, Vice Chair), Matt Gates (CT), Karyl Brewster-Geisz (NOAA), Michael Frisk (SUNY Stony Brook), Enric Cortes (NOAA), Scott Newlin (DE), Julie Neer (SAFMC), Kirby Rootes-Murdy (ASMFC)

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
COASTAL SHARKS MANAGEMENT BOARD**

**The Roosevelt Hotel  
New York, New York  
October 23, 2018**

These minutes are draft and subject to approval by the Coastal Sharks Management Board.  
The Board will review the minutes during its next meeting.

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1. **Approval of agenda** by consent (Page 1).
2. **Approval of proceedings of August 2018** by consent (Page 1).
3. **Move to approve Addendum V for Coastal Sharks with Management Option 3 as the chosen management option** (Page 4). Motion by John Clark; second by Justin Davis. Motion carried (Page 5).
4. **Move to approve the 2019 coastal sharks specifications via an email vote after NOAA Fisheries publishes the final rule for the 2019 Atlantic Shark Commercial Fishing season** (Page 5). Motion by Chris Batsavage; second by John Clark. Motion carried (Page 5).
5. **Motion to adjourn** by consent (Page 17).

## ATTENDANCE

### Board Members

Steve Train, ME (AA)	Russell Dize, MD (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Bryan Plumlee, VA (GA)
David Pierce, MA (AA)	Lewis Gillingham, VA, proxy for S. Bowman (AA)
Bob Ballou, RI, proxy for J. McNamee (AA)	Sen. Monty Mason, VA (LA)
Bill Hyatt, CT (GA)	Chris Batsavage, NC, proxy for S. Murphey (AA)
Justin Davis, CT, proxy for P. Aarrestad (AA)	Michael Blanton, NC, proxy for Rep. Steinburg (LA)
Michael Falk, NY, proxy for Sen. Boyle (LA)	Robert Boyles, Jr., SC (AA)
Maureen Davidson, NY, proxy for J. Gilmore (AA)	Marcel Reichert, SC, proxy for M. Rhodes (GA)
Emerson Hasbrouck, NY (GA)	Sen. Ronnie Cromer, SC (LA)
Heather Corbett, NJ, proxy for L. Herrighty (AA)	Doug Haymans, GA (AA)
Tom Fote, NJ (GA)	Spud Woodward, GA (AA)
Craig Pugh, DE, proxy for Rep. Carson (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
John Clark, DE, proxy for D. Saveikis (GA)	Rep. Thad Altman, FL (LA)
Mike Luisi, MD, proxy for D. Blazer (AA)	Karyl Brewster-Geisz, NMFS HMS
Ed O'Brien, MD, proxy for Del. Stein (LA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

### Ex-Officio Members

Greg Garner, Law Enforcement Representative

### Staff

Robert Beal	Kirby Rootes-Murdy
Toni Kerns	Jessica Kuesel

### Guests

Bill Anderson, MD DNR	Chris Scott, NYS DEC
Brittany Bushee, MA	Julia Socrates, NYS DEC
Ali Donargo, Boston, MA	John Whiteside, SFA
Lynn Fegley, MD DNR	Charles Witek, W. Babylon, NY
Jon Hare, NOAA	Catherine Ziegler, NYS DEC
Arnold Leo, E. Hampton, NY	



The Coastal Sharks Management Board of the Atlantic States Marine Fisheries Commission convened in the Terrace Ballroom of the Roosevelt Hotel, New York, New York; Tuesday, October 23, 2018, and was called to order at 11:40 o'clock a.m. by Chairman Roy W. Miller.

#### **CALL TO ORDER**

CHAIRMAN ROY W. MILLER: Welcome to the Coastal Shark Management Board Meeting. I'm Roy Miller from Delaware; I'm the Governor's Appointee. I'm Chairing the Coastal Shark Board. I would like to call the meeting to order.

#### **APPROVAL OF AGENDA**

CHAIRMAN MILLER: First item of business on our agenda is Approval of the Agenda. Are there any additions or corrections to the agenda for this meeting?

Seeing none; I'll assume they are approved as prepared.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN MILLER: Also, approval of the proceedings from the August, 2018 Shark Board meeting. Are there any comments, suggestions, additions or corrections to those proceedings? Seeing none; I'll assume they're approved as they have been prepared for you.

#### **PUBLIC COMMENT**

CHAIRMAN MILLER: At this time I'll offer the opportunity for public comment for any items that are not on our agenda. Is there any public comment, Kirby?

MR. KIRBY ROOTES-MURDY: No.

#### **CONSIDER ADDENDUM V FOR FINAL APPROVAL**

CHAIRMAN MILLER: Seeing none; we'll proceed on with our agenda. The next item on our agenda is consideration of Addendum V for final approval. This is a final action today, hopefully. I'm going to call on Kirby Rootes-Murdy of the

Commission. I've also got before us up here Greg Garman representing Law Enforcement.

Karyl is over at the end of the table, I missed you, Karyl. Welcome! Karyl Brewster-Geisz is with us representing NOAA Fisheries.

#### **REVIEW OPTIONS AND PUBLIC COMMENT SUMMARY**

I will call on Kirby Rootes-Murdy to discuss the Options and the Public Comment Summary on Addendum V, Kirby.

MR. ROOTES-MURDY: I will try to go through this as quickly as possible. This is our outline. I'm going to go briefly through the time table and overview, statement of the problem, background of the management options, and then I'll go through at least the Advisory Panel comments. We didn't receive any public comment; and then I'll take any questions you guys have.

As you guys are aware, this Board initiated draft Addendum V back in May of this year. The Board considered the document for public comment in August of this year; and we had a public comment period that started at the end of August and ran through the beginning of October. Today, as Roy mentioned, the Board will be considering final action on this draft Addendum. Back in May the Board was presented the recent North Atlantic Shortfin Mako Stock Assessment, and the Emergency Rule measures that were implemented by NOAA Highly Migratory Species Division in response to it. The Atlantic Shortfin Mako Stock Assessment indicated that the resource was overfished and that overfishing was occurring. To address the stock status, the International Commission on the Conservation of Atlantic Tunas, ICAT, at their November, 2017 meeting determined that all member countries needed to reduce landings by approximately 72 to 79 percent from current levels to prevent further declines in the population.

Reduction to zero landings is needed to rebuild the resource by 2040. To address the needed landings reduction, NOAA Fisheries implemented the following measures for shortfin makos. They increased the minimum size limit; fork length for the recreational fishery from 54 inches to 83 inches, and prohibited landings in the commercial fishery for all gear types, with the exception of the pelagic longline fleet for those pelagic longline vessels that have an HMS permit.

Electronic monitoring devices are required in order to retain sharks that are dead at haul back. The Board considered these measures and the Technical Committee's report; and decided not to adopt emergency rule measures, but instead initiate an addendum to provide flexibility in implementing measures and changes to those measures for all species within the coastal sharks FMP.

Part of the issue here is that the FMP currently only allows commercial quotas, possession limits, and season dates to be adjusted annually through specifications. All other commercial and recreational measures can be adjusted only through an addendum; as outlined in the Adaptive Management Section, or through emergency action.

The emergency action has a rigorous set of criteria; and basically when looking at the stock assessment for shortfin makos, it didn't meet those criteria in state waters. The Board, as I noted, decided to initiate an addendum that would allow them more flexibility in trying to make changes to the FMP for a number of measures in situations that basically fall short of an emergency action.

As you all are aware, the FMP was adopted in 2008. We have eight different complexes that is under this FMP; prohibited species, research, small coastal, non-sandbar, large coastal, pelagic, smooth dogfish, and it's important to understand that the proposed action, the two

options in this addendum, would apply to all of those species complexes and management groups.

In terms of the options, we always include a status quo. As you all know Option 1, this would mean no changes to the current set up; so annually we would continue to only make changes to the commercial quota possession limit and season dates. Again, an addendum or emergency action would be needed to adjust any of the other measures outlined in the FMP for both the commercial and recreational fishery.

Option 2 would allow the Board to adjust all needed measures through annual specifications. Basically we would in addition to the commercial quota possession limit and season length, the Board could adjust recreational size limits, possession limits, season lengths, area closures for both the recreational and commercial fishery, gear specifications for both fisheries, as well as effort controls. Under this option, the way it would work is that any of those changes that the Board wished to make would happen once a year through specifications. These changes could be made through a motion; and it would not require a public hearing or public comment. It would be at the Board's discretion how and when to take public comment on any of those changes.

They could be submitted before a Board meeting, they could be taken at the Board meeting that these are being considered at. Again, for this option and for Option 3, it doesn't preclude the Board if they wanted to in the future to initiate an addendum to make other changes. Option 3 would allow this Board to adjust measures on an ad hoc basis.

The same list that was included in Option 2 would be allowed to be altered annually at any point in the year. It wouldn't line up with the annual meeting; it could happen basically as new information became available. If we had a new

stock assessment and NOAA Fisheries came out with a finding that required changes to their measures; this Board could adjust those measures on an ad hoc basis as needed.

Again, these changes could be made for a motion and it would not require public hearing or public comment; it would be at the discretion of the Board how to receive and consider those. In terms of the public comment period, as I mentioned we had no public comment that were submitted. We held a public hearing webinar in September. We had five attendees; of those five, none offered any public comment.

#### **ADVISORY PANEL REPORT**

MR. ROOTES-MURDY: We also held an Advisory Panel meeting in October. We had three attendees for that; and two of them indicated their preference for Option 3, to be able to adjust measures on an ad hoc basis. The feedback they offered was basically that this seemed to give the Board the most flexibility, the greatest leeway when needed to adjust measures to respond to changes in the status of the resources. With that I will take any questions from the Board, thanks.

CHAIRMAN MILLER: Questions or comments for Kirby. Lewis Gillingham.

MR. LEWIS GILLINGHAM: I'm just wondering, Kirby. Was the Advisory Board advised regarding the state's ability to implement a change time table? I was talking to Chris Batsavage from North Carolina. They've got proclamation authority. Virginia is able to do it in about a 60 day period; going through a normal cycle.

But I think we know from other events that some states require the meeting of their legislature in order to do this. I believe it was for sharks, there was a survey circulated; well how fast can the states implement this. That is my comment. Were they aware of it, because it seemed like the three people were in favor of Option 3 for that reason? It seems like it would give this Board the

most flexibility, but I'm not sure that it really does.

CHAIRMAN MILLER: Kirby.

MR. ROOTES-MURDY: Yes so that is a good point to bring up. We did not on the AP call get into the specifics of each of the states' regulatory process; in terms of how they can change their measures. As you point out, each state is a bit different. That is definitely a consideration for the Board; and if you all were to choose say Option 3, how that may possibly impact certain states versus others, in terms of making those changes to certain measures.

CHAIRMAN MILLER: The next hand I saw was Mike Luisi.

MR. MICHAEL LUISI: I am certainly supportive of the flexibility that is offered in Addendum V; in this case. But my question I guess is to you, Kirby. In planning for an upcoming year, you know we do a lot of specifications with the Council and with ASMFC; and typically they are on an annual cycle, where you know that in a given month during a given meeting you're going to be taking up the question as to specifications for a future year.

Option 3 offers the flexibility even outside of that; where you could at any time throughout the year take up the question of specifications. My question I guess to you as staff, Kirby; what would be better for you, as far as planning? Would it be better to know that every time we have at fall or at annual meeting we're going to be doing specifications for coastal sharks?

That way we know it's all there, it's all before us. We can have a date fixed in our mind when we have those rules in place, or would it be better for staff having that ad hoc ability? It really boils down to what makes more sense as far as a planning process for you and the folks at the Commission.

CHAIRMAN MILLER: Kirby.

MR. ROOTES-MURDY: Thanks for the question, Mike. From staff's standpoint, I don't really see this addendum as posing challenges for planning per se. It's really more of an administrative process change for this Board. It gets to how quickly really does the Board want to be able to change measures; in response to new information, and changes to the status of the resource.

I brought up the shortfin mako assessment as kind of this case example of how we kind of came to the point to this addendum being initiated; and you all considering it today. We had an assessment completed basically late fall last year. NOAA came out with what their Emergency Rule measures were going to be.

In those situations you could have the Board kind of respond very quickly to say we're going to make a decision on accepting those measures; rather than having to each time initiate an addendum. The alternative is if you think it's better to organize all this around one time annually to really consider changes across a number of commercial and recreational specifications. You know there are obviously benefits to that.

CHAIRMAN MILLER: Robert Boyles.

MR. ROBERT H. BOYLES, JR.: Lewis to your point, and I appreciate you bringing up the question. Many times I have sat at this Board or at another species board asking for patience and forbearance; because we do have to regulate via our General Assembly. However, in the case of sharks it is the law of the state of South Carolina that we adopt by reference federal regulatory measures; and so when the Feds change those measures, we adopt immediately. We in this unusual case with sharks don't have to work through our legislative process, so we're able to implement these measures pretty quickly. As a result I like the ad hoc approach as well.

CHAIRMAN MILLER: Any further comments or questions? John Clark.

MR. JOHN CLARK: No Mr. Chair. I was just going to ask if you're ready for a motion.

CHAIRMAN MILLER: Hold that thought for just a second, John. Any further comments or questions before I give the floor to John Clark go ahead, John.

MR. CLARK: I don't mean to be rushing the issue, Roy, but it is lunch time. **Move to adopt draft Addendum V with Management Option 3 as the chosen management option.**

CHAIRMAN MILLER: It will take us a second to get it up on the board. **The motion reads; move to approve Addendum V for Coastal Sharks with Management Option 3 as the chosen management option.** Motion by John Clark; is there a second to the motion, first hand, Justin Davis? Is there any discussion on the motion? Seeing none; are we ready for a vote? Is there a need for a caucus? Toni.

MS. TONI KERNS: Roy, to simplify things since there is only one management option in this document. It would be the intention of this document to be implemented immediately; since there is not anything that the states would need to follow up on, if I am correct, and if I'm wrong then please let us know. But then we could count this as the final approval of the document; and this would be the only vote that we'll need to approve the document, since I don't believe we'll need an implementation date, because it would just be immediate.

CHAIRMAN MILLER: Does everyone understand that because some states have the authority to implement it immediately and others don't. Since there is no implementation criteria for this one it can be done expeditiously. If everyone understands that and there is no further comments. Is there any objection to this motion?

Seeing none; I'll ask are there any null votes, any abstentions? **Seeing none; then the motion passes unanimously by lack of objection.** It goes into effect immediately I guess.

#### **SET 2019 COASTAL SHARKS SPECIFICATIONS**

Thank you for that and I guess we'll move on to Agenda Item 5; which is 2019 Coastal Sharks Specifications, and again I'll call on Kirby Rootes-Murdy, Kirby.

MR. ROOTES-MURDY: Thank you, Mr. Chair; this will be a short presentation. We have the 2019 commercial specifications for your consideration. They were published in a Proposed Rule back on September 11, FR Notice 45866. We included it in the briefing materials. The big takeaway is that the quotas are effectively status quo from 2018; so there are no changes in the quotas.

The proposed open date for all the shark management groups is January 1, 2019, and it's also status quo on the retention limit. What that means is it's going to start out at 25 large coastal sharks other than sandbars per vessel per trip. They can be adjusted as needed; as we've done in the past few years. The way that that works is that at some point in the summer, usually around July, depending on how the landings are tracking with the quota; that possession limit can be adjusted. Sometimes it gets adjusted down and then back up. These just if you are able to see, these are what the quotas again were in 2018; what we're working under right now, and what will be carried forward for 2019.

We have them broken out for the Atlantic by large coastal sharks, hammerheads, non-blacknose small coastal sharks, blacknose sharks. South of 45 degrees north latitude, smooth hound sharks, and then for the next slide we have all the non-regional quotas, so non-sandbar, large coastal shark research, sandbar research, blue sharks, porbeagles, and pelagic sharks other than porbeagles or blue sharks.

In terms of next steps, what this Board often does is we wait until the Final Rule is published later in the fall. Traditionally what happens is the Board will approve specifications by e-mail vote once the Final Rule is published. That being said, many years we have a motion to accept that that is how the Board will move forward in approving these specifications following the Board meeting effectively. With that I'll take any questions and thanks.

CHAIRMAN MILLER: Any questions? Seeing none; I guess we can request any other agenda items. Sorry, we'll need a motion to approve the specifications that Kirby just presented. Would anyone care to make that motion? Chris Batsavage.

**MR. CHRIS BATSAVAGE: I move to approve the 2019 coastal shark's specifications via an e-mail vote after NOAA Fisheries publishes the final rule for the 2019 Atlantic Shark Commercial Fishing season.**

CHAIRMAN MILLER: Thank you, Chris. The motion is on the board; move to approve the 2019 coastal shark's specifications via an e-mail vote after NOAA Fisheries publishes the final rule for the 2019 Atlantic Shark Commercial Fishing season. Motion by Mr. Batsavage, second by John Clark, is there any discussion on the motion?

**Seeing none; is there any objection to the motion? Seeing none; I'll assume the motion is approved as read.** Thank you.

#### **ADJOURNMENT**

On to other business, is there any other business before the Shark Board? Seeing none; are we ready for adjournment? If there is no objection then we'll declare this Board meeting adjourned. Thank you very much.

(Whereupon the meeting adjourned at 12:05 o'clock p.m. on October 23, 2018)

in the **DATES** heading, not postmarked or otherwise transmitted by this date.

### Classification

There is good cause to waive prior notice and an opportunity for public comment on this action pursuant to 5 U.S.C. 553(b)(B). Providing an opportunity for prior notice and comment would be contrary to the public interest because the SEZ closure has been triggered by a second observed M&SI, and immediate closure of the SEZ is necessary to prevent additional mortalities or serious injuries, which may have unsustainable impacts on the Hawaii pelagic stock of the false killer whale. Furthermore, prior notice and comment is unnecessary because the take reduction plan final rule (77 FR 71259, November 29, 2012) that implements the procedure for closing the SEZ (codified at 50 CFR 229.37(d)(2) and (e)) has already been subject to an extensive public process, including the opportunity for prior notice and comment. All that remains is to notify the public of the second observed mortality and serious injury of a pelagic false killer whale resulting from commercial longline operations, and the longline closure of the SEZ. Although this action is being implemented without the opportunity for prior notice and comment, NMFS is soliciting and will respond to public comments from those affected by or otherwise interested in this rule.

The NOAA Assistant Administrator for Fisheries also finds good cause to waive the 30-day delay in the effectiveness of this action under 5 U.S.C. 553(d)(3). Failing to waive the 30-day delay in effectiveness would likely result in additional interactions and possible M&SI to the Hawaii pelagic false killer whale stock. Under the MMPA, NMFS must reduce M&SI of marine mammal stocks protected by take reduction plan regulations. This includes taking action to close the SEZ immediately upon a second observed M&SI resulting from commercial longlining in the EEZ. Accordingly, the SEZ closure must be implemented immediately to ensure compliance with the provisions of the MMPA and the take reduction plan regulations. Nevertheless, NMFS recognizes the need for fishermen to have time to haul their gear and relocate to areas outside of the SEZ; thus, NMFS makes this action effective 7 days after filing this document in the **Federal Register**.

This action is required by 50 CFR 229.37(e)(3), and is exempt from review under Executive Order 12866.

**Authority:** 16 U.S.C. 1361 *et seq.*

Dated: February 15, 2019.

**Chris Oliver,**

*Assistant Administrator for Fisheries,  
National Marine Fisheries Service.*

[FR Doc. 2019-02995 Filed 2-15-19; 4:15 pm]

**BILLING CODE 3510-22-P**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 635

[Docket No. 180212159-9102-02]

RIN 0648-BH75

#### Atlantic Highly Migratory Species; Shortfin Mako Shark Management Measures; Final Amendment 11

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** NMFS is amending the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) based on the results of the 2017 stock assessment and a subsequent binding recommendation by the International Commission for the Conservation of Atlantic Tunas (ICCAT) for North Atlantic shortfin mako sharks. The North Atlantic shortfin mako shark stock is overfished and is experiencing overfishing. Consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Atlantic Tunas Convention Act (ATCA), NMFS is implementing management measures that will reduce fishing mortality on shortfin mako sharks and establish the foundation for rebuilding the shortfin mako shark population consistent with legal requirements. The final measures could affect U.S. commercial and recreational fishermen who target and harvest shortfin mako sharks in the Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea, by increasing live releases and reducing landings. NMFS is also clarifying the definition of fork length (FL) in the definitions section of the HMS regulations.

**DATES:** This final rule is effective on March 3, 2019.

**ADDRESSES:** Copies of the Final Amendment 11 to the 2006 Consolidated HMS FMP, including the Final Environmental Impact Statement (FEIS) containing a list of references used in this document, the dusky shark stock assessments, and other documents

relevant to this rule are available from the HMS Management Division website at <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species>.

**FOR FURTHER INFORMATION CONTACT:** Guý DuBeck or Karyl Brewster-Geisz at (301) 427-8503.

### SUPPLEMENTARY INFORMATION:

#### Background

The North Atlantic shortfin mako stock is managed primarily under the authority of the Magnuson-Stevens Act and also under ATCA. The 2006 Consolidated HMS FMP and its amendments are implemented by regulations at 50 CFR part 635. A brief summary of the background of this final rule is provided below. Additional information regarding Atlantic shark management can be found in the FEIS accompanying this final rule for Amendment 11, the 2006 Consolidated HMS FMP and its amendments, the annual HMS Stock Assessment and Fishery Evaluation (SAFE) Reports, and online at <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species>.

The North Atlantic shortfin mako shark (*Isurus oxyrinchus*) is a highly migratory species that ranges across the entire North Atlantic Ocean and is caught by numerous countries. The stock is predominantly caught offshore in association with fisheries that primarily target tunas and tuna-like species. While these sharks are a valued component of U.S. recreational and commercial fisheries, U.S. catch represents only approximately 9 percent of the species' total catch in the North Atlantic by all reporting countries. International measures are, therefore, critical to the species' effective conservation and management.

Based on a 2017 ICCAT assessment, on December 13, 2017, NMFS issued a status determination finding the stock to be overfished and experiencing overfishing, applying domestic criteria. The 2017 assessment estimated that total North Atlantic shortfin mako catches across all ICCAT parties are currently between 3,600 and 4,750 metric tons (mt) per year. The assessment further indicated that such total catches would have to be at or below 1,000 mt (72-79 percent reductions) to prevent further population declines, and total catches of 500 mt or less would be expected to stop overfishing and begin rebuilding the stock.

Based on this information and given that the stock is primarily caught in association with ICCAT fisheries, ICCAT at its November 2017 meeting

adopted management measures for Atlantic shortfin mako in Recommendation 17–08. The measures largely focused on maximizing live releases of Atlantic shortfin mako sharks, allowing retention only in certain limited circumstances, increasing minimum size limits for retention, and improving data collection in ICCAT fisheries. ICCAT stated that the measures in the Recommendation were “expected to prevent the population from decreasing further, stop overfishing and begin to rebuild the stock.”

On March 2, 2018, NMFS implemented an interim final rule using emergency authority under the Magnuson-Stevens Act, 16 U.S.C. 1855(c), to quickly implement measures in the HMS recreational and commercial fisheries consistent with Recommendation 17–08. The emergency measures were initially effective for 180 days, and on August 22, 2018, they were extended to March 3, 2019 (83 FR 42452). This final rule is intended to replace these emergency measures with long-term measures.

A Notice of Intent (NOI) to prepare an EIS for Amendment 11 of the Consolidated HMS FMP was published in the **Federal Register** on March 5, 2018 (83 FR 9255) and provided notice of the availability of an Issues and Options document for scoping. Based on the alternatives presented and commented on during scoping, NMFS published a proposed rule for Draft Amendment 11 on July 27, 2018 (83 FR 35590), and the Environmental Protection Agency (EPA) published the notice of availability of the Draft Environmental Impact Statement (DEIS) on July 27, 2018 (83 FR 35637). The details of this rulemaking can be found in the proposed rule and are not repeated here.

During the comment period on the proposed rule and DEIS, which lasted for 73 days, NMFS conducted six public hearings (Texas, Florida, North Carolina, New Jersey, and Massachusetts) and a public webinar. In addition, NMFS presented Draft Amendment 11 to the Atlantic HMS Advisory Panel, four Atlantic Regional Fishery Management Councils (the New England, Mid-Atlantic, South Atlantic, and the Gulf of Mexico Fishery Management Councils), and the Atlantic States Marine Fisheries Commission. The comment period ended on October 8, 2018. The comments received on Draft Amendment 11 and its proposed rule, and responses to those comments, are summarized below in the section labeled “Response to Comments.”

This final rule implements the measures preferred and analyzed in the FEIS for Amendment 11 to the 2006 Consolidated HMS FMP in order to address and establish a foundation for rebuilding the North Atlantic shortfin mako shark stock, which ICCAT will adopt in 2019 after obtaining additional scientific information, as set out in Recommendation 17–08. It also includes a clarification to the regulatory definition of “FL (fork length),” as proposed and discussed in the DEIS and FEIS. The FEIS analyzed the direct, indirect, and cumulative impacts on the human environment as a result of the preferred management measures. The FEIS, including the preferred management measures, was made available on December 21, 2018 (83 FR 65670). On February 15, 2019, the Assistant Administrator for NOAA signed a Record of Decision (ROD) adopting these measures as Final Amendment 11 to the 2006 Consolidated HMS FMP. A copy of the FEIS, including Final Amendment 11 to the 2006 Consolidated HMS FMP, is available from the HMS Management Division (see **ADDRESSES**). In the FEIS, NMFS divided the alternatives into the following four broad categories for organizational clarity and to facilitate effective review: Commercial fishery, recreational fishery, monitoring, and rebuilding. NMFS fully considered 29 alternatives within these categories and is implementing five measures, one in the commercial fishery, two in the recreational fishery (each regarding a different regulation type), one regarding monitoring, and one regarding rebuilding the stock, to meet the objectives of the rule and achieve at least a 75 percent reduction in U.S. shortfin mako shark landings consistent with the suggested level of reduction recommended in the stock assessment. The stock assessment recommends this level of reduction throughout the stock’s range, and all ICCAT parties fishing on the stock are committed to take the specified measures to achieve the needed reductions. NMFS’ detailed analyses of the alternatives are provided in the FEIS for Draft Amendment 11 (see **ADDRESSES** for how to get a copy of the FEIS) and a summary is provided in the FRFA below.

In developing the final measures, NMFS considered the commercial retention restrictions and the 83-inch FL recreational minimum size limit temporarily put in place through the emergency interim final rule, public comments received on that rule, other conservation and management measures that have been implemented in the HMS

fisheries since 2008 that have affected shark fisheries or shark bycatch in other fisheries, and public comments received on the proposed rule and DEIS, including comments provided at the September 2018 HMS Advisory Panel meeting. In response to public comment on the proposed rule and the DEIS, NMFS made three changes from the proposed rule in the final rule. The first change adopts a new commercial measure that is a modified version of the previously preferred measure. A second change adopts a different recreational size limit measure that was not preferred in the proposed rule. A third change clarifies the application of retention restrictions for the few permit holders who hold a commercial shark permit and a permit that also allows recreational landings of sharks. All other proposed conservation measures, as well as the proposed clarification of the definition of “fork length,” did not change between the proposed and final rules. Measures that are different from the proposed rule, or measures that were proposed but not implemented, are described in detail in the section titles, “Changes from the Proposed Rule.”

#### Response to Comments

NMFS received a total of 30 individual written comments on the proposed rule from fishermen, dealers, and other interested parties along with State of North Carolina, Commonwealth of Massachusetts, the Mid-Atlantic and New England Fishery Management Councils, several shark conservation or other environmental groups, including Oceana, and several commercial and recreational groups. Oral comments were received from the South Atlantic Fishery Management Council. All written comments can be found at <http://www.regulations.gov/> by searching for RIN 0648–BH75. All of the comments received are summarized below.

*Comment 1:* NMFS received multiple comments expressing support for Amendment 11 management measures as well as comments opposing implementation of ICCAT shortfin mako shark recommendations. Commenters in support of Amendment 11 wanted management measures to prevent overfishing of shortfin mako sharks by placing limits and restrictions on fishing that results in mortality of shortfin mako sharks. They also stressed the need for international cooperation if shortfin mako shark measures are to be effective and the need for all countries fishing on the stock to implement comparable regulations as required by ICCAT. In addition, some commenters cited the importance of shortfin mako sharks to

the health of ocean ecosystems. One commenter opposed any management measures for shortfin mako sharks, citing their understanding of previous ICCAT stock assessment issues, including the underlying uncertainties with other shark stock assessments such as the porbeagle shark assessment. Specifically, this commenter stated that ICCAT had recommended similar regulations for porbeagle sharks after a stock assessment, and later changed the results after the United States supplied additional information.

*Response:* NMFS agrees that shortfin mako sharks play an important role in maintaining ocean ecosystems, and notes that there are statutory obligations to effectively manage shark fisheries, prevent overfishing, and achieve long-term sustainability of the stock. NMFS has determined that the management measures in this rule will address overfishing and begin the process of rebuilding the North Atlantic shortfin mako shark stock as required by law, understanding that any effective rebuilding plan or measures to end overfishing depend on effective international measures, given that the United States contributes to only a portion of the fishing mortality on the stock.

NMFS believes that the 2017 ICCAT stock assessment for shortfin mako sharks is not appropriately compared to the previous stock assessment for porbeagle sharks and generally does not agree with the commenter's implication that the ICCAT assessments are routinely flawed. The 2017 ICCAT stock assessment for shortfin mako sharks included many improvements in the data and modeling compared to previous shark stock assessments, including past porbeagle and shortfin mako shark assessments. NMFS has determined that the 2017 SCRS shortfin mako shark stock assessment is the best scientific information available for shortfin mako sharks, and NMFS is using the results, as appropriate, as required under National Standard 2 of the Magnuson-Stevens Act.

*Comment 2:* NMFS received comments about the stock assessment methodology and results. A commenter had concerns that the methodology applied in evaluating the results of different stock assessment models used in the 2017 shortfin mako stock assessment introduced an inappropriate negative bias in the overall assessment results. Other commenters were concerned about the large change in stock status between all the most recent previous ICCAT stock assessment results, the conversion rates used to convert dressed weight to whole weight

of sharks, the potential for under-reporting of harvest by other ICCAT members particularly those countries that have larger fishing fleets than the United States, and the potential implications of the Marine Recreational Information Program (MRIP) catch estimates. These commenters requested that NMFS postpone implementing Amendment 11 until the next shortfin mako shark stock assessment is completed.

*Response:* While there is always uncertainty in stock assessment data inputs, model outputs, and the subsequent interpretation of results, the SCRS methodologies appropriately considered how to best address such uncertainties in this particular context. The SCRS described these sources of uncertainty and concluded that the 2017 stock assessment was an improvement over previous assessments for shortfin mako sharks, and reflects the best scientific information available on the status of the stock. ICCAT reviewed and accepted the results for use in management, and made specific recommendations which the United States is obligated to implement as necessary and appropriate under ATCA. NMFS is also required to take action to end overfishing and rebuild the stock under the Magnuson-Stevens Act given the stock's status as overfished with overfishing occurring. If future stock assessments reach different conclusions regarding shortfin mako shark stock status, and changes to management measures are recommended by ICCAT, or if NMFS determines that different measures are needed to address management of the stock, then such changes may be considered at that time.

Regarding the comment expressing concern that the United States used incorrect conversion rates for dressed weight to whole weight of sharks, this issue has also come up in the context of reporting to ICCAT. As discussed with the ICCAT Advisory Committee at its Fall meeting, the United States surveyed other countries regarding the conversion rates and the manner in which those countries dress their sharks and then reviewed the data it submitted to ICCAT. Based on this review of the data and the survey of other countries' conversion factors, the United States found errors in the shortfin mako shark commercial landings data previously submitted to ICCAT and determined that changing the conversion rate to match that used by Spain and Canada was appropriate. Accordingly, the United States submitted revised estimates to ICCAT of U.S. harvest for all years. NMFS has accordingly updated all the numbers from the DEIS

in the FEIS to reflect the updated analyses, since the numbers in the DEIS were based on the ICCAT submissions. As a result of these revised estimates, the U.S. proportion of shortfin mako catches compared to all catches by all countries was reduced from 11 percent to 9 percent. For U.S. harvest, these changes also resulted in a recalculation of the relative contribution of commercial and recreational fisheries to domestic shortfin mako shark mortality. The proportion of recreational to commercial harvest is not equally split with recreational harvest accounting for 58 percent and commercial harvest (including landings and dead discards) accounting for 42 percent.

*Comment 3:* NMFS received comments regarding the timing and process of this rulemaking. Commenters urged NMFS to implement management measures immediately based on the best available science to rebuild the stock and end overfishing. Other commenters are concerned that this rulemaking is premature since ICCAT could make changes in upcoming meetings. Some commenters felt the United States should not act unilaterally, and implement a rebuilding plan without ICCAT. Another commenter stated that NMFS has two years to implement rebuilding plans and management measures once the stock is determined to be overfished and requested that NMFS wait to implement Amendment 11.

*Response:* Amendment 11 is responsive to ICCAT Recommendation 17-08, which is a binding recommendation under the ICCAT Convention, and the United States is obligated to implement it through regulations as necessary and appropriate under ATCA. Due to the requirements in Recommendation 17-08 and the status of shortfin mako sharks, NMFS worked to immediately implement the requirements in Recommendation 17-08 via an emergency interim final rule (83 FR 8946; March 2, 2018). Under sections 305(c) and 304(e)(6) of the Magnuson-Stevens Act, NMFS has the authority to implement interim measures to reduce overfishing on an emergency basis for 180 days. Those measures can be extended again for another 186 days if necessary. NMFS later extended the emergency rule for another 186 days; these emergency measures expire on March 3, 2019 (83 FR 42452; August 22, 2018). NMFS aims to have the management measures in Amendment 11 in place by the time the emergency rule expires or soon thereafter. If ICCAT changes the measures in Recommendation 17-08 at future meetings, then the United States will be



responsive to those changes, consistent with ATCA and the Magnuson-Stevens Act. NMFS does not have discretion to delay implementation of management measures adopted at ICCAT simply because we anticipate there may be additional or different ICCAT recommendations in the future. This action does not implement a unilateral rebuilding plan in U.S. waters for shortfin mako sharks. This action establishes the foundation for an international, ICCAT-recommended rebuilding plan, understanding that ICCAT intends to adopt such a plan in the future and that the United States will advocate for its development at that forum.

Regarding the comment on the two-year timeframe to implement management measures being a reason to delay implementation, we note that we have an obligation to implement the measures under ATCA and the ICCAT treaty, and that the Magnuson-Stevens Act requires NMFS to take measures to end overfishing and to rebuild the stocks. The regulatory process to amend the 2006 Consolidated HMS FMP is a lengthy process involving significant public input and review; the two-year reference in the Magnuson-Stevens Act is not to be read as a delay in starting that process, which could prevent measures from being timely implemented. Section 304(e)(6) allows for interim measures to reduce overfishing to be put in place until a FMP amendment can be finalized; this section of the Magnuson-Stevens Act only allows for these interim measures to be put in place pursuant to section 305(c), which limits the amount of time emergency measures can be effective to 366 days. Based on these regulations, NMFS published the emergency interim final rule per the authority in sections 305(c) and 304(e)(6) of the Magnuson-Stevens Act, and is implementing long-term management measures to address overfishing and establish a foundation for rebuilding shortfin mako sharks with Amendment 11, consistent with the Magnuson-Stevens Act.

*Comment 4:* NMFS received comments in support of adding a sunset clause to this rulemaking, which would remove regulations implemented by Amendment 11 if ICCAT makes changes to Recommendation 17–08.

*Response:* A “sunset clause” on regulations to address overfishing of shortfin mako sharks would not be consistent with the ICCAT recommendation, or the need to rebuild the stock, which could take decades based on the 2017 stock assessment. If ICCAT recommends changes to management measures in the future,

NMFS would implement necessary and appropriate responsive regulatory changes at that time, consistent with applicable laws.

*Comment 5:* NMFS received comments regarding the implementation of the ICCAT regulations and fishing operations by other countries. The commenters had concerns that other countries are not implementing the Recommendation and about the pace of the U.S. implementation when compared to other countries. Commenters also wondered if other ICCAT countries have electronic monitoring systems or observers for their fleets. In addition, the commenters believe that U.S. fishermen will be held accountable for an excessive share of the conservation burden in future ICCAT management measures.

*Response:* NMFS acknowledges that countries other than the United States are responsible for the majority of North Atlantic shortfin mako shark fishing mortality, hence the need for international coordination through ICCAT on measures to end overfishing and rebuild the stock. Regardless of other countries’ capability to adequately implement and enforce ICCAT recommendations, the United States remains obligated under ATCA to implement ICCAT recommendations. As a responsible party to ICCAT, NMFS will continue to work collaboratively within the ICCAT process and advocate for an effective international rebuilding plan, emphasizing the need for all parties to address their relative share of contributions to fishing mortality and for equitable management measures.

*Comment 6:* NMFS should implement an EFH designation for shortfin mako sharks.

*Response:* NMFS has recently updated EFH designations for shortfin mako sharks under Amendment 10 to the 2006 Consolidated HMS FMP. This process was initiated with the publication of the draft Atlantic HMS 5 Year Review on March 5, 2015 (80 FR 11981). In this review, NMFS identified new literature and data that should be considered in EFH delineation exercises, and recommended updating boundaries for shortfin mako sharks. There was insufficient information available per the guidelines listed at § 600.815(a)(8) to warrant a Habitat Area of Particular Concern for shortfin mako sharks. NMFS published a draft Environmental Assessment, which included proposed updates for shortfin mako shark EFH, on September 8, 2016 (81 FR 62100). NMFS received a number of written comments and comments at public meetings. Many comments included suggestions for EFH

boundaries based on academic research. NMFS completed a review of EFH-related literature in developing the FEIS (see Chapter 3 and Chapter 4 of Amendment 10 for a review of shortfin mako habitat and biology, and EFH impacts, respectively), and did not identify sufficient literature warranting changes to the recently updated EFH boundaries for shortfin mako sharks. However new data from ongoing surveys, research, and tagging programs was used to update EFH boundaries. EFH updates for shortfin mako sharks were finalized September 6, 2017 (82 FR 42329). Maps of final EFH boundaries for shortfin mako are available in Appendix G of the Final Environmental Assessment. EFH boundaries may also be viewed in the EFH Mapper, an online dynamic mapping tool maintained by the NMFS Office of Habitat Conservation (<https://www.habitat.noaa.gov/protection/efh/efhmapper/>). This office also maintains an EFH Data Inventory, which includes shapefiles of EFH boundaries that may be downloaded by the public (<https://www.habitat.noaa.gov/protection/efh/newInv/index.html>). The next 5-year review process for HMS EFH will be initiated in 2022.

*Comment 7:* NMFS received several comments suggesting that management measures for shortfin mako sharks should be more restrictive than those implemented in this rulemaking, including prohibiting all retention of shortfin mako sharks, or other more restrictive measures, as the science recommends.

*Response:* NMFS disagrees that more restrictive measures are required or necessary at this time. The management measures in Amendment 11 are consistent with those recommended in ICCAT Recommendation 17–08 and with NMFS’ obligations to address overfishing and rebuilding, understanding that the stock is fished internationally and requires international measures to effectively address these issues. The selected measures are expected to reduce U.S. shortfin mako shark catch consistent with the SCRS recommendation (72–79 percent), while still permitting fishermen to retain shortfin mako sharks under limited circumstances. Given the species’ North Atlantic-wide range and that United States catches constitute only approximately nine percent of total North Atlantic shortfin mako shark catch, the United States cannot unilaterally end overfishing and rebuild the stock through domestic regulations alone, even if there were to be a total prohibition on possession (which has not been recommended by ICCAT).

Ending overfishing and rebuilding the stock can only be accomplished through international coordination with nations that harvest the majority of shortfin mako sharks. NMFS will work with ICCAT members to evaluate the effectiveness of these measures, update stock assessment projections, establish a rebuilding plan, and develop additional measures if necessary.

*Comment 8:* NMFS received comments in support of the proposed preferred commercial alternative (A2), as well as other comments that suggested modifications to Alternative A2. Several commenters along with the State of Georgia and the South Atlantic and New England Fishery Management Councils supported Alternative A2 (the preferred Alternative at the proposed rule stage) since this Alternative is consistent with ICCAT Recommendation 17–08, utilized electronic monitoring, and allowed NMFS to collect real time landings and additional data. NMFS also received comments including from the State of North Carolina, Commonwealth of Massachusetts, and HMS Advisory Panel members supporting Alternative A2 with modifications. Specifically, the State of North Carolina along with other individuals suggested a modification that would allow the retention of dead shortfin mako sharks caught as bycatch in gillnet and bottom longline fisheries. The Commonwealth of Massachusetts and some HMS Advisory Panel members suggested a modification that would allow the retention of dead shortfin mako sharks by any vessel as long as there is an electronic monitoring system or an observer on board the vessel, similar to Alternative A5. These commenters also supported Alternative A3, which would allow vessels the option to opt out of the electronic monitoring system review.

*Response:* ICCAT Recommendation 17–08 included a variety of measures to reduce shortfin mako shark fishing mortality and to increase live releases in response to the 2017 ICCAT North Atlantic shortfin mako shark stock assessment. Among these measures was the option to require the release of shortfin mako sharks brought to the vessel alive in ICCAT fisheries. This option also allows for the retention of shortfin mako sharks in ICCAT fisheries that are dead at haulback, provided an electronic monitoring system is installed, or an observer is on board to verify the disposition of the shark. In Draft Amendment 11, NMFS preferred to implement Alternative A2, which limited the retention of dead shortfin mako sharks to those caught on vessels with an electronic monitoring system.

While the draft amendment preferred alternative did not limit the gear types that could be used to catch and retain dead shortfin mako sharks, the requirement to have an electronic monitoring system installed largely limited the measure to pelagic longline vessels since these vessels are already required to have electronic monitoring systems. Alternative A2 would satisfy the requirements of Recommendation 17–08 and also decrease fishing mortality of shortfin mako sharks. A large number of commenters expressed support for this measure. A full analysis of the ecological and socioeconomic impacts for Alternative A2 is provided in Chapter 4 of the FEIS.

However, during the public comment period, commenters that expressed support for the preferred Alternative A2 in Draft Amendment 11 also voiced support for allowing retention of dead shortfin mako sharks in other, non-ICCAT fishery gear types. Although Alternative A2 did not limit the ability to retain dead shortfin mako sharks to pelagic longline vessels, the requirement to install a costly electronic monitoring system to do so may have effectively limited the allowance for retention to the pelagic longline fishery. HMS-permitted pelagic longline vessels are already required to have electronic monitoring systems on board, but vessels using other gear types are unlikely to install the costly system in order to retain shortfin mako sharks, especially considering the relatively low ex-vessel value. Thus, the practical effect of Alternative A2 could be to limit the measure to pelagic longline vessels. To address the public comments on the Proposed Rule for Amendment 11, NMFS is implementing Alternative A7, an alternative added and analyzed in the FEIS and adopted in this final rule. Alternative A7 is a slight modification and outgrowth of Alternative A2. Under preferred Alternative A7, shortfin mako sharks caught using gillnet, bottom longline, or pelagic longline gear on properly-permitted vessels could be retained, provided they are dead at haulback. In the case of pelagic longline vessels, an electronic monitoring system would still be required, as proposed, but an electronic monitoring system would not be required on vessels that use bottom longline or gillnet gear. To be responsive to public comments, NMFS reviewed the available data for shortfin mako shark interactions by vessels that use bottom longline and gillnet gear. After reviewing the information and considering past actions, NMFS decided to add Alternative A7 as the preferred alternative. One of the alternatives in

the proposed rule analyzed and considered retention within the bottom longline and gillnet fisheries, and public comment on the alternatives resulted in the development of Alternative A7. Commenters thus could reasonably have anticipated this alternative, which is a logical outgrowth of the alternatives considered, and is consistent with the ICCAT measure's application to sharks "caught in association with ICCAT fisheries." This alternative is largely the same as Alternative A2 except that it allows retention of dead shortfin mako sharks in the bottom longline and the gillnet fisheries without requiring an observer or electronic monitoring system on board. Shortfin mako sharks are rarely caught with bottom longline and gillnet gear. Based on observer data, only 40 shortfin mako sharks were caught with bottom longline and gillnet gear from 2012 to 2017. Due to the low number of observed interactions, it is doubtful any of these landings were the result of targeted fishing so it is unlikely more could be done to avoid them. NMFS will also continue to track landings and consider additional measures if it appeared that an increase in retention results from this action, which is extremely unlikely. Retaining an additional six to seven dead sharks per year will have no additional negative effects on the stock than considered in the proposed rule, and the United States will still achieve the needed reductions in mortality with this alternative. In addition, allowing retention by these gear types will reduce regulatory dead discards in the non-ICCAT fisheries.

No other commercial gear types would be able to land shortfin mako sharks under this alternative. While it is possible for other commercial gears to catch shortfin mako sharks (*e.g.*, rod and reel and bandit gear), these gears are primarily recreational and are rarely used to fish for sharks commercially. Buoy gear in particular can interact with shortfin mako sharks but is not an authorized gear; this rule does not change that. Under this alternative, all shortfin mako sharks would need to be released if caught commercially on these other commercial gears, with the exception described below for those vessels that hold both a commercial shark permit and a permit with a shark endorsement that allows for recreational shark landings. This approach is consistent with previous rulemakings that implemented ICCAT recommendations for sharks (*e.g.*, prohibiting retention of silky, hammerhead, oceanic whitetip, or porbeagle sharks in ICCAT fisheries: 76

FR 53652, August 29, 2011; 77 FR 60632, October 4, 2012; 81 FR 57803, August 24, 2016). In those cases, NMFS applied ICCAT measures for sharks only to the pelagic longline fishery and the handgear fisheries when swordfish or tunas are retained because they are considered ICCAT fisheries for tunas and tuna-like species. NMFS consistently determined that U.S. bottom longline and gillnet vessels are not part of an ICCAT fishery because these gears do not regularly catch or land ICCAT managed species such as swordfish or tunas. In other words, Alternative A7, which would allow landings of dead shortfin mako sharks caught by these non-ICCAT fishery gear types, is consistent with past U.S. actions.

Additionally, ICCAT Recommendation 17–08 allows retention of shortfin mako sharks that are dead at haulback without the verification of electronic monitoring or observers in certain limited circumstances, including for vessels under 12 meters. Most vessels that have a Directed shark LAP and use bottom longline or gillnet gear have vessel lengths that are below 12 meters. In 2017, bottom longline vessels that interacted with sharks (based on coastal fisheries and HMS logbook reports) averaged 11.4 meters in length. In 2017, gillnet vessels that interacted with sharks (based on coastal fisheries and HMS logbook reports) averaged 9.6 meters in length. Thus, given past rulemakings and given the length of most vessels that target sharks, allowing landings of dead shortfin mako sharks by these other gear types is appropriate and consistent with ICCAT Recommendation 17–08.

*Comment 9:* NMFS received a suggestion for potential management measures if more commercial regulations are needed to protect the shortfin mako stock. The commenter suggested that NMFS implement a seasonal incidental limit of 18 shortfin mako sharks per trip during the summer months.

*Response:* The preferred alternatives in Final Amendment 11 are consistent with ICCAT Recommendation 17–08 and are designed to address the United States' contribution to the overfishing of shortfin mako sharks. If future ICCAT SCRS analyses determine that additional shortfin mako shark mortality reductions are needed, NMFS would consider other options, consistent with any ICCAT recommendations. At this time, a seasonal commercial limit of shortfin mako sharks is not consistent with ICCAT Recommendation 17–08

and it is unclear if it would achieve mortality reduction targets.

*Comment 10:* NMFS received a comment that the combination of preferred alternatives at the proposed rule stage, specifically Alternatives A2 and B3, would cause commercial shark permits that are held with HMS Charter/Headboat permits to be “worthless.” Such fishermen hold both permits to allow them to sell sharks caught as bycatch when fishing for tuna with handline gear. The proposed combination of alternatives would require such a dual-permitted vessel to use only pelagic longline gear, to have an electronic monitoring system, and to only land shortfin mako sharks that were greater than 83 inches fork length that were dead at haulback. These requirements would apply even when fishing on a for-hire trip.

*Response:* The commenter was correct that under the proposed alternatives it was unlikely that a dual-permitted vessel (which could include a variety of permits including, for example, those vessels that hold a commercial shark permit and an Atlantic Tunas General category permit that allows for retention of sharks when participating in a registered tournament) could land shortfin mako sharks. Additionally, NMFS realized this concern about permit combinations could apply to many combinations of the commercial and recreational alternatives considered. NMFS did not intend for this effect as a result of the proposed rule. As such, in the FEIS, NMFS is clarifying how the recreational limits would apply to the few individuals who hold a commercial shark vessel permit in addition to one of a variety of other vessel permits, such as HMS Charter/Headboat, that allow for recreational landings of sharks. These vessels generally fish with rod and reel or other handgear as opposed to pelagic longline, bottom longline, or gillnet gear. However, these vessels are part of the ICCAT fishery as they regularly target tunas, billfish, and swordfish. For the sake of clarity, NMFS would restrict these permit holders to the recreational shark requirements when shortfin mako sharks are onboard and prohibit them from selling any sharks when recreationally retaining shortfin mako sharks.

*Comment 11:* NMFS received comments both in support of and opposed to Alternative B3, which was the preferred alternative at the proposed rule stage. Some commenters, along with the Commonwealth of Massachusetts and the New England Fishery Management Council, supported Alternative B2 and management measures to protect

shortfin mako sharks until they reach maturity. These commenters generally felt that the United States strongly supported the adopted size restrictions at ICCAT, and that NMFS should not now go beyond the recommendations. These commenters noted that the same minimum size under the emergency rule reduced U.S. landings beyond the suggested reduction of 72 to 79 percent. Other commenters noted that NMFS underestimated potential reductions in landings in their analysis of the recreational alternatives because they did not account for reductions in the number of trips that would target shortfin mako sharks. The State of North Carolina supported Alternative B3 and specifically noted that if NMFS chooses Alternative B2 instead, NMFS should include shark sex identification facts on the HMS shark endorsement quiz and other outreach material. Commenters from the Gulf of Mexico supported Alternative B3 because they commonly interact with shortfin mako sharks larger than 83 inches fork length (FL). NMFS also received comments from individuals as well as the State of Georgia and the South Atlantic Fishery Management Council in support of the Alternative B3, which would establish a single recreational size limit of 83 inches FL, and is consistent with the measure established in the emergency rule. In general, these commenters felt the one size limit in Alternative B3 would remove any confusion recreational fishermen may have in identifying shortfin mako sharks by sex. Additionally, NMFS received requests for NMFS to consider other minimum sizes that are smaller than the preferred alternative of 83 inches FL. These commenters felt that NMFS should protect the larger, breeding female sharks over 83 inches FL and implement a smaller minimum size, such as 72 or 75 inches FL, for male sharks since those sharks still provide a decent amount of meat.

*Response:* Based on the public comment and current recreational estimated harvest under the emergency regulations (83 inches FL for all shortfin mako sharks), NMFS has decided to change the preferred alternative in the Final Amendment 11 to Alternative B2, which establishes different minimum sizes for male and female shortfin mako shark retention (71 inches FL size limit for male and 83 inches FL size limit for female shortfin mako sharks). In Draft Amendment 11 and the emergency interim final rule, the minimum size limit was increased to 83 inches FL for both males and females (Alternative B3) to significantly reduce shortfin mako

shark recreational mortality and address overfishing. One size was used for both sexes for reasons discussed in the emergency interim final rule and proposed rule. Updated data gathered from operations occurring under the emergency interim rule provisions indicate, however, that this approach would be unnecessarily restrictive for the longer term. While the shortfin mako shark landings under the 83-inch FL size limit met the suggested reduction target by weight, the size limit exceeded the target reduction in numbers of sharks harvested. As described in Chapter 4 of the FEIS, Large Pelagics Survey (LPS) data indicated there was a substantial reduction in recreational trips targeting shortfin mako sharks as a result of implementation of the emergency interim rule. The recreational landings data observed in the LPS suggest that the separate size limits for male and female sharks now preferred under Alternative B2 should still accomplish the suggested mortality reduction targets while having less detrimental economic impacts on the recreational shark fishery.

Furthermore, studies have indicated that protecting sub-adult sharks is key to conserving and rebuilding shark populations (see Chapter 4 of the FEIS). Sub-adults are generally those juvenile sharks that are a year or two away from becoming mature adults. While the now-preferred Alternative B2 will allow greater harvest of male shortfin mako sharks, those sharks will still be mature individuals as 71 inches FL is the size of maturity for male shortfin mako sharks. Given that studies have indicated that protecting sub-adult sharks is key to conserving and rebuilding shark populations, Alternative B2 ensures that sub-adults would still be adequately protected by establishing minimum size limits for male and female sharks based on their size at maturity. NMFS also anticipates that the now-preferred Alternative B2, which allows recreational fishermen the opportunity to harvest smaller male sharks, will help relieve fishing pressure on the larger female sharks, which were estimated to comprise approximately 75 percent of the harvest under the preferred alternative from the emergency interim final rule (Alternative B3), which established only one size for both males and females. Landings data from the LPS shows that female shortfin mako sharks over 83 inches FL historically made up only about 12 percent of the overall harvest. Under a single 83 inches FL size limit it is highly likely most vessels that

successfully harvest a shark over 83 inches FL will have already caught and released several smaller male sharks first. Since recreational fishermen are only allowed to harvest one shortfin mako shark per vessel per day, establishing a separate and significantly smaller size limit for male sharks will greatly increase the probability that the first legal sized shark a vessel interacts with will thus be a male shark which should lead to fewer female sharks ultimately being harvested.

Since the final preferred alternative (Alternative B2) establishes a different minimum size limit for each sex of shortfin mako shark species, NMFS intends to include information on properly distinguishing between male and female sharks on all related outreach materials, web page, and the shark endorsement video (which is mandatory for all HMS permit holders that wish to retain sharks recreationally). NMFS also expects to provide such information to registered HMS shark tournaments to make sure participants are aware of the separate size limits and how to distinguish between male and female sharks. NMFS will continue to monitor recreational landings of shortfin mako sharks, and would take action to increase the minimum size limit if recreational landings targets are not met or if enforcing separate size limits by sex proves to be impractical.

*Comment 12:* NMFS received a comment stating that the seasonal recreational alternatives would not allow Gulf of Mexico fishermen ample opportunity to land shortfin mako sharks since they primarily target the species outside of the months considered in the alternative.

*Response:* NMFS did not prefer Alternative B6, or any of its sub-alternatives, in the proposed rule due to the potential for inequitable fishing opportunities this alternative could create in terms of regional access to the shortfin mako shark recreational fishery. NMFS now prefers Alternative B2, which establishes a minimum size limit of 71 inches FL for male and 83 inches FL for female shortfin mako sharks, which would mean all recreational fishermen would have the same regulations regardless of where and when they decide to fish.

*Comment 13:* NMFS received comments in support of the no action recreational alternative (Alternative B1). Specifically, commenters supported keeping the shortfin mako shark recreational minimum size at status quo (54 inches FL) since they feel the population decline is not due to the recreational fishery and the recreational

fishery should not be impacted by other fisheries.

*Response:* While NMFS recognizes that the U.S. recreational fishery for shortfin mako sharks only makes up a small portion of the overall international harvest, its contribution to the total U.S. catch is larger than the commercial fishery landings. According to data presented in the Final Amendment 11, the U.S. recreational fishery accounts on average for 58 percent of the total U.S. catch, while the commercial fishery accounts on average for 42 percent. Therefore, U.S. recreational fisheries have a significant role to play in reducing fishing mortality on shortfin mako sharks, and must be included in management of this overfished stock. Furthermore, the no action alternative would fail to meet the minimum requirements set forth in ICCAT Recommendation 17-08 and would be inconsistent with U.S. obligations under the ICCAT treaty, ATCA, and other legal requirements.

*Comment 14:* NMFS received comments in support of Alternative B8, which would establish a tagging program to implement a per season limit for recreational fishermen.

*Response:* At this time, NMFS does not intend to implement a tagging program for recreationally harvested shortfin mako sharks since the final preferred alternative (Alternative B2) to establish minimum sizes would sufficiently reduce the recreational harvest levels. In addition, tagging programs are complicated to implement for a variety of reasons including the need to assign a limited number of tags via raffle, and the extra time and resources required to track them when reported. As discussed in the FEIS, NMFS would need to assign tags via raffle as the number of HMS permit holders with shark endorsements far exceeds the number of shortfin mako sharks that could be harvested and still meet the recommended reduction target of 72 to 79 percent. For these reasons, NMFS does not prefer a tagging program at this time.

*Comment 15:* NMFS received a comment suggesting that we change the shortfin mako shark recreational fishery to be similar to the bluefin tuna recreational fishery regulations. The commenter suggested a shortfin mako shark recreational fishery where permit holders would be restricted to one trophy shark over 83 inches FL, one smaller shark between 65 to 83 inches FL, and a 2 shark per season limit per recreational shark permit.

*Response:* The management regime suggested in this comment would be similar to the implementation of a

tagging program in that such a program would require NMFS to monitor a seasonal bag limit. Similar to the tagging program, NMFS has determined that such a management program is unnecessary to accomplish the recommended reduction in landings as the minimum size limits currently under consideration would reduce overall harvest to far fewer than two sharks per permitted vessel per season. Furthermore, a 65 inch FL size limit for shortfin mako sharks would be below the size limits stipulated in ICCAT Recommendation 17-08, and would fail to meet U.S. obligations to implement binding ICCAT recommendations under ATCA.

*Comment 16:* NMFS received support and opposition for the preferred alternative (Alternative B9) to implement circle hooks in the recreational fishery. Some commenters along with the Commonwealth of Massachusetts and the South Atlantic and New England Fishery Management Councils supported the preferred alternative due to the benefits of live release of sharks that may provide enhanced survivorship in some species. The State of Georgia opposed the implementation of circle hooks in the recreational fishery for sharks in federal waters due to its “questionable administration by law enforcement officers” and the unnecessary burden it will place on recreational anglers. In addition, the State of Georgia noted that it does not intend to adopt circle hooks in state waters.

*Response:* Research shows that the use of circle hooks reduces gut-hooking and increases post-release survival in shortfin mako sharks. French et al. (2015) examined the effects of recreational fishing techniques, including hook type, on shortfin mako sharks and found that circle hooks were more likely to hook shortfin mako sharks in the jaw compared to J-hooks. In the study, circle hooks were most likely to hook in the jaw (83 percent of the time) while J-hooks most commonly hooked in the throat (33 percent of the time) or gut (27 percent of the time). J-hooks only hooked in the jaw of shortfin mako sharks 20 percent of the time. Jaw-hooking is correlated with increased odds of post release survival. For these and other reasons (e.g., endangered species interactions), NMFS prefers this alternative. In addition, circle hooks are already required by HMS permitted commercial and recreational, except for north of 41°43' N latitude (near Chatham, Massachusetts), fishermen.

While NMFS recognizes the State of Georgia's concern regarding enforceability, circle hooks have been

required by HMS recreational permit holders since January 1, 2018, and other states, such as the State of New York, also requires the use of circle hooks when fishing for sharks. In Amendment 5b to the 2006 Consolidated HMS FMP, NMFS required the use of non-offset, non-stainless steel circle hooks by HMS recreational permit holders with a shark endorsement when fishing for sharks recreationally, except when fishing with flies or artificial lures, in federal waters south of 41°43' N latitude (near Chatham, Massachusetts). The final preferred Alternative (Alternative B9) would remove this line and require circle hooks when fishing recreationally for sharks in all areas, except when fishing with flies or artificial lures.

*Comment 17:* NMFS received a comment inquiring whether the new MRIP estimates would impact this rulemaking or future stock assessment.

*Response:* Recently, NMFS released new MRIP effort and catch estimate time series following the implementation of the new Fishing Effort Survey (FES) designed for the collection of private boat and shore-based fishing effort data, and its calibration with the data collected by the historic Coastal Household Telephone Survey (CHTS). The implications of the revised estimates on all managed species will not be fully understood for several years until they make their way through the rigorous scientific stock assessment process. In the coming years, the new and revised data will be incorporated into stock assessments at the domestic and international level as appropriate. However, NOAA Fisheries' primary source of recreational catch data for shortfin mako sharks is the Large Pelagic Survey (LPS) which does not rely on the FES, and as a result the estimates generated by the LPS used in this rulemaking have not changed.

*Comment 18:* NMFS received a comment stating that banning tournament fishing for sharks would help to end overfishing, and that NMFS would be justified in doing so on the grounds that tournament awards add a commercial component to what is supposed to be a recreational fishery. The commenter also stated that recreationally harvested fish should only be used for personal consumption, and not monetized.

*Response:* While tournaments do make up a significant portion of the recreational shark fishery, NMFS is not in favor of prohibiting shark tournaments as a means to address overfishing of shortfin mako sharks for a number of reasons. First, tournaments can provide significant economic benefits to the coastal communities in

which they are held. Second, banning tournament or sport fishing while still allowing recreational harvest would constitute an inequitable access of the resource to the problem of overfishing between tournament and non-tournament recreational fishermen, and would set a precedent that would conflict with the management of other U.S. fisheries. Retention of HMS, including shortfin mako sharks submitted for weigh-in to tournaments, is authorized under the regulations by the permitted vessel that caught the fish. Even in cases where anglers donate their fish to the tournament, the tournament is not allowed to sell the fish, but may only donate the fish for human consumption to food banks or other charities.

For HMS fisheries, most tournament participants hold recreational permits or commercial permits that only allow for recreational landings of sharks when used during a registered HMS tournament. None of these participants are allowed to sell their catch. Many commercial businesses are associated with recreational fisheries including for-hire vessels, bait and tackle shops, and fishing guides. Like tournaments, all of these operations service recreational anglers. The distinction between recreational and commercial fishing lies solely in whether the fish themselves are sold commercially, not in whether a business associated with an activity is providing a commercial service. Many shark tournaments are already moving to catch-and-release formats, or are shying away from targeting shark species that are not widely considered to be edible.

*Comment 19:* NMFS received support and opposition for the preferred alternative of no action Alternative C1. Some commenters along with the Commonwealth of Massachusetts, State of Georgia, and South Atlantic Fishery Management Council supported the preferred alternative since it would not add any additional reporting requirements for fishermen. However, commenters also were concerned that some registered HMS tournaments are currently not required to report their catches of all HMS. Some commenters opposed the preferred alternative since it would create inconsistency with the SCRS advice to gather more data and information on shortfin mako sharks and therefore would negatively impact science and stock assessments. Some individuals along with the Mid-Atlantic Fishery Management Council suggested that NMFS should implement mandatory reporting for all recreationally landed and discarded shortfin mako sharks. The Mid-Atlantic

Fishery Management Council stated that it is imperative to collect data from commercial and recreational fishermen on landings and discards. Other commenters would like equivalent monitoring and accountability requirements for all U.S. HMS fisheries, and to fully and accurately account for all sources of fishing mortality.

*Response:* There are already a number of reporting requirements under current HMS regulations for commercial and recreational fishermen fishing for shortfin mako sharks. HMS commercial fishermen report shortfin mako shark catches through vessel logbooks along with dealer reporting of landings. Under Alternative C1, HMS recreational anglers fishing from Maine to Virginia would continue to be required to report shortfin mako shark landings and releases if intercepted by the LPS, and data would continue to be collected on shortfin mako shark catches by the APIS, which is part of MRIP. As of January 1, 2019, all registered HMS tournaments will be selected for tournament reporting, which should account for a significant component of recreational shortfin mako shark landings (83 FR 63831; December 12, 2018). In addition, most for-hire vessels fishing in the federal waters in the Mid-Atlantic area (New York to New Carolina) are currently required by the Mid-Atlantic Fishery Management Council to submit electronic vessel trip reports for all their trips within 24 hours, thus providing another major data stream for shortfin mako shark landings. These current reporting systems will allow NMFS to effectively monitor the recreational harvest of the stock using a combination of traditional intercept surveys, tournament reporting, and electronic reporting making the implementation of mandatory 24-hour reporting unnecessary at this time.

NMFS understands that some constituents do not think there is equitable reporting across HMS fisheries; however, the current reporting systems mentioned above should account for all sources of fishing mortality for shortfin mako sharks. NMFS will continue to monitor the landings by commercial and recreational fishermen to determine if the current reporting systems are sufficiently accounting for shortfin mako shark mortality.

*Comment 20:* NMFS received a comment in support of requiring mandatory reporting with vessel monitoring systems (VMS) if it would simplify commercial fishermen's reporting burden, improve the reporting of HMS catches across all gears, and improve scientific data. The

commenters were not supportive of the alternative that would create another unnecessary burden on commercial fishermen.

*Response:* NMFS agrees that requiring mandatory reporting of shortfin mako sharks via VMS could potentially, and unnecessarily, increase burden to HMS commercial vessels that already report in other ways (vessel logbooks, dealer reports of landings, and electronic monitoring system) that are sufficient reporting systems for improving data collection for shortfin mako sharks. In addition, given the current reporting requirements for all HMS commercial vessels that already enable inseason monitoring and management of shortfin mako sharks, NMFS did not prefer this alternative at this time. Furthermore, NMFS is already implementing electronic HMS logbooks on a voluntary basis to improve the timeliness of reporting, and provide data for management.

*Comment 21:* NMFS received support and opposition for the preferred alternative. Some commenters along with the Commonwealth of Massachusetts, the State of Georgia, and the South Atlantic and Mid-Atlantic Fishery Management Councils supported the preferred alternative to develop an international rebuilding plan with ICCAT to assist with rebuilding the stock and work with other countries to implement international management measures. A commenter who opposed the preferred alternative wants NMFS to implement a domestic rebuilding plan along with the international plan, while other commenters prefer that NMFS wait until ICCAT takes further action before finalizing the rebuilding plan.

*Response:* North Atlantic shortfin mako shark distribution spans a large portion of the North Atlantic Ocean basin and many countries besides the United States interact with the species. Therefore, NMFS believes that addressing overfishing and preventing an overfished status can only effectively be accomplished through international efforts where other countries that have large landings of shortfin mako sharks actively and equitably participate in mortality reduction and rebuilding plan discussions. Because of the small U.S. contribution to North Atlantic shortfin mako shark mortality, domestic reductions of shortfin mako shark mortality alone would not end overfishing of the entire North Atlantic stock. For these reasons and for the reasons described in response to comment 3 above, NMFS prefers Alternative D3, which would establish the foundation for developing an

international rebuilding plan for shortfin mako sharks.

*Comment 22:* NMFS received a comment in support of the alternative to remove shortfin mako sharks from the pelagic shark management group and establish a separate management group with quota for the species.

*Response:* At this time, NMFS does not prefer a shortfin mako shark-specific quota. ICCAT Recommendation 17-08 did not include individual country allocations for shortfin mako sharks upon which to base a domestic quota. It is also not clear that a quota would adequately protect the stock by reducing mortality because quotas allow for sharks that are live at haulback to be landed. Also, it is difficult at this time to determine if setting a species-specific quota for shortfin mako sharks would have positive ecological benefits for the stock, as this scenario was not explored in the stock assessment. A species-specific quota for shortfin mako sharks would require authorized fishermen to discard all shortfin mako sharks once the quota is reached, potentially leading to an increase in regulatory discards, which would not result in decreased mortality of shortfin mako sharks and thus, contribute to the health of the stock. Additionally, commercially, shortfin mako sharks are most often caught with pelagic longline gear incidental to other target catch. Since shortfin mako sharks are rarely targeted, establishing a shortfin mako shark quota is unlikely to stop incidental fishing mortality.

NMFS believes that ending overfishing and preventing an overfished status would be better accomplished through the measures preferred in final Amendment 11 and through further critical international efforts where other countries that have large landings of shortfin mako sharks could participate in mortality reduction discussions instead of a species-specific quota within the U.S. fisheries. NMFS will continue to monitor progress in the international forum and the needs of the stock, as well as whether this action has its intended effect, and will consider whether additional measures are appropriate in the future.

*Comment 23:* NMFS received a comment in support of the alternative to establish bycatch caps for all fisheries that interact with shortfin mako sharks. Specifically, the commenter noted that NMFS should count the number of shortfin mako sharks caught in all fisheries, cap the number of shortfin mako sharks that can be caught, and implement accountability measures to control, track, and limit the number of

shortfin mako sharks that are killed in each fishery.

*Response:* At this time, NMFS does not prefer bycatch caps for all fisheries that interact with shortfin mako sharks. NMFS has reviewed all data available and found that shortfin mako sharks are primarily caught in HMS fisheries with pelagic longline gear when commercial fishermen are harvesting swordfish and tuna species, and with rod and reel gear when recreational fishermen are targeting sharks or other HMS. The species is rarely caught in other fisheries or with other gear types. To the extent they are, the final preferred commercial alternative, Alternative A7, limits any landing to shortfin mako sharks that are dead at haulback. Because shortfin mako sharks are rarely seen in fisheries other than the ones listed, establishing bycatch caps in non-pelagic longline or non-recreational handgear fisheries is unlikely to provide additional protection. As ICCAT has not established an overall TAC for shortfin mako sharks, it is difficult to determine at what level NMFS would establish a bycatch cap. Given that shortfin mako sharks are rarely caught on these other gear types, a bycatch cap would be unlikely to change fishing behavior or result in sufficient ecological benefits that compensate for administrative and regulatory burden. However, if shortfin mako shark interactions increase in those fisheries, which would then indicate fishing behavior has changed in some form, then NMFS may consider additional measures such as establishing a bycatch cap in these fisheries in the future.

*Comment 24:* NMFS received a comment suggesting that we increase the minimum recreational size limit for porbeagle sharks.

*Response:* This comment is beyond the scope of this rulemaking. The purpose of Amendment 11 is to develop and implement management measures that would address overfishing and take steps towards rebuilding the North Atlantic shortfin mako shark stock. The most recent stock assessment for porbeagle sharks indicated that the stock was overfished, but overfishing was no longer occurring, and showing signs of early rebuilding. At this time, NMFS does not have any new scientific information to justify increasing the minimum recreational size limit for porbeagle sharks.

#### **Changes From the Proposed Rule (83 FR 35590; July 27, 2018)**

This section explains the changes in the regulatory text from the proposed rule to the final rule. Some changes were made in response to public

comment, and others clarify text for the final rule. The changes from the proposed rule text in the final rule are described below.

#### **1. § 635.20(e)(2) and (e)(6). Modification to the Recreational Minimum Size Limit for Shortfin Mako Sharks**

This final rule implements separate size limits for male (71 inches FL) and female (83 inches FL) shortfin mako sharks under Alternative B2 as opposed to the single size limit of 83 inches FL (Alternative B3) that was preferred in the proposed rule and implemented in the emergency interim final rule. NMFS decided to change the preferred alternative due to public comment and updated data on the effects of the emergency interim final rule measure on estimated landings and directed effort for shortfin mako sharks in the recreational fishery. The minimum sizes in the final rule also directly match the measures in the ICCAT recommendation, which provided different minimum sizes for males and females.

For the emergency interim rule and the proposed rule, NMFS assumed in the recreational analyses that directed effort for shortfin mako sharks would not change as a result of a change in the minimum retention size, but the 2018 LPS data found that effort actually went down substantially. Thus, NMFS now understands the estimates of expected landings reductions in the earlier actions to be overly conservative. Furthermore, public comment reflected that fewer recreational trips were taken due to the larger minimum size limit and reduced likelihood of catching and landing a shortfin mako shark above the size limit. Thus, in the final rule, it is appropriate to reduce the minimum size limit for males to 71 inches FL, consistent with the ICCAT recommendation. The minimum size for female mako sharks will remain at 83 inches FL.

The differing minimum size limits in the preferred alternative are expected to achieve the needed reduction in landings and fishing mortality while protecting reproductive-age female shortfin mako sharks, but with fewer socio-economic impacts to recreational fishermen. By reducing the minimum size for retaining male shortfin mako sharks, fishermen may more frequently harvest smaller, mature male sharks instead of the larger female sharks, which will leave more female sharks that are critical to reproduction of the stock in the population. This approach, which reduces fishing pressure on the female spawning stock, is consistent with general scientific advice about

sharks. (Cortes 2002, Chapple and Botsford 2013).

According to length composition information from the LPS from 2012 through 2017, this final action would reduce the number of recreational landings of male shortfin mako sharks by up to 47 percent and female shortfin mako sharks by up to 78 percent for an average reduction in total mortality of 65 percent, if fishing effort for shortfin mako sharks were to remain the same. However, the reduction in landings under this alternative is likely to be somewhat greater than that because recreational fishermen likely will continue taking fewer trips targeting shortfin mako sharks as a result of the changes in size limits. Effort data collected via the LPS suggests that in 2018 there was a large reduction in directed fishing trips targeting shortfin mako sharks under the 83-inch FL size limit implemented by the emergency interim final rule compared to the previous six-year average. Directed trips in the LPS region (Maine to Virginia) for shortfin mako sharks from June through August 2018 declined an estimated 34 percent compared to the six-year average from 2012 through 2017. This reduction in directed trips resulted in greater than projected reductions in shortfin mako shark landings. The June through August time period traditionally accounts for over 90 percent of directed trips for shortfin mako sharks. Based on the LPS data from 2012 through 2017, shortfin mako sharks were the primary target species in approximately 67 percent of trips that caught and 75 percent of trips that landed the species. As such, a reduction in directed fishing effort could substantially reduce the landings expected under this alternative, while achieving the needed fishing mortality reductions in conjunction with other measures in the final rule.

As explained above in the comment and response section, such reductions in fishing effort should result in landings reductions that more closely result in the ICCAT reduction target of 72 to 79 percent than those that would have resulted from the single 83-inch FL size limit (Alternative B3), which resulted in greater reductions. Thus, NMFS is implementing two separate size limits for shortfin mako sharks.

Public comment reflects that some people are concerned about the ability of recreational shark anglers to differentiate between male and female sharks. NMFS is adding information on how to distinguish the sex of sharks in shark outreach materials, including the Shark Endorsement educational video that all HMS permit holders must watch

if they wish to receive a shark endorsement needed to retain sharks recreational.

2. §§ 635.21(a)(4), (c)(1), (d)(5), and (g)(6); 635.24(a)(4); and 635.71(d)(27) and (d)(28). *Modification to Authorized Commercial Gear To Retain Shortfin Mako Sharks*

The commercial measure preferred in the proposed rule (Alternative A2) only allowed the retention of shortfin mako sharks that were dead at haulback by vessels with a functioning electronic monitoring system on board the vessel. While the proposed measure did not limit the gear types that could be used to catch and retain dead shortfin mako sharks, the requirement to have an electronic monitoring system installed effectively limited the measure to pelagic longline vessels since those vessels are already required to have electronic monitoring systems. In response to public comments, NMFS reviewed the available data for shortfin mako shark interactions by vessels that use bottom longline and gillnet gear. Available data indicates that allowing fishermen to retain dead shortfin mako sharks caught in bottom longline or gillnet gear is unlikely to impact the overall mortality or harvest totals, since these gear types rarely interact with the species. Specifically, commercial shark fishermen using bottom longline or gillnet gear rarely, if ever, catch shortfin mako sharks. Since 2012, only six shortfin mako shark were observed in the bottom longline shark fishery and 34 were observed in the gillnet shark fishery. ICCAT Recommendation 17–08 allows retention of shortfin mako sharks that are dead at haulback without the verification of electronic monitoring or observers in certain limited circumstances, including for vessels under 12 meters. Most vessels that have a shark LAP and use bottom longline or gillnet gear have vessel lengths that are below 12 meters. In 2017, bottom longline vessels that interacted with sharks (based on coastal fisheries and HMS logbook reports) averaged 11.4 meters in length. In 2017, gillnet vessels that interacted with sharks (based on coastal fisheries and HMS logbook reports) averaged 9.6 meters in length. Thus, given past rulemakings and given the length of most vessels that target sharks, allowing landings of dead shortfin mako sharks by these other gear types is appropriate and consistent with ICCAT Recommendation 17–08. As a result, in the final rule, NMFS will allow for the retention of shortfin mako sharks that are dead at haulback by properly-permitted vessels that are fishing with bottom longline or gillnet

gear even if they do not have a functioning electronic monitoring system on board. The changes in the regulatory text specifies that vessels with bottom longline or gillnet gear onboard must release all live shortfin mako sharks.

3. § 635.22(c)(1) and (c)(7). *Modifications Regarding Atlantic HMS Charter/Headboat, Atlantic Tunas General Category, and Swordfish General Commercial Permit Holders*

Based on public comment, NMFS is clarifying how the recreational limits would apply to the few individuals who hold a commercial shark vessel permit in addition to one of a variety of other vessel permits, such as HMS Charter/Headboat, that allow for recreational landings of sharks under certain circumstances. These individuals generally fish with rod and reel or other handgear as opposed to pelagic longline, bottom longline, or gillnet gear. While they hold a commercial shark permit, for the most part, these individuals are fishing for sharks recreationally. However, under the combination of measures in the proposed rule, these individuals would not be allowed to land any shortfin mako sharks as they would not have the electronic monitoring equipment required under the proposed commercial measures. For the sake of clarity and in response to public comment, this rule specifies that the recreational shark requirements, including the no sale requirement, apply for these individuals when shortfin mako sharks are onboard.

#### Classification

Pursuant to the Magnuson-Stevens Act, the NMFS Assistant Administrator has determined that the final rule is consistent with the 2006 Consolidated HMS FMP and its amendments, other provisions of the Magnuson-Stevens Act, ATCA, and other applicable law.

The Assistant Administrator for Fisheries, NOAA, finds good cause to waive the 30-day delay in effective date under 5 U.S.C. 553(d)(3) of the Administrative Procedure Act. Delaying the effectiveness of these regulations could undermine the purpose of this action to put in place measures to address overfishing of shortfin mako sharks. Similar measures were originally implemented by emergency interim final rule under Section 305(c) of the Magnuson-Stevens Act, and have been in place for since March 2018. The emergency measures will expire on March 3, 2019, and a lapse in these measures would be confusing to the regulated community, complicate enforcement efforts, and potentially

harm the long-term sustainability of the stock. While NMFS originally timed the rulemaking to allow for a delay in effectiveness, a lapse in government appropriations resulted in a government shutdown for 35 days in December 2018–January 2019. If these measures are not implemented before the emergency rule expires, technically the management measures for the stock would revert to those that existed prior to the emergency rule. This means the recreational minimum size limit for shortfin mako sharks would revert to 54 inches FL, the use of circle hooks by recreational fishermen would not be required across the range of the species stock, and commercial fishermen would no longer be required to release shortfin mako sharks that are alive at haulback. This would be confusing for the regulated community, which would then be required to switch to the new regulations only 30 days later. In the event of a short lapse between the emergency rule and implementation of this final rule, NMFS would notify the regulated community of the situation and encourage voluntary compliance with the emergency rule measures for consistency but compliance would not be assured. Thus, the need to implement these measures in a timely manner to reduce the risk of overfishing shortfin mako sharks constitute good cause to make the rule effective immediately upon publication in the **Federal Register**. Furthermore, prior to the release of this final rule, on December 14, 2018, NMFS published a notice of availability of the Final EIS supporting this action, thereby providing the public and affected entities prior notice of the final measures contained in this rule.

This final rule has been determined to be not significant for purposes of Executive Order 12866. The Agency has consulted, to the extent practicable, with appropriate state and local officials to address the principles, criteria, and requirements of Executive Order 13132.

In compliance with section 604 of the Regulatory Flexibility Act (RFA), NMFS prepared a Final Regulatory Flexibility Analysis (FRFA) for this final rule. The FRFA analyzes the anticipated economic impacts of the final actions and any significant economic impacts on small entities. The FRFA is below.

Section 604(a)(1) of the RFA requires a succinct statement of the need for and objectives of the rule. Consistent with the provisions of the Magnuson-Stevens Act and ATCA, NMFS plans to modify the 2006 Atlantic HMS FMP in response to ICCAT Recommendation 17–08 and the stock status determination for shortfin mako sharks. NMFS has identified the following objectives with



regard to this action: Address overfishing of shortfin mako sharks; take steps towards rebuilding; establish the foundation for rebuilding the North Atlantic shortfin mako stock; and modify the 2006 Consolidated HMS FMP in response to ICCAT Recommendation 17–08 and the stock status determination for shortfin mako sharks.

Section 604(a)(2) requires a summary of significant issues raised by public comment in response to the IRFA and a summary of the assessment of the Agency of such issues, and a statement of any changes made in the rule as a result of such comments. NMFS did not receive any comments specifically on the IRFA, however the Agency did receive some comments regarding the anticipated or perceived economic impact of the rule. Summarized public comments and the Agency's responses to them are included above. We did not receive any comments from the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule or the IRFA.

Section 604(a)(4) of the Regulatory Flexibility Act requires Agencies to provide an estimate of the number of small entities to which the rule would apply. The Small Business Administration (SBA) has established size criteria for all major industry sectors in the United States, including fish harvesters. Provision is made under SBA's regulations for an agency to develop its own industry-specific size standards after consultation with SBA Office of Advocacy and an opportunity for public comment (see 13 CFR 121.903(c)). Under this provision, NMFS may establish size standards that differ from those established by the SBA Office of Size Standards, but only for use by NMFS and only for the purpose of conducting an analysis of economic effects in fulfillment of the agency's obligations under the RFA. To utilize this provision, NMFS must publish such size standards in the **Federal Register** (FR), which NMFS did on December 29, 2015 (80 FR 81194, December 29, 2015). In this final rule, effective on July 1, 2016, NMFS established a small business size standard of \$11 million in annual gross receipts for all businesses in the commercial fishing industry (NAICS 11411) for RFA compliance purposes. NMFS considers all HMS permit holders to be small entities because they had average annual receipts of less than \$11 million for commercial fishing. The Small Business Administration (SBA) has established size standards for all other major industry sectors in the U.S., including the scenic and sightseeing

transportation (water) sector (NAICS code 487210, for-hire), which includes charter/party boat entities. The Small Business Administration (SBA) has defined a small charter/party boat entity as one with average annual receipts (revenue) of less than \$7.5 million.

Regarding those entities that would be directly affected by the recreational management measures, HMS Angling (Recreational) category permits are typically obtained by individuals who are not considered businesses or small entities for purposes of the RFA because they are not engaged in commercial business activity. Vessels with the HMS Charter/Headboat category permit can operate as for-hire vessels. These permit holders can be regarded as small entities for RFA purposes (*i.e.*, they are engaged in the business of fish harvesting, are independently owned or operated, are not dominant in their field of operation, and have average annual revenues of less than \$7.5 million). Overall, the recreational alternatives would have impacts on the portion of the 3,635 HMS Charter/Headboat permit holders who hold a shark endorsement. There were also 287 registered HMS tournaments in 2017, which could be impacted by this rule. Of those registered HMS tournaments, 75 had awards or prizes for pelagic sharks.

Regarding those entities that would be directly affected by the preferred commercial management measures, the average annual revenue per active pelagic longline vessel is estimated to be \$187,000 based on the 170 active vessels between 2006 and 2012 that produced an estimated \$31.8 million in revenue annually. The maximum annual revenue for any pelagic longline vessel between 2006 and 2016 was less than \$1.9 million, well below the NMFS small business size standard for commercial fishing businesses of \$11 million. Other non-longline HMS commercial fishing vessels generally earn less revenue than pelagic longline vessels. Therefore, NMFS considers all Atlantic HMS commercial permit holders to be small entities (*i.e.*, they are engaged in the business of fish harvesting, are independently owned or operated, are not dominant in their field of operation, and have combined annual receipts not in excess of \$11 million for all its affiliated operations worldwide). The preferred commercial alternatives would apply to the 280 Atlantic tunas Longline category permit holders, 220 directed shark permit holders, and 268 incidental shark permit holders. Of these 280 permit holders, 88 pelagic longline vessels were actively fishing in 2017 based on logbook records. Based on HMS and Coastal Fisheries Logbook

data, an average of 20 vessels per year that used gear other than pelagic longline gear interacted with shortfin mako sharks between 2015 and 2017.

NMFS has determined that the preferred alternatives would not likely directly affect any small organizations or small government jurisdictions defined under RFA, nor would there be disproportionate economic impacts between large and small entities. Furthermore, there would be no disproportionate economic impacts among the universe of vessels based on gear, home port, or vessel length.

Section 604(a)(5) of the RFA requires agencies to describe any new reporting, record-keeping and other compliance requirements. The action does not contain any new collection of information, reporting, or record-keeping requirements.

Section 604(a)(6) of the RFA requires agencies to describe the steps taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected. Alternative A1, the No Action alternative, would keep the non-emergency rule regulations for shortfin mako sharks. Once the emergency rule for shortfin mako sharks expires, management measures would revert back to those effective before March 2018 (*e.g.*, no requirement to release shortfin mako sharks that are alive at haulback). Directed and incidental shark LAP holders would continue to be allowed to land and sell shortfin mako sharks to an authorized dealer, subject to current limits, including the pelagic shark commercial quota. Short-term direct economic impacts on small entities would likely be neutral since commercial fishermen could continue to catch and retain shortfin mako sharks at a similar level and rate as the status quo.

In recent years, about 181,000 lb dw of shortfin mako sharks have been landed and the commercial revenues from shortfin mako sharks have averaged approximately \$373,000 per year, which equates to approximately 1 percent of overall HMS ex-vessel revenues. Approximately 97.5 percent of shortfin mako commercial landings, based on dealer reports, were made by pelagic longline vessels. There were 88 pelagic longline vessels that were active in 2017 based on logbook reports. Therefore, the average revenue from shortfin mako shark landings per

pelagic longline vessel is \$4,133 per year.

Even though pelagic longline gear is the primary commercial gear used to land shortfin mako sharks, other gear types also interact with this species. Based on HMS and Coastal Fisheries Logbook data, an average of 20 vessels per year that used gear other than pelagic longline gear interacted with shortfin mako sharks between 2015 and 2017. Therefore, these vessels that used gear other than pelagic longline gear landed an average of only \$933 worth of shortfin mako sharks per year.

Under Alternative A2, retention of shortfin mako sharks would only be allowed if the following three criteria are met: (1) The vessel has been issued a Directed or Incidental shark LAP, (2) the shark is dead at haulback, and (3) there is a functional electronic monitoring system on board the vessel. This alternative is designed to be consistent with one of the limited provisions allowing retention of shortfin mako sharks under ICCAT Recommendation 17–08. Under the current HMS regulations, all HMS permitted vessels that fish with pelagic longline gear are already required to have a functional electronic monitoring system (79 FR 71510; December 2, 2014) and either a Directed or an Incidental shark LAP. Vessels utilizing other gear types (*i.e.*, gillnet or bottom longline) are not required to have an electronic monitoring system under current regulations but could choose to install one if the operator wishes to retain shortfin mako sharks that are dead at haulback and if the vessel holds a commercial shark LAP. Under this alternative, the electronic monitoring system would be used to verify and ensure that only shortfin mako sharks dead at haulback were retained.

This alternative would be consistent with ICCAT Recommendation 17–08 and would reduce the number of landings by pelagic longline vessels on average by 74 percent based on observer data from 2012–2017. A 74 percent reduction in shortfin mako landings would reduce revenues by an average of \$3,058 per vessel for the 88 activate pelagic longline vessels and would eliminate all of the \$933 in landing per vessel by the 10 non-pelagic longline vessels that landing shortfin mako sharks since those vessels are unlikely to have electronic monitoring systems currently installed. Those non-pelagic longline vessels would need to pay to install electronic monitoring systems if they wish to retain shortfin mako sharks, introducing an additional expense for those vessels if it there were an economic incentive for those vessels

to try to retain shortfin mako sharks under this alternative. Overall, this alternative would have minor economic costs on small entities because these measures would reduce the number of shortfin mako sharks landed and sold by these fishing vessels. However, shortfin mako sharks are rarely a target species and are worth less than other target species. Although this alternative was preferred at the DEIS stage, NOAA Fisheries now prefers Alternative A7 which is a slightly modified version of Alternative A2. Because Alternative A7 is responsive to public comment while still meeting management goals, NOAA Fisheries no longer prefers Alternative A2.

Alternative A3 is similar to Alternative A2 except that the ability to retain dead shortfin mako sharks would be limited to permit holders that opt in to a program that would use the existing electronic monitoring systems, which are currently used in relation to the bluefin tuna IBQ program, also to verify the disposition of shortfin mako sharks at haulback. In other words, this alternative would allow for retention of shortfin mako sharks that are dead at haulback by persons with a Directed or Incidental shark LAP only if permit holders opt in to enhanced electronic monitoring coverage. If the permit holder does not opt in to the enhanced electronic monitoring coverage, they could not retain any shortfin mako sharks.

The economic impacts to small entities under this alternative are expected to be similar to those under Alternative A2. Under this alternative, a portion of the pelagic longline fleet could opt out of any retention of shortfin mako sharks, resulting in a greater reduction in overall shark ex-vessel revenue for those vessels. Overall, the socioeconomic impacts associated with these reductions in revenue are not expected be substantial, as shortfin mako sharks comprise less than one percent of total HMS ex-vessel revenues on average. Non-pelagic longline vessels would need to pay to install electronic monitoring systems if they wish to retain shortfin mako sharks, introducing an additional expense for those vessels. Due to the low commercial value of shortfin mako sharks and the high cost of electronic monitoring it is reasonable to expect that these fisheries will not install cameras and therefore will not retain shortfin mako sharks. Overall, this alternative would have minor economic costs on small entities by reducing the number of shortfin mako sharks landed and sold.

Alternative A4 would establish a commercial minimum size of 83 inches FL (210 cm FL) for retention of shortfin mako sharks caught incidentally during fishing for other species, whether the shark is dead or alive at haulback. Based on observer data, only 8 percent of shortfin mako sharks are caught with pelagic longline gear greater than 83 inches FL. Thus, restricting fishermen to retaining 8 percent of shortfin mako sharks would represent a considerable reduction in number of shortfin mako sharks landed and in the resulting ex-vessel revenue. A 92 percent reduction in shortfin mako landings would reduce annual revenues by an average of \$3,802 per vessel for the 88 activate pelagic longline vessels and would reduce annual revenues by an average of \$858 per vessel for the 10 non-pelagic longline vessels that land shortfin mako sharks. However, the overall economic impacts associated with these reductions in revenue are not expected be substantial, as shortfin mako sharks comprise less than one percent of total HMS ex-vessel revenues on average. Additionally, the magnitude of shortfin mako landings by other gear types (*e.g.*, bottom longline, gillnet, handgear) is very small. Overall, this alternative would have minor economic impacts on small entities because these measures would reduce the number of shortfin mako sharks landed and sold by these fishing vessels, however, shortfin mako sharks are rarely a target species and are worth less than other more valuable target species.

Alternative A5 would allow fishermen to retain shortfin mako sharks caught on any commercial gear (*e.g.*, pelagic longline, bottom longline, gillnet, handgear) provided that an observer is on board that can verify that the shark was dead at haulback. Under this alternative, electronic monitoring would not be used to verify the disposition of shortfin mako sharks caught on pelagic longline gear, but instead pelagic longline vessels could only retain shortfin mako sharks when the sharks are dead at haulback and an observer is on board.

Since only five percent of pelagic longline gear trips are observed, this alternative would result in a 95 percent reduction in the number of shortfin mako sharks retained on pelagic longline gear. A 95 percent reduction in shortfin mako landings would reduce annual revenues by an average of \$3,926 per vessel for the 88 activate pelagic longline vessels and would reduce annual revenues by an average of \$886 per vessel for the 10 non-pelagic longline vessels that land shortfin mako sharks. However, the overall economic

impacts associated with these reductions in revenue are not expected be substantial, as shortfin mako sharks comprise less than one percent of total HMS ex-vessel revenues on average. Additionally, the magnitude of shortfin mako landings by other gear types (*e.g.*, bottom longline, gillnet, handgear) is very small. Overall, this alternative would have minor economic costs on small entities because these measures would reduce the number of shortfin mako sharks landed and sold by these fishing vessels, however, shortfin mako sharks are rarely a target species and are worth less than other more valuable target species. Compared to the preferred Alternative A7, this alternative would place more restrictive limits on fishermen using pelagic longline, bottom longline, and gillnet gear. Observers are only occasionally on board vessels, so limiting the retention of shortfin mako sharks to trips with an observer would reduce the opportunity to retain dead individuals. The reduced opportunity to retain dead shortfin mako sharks would not reduce fishing mortality on the stock. Therefore, NMFS does not prefer this alternative at this time.

Alternative A6 would place shortfin mako sharks on the prohibited sharks list to prohibit any catch or retention of shortfin mako sharks in commercial HMS fisheries. In recent years, about 181,000 lb dw of shortfin mako sharks have been landed and the commercial revenues from shortfin mako sharks have averaged approximately \$373,000 per year, which equates to approximately one percent of overall HMS ex-vessel revenues. That revenue would be eliminated under this alternative. Approximately 97.26 percent of shortfin mako commercial landings, based on dealer reports, were made by pelagic longline vessels. There were 88 pelagic longline vessels that were active in 2017 based on logbook reports. Therefore, the average loss in annual revenue from shortfin mako shark landings per pelagic longline vessel would be \$4,133 per year. The average loss in annual revenue from shortfin mako shark landings for vessel using other gear types would be \$933 per year. However, the overall economic impacts associated with these reductions in revenue are not expected be substantial, as shortfin mako sharks comprise less than one percent of total HMS ex-vessel revenues on average. Additionally, the magnitude of shortfin mako landings by other gear types (*e.g.*, bottom longline, gillnet, handgear) is very small. Overall, this alternative would have minor economic costs on

small entities because these measures would reduce the number of shortfin mako sharks landed and sold by these fishing vessels, however, shortfin mako sharks are rarely a target species and are worth less than other more valuable target species. Therefore, NMFS does not prefer this alternative at this time.

Based on public comment, Alternative A7 is a new alternative in this FEIS that is a logical outgrowth of the previously-preferred Alternative A2. Under preferred Alternative A7, shortfin mako sharks caught using gillnet, bottom longline, or pelagic longline gear on properly-permitted vessels could be retained, provided they are dead at haulback. In the case of pelagic longline vessels, an electronic monitoring system would be required, but not on bottom longline of gillnet vessels.

During the public comment period, some commenters that expressed support for the DEIS preferred alternative also voiced support for expanding the ability to retain dead shortfin mako sharks should not be limited solely to the pelagic longline gear, and they felt that requiring electronic monitoring systems on small vessels essentially would effectively create such a restriction. Although the DEIS preferred alternative did not limit the ability to retain dead shortfin mako sharks to pelagic longline vessels, the requirement to install a costly electronic monitoring system to do so may have limited the measure to the pelagic longline fishery. HMS-permitted pelagic longline vessels are already required to have electronic monitoring systems on board, but vessels using other gear types are unlikely to install the costly system in order to retain shortfin mako sharks, especially considering the relatively low ex-vessel value. Thus, the practical effect of Alternative A2 could be to limit the measure to pelagic longline vessels. To address the public comments, NOAA Fisheries now prefers Alternative A7, a newly added alternative in the FEIS that is a slightly modified extension of Alternative A2. Under preferred Alternative A7, shortfin mako sharks caught using gillnet, bottom longline, or pelagic longline gear on properly-permitted vessels could be retained, provided they are dead at haulback. In the case of pelagic longline vessels, an electronic monitoring system would be required, but not on bottom longline or gillnet vessels.

This alternative would have a similar impact as Alternative A2 for pelagic longline vessels (reducing revenues by an average of \$3,058 per vessel), but it would not impact the estimated 10 non-pelagic longline vessels. Therefore, it would prevent the estimated \$933 in

reduced landings per vessel for those non-pelagic longline vessels that would occur under Alternative A2. Allowing fishermen to retain dead shortfin mako sharks caught in bottom longline or gillnet gear is unlikely to have a large impact since these gear types rarely interact with the species. Overall, this alternative would have minor economic costs on small entities because these measures would reduce the number of shortfin mako sharks landed and sold by these fishing vessels. However, shortfin mako sharks are rarely a target species and are worth less than other more valuable target species. NMFS prefers this alternative because it achieves the objectives of the amendment and largely the same conservation benefit while easing costly requirements on small vessels and thus with less economic impact or restrictions on commercial fishermen.

While HMS Angling permit holders are not considered small entities by NMFS for purposes of the Regulatory Flexibility Act, Charter/Headboat permit holders and tournament operators are considered to be small entities and could be potentially impacted by the various recreational alternatives, as described below.

NMFS received public comment that indicated the proposed suite of measures presented in Alternatives B2 through B8 particularly restricted vessels with multiple HMS permits. These vessels generally fish with rod and reel or other handgear as opposed to pelagic longline, bottom longline, or gillnet gear. However, these vessels are part of the ICCAT fishery as they regularly target tunas, billfish, and swordfish. For the sake of clarity, we are therefore limiting them to the recreational shark requirements when shortfin mako sharks are onboard, and prohibiting them from selling any sharks when recreationally retaining shortfin mako sharks.

For these alternatives, a vessel issued both a Federal Atlantic commercial shark vessel permit under § 635.4(e) and an HMS Charter/Headboat permit with a shark endorsement under § 635.4(b) could land shortfin mako sharks in accordance with the recreational size limits under § 635.20(e), but could not retain them commercially. This will limit the ability of a small number of vessels to generate commercial revenue from sharks while landing shortfin mako sharks under the recreational size limits. In fact, there were only 35 General Category and 14 Charter/Headboat vessels with Directed or Incidental Shark permits in 2017. Between 2012 and 2017, shortfin mako sharks caught on hook and line or

handline only composed less than 1 percent of commercial landings. On an individual vessel basis, a prohibition on the landing of shortfin mako sharks is unlikely to affect the profitability of a commercial charter/headboat trip or the value of a shark incidental limited access permit on the open market. Ex-vessel prices for shortfin mako sharks are only around \$1.50 per pound while prices for yellowfin, bigeye, and bluefin tuna can range from \$3.50 to \$8.00 per pound (2017 SAFE Report). Thus, shortfin mako sharks are less valuable than target tuna species. Furthermore, other incidentally-caught sharks could still be legally retained and sold.

Similarly, a vessel issued both a Federal Atlantic commercial shark vessel permit under § 635.4(e) and an Atlantic Tunas General category permit under § 635.4(d) or a Swordfish General Commercial permit under § 635.4(f) with a shark endorsement could land shortfin mako sharks in accordance with the recreational size limits under § 635.20(e) when fishing in a registered HMS tournament § 635.4(c)(2). If a shortfin mako shark is retained by such vessels, any other shark species being retained cannot exceed the recreational retention limits under § 635.22(c) and cannot be sold.

Alternative B1, the no action alternative, would not implement any management measures in the recreational shark fishery to decrease mortality of shortfin mako sharks. This would result in no additional economic impacts on small entities associated with this fishery in the short-term.

Under Alternative B2, the preferred alternative, the minimum size limit for the retention of shortfin mako sharks would be increased from 54 inches FL to 71 inches FL for male and 83 inches FL for female shortfin mako sharks.

Under the proposed rule and Draft Amendment 11, Alternative B2 was not a preferred alternative. Instead, NMFS had preferred Alternative B3 which implemented a single size limit of 83 inches FL for all shortfin mako sharks. NMFS has decided to change that for a number of reasons including public comment, greater than estimated landings reductions under the 83 inch FL size limit implemented under the emergency interim rule, evidence of reduced directed effort for shortfin mako sharks under the emergency interim rule, and because this alternative would not increase harvest of mature female sharks compared to the 83 inch size limit implemented by the emergency interim final rule.

NMFS received a number of public comments urging the agency to adopt this alternative as the preferred

alternative, and implement the size limits specified in one of the measures of the ICCAT recommendation. Commenters pointed out that the U.S. delegation had supported the recommendation, and that U.S. recreational landings consisted of less than 5 percent of total international landings of shortfin mako sharks. As such, the added reduction in landings by implementing the 83 inch FL minimum size limit for both sexes would result in a minimal reduction of total international landings while greatly impacting the U.S. recreational fishery. Furthermore, any increases in shortfin mako landings under Alternative B2 would consist solely of male sharks as the minimum size limit for female sharks would remain the same.

This increase in the minimum size limit is projected to reduce recreational landings by at least 65 percent in numbers of sharks landed, and 50 percent in the weight of sharks landed. While this alternative would not establish a shortfin mako fishing season, such a significant increase in the minimum size limit would likely result in some reduction in directed fishing effort for shortfin mako sharks. Effort data collected via the LPS suggests there has been a significant reduction in directed fishing trips targeting shortfin mako sharks compared to the five year average under the 83 inch size limit implemented by the emergency interim final rule. Estimates of directed trips for shortfin mako sharks declined by 34 percent compared to the six year average from 2012 through 2017 resulting in greater than projected reductions in shortfin mako shark landings. This time period (June through August) traditionally accounts for over 90 percent of directed trips for shortfin mako sharks. Based on the LPS data from 2012–2017, shortfin mako sharks were the primary target species in approximately 67 percent of trips that caught and 75 percent of trips that landed them. As such, a reduction in directed fishing effort could substantially reduce the landings expected under this alternative. While this alternative is unlikely to affect directed effort as significantly as the 83 inch size limit, NMFS anticipates directed effort will not fully recover to previous levels.

Under Alternative B3, the minimum size limit for retention of shortfin mako sharks would be increased to 83 inches FL for both males and female sharks consistent with the measure implemented in the emergency rule. Assuming no reduction in directed fishing effort, this increase in the

minimum size limit would result in an 83 percent reduction in the number of sharks landed, and a 69 percent reduction in the weight of sharks landed. Such a large increase in the minimum size limit and associated reduction in landings is unlikely to have no effect on directed fishing effort, in fact, an approximately 34 percent reduction in directed effort was observed in the summer of 2018 following the implementation of this size limit under the emergency interim final rule. An 83 percent reduction in shortfin mako sharks harvested would thus reduce the percentage of directed trips harvesting them by about 6 percent. At least three tournaments directed at shortfin mako sharks in the Northeast chose to cancel 2018 events due to the more stringent current 83 inches FL minimum size limit. Tournaments account for over half of directed recreational trips for shortfin mako sharks, and 77 percent of them in the month of June when effort is at its highest. This could result in a substantial reduction in directed fishing trips for shortfin mako sharks, thus leading to moderate adverse economic impacts on some charter/headboats and tournament operators. NMFS no longer prefers Alternative B3 at this time as reduction in directed fishing effort following implementation of the emergency interim final rule suggests this alternative may be more restrictive than needed to achieve the reductions targets recommended by ICCAT, and could place an undue burden on the recreational fishery.

Under Alternative B4, recreational HMS permit holders would only be allowed to retain male shortfin mako sharks that measure at least 71 inches FL and female shortfin mako sharks that measure at least 108 inches FL. Assuming no reduction in directed fishing effort, this increase in the minimum size limit would result in a 77 percent reduction in the number of sharks landed. A 73 percent reduction in shortfin mako sharks harvested would thus reduce the percentage of directed trips harvesting them to approximately 9 percent. This could result in a significant reduction in directed fishing trips for shortfin mako sharks, thus leading to moderate adverse economic impacts on some charter/headboats and tournament operators.

Under Alternative B5, recreational HMS permit holders would only be allowed to retain male shortfin mako sharks that measure at least 71 inches FL and female shortfin mako sharks that measure at least 120 inches FL. Assuming no reduction in directed fishing effort, this increase in the size

limit would result in a 78 percent reduction in the number of sharks landed, and a 74 percent reduction in the weight of sharks landed. A 78 percent reduction in shortfin mako sharks harvested would thus reduce the percentage of directed trips harvesting them to 8.6 percent. This could result in a significant reduction in directed fishing trips for shortfin mako sharks, thus leading to moderate adverse economic impacts on some charter/headboats and tournament operators.

Under Alternative B6a, the minimum size limit for the retention of shortfin mako sharks would be increased from 54 inches FL to 71 inches FL for male and 83 inches FL for female shortfin mako sharks, and a shortfin mako fishing season would be established from May through October. The fishing season established under this alternative would have little to no effect on shortfin mako fishing activity in the Northeast, but may reduce fishing effort in the South Atlantic and Gulf of Mexico regions; however, a lack of data on targeted trips for shortfin mako sharks in this region makes any assessment of potential socioeconomic impacts difficult. However, this combination of increase in the size limit and fishing season is projected to reduce recreational landings by at least 65 percent in numbers of sharks landed, and 50 percent in the weight of sharks landed in the Northeast. A 65 percent reduction in shortfin mako sharks harvested would thus reduce the percentage of directed trips harvesting them to 13 percent. This reduction on directed trips could lead to moderate adverse economic impacts on some charter/headboats and tournament operators. NMFS does not prefer this alternative at this time, as it is unlikely to result in significantly greater reductions in landings than the preferred alternative, Alternative B2, and could potentially result in regional inequalities in access to the recreational shortfin mako shark fishery due to difference in seasonal abundance.

Under Alternative B6b, NMFS would establish a three-month fishing season for shortfin mako sharks spanning the summer months of June through August. This season would be combined with a 71-inch FL minimum size limit for males and 100 inch minimum size FL for females. Based on estimates from the LPS, on average 475 directed trips are taken for shortfin mako sharks each September and October, representing approximately 9 percent of all annual directed trips. No registered HMS tournaments held in September and October target sharks exclusively, so it is highly unlikely this alternative would

result in the rescheduling of any tournaments due to the fishing season. It is much more likely that directed fishing effort would be affected by the increases in the minimum size limits. Assuming this increase in the size limit has minimal effect on fishing effort directly towards shortfin mako sharks within the season, this combination of season and increase in the size limit should result in a 79 percent reduction in the number of sharks landed, and a 74 percent reduction in the weight of sharks landed. This reduction could result in a significant reduction in directed fishing trips for shortfin mako sharks, thus leading to moderate adverse economic impacts on some charter/headboat operators. NMFS does not prefer this alternative at this time as observed reductions in directed fishing effort following implementation of the emergency interim rule suggest this alternative may be more restrictive than is needed to meet the 72 to 79 percent reduction targets recommended by ICCAT.

Under Alternative B6c, NMFS would establish a two-month fishing season for shortfin mako sharks for the months of June and July. This season would be combined with a 71-inch FL minimum size limit for males and 90-inch minimum sizes FL for females. Based on estimates from the LPS, on average 1,264 directed trips are taken for shortfin mako sharks each August through October, representing approximately 26 percent of all annual directed trips. Only two registered HMS tournaments held in August through October target sharks exclusively, one out of New York that primarily targets thresher sharks and one out of Florida where participants fish exclusively from shore. Thus, it is highly unlikely this alternative would result in the rescheduling of any tournaments due to the fishing season. It is likely that directed fishing effort would also be affected by the increases in the minimum size limits. Assuming this increase in the size limit has minimal effect on fishing effort directly towards shortfin mako sharks within the season, this combination of season and increase in the size limit should result in a 77 percent reduction in the number of sharks landed, and a 69 percent reduction in the weight of sharks landed. Such a large increase in the size limit and associated reduction in landings is unlikely to have no effect on directed fishing effort. A 77 percent reduction in shortfin mako sharks harvested would thus reduce the percentage of directed trips harvesting them to 8 percent. This reduction in

directed trips could lead to moderate adverse economic impacts on some charter/headboats and tournament operators. NMFS does not prefer this alternative at this time as observed reductions in directed fishing effort following implementation of the emergency interim rule suggest this alternative may be more restrictive than is needed to meet the 72 to 79 percent reduction targets recommended by ICCAT.

Under Alternative B6d, NMFS would establish a one-month fishing season for shortfin mako sharks for the month of June only. This season would be combined with a 71 inches FL minimum size limit for males and 83 inches FL for females. Based on estimates from the LPS, on average 2,435 directed trips are taken for shortfin mako sharks each July through October, representing approximately 52 percent of all annual directed trips. Additionally, there are seven registered HMS tournaments held in July through October that target sharks exclusively, including three of four tournaments held in the state of Rhode Island, and the only tournament in Massachusetts to target sharks exclusively. It is likely that directed fishing effort would also be affected by the increases in the minimum size limits. Assuming this increase in the size limit has minimal effect on fishing effort directly towards shortfin mako sharks within the season, this combination of season and increase in the size limit should result in an 80 percent reduction in the number of sharks landed, and a 76 percent reduction in the weight of sharks landed. Such a large increase in the size limit and associated reduction in landings is unlikely to have no effect on directed fishing effort. An 80 percent reduction in shortfin mako sharks harvested would thus reduce the percentage of directed trips harvesting them to 8 percent. This reduction in directed trips could lead to moderate adverse economic impacts on some charter/headboats and tournament operators.

Under Alternative B6e, NMFS would establish a process and criteria for determining season dates and minimum size limits for shortfin mako sharks on an annual basis through inseason actions. This process would be similar to how the agency sets season opens and retention limits for the shark commercial fisheries and the Atlantic Tunas General category fishery. NMFS would review data on recreational landings, catch rates, and effort levels for shortfin mako sharks in the previous years, and establish season dates and minimum size limits that would be

expected to achieve the reduction targets established by ICCAT, and the objectives of the HMS fisheries management plan. This alternative would also allow NMFS to minimize adverse economic impacts to the HMS recreational fishery by allowing for adjustments to the season and size limits based on observed reductions and redistribution of fishing effort resulting from measures implemented in previous years. NMFS does not prefer this alternative at this time as the establishment of a shortfin mako shark fishing season has the potential to create regional inequalities in access to the fishery given its wide spatial and temporal nature as a highly migratory species. These potential inequalities would appear to be unjustified as there are alternatives available that are capable of meeting the reductions recommended by ICCAT without them.

Under Alternative B7, NMFS would implement a "slot limit" for shortfin mako sharks in the recreational fishery. Under a slot limit, recreational fishermen would only be allowed to retain shortfin mako sharks within a narrow size range (*e.g.*, between 71 and 83 inches FL) with no retention above or below that slot. Assuming no reduction in directed fishing effort, this alternative would be expected to result in similar reductions in landings as other alternatives analyzed here. While this alternative would not establish a shortfin mako fishing season, as described above in earlier alternatives, such a significant increase in the size limit would likely result in some reduction in directed fishing effort for shortfin mako sharks and shifting focus to other HMS species. This reduction in effort may be further exacerbated by the complicated nature of slot limits regulations. The amount of effort reduction by recreational fishermen would depend on how much HMS anglers and tournaments are satisfied to practice catch-and-release fishing for sub-legal shortfin mako sharks or shift their fishing effort to other species. NMFS does not prefer this alternative at this time as there are less complicated options available that are capable of meeting the mortality reductions recommended by ICCAT.

Under Alternative B8, NMFS would establish a landings tag requirement and a yearly limit on the number of landings tags assigned to a vessel, for shortfin mako sharks over the minimum size limit. This requirement would be expected to negatively affect fishing effort. An increase in the minimum size limit and a yearly cap on landings for vessels would reduce effort drastically, while maintaining some opportunity for

the recreational fleet. This effort reduction would adversely affect the charter fleet the most by limiting the number of trips on which they could land shortfin mako sharks each year. This effort reduction may also affect their ability to book trips. At least one tournament directed at shortfin mako sharks in the Northeast chose to cancel its 2018 event due to the more stringent current 83-inch FL minimum size limit. By excluding tournaments from a landings tag requirement there may be a direct beneficial economic impact for tournaments, as this would be an additional opportunity, beyond their tags, to land shortfin mako sharks for permit holders.

Alternative B9, the preferred alternative, would expand the requirement to use non-offset, non-stainless steel circle hook by all HMS permit holders with a shark endorsement when fishing for sharks recreationally, except when fishing with flies or artificial lures, in federal waters. Currently, this requirement is in place for all federally managed waters south of 41°43' N latitude (near Chatham, Massachusetts), but this alternative would remove the boundary line, requiring fishermen in all areas to use circle hooks. Recreational shark fishermen north of Chatham, Massachusetts would need to purchase circle hooks to comply with this requirement, although the cost is modest. Additionally, it is possible that once the circle hook requirement is expanded, fishermen in the newly impacted area could find reduced catch rates of sharks including shortfin mako sharks. If reduced catch rates are realized, effort in the recreational shark fishery, including the for-hire fleet, could be impacted by reduced number of trips or reduced demand for chartered trips.

Alternative B10 would place shortfin mako sharks on the prohibited sharks list to prohibit the retention of shortfin mako sharks in recreational HMS fisheries. HMS permit holders would be prohibited from retaining or landing shortfin mako sharks recreationally. In recreational fisheries, recreational fishermen would only be authorized to catch and release shortfin mako sharks. A prohibition on the retention of shortfin mako sharks is likely to disincentivize some portion of the recreational shark fishery, particularly those individuals that plan to target shortfin mako sharks. Businesses that rely on recreational shark fishing such as and tournament operators and charter/headboats may experience a decline in demand resulting in adverse economic impacts. NMFS does not prefer this

alternative at this time as it would prohibit all retention of shortfin mako sharks in the recreational fishery. As such, Alternative B10 would create unnecessary inequalities between the commercial and recreational fishing sectors when other alternatives are available that can achieve the ICCAT recommended landings reduction in a more equitable fashion.

Alternative C1, the preferred alternative, would make no changes to the current reporting requirements applicable to shortfin mako sharks in HMS fisheries. Since there would be no changes to the reporting requirements under this alternative, NMFS would expect fishing practices to remain the same and direct economic impacts in small entities to be neutral in the short-term.

Under Alternative C2, NMFS would require vessels with a directed or incidental shark LAP to report daily the number of shortfin mako sharks retained and discarded dead, as well as fishing effort (number of sets and number of hooks) on a VMS. A requirement to report shortfin mako shark catches on VMS for vessels with a shark LAP would be an additional reporting requirement for those vessels on their existing systems. For other commercial vessels that are currently only required to report in the HMS logbook, the requirement would mean installing VMS to report dead discards of shortfin mako and fishing effort.

If a vessel has already installed a type-approved E-MTU VMS unit, the only expense would be monthly communication service fees, which it may already be paying if the vessel is participating in a Council-managed fishery. Existing regulations require all vessel operators with E-MTU VMS units to provide hail out/in declarations and provide location reports on an hourly basis at all times while they are away from port. In order to comply with these regulations, vessel owners must subscribe to a communication service plan that includes an allowance for sending similar declarations (hail out/in) describing target species, fishing gear possessed, and estimated time/location of landing using their E-MTU VMS. Given that most shortfin mako sharks are incidentally caught by pelagic longline vessels that are already required to have an E-MTU VMS system onboard, adverse economic impacts are not expected. If vessels with a shark LAP do not have an E-MTU VMS unit, direct, economic costs are expected as a result of having to pay for the E-MTU VMS unit (approximately \$4,000) and a qualified marine electrician to install the unit (\$400).

VMS reporting requirements under this alternative could potentially provide undue burden to HMS commercial vessels that already report on catches, landings, and discards through vessel logbooks, dealer reports, and observer reports.

Alternative C3 would implement mandatory reporting of all recreational interactions (landed and discarded) of shortfin mako sharks in HMS fisheries. Recreational HMS permit holders would have a variety of options for reporting shortfin mako shark landings including a phone-in system, internet website, and/or a smartphone app. HMS Angling and Charter/Headboat permit holders currently use this method for required reporting of each individual landing of bluefin tuna, billfish, and swordfish within 24 hours. NMFS has also maintained a shortfin mako shark reporting app as an educational tool to encourage the practice of catch-and-release. Additionally, the potential burden associated with mandatory landings reports for shortfin mako sharks would be significantly reduced under the increased minimum size limits being considered in this rulemaking, although would still represent an increased burden over current reporting requirements. While HMS Angling permit holders are not considered small entities by NMFS for purposes of the Regulatory Flexibility Act, Charter/Headboat permit holders are considered to be small entities and would be potentially impacted by this alternative.

Under Alternative D1, NMFS would not establish a rebuilding plan or the foundation for rebuilding the shortfin mako shark stock. NMFS would still implement management measures in the HMS recreational and commercial fisheries to end overfishing consistent with the Magnuson-Stevens Act and with ICCAT Recommendation 17–08 and our obligations under ATCA. There would likely be no direct short-term impact on small entities from this alternative as there would be no change in fishing effort or landings of shortfin mako sharks that would impact revenues generated from the commercial and recreational fisheries.

Under Alternative D2, NMFS would establish a domestic rebuilding plan independent of a rebuilding plan adopted by ICCAT. While such an alternative could avoid overfishing shortfin mako sharks in the United States by changing the way that the U.S. recreational and commercial fisheries operate, such a plan could not effectively rebuild the stock, since U.S. catches are only 9 percent of the reported catch Atlantic-wide. Such an

alternative would be expected to cause short- and long-term direct economic impacts.

Under Alternative D3, the preferred alternative, NMFS would take preliminary action toward rebuilding by adopting measures to end overfishing to establish the foundation for a rebuilding plan. NMFS would then take action at the international level through ICCAT to develop a rebuilding plan for shortfin mako sharks. ICCAT may establish a rebuilding plan for shortfin mako sharks in 2019, and this rebuilding plan would encompass the objectives set forth by ICCAT based on scientific advice from the SCRS. This alternative would not result in any changes to the current recreational and commercial domestic regulations for shortfin mako sharks in the short-term. There would likely be no direct short-term impact on small entities from this alternative as there would be no change in fishing effort or landings of shortfin mako sharks that would impact revenues generated from the commercial and recreational fisheries. Management measures to address overfishing of shortfin mako sharks could be adopted in the future. These measures could change the way that the U.S. recreational and commercial shortfin mako shark fishery operates, which could cause long-term direct economic impacts. Any future action to implement international measures would be analyzed in a separate rulemaking.

Under Alternative D4, NMFS would remove shortfin mako sharks from the commercial pelagic shark management group and would implement a species-specific quota for shortfin mako sharks as established by ICCAT. A shortfin mako-specific quota would likely include both commercial and recreational catches, as do other ICCAT established quotas. In addition, NMFS would establish a new commercial pelagic shark species quota for common thresher and oceanic whitetip sharks based on recent landings. The 2017 ICCAT stock assessment indicated that the North Atlantic population of shortfin mako sharks is overfished and experiencing overfishing. In November 2017, ICCAT adopted management measures (Recommendation 17–08) to address the overfishing determination, but did not recommend a TAC necessary to stop overfishing of shortfin mako sharks. Therefore, it is difficult at this time to determine how setting a species-specific quota for shortfin mako sharks would affect commercial and recreational fishing operations. However, this species-specific quota may provide long-term direct, minor adverse economic impacts if ICCAT

established a TAC for the United States that is well below the total average harvest by the United States (*i.e.*, 330 mt ww or 168 mt dw) or below the current annual commercial quota for common thresher, oceanic whitetip, and shortfin mako (488 mt dw) as it could potentially limit the amount of harvest for fishermen. Short-term direct socioeconomic impacts would be neutral for Alternative D4 because initially there would be no reduction in fishing effort and practices.

Under Alternative D5, NMFS would take steps to implement area-based management measures domestically if such measures are established by ICCAT. ICCAT Recommendation 17–08 calls on the SCRS to provide additional scientific advice in 2019 that takes into account a spatial/temporal analysis of North Atlantic shortfin mako shark catches in order to identify areas with high interactions. Without a specific area to analyze at this time, the precise impacts on commercial and recreational fishery operations cannot be determined. Implementing area management for shortfin mako sharks, if recommended by the scientific advice, could lead to a reduction in localized fishing effort, which would likely have adverse economic impacts for small entities that land shortfin mako sharks.

Under Alternative D6, NMFS would annually allocate a specific number of “allowable” dead discards of shortfin mako sharks as a bycatch cap or sub-annual catch limit (ACL) that would apply to all fisheries, not just HMS fisheries. This alternative would impact the HMS pelagic longline and shark recreational fisheries similar to Alternative D4. However, this alternative could also impact non-HMS fisheries by closing those fisheries if the bycatch cap were reached. This alternative could lead to short-term adverse impacts since the bycatch caps could close fisheries if they are reached until those fishermen could modify fishing behavior to avoid shortfin mako sharks (even in fisheries where shortfin mako sharks are rarely, if ever, seen) and reduce interactions. In the long-term, this alternative would have neutral impacts as the vessels would avoid shortfin mako sharks. The impacts to small businesses are expected to be neutral in the short and long-term as their businesses would not change.

Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996 states that, for each rule or group of related rules for which an agency is required to prepare a FRFA, the agency shall publish one or more guides to assist small entities in complying with the rule, and shall designate such

publications as “small entity compliance guides.” The agency shall explain the actions a small entity is required to take to comply with a rule or group of rules. As part of this rulemaking process, NMFS has prepared a listserv summarizing fishery information and regulations for Atlantic shark fisheries for 2019. This listserv also serves as the small entity compliance guide. Copies of the compliance guide are available from NMFS (see ADDRESSES).

NMFS prepared a FEIS for this final rule that discusses the impact on the environment that would result from this rule. A copy of the FEIS is available from NMFS (see ADDRESSES).

List of Subjects in 50 CFR Part 635

Fisheries, Fishing, Fishing vessels, Foreign relations, Imports, Penalties, Reporting and recordkeeping requirements, Treaties.

Dated: February 15, 2019.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 635 is amended as follows:

PART 635—ATLANTIC HIGHLY MIGRATORY SPECIES

■ 1. The authority citation for part 635 continues to read as follows:

Authority: 16 U.S.C. 971 et seq.; 16 U.S.C. 1801 et seq.

■ 2. In § 635.2, revise definition of “FL (fork length)” to read as follows:

§ 635.2 Definitions.

\* \* \* \* \*

FL (fork length) means the straight-line measurement of a fish from the midpoint of the anterior edge of the fish to the fork of the caudal fin. The measurement is not made along the curve of the body.

\* \* \* \* \*

■ 3. In § 635.20, lift the suspension on paragraph (e)(2) and revising it and by adding paragraph (e)(6) to read as follows:

§ 635.20 Size limits.

\* \* \* \* \*

(e) \* \* \*

(2) All sharks, except as otherwise specified in paragraphs (e)(3) through (6) of this section, landed under the recreational retention limits specified at § 635.22(c)(2) must be at least 54 inches (137 cm) FL.

\* \* \* \* \*

(6) For North Atlantic shortfin mako sharks landed under the recreational retention limits specified at § 635.22(c)(2), males must be at least 71 inches (180 cm) fork length, and females must be at least 83 inches (210 cm) fork length.

\* \* \* \* \*

■ 4. Amend § 635.21 by:

- a. Adding paragraphs (a)(4), (c)(1)(iv), and (d)(5);
■ b. Revising paragraphs (f)(2) and (3);
■ c. Adding paragraph (g)(6); and
■ d. Revising (k)(1) and (2).

The additions and revisions read as follows:

§ 635.21 Gear operation and deployment restrictions.

(a) \* \* \*

(4) Any person on board a vessel that is issued a commercial shark permit must release all shortfin mako sharks, whether alive or dead, caught with any gear other than pelagic longline, bottom longline, or gillnet gear, except that any person on board a vessel that is issued a commercial shark permit in combination with a permit that has a shark endorsement may retain shortfin mako sharks subject to the recreational minimum size limits in § 635.20, the recreational retention limits in § 635.22, and authorized gear requirements in § 635.19.

\* \* \* \* \*

(c) \* \* \*

(1) \* \* \*

(iv) Has pelagic longline gear on board, persons aboard that vessel are required to promptly release in a manner that causes the least harm any shortfin mako shark that is alive at the time of haulback. Any shortfin mako shark that is dead at the time of haulback may be retained provided the electronic monitoring system is installed and functioning in compliance with the requirements at § 635.9.

\* \* \* \* \*

(d) \* \* \*

(5) If a vessel issued or required to be issued a permit under this part has bottom longline gear on board persons aboard that vessel are required to promptly release in a manner that causes the least harm, any shortfin mako shark that is alive at the time of haulback.

\* \* \* \* \*

(f) \* \* \*

(2) A person on board a vessel that has been issued or is required to be issued a permit with a shark endorsement under this part and who is participating in an HMS registered tournament that bestows points, prizes, or awards for Atlantic sharks must

deploy only non-offset, corrodible circle hooks when fishing for, retaining, possessing, or landing sharks, except when fishing with flies or artificial lures.

(3) A person on board a vessel that has been issued or is required to be issued an HMS Angling permit with a shark endorsement or an HMS Charter/Headboat permit with a shark endorsement must deploy only non-offset, corrodible circle hooks when fishing for, retaining, possessing, or landing sharks, except when fishing with flies or artificial lures.

\* \* \* \* \*

(g) \* \* \*

(6) If a vessel issued or required to be issued a permit under this part has gillnet gear onboard, persons aboard that vessel are required to promptly release in a manner that causes the least harm any shortfin mako shark that is alive at the time of haulback.

\* \* \* \* \*

(k) \* \* \*

(1) A person on board a vessel that has been issued or is required to be issued a permit with a shark endorsement under this part and who is participating in an HMS registered tournament that bestows points, prizes, or awards for Atlantic sharks must deploy only non-offset, corrodible circle hooks when fishing for, retaining, possessing, or landing sharks, except when fishing with flies or artificial lures.

(2) A person on board a vessel that has been issued or is required to be issued an HMS Angling permit with a shark endorsement or a person on board a vessel with an HMS Charter/Headboat permit with a shark endorsement must deploy only non-offset, corrodible circle hooks when fishing for, retaining, possessing, or landing, except when fishing with flies or artificial lures.

\* \* \* \* \*

■ 5. In § 635.22, revise paragraph (c)(1) and add paragraph (c)(7) as follows:

§ 635.22 Recreational Retention Limits.

(c) \* \* \*

(1) The recreational retention limit for sharks applies to any person who fishes in any manner on a vessel that has been issued or is required to have been issued a permit with a shark endorsement, except as noted in paragraph (c)(7) of this section. The retention limit can change depending on the species being caught and the size limit under which they are being caught as specified under § 635.20(e). A person on board a vessel that has been issued or is required to be issued a permit with a shark endorsement under § 635.4 is required



to use non-offset, corrodible circle hooks as specified in § 635.21(f) and (k) in order to retain sharks per the retention limits specified in this section.

\* \* \* \* \*

(7) For persons on board vessels issued both a commercial shark permit and a permit with a shark endorsement, the recreational retention limit and sale prohibition applies for shortfin mako sharks at all times, even when the commercial pelagic shark quota is open. If such vessels retain a shortfin mako shark under the recreational retention limit, all other sharks retained by such vessels may only be retained under the applicable recreational retention limits and may not be sold. If a commercial Atlantic shark quota is closed under § 635.28(b), the recreational retention limit for sharks and no sale provision in paragraph (a) of this section will be applied to persons aboard a vessel issued a Federal Atlantic commercial shark vessel permit under § 635.4(e), if that vessel has also been issued a permit with a shark endorsement under § 635.4(b) and is engaged in a for-hire fishing trip or is participating in a registered HMS tournament per § 635.4(c)(2).

\* \* \* \* \*

■ 6. In § 635.24, lift the suspension on paragraphs (a)(4)(i) and (iii), and revise them to read as follows:

**§ 635.24 Commercial retention limits for sharks, swordfish, and BAYS tunas.**

\* \* \* \* \*

- (a) \* \* \*
- (4) \* \* \*

(i) Except as provided in § 635.22(c)(7), a person who owns or operates a vessel that has been issued a directed shark LAP may retain, possess, land, or sell pelagic sharks if the pelagic shark fishery is open per §§ 635.27 and 635.28. Shortfin mako sharks may be retained by persons aboard vessels using pelagic longline, bottom longline, or gillnet gear only if the shark is dead at the time of haulback and consistent with the provisions of § 635.21(c)(1), (d)(5), and (g)(6) and 635.22(c)(7).

\* \* \* \* \*

(iii) Consistent with paragraph (a)(4)(ii) of this section, a person who owns or operates a vessel that has been issued an incidental shark LAP may retain, possess, land, or sell no more than 16 SCS and pelagic sharks, combined, per vessel per trip, if the respective fishery is open per §§ 635.27 and 635.28. Of those 16 SCS and pelagic sharks per vessel per trip, no more than 8 shall be blacknose sharks. Shortfin mako sharks may only be retained under the commercial retention limits by

persons using pelagic longline, bottom longline, or gillnet gear, only if the shark is dead at the time of haulback and consistent with the provisions at § 635.21(c)(1), (d)(5), and (g)(6). If the vessel has also been issued a permit with a shark endorsement and retains a shortfin mako shark, recreational retention limits apply to all sharks retained and none may be sold, per § 635.22(c)(7).

\* \* \* \* \*

■ 7. In § 635.30, paragraph (c)(4) is revised to read as follows:

\* \* \* \* \*

(c) \* \* \*

(4) Persons aboard a vessel that has been issued or is required to be issued a permit with a shark endorsement must maintain a shark intact through landing and offloading with the head, tail, and all fins naturally attached. The shark may be bled and the viscera may be removed.

\* \* \* \* \*

■ 8. In § 635.71, revise paragraphs (d)(22), (23), (27), (28), and (29) to read as follows:

**§ 635.71 Prohibitions.**

\* \* \* \* \*

(d) \* \* \*

(22) Except when fishing only with flies or artificial lures, fish for, retain, possess, or land sharks without deploying non-offset, corrodible circle hooks when fishing at a registered recreational HMS fishing tournament that has awards or prizes for sharks, as specified in § 635.21(f) and (k).

(23) Except when fishing only with flies or artificial lures, fish for, retain, possess, or land sharks without deploying non-offset, corrodible circle hooks when issued an Atlantic HMS Angling permit or HMS Charter/Headboat permit with a shark endorsement, as specified in § 635.21(f) and (k).

\* \* \* \* \*

(27) Retain, land, or possess a shortfin mako shark that was caught with gear other than pelagic longline, bottom longline, or gillnet gear as specified at § 635.21(a).

(28) Retain, land, or possess a shortfin mako shark that was caught with pelagic longline, bottom longline, or gillnet gear and was alive at haulback as specified at § 635.21(c)(1), (d)(5), and (g)(6).

(29) As specified at § 635.21(c)(1), retain, land, or possess a shortfin mako shark that was caught with pelagic longline gear when the electronic monitoring system was not installed and

functioning in compliance with the requirements at § 635.9.

\* \* \* \* \*

[FR Doc. 2019-02946 Filed 2-20-19; 8:45 am]

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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 648**

[Docket No. 170828822-70999-04]

RIN 0648-XG796

**Fisheries of the Northeastern United States; Summer Flounder Fishery; Quota Transfer**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Temporary rule; quota transfer.

**SUMMARY:** NMFS announces that the State of North Carolina is transferring a portion of its 2019 commercial summer flounder quota to the State of New Jersey. This quota adjustment is necessary to comply with the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan quota transfer provisions. This announcement informs the public of the revised commercial quotas for North Carolina and New Jersey.

**DATES:** Effective February 20, 2019, through December 31, 2019.

**FOR FURTHER INFORMATION CONTACT:** Cynthia Ferrio, Fishery Management Specialist, (978) 281-9180.

**SUPPLEMENTARY INFORMATION:** Regulations governing the summer flounder fishery are found in 50 CFR 648.100 through 648.110. These regulations require annual specification of a commercial quota that is apportioned among the coastal states from Maine through North Carolina. The process to set the annual commercial quota and the percent allocated to each state is described in § 648.102, and the initial 2019 allocations were published on December 17, 2018 (83 FR 64482).

The final rule implementing Amendment 5 to the Summer Flounder Fishery Management Plan, as published in the **Federal Register** on December 17, 1993 (58 FR 65936), provided a mechanism for transferring summer flounder commercial quota from one state to another. Two or more states, under mutual agreement and with the concurrence of the NMFS Greater Atlantic Regional Administrator, can transfer or combine summer flounder

# Atlantic States Marine Fisheries Commission

## Coastal Sharks Technical Committee Call Summary

*Monday April 8, 2019*

**Attendees:** Bryan Frazier (TC Chair, SC), Donna McDonnell (GA), Angel Willey (TC Vice Chair, MD), Chris Scott (NY), Brent Winner (FL), Karyl Brewster-Geisz (NOAA HMS), Jack Musick (VA), Lee Paramore (NC), Conor McManus (RI), Julie Neer (SEDAR)

**Staff:** Kirby Rootes-Murdy, Caitlin Starks, Kristen Anstead

### **Presentation on Atlantic shortfin mako shark Amendment 11 and new regulations**

Karyl Brewster-Geisz presented the new regulations under Amendment 11. The final rule for Amendment 11 was implemented on March 3. Amendment 11 responds to the 2017 benchmark stock assessment which showed shortfin mako stocks are overfished and experiencing overfishing occurring. The US landings accounts for 9% of global catch of mako sharks. Based on the stock assessment results, catch and harvest reductions are needed (72-79%) to prevent further population declines, and a total catch of 0 lbs per year is needed to rebuild the stock by 2040. At the International Commission for the Conservation of Atlantic Tunas (ICCAT) meeting later this year there will be a review of current measures taken by member countries and then determine next steps, as needed.

The shortfin mako regulations as outlined in the Amendment 11 final rule are similar to those implemented in the emergency rule from March 2018, with some modifications. For commercial fisheries, pelagic longline, bottom longline, and gillnet fisheries, may now land shortfin mako as long as the shark is dead at haul-back. For recreational fisheries, the minimum size limits will be different for male and female sharks. The male minimum size is 71 inches (straight-line fork length (FL)), and the female minimum size 83 inches (FL). These size limit requirements were changed from the emergency rule to account for different size at maturity among sexes. Circle hooks are required across the fishery on lines intended to catch sharks. Some administrative actions are not expanding current reporting systems, and establishing the foundation for international rebuilding plan. NOAA HMS has requested that ASMFC modify regulations in state waters to match the commercial and recreational federal waters measures for shortfin mako.

To evaluate the new regulations and provide advice to the Board considering adopting complementary management, the Board Chair tasked the TC with the following:

*Review the recent management measures implemented for Atlantic shortfin mako sharks through Amendment 11, and provide the Board a report on the potential conservation benefits of adopting complementary management measures in state waters for state permit holders.*

In considering the task put forward by the Board Chair, Bryan Frazier (TC Chair) asked the TC members to provide information and available data (fishery independent or dependent) on shortfin mako shark within their respective states. On the call, the TC members offered the following information (by state):

Florida – Since 2008, shortfin mako sharks harvested by recreational anglers in state waters occurred only in the year 2013, based upon MRIP survey data. Similarly, commercial landings of shortfin mako sharks in Florida state waters are not common (only 4,000 lbs landed since 1991). Commercial fishing is subject to the same gear and catch regulations as recreational fishing (1 per person or 2 per vessel per day, whichever is less). No fishery-independent data is available for mako sharks.

Georgia – Do not observe shortfin mako in state waters.

Virginia – Shortfin mako are not found within 3 miles of shore. One possible reason for this is VA has a long shallow shelf. The TC member expressed concern that if the states do not match the federal regulations, some anglers could claim they captured the sharks within 3 miles to avoid complying with federal regulations.

North Carolina – There is no fishery independent data demonstrating the presence of shortfin mako sharks in state waters. For commercial fisheries, there are 72 fish house samples of shortfin mako, but location data does not allow for distinguishing between federal and state waters. There are some dealer reported inshore landings (.04%) but the TC member indicated they are not fully confident in the location data provided for this small portion of the harvest.

Maryland – No data (fishery independent or dependent) demonstrating the presence of shortfin mako shark in state waters.

Delaware – No TC member present, but it was noted that it is probably a similar situation to MD.

New Jersey – There is some data from NJ from SAFIS commercial landings database, but these landings occurred in both state and federal waters. The data shows there are almost 12,000 lbs landed in 2016 and 2017, but it is not differentiated between state and federal waters. An additional data request for statistical areas of where the landings occurred would be needed. Regarding recreational data, there is no MRIP records for the past 10 years of shortfin makos being caught in NJ state waters.

New York – There are VTRs from party/charter boats from 2010 - 2018 that show 2,676 lbs of shortfin mako were harvested in state waters based on the geographic area codes. The weight range is 75-225 lbs per shark (avg. 149 lbs.). MRIP data show harvest and release of shortfin mako in state waters throughout the time series, albeit with high error values. It is clear that shortfin mako are in NY state waters and are targeted there, but not in significant numbers.

Rhode Island –Shortfin mako are not commonly observed in the fishery independent surveys. Commercial landings for RI are low and likely caught in federal waters, with the annual maximum landings at 3,000 lbs over the last 3-5 years, but they are usually an order of magnitude lower. Most often the fishing activity occurs outside of state waters.

Based on the presented state information, the TC noted there is not enough data for shortfin mako sharks in state waters to demonstrate that implementing the proposed regulations would have a significant change in harvest and catch; as noted only NY appears to have recreational data demonstrating fishing is occurring in state waters.

In considering the conservation benefits of implementing complementary measures in state waters, given the commercial fisheries encountering shortfin makos generally occur in federal waters, the TC did not provide comment on whether allowing retention of dead sharks at haul-back would be beneficial. For considering complementary recreational measures, the TC was largely in agreement that adopting the same recreational size limits by sex would be best for consistency and likely enforcement. As indicated from the available data, it does not seem possible to quantify the conservation benefits of implementing the regulatory change in state waters.

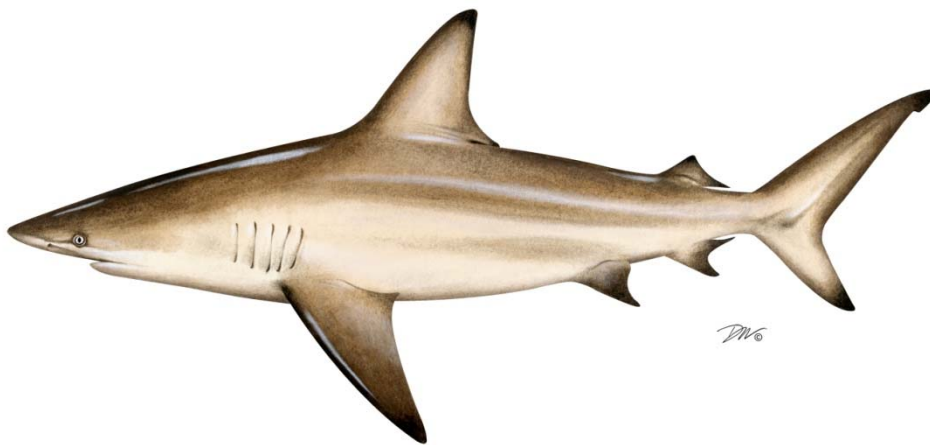
The other component of the recreational measures is the requirement of circle hooks. Currently, the states are at varying stages of considering or implementing circle hook requirements for shark fishing: New York and Florida have both implemented circle hooks for shark fishing; MD is going through a regulatory process for implementing a circle hook requirement for all sharks; NC, SC, and GA do not require circle hooks. One TC member mentioned there is a study wrapping up of post release mortality on blacktip sharks using circle hooks. The results show that fish hooked anywhere besides the jaw had a 50% mortality rate. If they were hooked in the jaw, the mortality rate was less than 4%. The TC member noted it may be likely that J hooks would produce higher mortality rates. While there may be conservation benefits from the implementation of circle hooks, there is some concern that it may present some challenges for law enforcement, even if it's a requirement for only shark fishing; Karyl (NOAA/NMS) noted that when complimentary measures were requested for dusky sharks, several states were against a circle hook requirement because of enforcement issues.

### **Summary**

The TC recommends implementing complimentary size limits in state waters. The primary reasons cited was the consistency with federal regulations would be less confusing for the angling community and may ensure that smaller shortfin makos caught in federal waters are not 'claimed' to be caught in state waters. Additionally, by adopting the new regulations it may help raise awareness of the current status of shortfin makos.

Regarding implementing a new circle hook requirement, nearly all TC members were in agreement with recommending this measure for shark fishing in state waters, with the exception of Georgia. The Georgia TC member opposes the circle hook requirement because of the challenges in proving the intent of individuals fishing for sharks, and that based on the data presented, shortfin mako sharks are not in much of state waters along the Atlantic coast.

**2018 REVIEW OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
FISHERY MANAGEMENT PLAN FOR  
  
COASTAL SHARKS  
  
2017 FISHING YEAR**



**Coastal Sharks Plan Review Team**

Bryan Frazier, South Carolina Department of Natural Resources  
Lee Paramore, North Carolina Department of Environmental Quality  
Kirby Rootes-Murdy, Atlantic States Marine Fisheries Commission, Chair

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## I. Status of the Fishery Management Plan

<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)
<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>	Maine, 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

### a) Goals and Objectives

The Interstate Fishery Management Plan for Coastal Sharks (FMP) established the following goals and objectives.

#### GOALS

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 proposed 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.



## **b) Fisheries Management Plan Summary**

The Atlantic States Marine Fisheries Commission (Commission) adopted its first fishery management plan (FMP) for coastal sharks in 2008. Coastal sharks are 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.

The FMP has been adapted through the following addenda:

Addendum I (2009) modified the FMP to allow limited smooth dogfish processing at sea (removal of fins from the carcass), as long as the total wet weight of the shark fins does not exceed 5 percent of the total dressed weight. In addition, smoothhound recreational possession limits and gill net check requirements for smoothhound fishermen were removed. These restrictions were removed because they were intended for large coastal sharks. The removal allowed smoothhound fishermen to continue operations while upholding the conservation measures of the FMP.

Addendum II (2013) modified the FMP to allow year round smooth dogfish processing at sea. If fins are removed the total wet weight of the shark fins may not exceed 12 percent of the total dressed weight. State-shares of the smoothhound coastwide quota were allocated. The goal of Addendum II was to implement an accurate fin-to-carcass ratio and prevent any one state from harvesting the entire smoothhound quota.

Addendum III (2013) modified the species groups in the FMP to ensure consistency with NOAA Fisheries (Table 1). The recreational size limit for the hammerhead species group was increased to 78" fork length.

Addendum IV (2016) was added to reflect measures outlined in the Shark Conservation Act into state regulations. It amends the Coastal Sharks FMP to allow 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. Fishermen can retain smooth dogfish in an amount less than 25 percent of the total catch provided the smooth dogfish fins remain naturally attached to the carcass.

**Table 1. List of commercial shark management groups**

<b>Species Group</b>	<b>Species within Group</b>
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
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

## 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 assessment.

The 2017 International Commission on the Convention of Atlantic Tunas (ICCAT) assessment of the North Atlantic population of shortfin mako indicates that the stock is overfished and overfishing is occurring. Multiple models were explored and new data sources 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 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 2016 stock assessment update (SEDAR 21) for Atlantic dusky sharks indicates the stock is overfished and experiencing overfishing. This latest review functioned 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).

In 2015, a benchmark stock assessment (SEDAR 39) was conducted for the smoothhound complex, including smooth dogfish, the only species of smoothhound occurring in the Atlantic. The assessment indicates Atlantic smooth dogfish (*Mustelus canis*) 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 results of the 2008 stock assessment, ICCAT's 2015 analysis, 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 was 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 dusky (*Carcharhinus obscurus*), sandbar (*Carcharhinus plumbeus*), and blacknose (*Carcharhinus acronotus*) sharks indicates that dusky and blacknose sharks are overfished and experiencing overfishing. Sandbar sharks continued to be overfished (SEDAR 54). As described in the Magnuson-Stevens Act, NOAA Fisheries must establish a rebuilding plan for an overfished stock. As such, the rebuilding date for dusky sharks is 2108, sandbar sharks is 2070, and blacknose sharks is 2043.

Porbeagle sharks (*Lamna nasus*) were assessed by the ICCAT's SCRS in 2009. The assessment found the Northwest Atlantic stock is increasing in biomass, however the stock is considered to be overfished with overfishing not occurring. NOAA Fisheries established a 100-year rebuilding plan for porbeagle sharks; the expected rebuilding date is 2108.

A 2009 stock assessment for the Northwest Atlantic and Gulf of Mexico populations of scalloped hammerhead sharks (*Sphyrna lewini*) indicated the 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 US 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 11 (2006) assessed the Large Coastal Sharks (LCS) complex and blacktip sharks (*Carcharhinus limbatus*). The LCS assessment suggested that it is inappropriate to assess the LCS complex as a whole due to the variation in life history parameters, different intrinsic rates of increase, and different catch and abundance data for all species included in the LCS complex. Based on these results, NMFS changed the status of the LCS complex from overfished to unknown. As part of SEDAR 11, blacktip sharks were assessed for the first time as two separate populations: Gulf of Mexico and Atlantic. The results indicated that the Gulf of Mexico stock is not overfished and overfishing is not occurring, while the current status of blacktip sharks in the Atlantic region is unknown.

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

Species or Complex Name	Stock Status		References/Comments
	Overfished	Overfishing	
<b>Pelagic</b>			
Porbeagle	Yes	No	Porbeagle Stock Assessment, ICCAT Standing Committee on Research and Statistics Report (2009); 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	
<b>Aggregated Large Coastal Sharks (LCS)</b>			
Atlantic Blacktip	Unknown	Unknown	SEDAR 11 (2006)
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
<b>Non-Blacknose Small Coastal Sharks (SCS)</b>			
Atlantic Sharpnose	No	No	SEDAR 34 (2013)
Bonnethead	Unknown	Unknown	SEDAR 34 (2013)
Finetooth	No	No	SEDAR 13 (2007)
<b>Hammerhead</b>			
Scalloped	Yes	Yes	SEFSC Scientific Review by Hayes et al. (2009); Rebuilding ends in 2023 (HMS Am. 5a)
<b>Blacknose</b>			
Blacknose	Yes	Yes	SEDAR 21 (2010); Rebuilding ends in 2043 (HMS Am. 5a)
<b>Smoothhound</b>			
Atlantic Smooth Dogfish	No	No	SEDAR 39 (2015)
<b>Research</b>			
Sandbar	Yes	No	SEDAR 54 (2017)
<b>Prohibited</b>			
Dusky	Yes	Yes	SEDAR 21 (2016); Rebuilding ends in 2108 (HMS Am. 2)
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. The opening dates, closures dates and quotas are detailed in Table 3. All non-prohibited coastal shark management groups, except aggregated large coastal and hammerheads shark groupings, opened on January 1, 2017. NOAA Fisheries closes commercial shark fisheries when 80% of the available quota is reached. Commercial shark dealer reports indicate the following commercial fisheries exceeded 80% of the available quota and had an early closure: blacknose, non-blacknose small coastals, aggregated large coastal and hammerhead fisheries. When the fishery closes in federal waters, the Interstate FMP dictates that the fishery also closes in state waters.

**Table 3. Commercial quotas and opening dates for 2017 shark fishing season**

#### 2017 Season

Species Group	Region	2017 Annual Quota (mt dw)	Season Opening Dates	Closing Date
Aggregated Large Coastal Sharks (LCS)	Atlantic	168.9	June 1, 2017	
Hammerhead Sharks	Atlantic	27.1	June 1, 2017	
Non-Blacknose Small Coastal Sharks (SCS)	Atlantic	264.1	January 1, 2017	
Blacknose Sharks	Atlantic	17.2	January 1, 2017	
Blue Sharks	No regional quotas	273.0	January 1, 2017	
Porbeagle Sharks	No regional quotas	1.7	January 1, 2017	
Pelagic Sharks other than Porbeagle or Blue	No regional quotas	488.0	January 1, 2017	
Shark Research Quota (Aggregated LCS)	No regional quotas	50.0	January 1, 2017	
Sandbar Research Quota	No regional quotas	90.7	January 1, 2017	

### Commercial Landings

Commercial landings of Atlantic large coastal sharks species in 2017 were 381,067 pounds (lbs) dressed weight (dw), a 18% decrease from 2016 landings (Table 4). Commercial landings of small coastal shark species in 2017 were 294,841 lbs dw, a 40% increase from 2016 landings (Table 5). 2016 Landings 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 was 251,375 lbs dw, which represents an approximate 5% increase from 2016 landings (Table 6). ).

**Table 4. Commercial landings of authorized Atlantic large coastal sharks by species (pounds dw), 2009-2017. Source: HMS SAFE Report, 2018.**

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Great hammerhead</b>	0	0	0	371	7,406	13,538	36,892	20,454	17,646
<b>Scalloped hammerhead</b>	0	0	0	15,800	27,229	24,652	13,197	12,329	4,919
<b>Smooth hammerhead</b>	4,025	7,802	110	3,967	1,521	601	304	125	1,193
<b>Unclassified</b>	62,825	43,345	35,618	9,617	0	0	0	0	0
<b>Hammerhead Total</b>	<b>66,850</b>	<b>51,147</b>	<b>35,728</b>	<b>29,755</b>	<b>36,156</b>	<b>38,791</b>	<b>50,393</b>	<b>32,908</b>	<b>23,758</b>
<b>Blacktip</b>	229,267	246,617	176,136	215,403	256,277	282,009	229,823	248,470	205,138
<b>Bull</b>	61,396	56,901	49,927	24,504	33,980	32,372	33,737	31,417	23,802
<b>Lemon</b>	30,909	25,316	45,448	21,563	16,791	13,047	18,158	19,205	12,005
<b>Nurse</b>	0	71	0	81	0	0	24	0	0
<b>Silky</b>	1,386	1,049	992	29	186	289	1,246	446	702
<b>Spinner</b>	20,022	13,544	4,113	10,643	26,892	25,716	33,002	55,610	62,314
<b>Tiger</b>	15,172	43,145	36,425	23,245	16,561	29,062	28,460	14,896	6,324
<b>Unclassified</b>	70,894	2,229	50,711	53,705	0	0	0	0	
<b>Aggregated LCS Total</b>	<b>429,046</b>	<b>388,872</b>	<b>363,752</b>	<b>349,173</b>	<b>350,687</b>	<b>382,495</b>	<b>344,450</b>	<b>370,044</b>	<b>310,286</b>
<b>Sandbar</b>	54,141	84,339	94,295	46,446	46,868	82,308	112,610	62,984	47,023
<b>Hammerhead, Aggregated LCS, Sandbar Total</b>	<b>550,037</b>	<b>524,358</b>	<b>493,775</b>	<b>425,374</b>	<b>433,711</b>	<b>503,594</b>	<b>507,453</b>	<b>465,936</b>	<b>381,067</b>

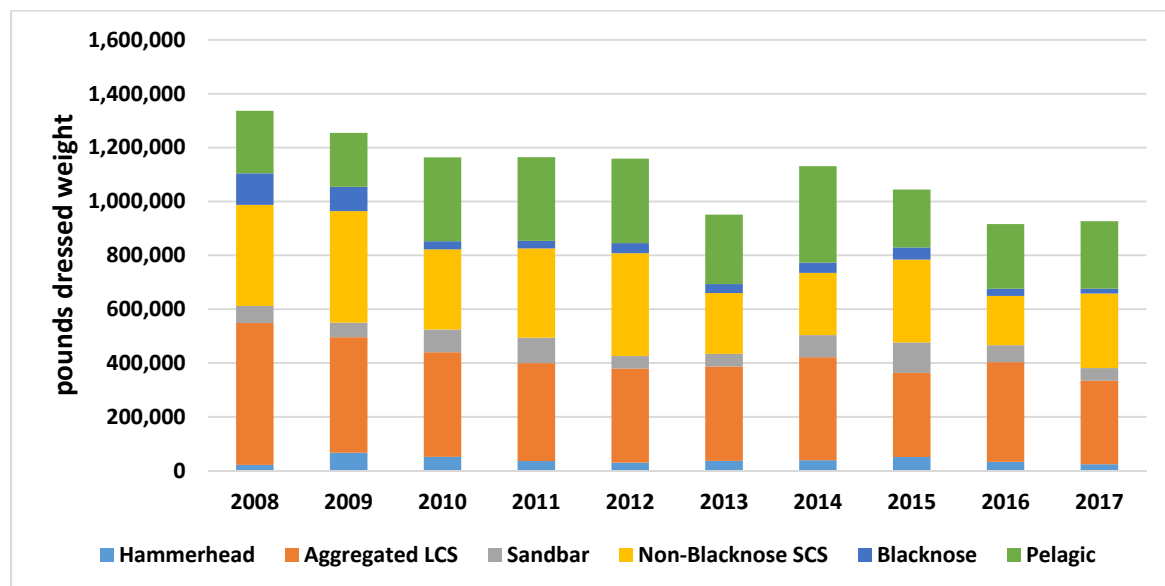
**Table 5. Commercial landings of authorized Atlantic small coastal sharks by species (lbs dw), 2009-2017. Source: HMS SAFE Report, 2018.**

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Blacknose</b>	90,023	30,287	28,373	37,873	33,382	38,437	45,405	26,842	17,241
<b>Bonnethead</b>	53,912	9,069	28,284	19,907	22,845	13,221	5,885	1,688	6,077
<b>Finetooth</b>	63,359	76,438	52,318	15,922	19,452	19,026	8,712	5,647	19,874
<b>Atl. Sharpnose</b>	262,508	211,190	214,382	345,625	183,524	198,568	293,128	175,890	251,289
<b>Unclassified</b>	34,429	851	36,639	492	0	0	0	0	0
<b>SCS Total</b>	<b>504,231</b>	<b>327,835</b>	<b>359,996</b>	<b>419,819</b>	<b>259,203</b>	<b>269,252</b>	<b>353,130</b>	<b>210,067</b>	<b>294,481</b>

**Table 6. Commercial landings of authorized pelagic sharks by species off the Atlantic coast of the United States (lbs dw), 2009-2017. Source: HMS SAFE Report, 2018.**

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Blue</b>	4,793	9,135	13,370	17,200	9,767	17,806	1,114	607	4,272
<b>Porbeagle</b>	3,609	4,097	5,933	4,250	54	6,414	0	0	C
<b>Shortfin Mako</b>	141,456	220,400	207,630	198,841	199,177	218,295	141,720	160,829	184,993
<b>Unclassified</b>	9,383	0	0	0	0	0	0	0	0
<b>Oceanic</b>	933	796	2,435	258	62	22	0	0	0
<b>Thresher</b>	33,333	61,290	47,462	63,965	48,768	116,012	72,463	78,219	61,990
<b>Unclassified</b>	6,650	16,160	33,884	28,932	0	0	0	0	0
<b>Pelagic Total</b>	<b>200,157</b>	<b>311,878</b>	<b>310,714</b>	<b>313,446</b>	<b>257,828</b>	<b>358,549</b>	<b>215,297</b>	<b>239,655</b>	<b>251,375</b>

**Figure 1: Commercial landings of coastal sharks off the east coast of the United States by species complex, 2008-2017. Source: HMS SAFE Report, 2018.**



*Recreational Landings*

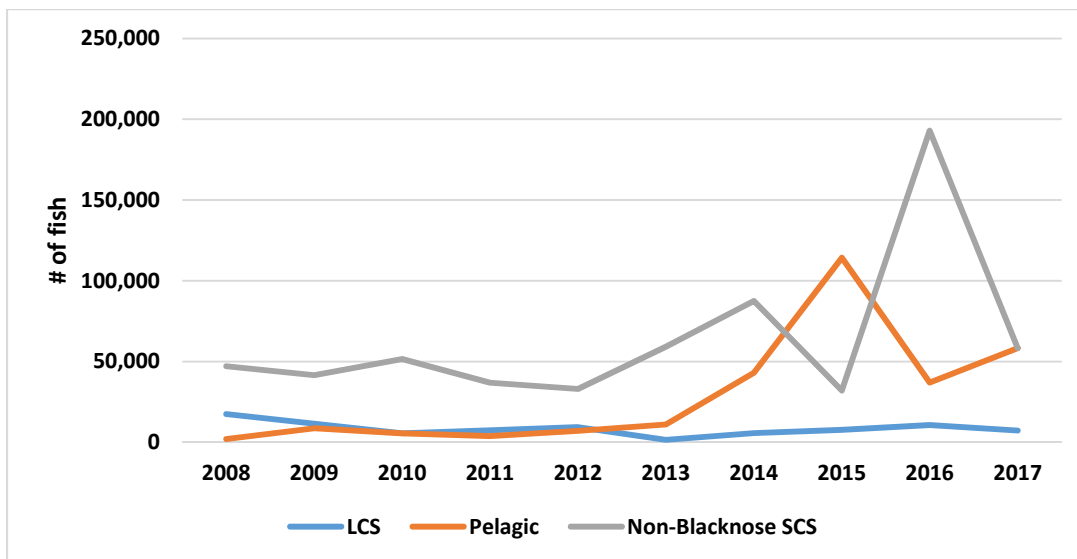
Approximately 126,419 sharks were harvested during the 2017 recreational fishing season, a decrease from 2016 landings by approximately 50% (Table 7). The non-blacknose small coastal shark group and pelagic shark group both comprised 46% of the overall recreational harvest.

**Table 7. Estimated recreational harvest of all Atlantic shark species by species group in numbers of fish, 2009-2017. Source: Updated based HMS SAFE Report, 2018.**

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Aggregated LCS</b>	11,536	5,540	7,397	9,386	1,547	5,704	7,622	10,596	7,291
<b>Hammerhead</b>	574	13	178	41	600	900	1	799	0
<b>Pelagic*</b>	8,694	5,529	3,806	7,034	11,057	43,047	114,282	37,009	58,259
<b>Blacknose</b>	947	0	573	0	70	4,146	1,211	225	13
<b>Non-Blacknose SCS</b>	41,577	51,529	36,851	33,005	59,208	87,480	32,065	192,855	58,242
<b>Sandbar</b>	6,461	2,193	1,125	857	399	1,873	1,252	5	2,608
<b>Prohibited</b>	506	4	23	15	16	2	0	0	6
Total	70,295	64,808	49,952	50,338	72,895	143,152	156,433	241,489	126,419

\*Pelagic sharks include Gulf of Mexico landings.

**Figure 2: Estimated recreational harvest for LCS, SCS and pelagic species by species group, in numbers of fish, 2009-2017. Source: HMS SAFE Report, 2018.**





#### **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 2017 fishing year, where available.

The Cooperative Atlantic States Shark Pupping and Nursery (COASTSPAN) 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 nursing grounds from Massachusetts to Florida. In 2017, COASTSPAN program participants were the University of North Florida (samples Georgia and North Florida state waters) and the South Carolina Department of Natural Resources. In addition, the survey is conducted in summer months in Narragansett and Delaware Bays, and in Massachusetts waters. Standardized indices of abundance from COASTSPAN surveys are used in the stock assessments for large and small coastal sharks.

##### *Massachusetts*

#### **Movement and Habitat Studies:**

*White Shark:* Massachusetts Division of Marine Fisheries' efforts to study the movement ecology of white sharks continued with an additional 27 sharks being tagged in 2017, bringing the total to 132 individuals since 2009. These sharks were tagged with one or more of the following technologies: pop-up satellite tag, real-time satellite tags, coded acoustic transmitters, active acoustic transmitters, and NMFS conventional tags. Work also continued on a five-year study (initiated in 2014) to quantify the regional population size and relative abundance of white sharks in Massachusetts waters; aerial and vessel surveys were conducted from mid-June through October off the eastern coast of Cape Cod.

##### *Rhode Island*

Fishery independent monitoring is limited to coastal shark species taken in the RI Division of Fish & Wildlife, Marine Fisheries Section monthly and seasonal trawl survey. During the 2017 calendar year the only coastal shark species captured in the trawl survey was smooth dogfish (*Mustelus canis*). A summary of fishery independent monitoring for coastal sharks is summarized in Table 8 below.

**Table 8** Total number of smooth dogfish captured by the RI DEM Division of Marine Fisheries (RI DMF) monthly and seasonal trawl survey during the 2017 Fishing Year (FY). Smooth dogfish are the only coastal shark captured by the RI DMF trawl survey during the 2017 FY.

Year	Time Period	Species	Number of Tows	Total Weight (kg)	Total Number Caught
<b>Monthly Coastal Trawl Survey</b>					
2017	JAN	Smooth Dogfish	13	0.0	0.0
2017	FEB	Smooth Dogfish	13	0.0	0.0
2017	MAR	Smooth Dogfish	13	0.0	0.0
2017	APR	Smooth Dogfish	13	0.0	0.0
2017	MAY	Smooth Dogfish	13	0.0	0.0
2017	JUN	Smooth Dogfish	13	2.0	1.0
2017	JUL	Smooth Dogfish	13	6.2	4.0
2017	AUG	Smooth Dogfish	13	33.1	24.0
2017	SEP	Smooth Dogfish	13	17.8	19.0
2017	OCT	Smooth Dogfish	13	7.2	9.0
2017	NOV	Smooth Dogfish	13	0.0	0.0
2017	DEC	Smooth Dogfish	13	0.0	0.0
<b>Seasonal Coastal Trawl Survey</b>					
2017	Spring	Smooth Dogfish	44	0.0	0.0
2017	Fall	Smooth Dogfish	44	68.2	55.0

*Connecticut*

The Connecticut Department of Energy and Environmental Protection 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. See the link below for the latest Long Island Sound Trawl Survey report.

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

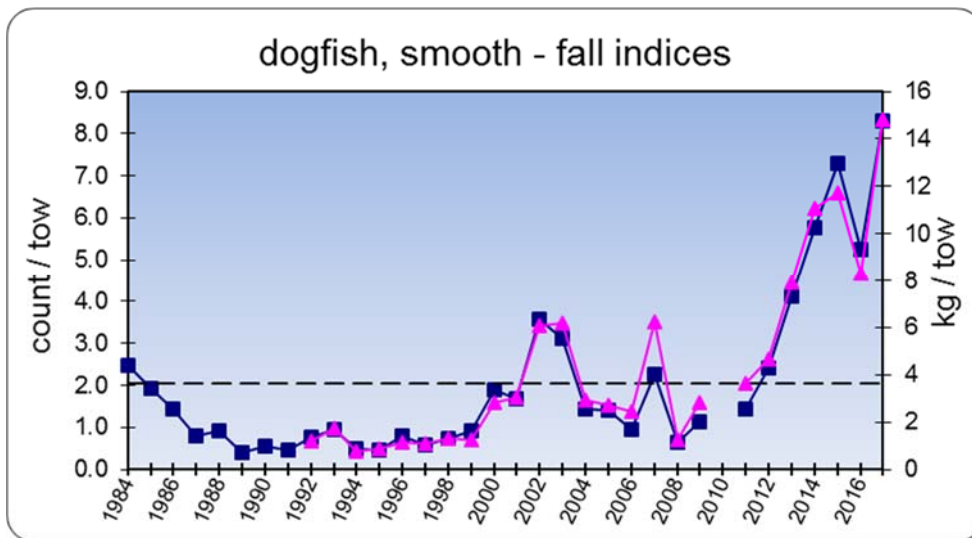


Figure 3. CT DEEP Smooth Dogfish Long Island Sound Trawl Survey

### New York

While NY DEC does not currently conduct fishery-independent monitoring programs for Atlantic Coastal Sharks, a research permit was issued in 2017 for the collection of information on sand tiger sharks (*Carcharias taurus*), blue sharks (*Prionace glauca*), sandbar sharks (*Carcharhinus plumbeus*), dusky sharks (*Carcharhinus obscurus*), and tiger sharks (*Galeocerdo cuvier*). In 2017, 13 sand tiger sharks, one blue sharks, 11 sandbar sharks, 5 dusky sharks, and 1 tiger shark were caught and released. Information on each (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 2017, the Survey caught approximately 135 lbs of Atlantic Angel Sharks, 41 lbs of Atlantic Sharpnose Sharks, 11 lbs of Dusky Sharks, 469 lbs of Sand Tiger Sharks, 71 lbs of Sandbar Sharks, 9,328 lbs of Smooth Dogfish, and 59 lbs of Thresher Sharks (see figure below). 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.

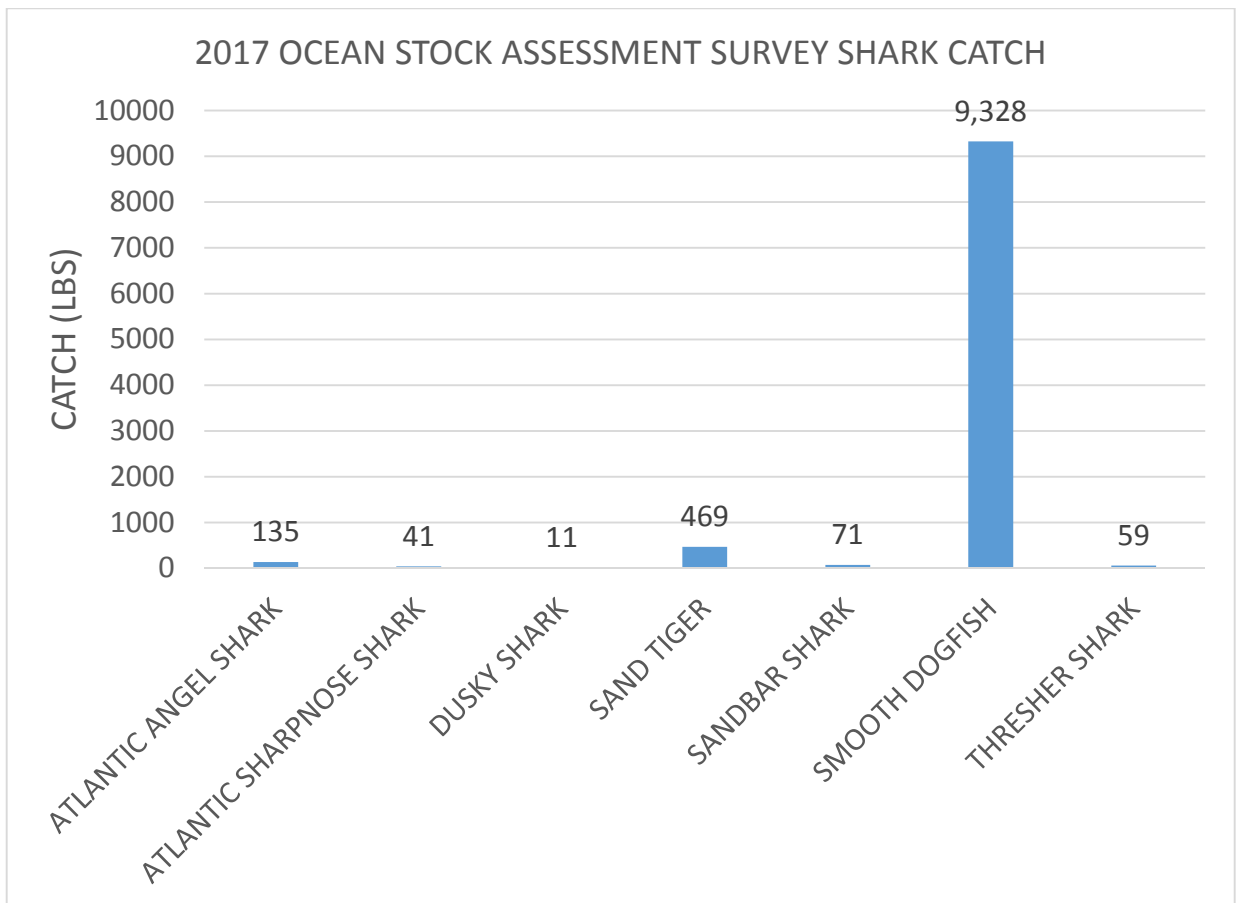


Figure 4. NJ 2017 Ocean Stock Assessment Survey- Atlantic Coastal Sharks

## Delaware

Delaware conducts a 30' adult trawl survey and a 16' juvenile trawl survey in the Delaware Bay. In the adult trawl survey, Smoothhound are the most common shark species caught (Figure 5), with Sand Tiger Shark (Figure 6) and Sandbar Sharks (Figure 7) taken in low numbers. Thresher, Atlantic Angel, Atlantic Sharpnose (Figure 8) and Dusky shark were caught in the past, but rarely. Sand Tiger Shark catch per nautical mile decreased in 2017 and but was still near the time series average. Sandbar Shark catch per nautical mile increased in 2017 to its highest point since 1967. Smoothhound catch per nautical mile decreased slightly in 2017. In the juvenile trawl, the species caught were sand tiger shark (Figure 9), Sandbar Sharks (Figure 10) and Smoothhound (Figure 11). With the exception of Smoothhound, the capture of coastal sharks in the juvenile trawl is a rare occurrence.

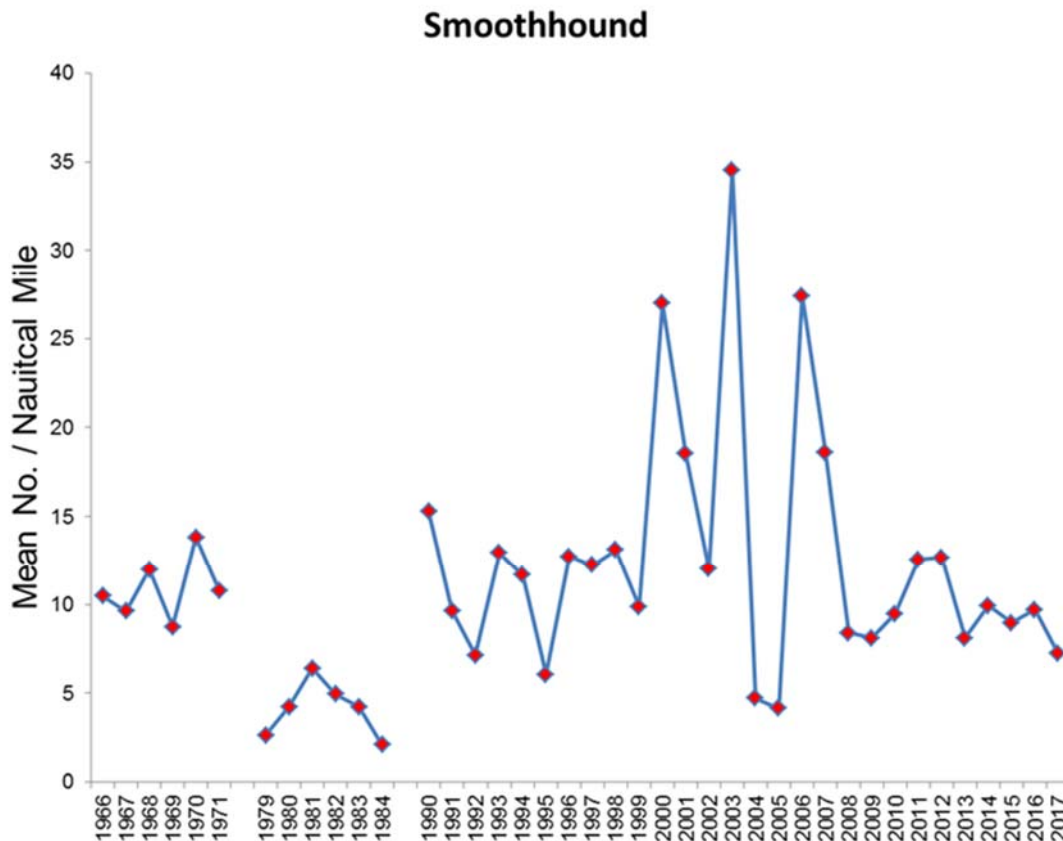


Figure 5. Smoothhound relative abundance (mean number per nautical mile), time series (1966 – 2017) as measured in 30-foot trawl sampling in the Delaware Bay.

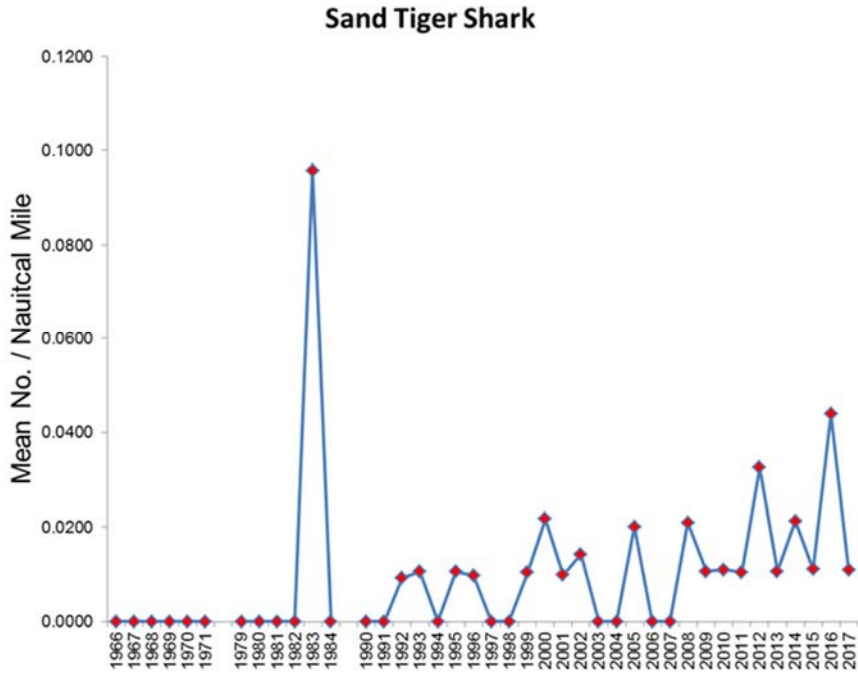


Figure 6. Sand Tiger Shark relative abundance (mean number per nautical mile), time series (1966 – 2017) as measured in 30-foot trawl sampling in the Delaware Bay.

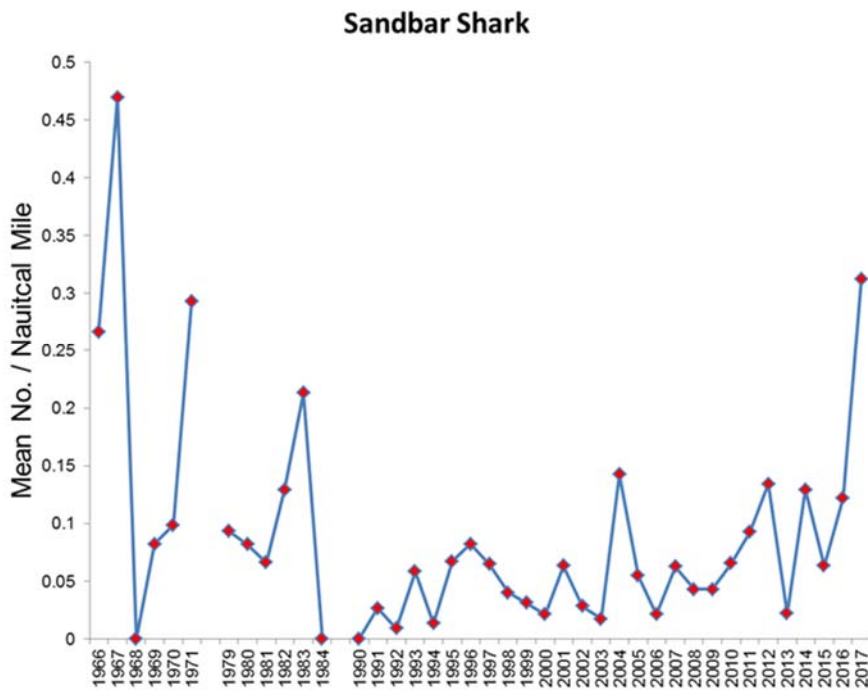


Figure 7. Sandbar Shark relative abundance (mean number per nautical mile), time series (1966 – 2017) as measured in 30-foot trawl sampling in the Delaware Bay.

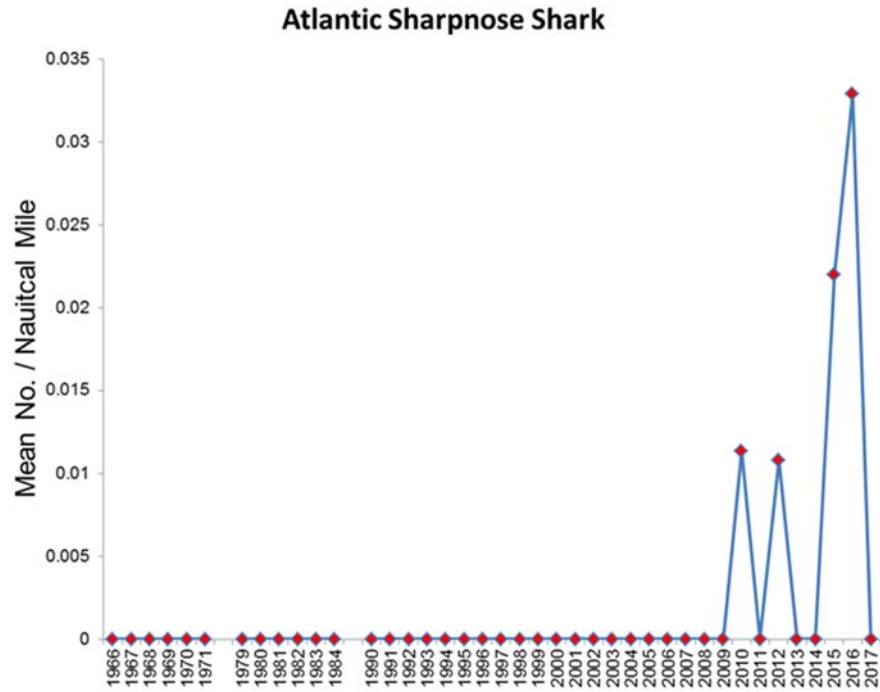


Figure 8. Atlantic Sharpnose Shark relative abundance (mean number per nautical mile), time series (1966 – 2017) as measured in 30-foot trawl sampling in the Delaware Bay.

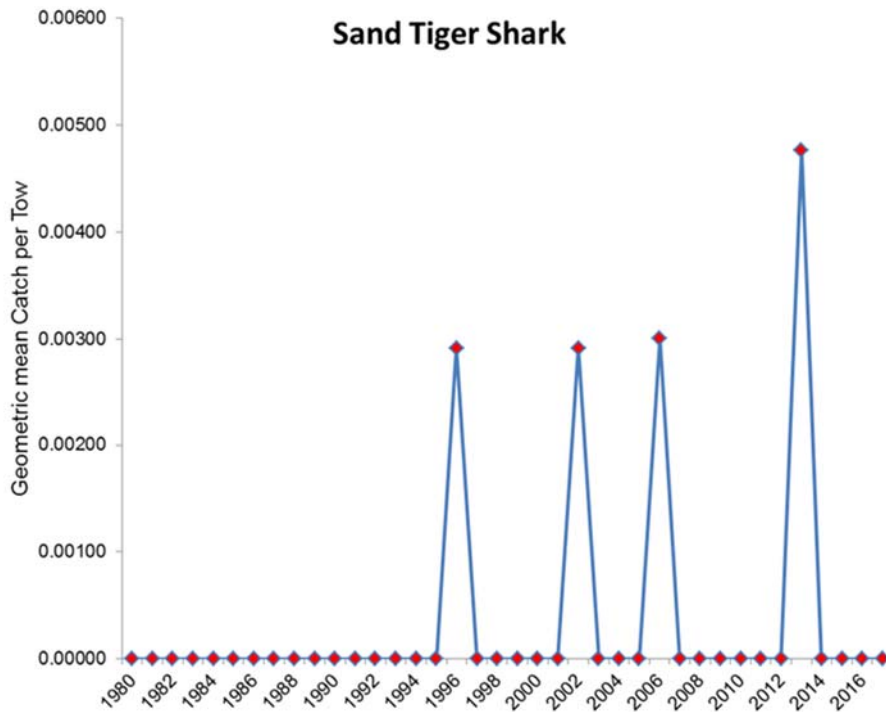


Figure 9. Index of Sand Tiger Shark, time series (1980 – 2017) as measured by 16-foot trawl sampling in the Delaware estuary.

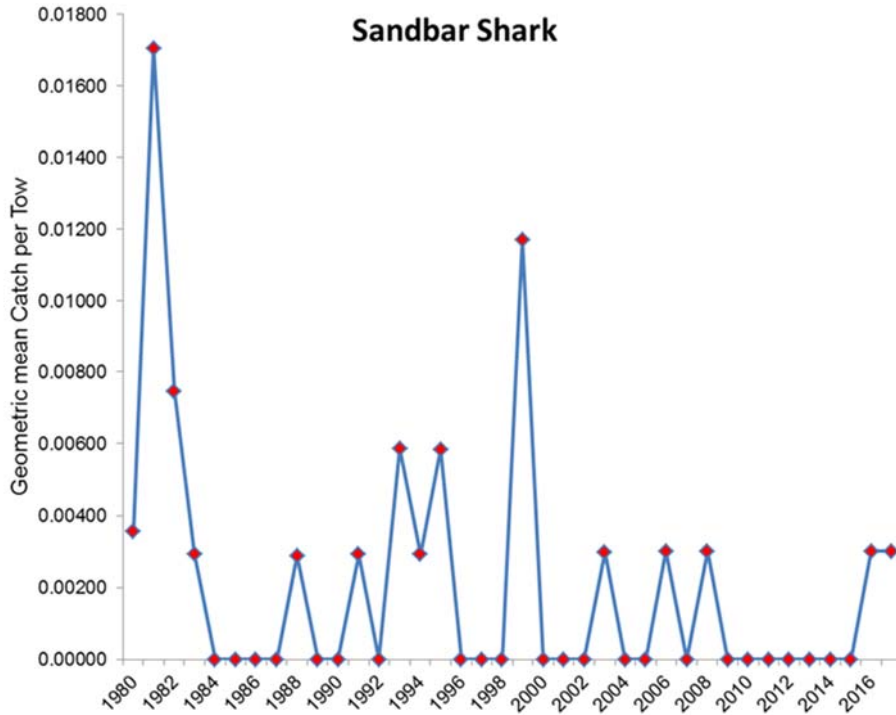


Figure 10. Index of Sandbar Shark, time series (1980 – 2017) as measured by 16-foot trawl sampling in the Delaware estuary.

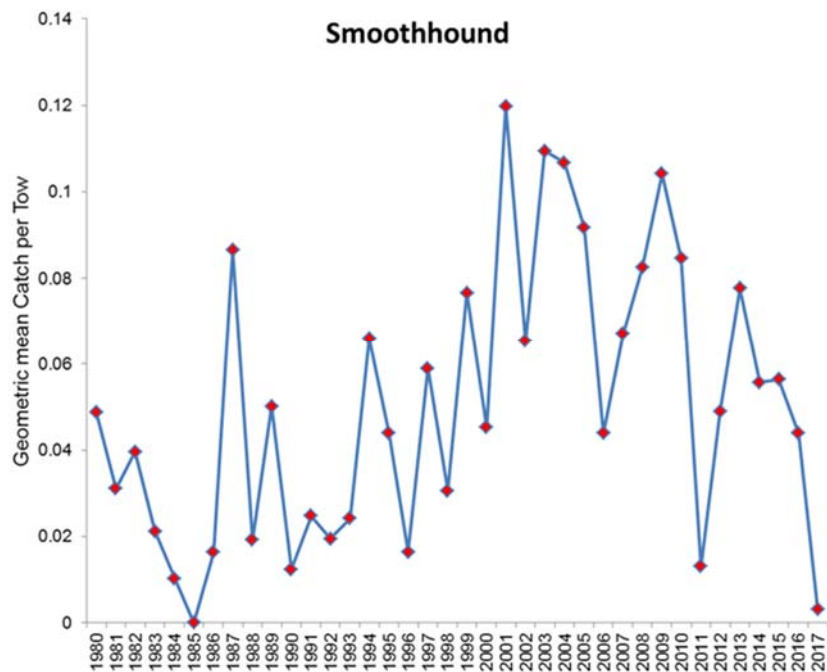


Figure 11. Index of young-of-the-year Smoothhound abundance, time series (1980 – 2017) as measured by 16-foot trawl sampling in the Delaware estuary.



## Maryland

There was no specific at sea sampling program for coastal sharks in Maryland. Limited biological sampling of catch onboard a commercial offshore trawler targeting horseshoe crabs occurred at night in June, July, August, and October. While sharks were encountered through a scientific permit, information regarding species and number encountered are confidential.

## Virginia

The Virginia Institute of Marine Science Shark Research Program began in 1973 and 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 YOY sandbar 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.

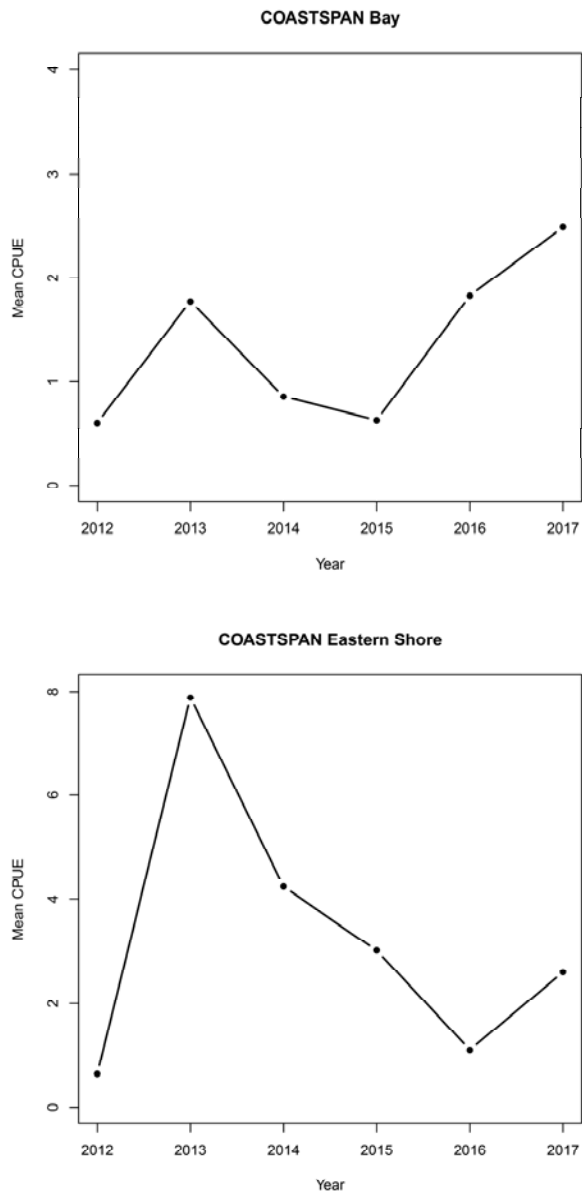
In 2017, Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) was the most commonly encountered species by the offshore survey, followed by sandbar, spinner (*Carcharhinus brevipinna*), and blacktip (*Carcharhinus limbatus*) shark (Table 11). Seasonal patterns in survey catches were also evident with the September and June showing higher overall catches of sharks, respectively, followed by August and July.

COASTSPAN catches of neonate sandbar shark were highest in July for both the lower Chesapeake Bay and coastal lagoons of the Eastern Shore, followed by August and June (Table 2). In magnitude, survey catches during 2017 in the lower Chesapeake Bay were higher than those in the Eastern Shore lagoons presumably due to greater available nursery habitat in the bay. Indices of relative abundance of neonate sandbar shark in the lower Chesapeake Bay showed a variable but generally increasing pattern over the time series with 2017 showing the highest index on record (Figure 12).

Table 11. Monthly catch summaries for key shark species encountered during offshore longline cruise conducted by VASMAP, 2017 pooled across the standard six sampling sites. Effort is expressed as total longline soak time.

Month	Effort (hrs)	Sand Tiger	Sandbar	Tiger	Atlantic sharpnose	Spinner	Dusky	Blacktip
Jun	29.9	5	9	1	54	1	1	10
Jul	28.8	2	5	3	27	1	1	1
Aug	28.8	2	6	3	58	1	0	0
Sep	29.5	5	44	0	32	15	10	5

Figure 1. Annual indices of relative abundance for neonate sandbar sharks estimated from generalized linear models (GLMs) fitted to COASTSPAN longline catch-per-unit-effort (CPUE) data from the lower Chesapeake Bay and coastal lagoons of the Eastern Shore, 2012-2017.



North Carolina

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). Predominate fisheries sampled included the ocean gill net, estuarine gill net, ocean trawl, long haul seine/swipe net, beach seine and pound net fisheries.

A total of 50 fishery-dependent samples containing sharks were collected from the ocean gill net, ocean trawl and estuarine gill net fisheries in 2017 (Table 11). This sample number is up compared to the 9 samples obtained in 2016. Whole weights and lengths for sharks other than spiny dogfish are rarely obtained during sampling. Sharks are typically dressed or processed when sampling occurs therefore the number of processed individuals and aggregate weights are obtained during sampling. Atlantic sharpnose and smoothhound sharks were the most abundant species in dependent sampling by numbers and weight (Table 12).

Table 12. North Carolina fishery-dependent shark sampling summary by month for the 2017 fishing year.

Month	# of Samples
January	5
February	6
March	1
April	9
May	4
June	3
July	3
August	10
September	1
October	6
November	1
December	1
Total	50

Table 13. North Carolina fishery-dependent shark sampling summary by species, number of individuals, and sum of sample weight (lb) for the 2017 fishing year.

Species	# Indv.	Sum of Sample Wgt. (lb)
Atlantic Sharpnose Shark ( <i>R. terraenovae</i> )	124	206
Blacktip ( <i>C. limbatus</i> )	20	166
Bonnethead ( <i>S. tiburo</i> )	1	0.9
Bull ( <i>C. leucas</i> )	3	8
Common thresher ( <i>A. vulpinus</i> )	1	5
Lemon ( <i>N. brevirostris</i> )	1	23
Sandbar ( <i>C. plumbeus</i> )	25	128
Smoothhound Shark ( <i>M. canis</i> )	51	121
Spinner ( <i>C. brevipinna</i> )	10	55
Total	236	712.9

Fishery-Independent

The NCDMF initiated a fishery-independent red drum longline survey in 2007 for developing an index of abundance for adult red drum (*S. ocellatus*); this project also allows for capture and tagging of Atlantic coastal sharks in cooperation with the North East Fisheries Science Center’s (NEFSC) Cooperative Shark Tagging Program. The red drum longline survey in the Pamlico Sound resulted in a catch of 21 sharks in 2017 (Table 14). Three species of shark were captured; one Atlantic Sharpnose (*R. terraenovae*), 18 Blacktip (*C. limbatus*), and two Bull shark (*C. leucas*). Both bull sharks and six of the blacktips were tagged for NOAA’s tagging program.

Table 14. Species, number of individuals, minimum, maximum and average total length [TL (mm)] of sharks caught in the 2017 North Carolina Red Drum Longline Survey.

Species	Number Measured	Min of TL (mm)	Max of TL (mm)	Avg TL (mm)
Atlantic Sharpnose Shark	1	495	495	495
Blacktip Shark	18	472	1,760	1,051
Bull Shark	2	890	1,520	1,205

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 near shore Atlantic Ocean, Pamlico Sound, 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 2017, eight species of shark were encountered in the gill net survey, with bull sharks (n=23) representing the highest abundance (Table 15).

Table 15. Species, number of individuals, minimum, maximum, and average total length [TL (mm)] of sharks caught in the 2017 North Carolina Cape Fear, Neuse and New River gill net survey.

Shark Species	Number Measured	Min of TL (mm)	Max of TL (mm)	Average of TL (mm)
Atlantic Sharpnose	10	436	901	534
Blacknose	1	1,227	1,227	1,227
Blacktip	1	1,680	1,680	1,680
Bull Shark	23	611	1,100	797
Bonnethead	20	575	958	704
Sandbar	17	697	974	807
Scalloped hammerhead	1	536	536	536
Smoothhound	10	617	964	710

*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 SCDNR. Currently, data are collected from estuarine waters by the SCDNR Cooperative Atlantic States Shark Pupping and Nursery Habitat survey (COASTSPAN) 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 16).

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 16). 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 16. 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 16. Number of sharks captured by South Carolina Department of Natural Resources' Cooperative Atlantic States Shark Pupping and Nursery Habitat Survey (COASTSPAN), the Trammel Net Survey, and Adult Red Drum and Coastal Sharks Longline survey in 2017

Shark Species	COASTSPAN		Trammel Net		Adult Red Drum and Coastal Sharks	
	Captured	Tagged	Capture	Tagged	Captured	Tagged
Atlantic Sharpnose	318	0	44	0	1051	0
Blacknose	1	1	0	0	89	87
Blacktip	272	158	2	0	55	39
Bonnethead	306	197	142	0	8	8
Bull	19	17	4	0	7	5
Finetooth	541	193	68	0	52	40
Great Hammerhead	0	0	0	0	1	0
Lemon	13	12	8	0	4	2
Nurse	0	0	0	0	8	2
Sandbar	241	211	0	0	123	110
Sand Tiger	0	0	0	0	0	0
Scalloped/Carolina	124	3	0	0	4	1
Smooth Dogfish	0	0	0	0	0	0
Spinner	0	0	0	0	21	13
Tiger	6	4	0	0	2	1
<b>Total</b>	<b>1841</b>	<b>796</b>	<b>268</b>	<b>0</b>	<b>1425</b>	<b>308</b>

## Georgia

Although a directed fishery for sharks does not exist in Georgia waters, there are a several fishery dependent sampling surveys conducted by the Coastal Resources Division that could result in the incidental capture of coastal sharks. In 2016, coastal sharks were found in the following fishery independent surveys.

Sampling for the *Adult Red Drum Survey (via SEAMAP)*: Sampling occurs in inshore and nearshore waters of southeast Georgia and in offshore waters of northeast Florida. Sampling occurs from mid-May through the end of December. Sampling gear consists of a bottom set 926m, 600lb test monofilament mainline configured with 60, 0.5 m gangions made of 200lb test monofilament. Each gangion consists of a longline snap and a 15/0 circle hook. Thirty hooks of each size are deployed during each set. All hooks are baited with squid or mullet. Soak time for each set is 30 minutes. During 2017, CRD staff deployed 179 sets consisting of 10,662 hooks and 89.5 hours of soak time. A total of 500 sharks, representing nine species were captured (Table 16).

Sampling for the *Shark Nursery Survey (via COASTSPAN)*: The University of North Florida assumed field operations for this survey in 2016. Data for the complete time series are maintained by the National Marine Fisheries Service's Apex Predator Program in Narragansett, RI (contact: Cami McCandless).

Each month the *Ecological Monitoring Trawl Survey (EMTS)*, a 40-foot flat otter trawl with neither a turtle excluder device nor bycatch reduction device is deployed at up to 42 stations across six estuaries. At each station, a standard 15 minute tow is made. During this report period, 482 tows/observations were conducted, totaling 120.41 hours of tow time. A total of 120 sharks, representing five species, were captured during 2017 (Table 16).

Monitoring of estuarine finfish and crustaceans in the lower salinity, upriver sectors of selected estuaries is done monthly as part of the *Juvenile Trawl Survey* conducted onboard the research vessel *Navigator*. A 20-foot, semi-balloon otter trawl is towed for 5 minutes at up to 18 stations within three Georgia estuaries. In 2017, 99 tows (observations) were conducted, totaling 8.25 hours of tow time. No sharks were observed during the 2017 season.

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. Currently two Georgia estuaries are sampled on a seasonal basis using entanglement gear. During the June to August period, young-of-the-year red drum in the Altamaha/Hampton River and Wassaw 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/Hampton River and Wassaw estuaries are monitored using monofilament trammel nets to gather data on relative abundance and size composition. In 2017, a total of 216 gillnet and 150 trammel net sets were made, resulting in the capture of 134 individuals representing five species of coastal sharks (Table 17).



Table 17. Numbers of coastal sharks captured in Georgia fishery independent surveys in 2016 by species and by survey.

	SEAMAP	EMTS	MSPHS
SHARK, ATLANTIC SHARPNOSE	319	56	19
SHARK, BLACKNOSE	105	---	---
SHARK, BLACKTIP	19	3	6
SHARK, BONNETHEAD	19	57	106
SHARK, BULL	1	---	---
SHARK, FINETOOTH	21	---	2
SHARK, LEMON	---	---	1
SHARK, SANDBAR	11	1	---
SHARK, SCALLOPED HAMMERHEAD	---	3	---
SHARK, SPINNER	1	---	---
SHARK, TIGER	4	---	---
ALL SPECIES COMBINED	500	120	134

## V. Status of Management Measures and Issues

### *Fishery Management Plan*

Coastal Sharks are managed under the Interstate FMP for Coastal Sharks, which was implemented in August 2008, 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 2017

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, 2017.**

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

**\*Per emergency rule measures implemented in March 2018 in response to the 2017 Assessment, minimum size limit (fork length) for Shortfin makos is now 83 inches or 6.9 feet**

***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 submit 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.

*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 have been granted *de minimis* status. Maine and New Hampshire have renounced management interest and is therefore no longer members of the coastal shark management board. These states do not land sharks in any significant quantity and very few of the species managed by this plan are ever encountered in their state waters. 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 ageing adult sandbar sharks. If appropriate, implement a systematic sampling program that gathers vertebral samples from entire size range for annual ageing to allow tracking the age distribution of the catch as well as updating of age-length keys.<sup>1</sup>
- 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

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

- 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.

#### *General Priorities*

- Generally 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, 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 genetic, 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. 2014. NOAA Fisheries, December 18, 2015.

< [http://www.nmfs.noaa.gov/sfa/hms/hmsdocument\\_files/SAFEreports.htm](http://www.nmfs.noaa.gov/sfa/hms/hmsdocument_files/SAFEreports.htm) >

## **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 with the exception of Atlantic sharpnose, blacknose, finetooth, bonnethead

and smoothhound which have no minimum size. Hammerhead species must have a fork length of 6.5 feet.

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.
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 is allowed 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 restrictions, 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 10. Possession/retention limits for shark species in state waters**

<b>Recreational</b>	<i>Shore-angler</i>	1 shark (of any species except prohibited) per person per day; plus one Atlantic sharpnose, bonnethead and smoothhound
	<i>Vessel-fishing</i>	1 shark (of any species except prohibited) per vessel per trip; plus one Atlantic sharpnose, bonnethead and smoothhound per person, per vessel
<b>Commercial</b>	<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, 16 pelagic or SCS (combined) per vessel per trip