

Atlantic States Marine Fisheries Commission

Spiny Dogfish Management Board

*October 24, 2016
1:00 – 1:30 p.m.
Bar Harbor, Maine*

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.

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| 1. Welcome/Call to Order (<i>D. Borden</i>) | 1:00 p.m. |
| 2. Board Consent | 1:00 p.m. |
| • Approval of Agenda | |
| • Approval of Proceedings from February 2016 | |
| 3. Public Comment | 1:05 p.m. |
| 4. Review and Set Fishery Specifications for the 2017-2018 Season Final Action | 1:15 p.m. |
| • Review Mid-Atlantic Fishery Management Council
2016-2018 Specifications Recommendation (<i>M. Appelman</i>) | |
| 5. Consider 2016 Fishery Management Plan Review and State Compliance
(<i>M. Appelman</i>) Action | 1:25 p.m. |
| 6. Other Business/Adjourn | 1:30 p.m. |

The meeting will be held at the Harborside Hotel; 55 West Street; Bar Harbor, Maine; 207.288.5033

Vision: Sustainably Managing Atlantic Coastal Fisheries

MEETING OVERVIEW

Spiny Dogfish Management Board

October 24, 2016

1:00 – 1:30 p.m.

Bar Harbor, Maine

Chair: David Borden (RI) Assumed Chairmanship: 10/15	Vice Chair: Rob O'Reilly	Law Enforcement Committee Representative: Moran
Spiny Dogfish Technical Committee Chair: Scott Newlin	Spiny Dogfish Advisory Panel Chair: VACANT	Previous Board Meeting: February 3, 2016
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NC, NMFS, USFWS (13 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from February 2016

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.

4. Review and Set Fishery Specifications for the 2017-2018 Season (1:15 – 1:25 p.m.) Final Action

Background

- The Mid-Atlantic and New England Councils implemented multiyear fishery specifications (e.g., ABC, commercial quota, and possession limits) for 2016 – 2018 (May 2015 – April 2019).
- Earlier this month (October), the Mid-Atlantic Council reviewed the 2016 data update, fishery performance report, and staff and SSC recommendations, and recommended no changes to the ABC. The 2017/2018 commercial quota will be 39 million pounds and the 2018/2019 commercial quota will be 38 million pounds.

(Supplemental Materials)

- The current trip limit for northern states (Maine through Connecticut) is 6,000 pounds/day.

Presentations

- Review of the MAFMC and NEFMC 2016-2018 Specifications by M. Appelman

Board Actions for Consideration at this Meeting

- Set the spiny dogfish specifications (which includes trip limits) for the 2017-2018 season

5. Consider 2016 Fishery Management Plan Review and State Compliance (1:25 – 1:30 p.m.) Action

Background

- Annual state compliance reports for spiny dogfish are due no later than July 1st
- The Plan Review Team reviewed the reports and drafted the 2016 Fishery Management Plan Review (**Briefing Materials**)

Presentations

- 2016 Draft Fishery Management Plan Review by M. Appelman

Board Actions for Consideration at this Meeting

- Consider 2016 Fishery Management Plan Review and State Compliance

6. Other Business/Adjourn

**DRAFT PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
SPINY DOGFISH MANAGEMENT BOARD**

The Westin Alexandria
Alexandria, Virginia
February 3, 2016

These minutes are draft and subject to approval by the Spiny Dogfish 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 November 2015 by consent** (Page 1).
3. **Move to adopt a spiny dogfish 2016 commercial quota of 40,360,761 pounds which is consistent with the commercial quota recommended to NOAA Fisheries by the Mid-Atlantic and New England Fishery Management Councils** (Page 3). Motion by Emerson Hasbrouck; second by Eric Reid. Motion carried (Page 3).
4. **Move to recommend NOAA Fisheries adopt a 6000 pound trip limit, if the trip limit is approved in federal waters then set a 6000 pound trip limit in the northern region (ME through CT). If the trip limit is not approved in federal waters then a 5,000 pound trip limit will remain in the northern region (ME through CT)** (Page 6). Motion by Eric Reid; second by Ritchie White. Motion carries with one abstention from NOAA Fisheries (Page 7).
5. **Move to nominate Rob O'Reilly as Vice-Chair of the Spiny Dogfish Board** (Page 7). Motion by Ritchie White; second by Steve Heins. Motion carried (Page 7).
6. **Motion to adjourn** by consent (Page 7).

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)	Brandon Muffley, NJ, proxy for D. Chanda (AA)
Sen. Brian Langley, ME (LA)	Tom Fote, NJ (GA)
Steve Train, ME (GA)	Stewart Michels, DE, proxy for D. Saveikis (AA)
Doug Grout, NH (AA)	Roy Miller, DE (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
G. Ritchie White, NH (GA)	Bill Goldsborough, MD (GA)
Jocelyn Cary, MA, proxy for Rep. Peake (LA)	Ed O'Brien, MD, proxy for Del. Stein (LA)
Dan McKiernan, MA, proxy for D. Pierce (AA)	Mike Luisi, MD, proxy for D. Blazer (AA)
William Adler, MA (GA)	Rob O'Reilly, VA, proxy for J. Bull (AA)
Mark Gibson, RI, proxy for J. Coit (AA)	Kyle Schick, VA, proxy for R. Stuart (LA)
David Borden, RI (GA)	Louis Daniel, NC (AA)
Eric Reid, RI, proxy for S. Sosnowski (LA)	Doug Brady, NC (GA)
Steve Heins, NY, proxy for J. Gilmore (AA)	Wilson Laney, USFWS
Emerson Hasbrouck, NY (GA)	Peter Burns, NMFS
Pat Augustine, NY, proxy for P. Boyle (LA)	
Adam Nowalsky, NJ, proxy for R. Andrzejczak (LA)	

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

Ex-Officio Members

Staff

Robert Beal	Ashton Harp
Toni Kerns	Megan Ware

Guests

John Clark, DE DFW	Jason Didden, MAFMC
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The Spiny Dogfish Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, February 3, 2016, and was called to order at 12:10 o'clock p.m. by Chairman David V. Borden.

CALL TO ORDER

CHAIRMAN DAVID V. BORDEN: Thank you for having a seat. My name is David Borden; I am the Chairman of the Dogfish Board.

APPROVAL OF AGENDA

CHAIRMAN BORDEN: We have circulated a draft agenda. Are there any changes, additions, deletions to the agenda? If not we'll take the items in the order that they appear.

APPROVAL OF PROCEEDINGS

CHAIRMAN BORDEN: We have the proceedings from February, 2014. Are there any changes to those proceedings, additions, deletions, any objections to approving them as prepared? No objections they stand approved.

PUBLIC COMMENT

CHAIRMAN BORDEN: Public comments, we did not have anyone sign up to comment, but I'll ask. Is there anyone in the audience who wants to address the commission on issues that do not appear on the agenda? No hands up.

REVIEW AND SET 2016-2018 FISHERY SPECIFICATIONS

CHAIRMAN BORDEN: Review of the 2016 specifications. We have two reports here, one by the Mid-Atlantic Council on the Mid-Atlantic Council actions, the second on the New England Council action. Jason, will you please provide the board with a quick summary of the actions by the Mid-Atlantic?

REVIEW OF MID-ATLANTIC FISHERY MANAGEMENT COUNCIL ACTIONS

MR. JASON DIDDEN: I am going to quickly review some fishery performance items and then what the councils took on action for 2016 to 2018 spiny dogfish specifications. The council set up an advisory panel fishery performance report several years ago. The advisory panel meets, gives some input on the recent fishery performance as they go through.

The biggest thing that we have gotten and keep getting from them is the key determine of the fishery is markets and price. Their kind of goal for the fishery is to maintain stability in both, and slowly grow it. I think that is the overriding theme we keep getting with it. They say even though we haven't been catching the quota, there is no problem catching the trip limit.

Over the years sometimes processors do put in some days restrictions that limit catch, but again the theme that they really keep focusing on is that they're looking to grow this fishery slowly, not quickly, and looking to maintain stability. That is really the key thing. We do get some input every year on different regions wanting some changes to trip limits.

As soon as that comes up we also get input on, keep in mind that if you change the trip limits and one, overall it is going to have different impacts in different regions. While it may help out one region, it may shut another fishery down because of the dynamics of the fishery; as far as the trip limits go. Neither one of the councils took any action on changing the trip limits, which would just leave the federal trip limit status quo. We did get some input that some of the NMFS information on exports and what kinds of products are exported. There is some lack of clarity there; they want a bit more information on that. The name change issue keeps coming up. We did explore this with FDA a bit, but beyond the two currently allowed names, spiny dogfish shark and cape shark;

additional name changes through FDA appear unlikely to occur.

The blue line is spiny dogfish catches from the current fishing year. The fishing year is May 1 through the following April. The orange line is what the landings were the previous year. The red line at the top is a quota, the commercial quota. The commercial quota was approximately the same the year before in the orange line.

You can see they're catching a little less than half the quota, basically. It looks like this year we'll end up about the same or maybe a little bit lower than the previous fishing year. The council, I think you guys probably know the council process. Things go through the SSC, which are pretty binding for the council.

We had the Science Center, Paul Rego; who is now retired, do an assessment update. The first take on that assessment update basically led to about a 50 percent reduction in the commercial quota. Once all the discards come out, Canadian catch comes out; once all those things are taken care of the end result was about a 50 percent reduction in the commercial quota.

The Mid-Atlantic Council moved forward with ABCs based on that; but also asked the Science Center to kind of take another look at things, which they did. In 2014 we had a missing data point, the survey vessel had mechanical issues and the survey is basically looking at three year moving averages from the survey data, it is kind of the key driver there.

This year we had 2013 and 2015 but no 2014. With a three year average it is going to react pretty quickly to changes anyway. I think 2012 was a super high data point in the survey. We lost that very high data point and just relying on 2013 and 2015, and we had a substantial drop in the estimated biomass that then trickles down through the quotas.

When they went back and took another look at it, about ways to smooth the data and account

for that missing year, Paul Rego; he's been working with Kalman filters as a way to do some smoothing and averaging with this assessment for quite some time. He did that along with a couple other options.

Our SSC reviewed those options and said, of what is available now, and based on their understanding of the performance of those smoothing and averaging, they decided the Kalman filter was the best way to go in terms of how it behaved. These are the biomass as it resulted from some of the different smoothing options.

The key thing to see here is that the current method, or the then current method, which was a three year moving average versus a Kalman filter; the medium biomass is a good bit higher with the Kalman filter. Again, it is not reacting quite so fast to the down trend as the three year average, which was really a two year moving average because we didn't have any 2014 data.

While for right now the Kalman filter provides a higher biomass and therefore a higher catch, when you look at the whole time series the Kalman results in the lowest average annual quotas. Basically the Kalman, when it sees a survey point that has a lot of uncertainty; it is down weighting those points. With dogfish, in the survey the highest values have the highest uncertainty. It is a very strong relationship. Those high values are getting down weighted in importance by the Kalman filter.

You can imagine it is basically going to be a slow up, medium down kind of way to proceed. If it sees a high value with high uncertainty it is going to react to that slowly. A low value with low uncertainty, and that is how things tend to be paired, it is going to react to that fairly quickly. The SSC sometime later this year is going to take another look at it, kind of step back; are there other smoothing options that may be more appropriate.

I'm not exactly sure when that will occur, but they did indicate that they want to take another look at it this year. It won't be at the March meeting but sometime after. These are just kind of all the specifications. The bottom numbers that are circled are how things work out. Again, instead of going from 50 million pounds to 25 million pounds you're more going from 50 million pounds to about 40 million pounds; give or take over the course of three years. That is where the council ended up, and I'll take any questions.

CHAIRMAN BORDEN: Questions for Jason?

MR. DANIEL MCKIERNAN: Jason, thank you. Can you just describe how many years this filtering process will have to be used; given the missing data point?

MR. DIDDEN: Well the survey has always used a smoothing and it had been using three years. I think the SSC likes the performance of the Kalman filter better as a smoothing option than just a basic three year; or some of the other options. I think that absent another smoothing option that the SSC decides is better, this could be forever it would be used. I think it will really depend on either an assessment or the SSC evaluation of what's the best way to kind of do some multiyear averaging.

REVIEW OF NEW ENGLAND FISHERY MANAGEMENT COUNCIL ACTIONS

CHAIRMAN BORDEN: Other questions for Jason? If not we'll move on with the next item, which is a report on the New England Council.

MS. ASHTON HARP: No presentation necessary. The New England Fisheries Management Council approved the same specifications as the Mid.

CHAIRMAN BORDEN: Okay, in preparation for this, given the fact that both councils adopted this unanimously I think it was. Anyone can correct that if I misstated. I asked the staff to prepare a motion that would do the same thing

and put it up just for discussion. If someone cares to make that as a motion I'll open the board for discussion. Have you got the motion?

A draft motion is on the table. Emerson Hasbrouck made the motion, Eric Reid seconded the motion. Discussion on the motion? Let me ask this, anyone at the table that is opposed to the motion? No opposition; the motion is adopted by unanimous agreement. Okay so the second issue is.

MS. TONI KERNS: If you could, we need the motion read into the record; please.

CHAIRMAN BORDEN: **The motion is to adopt the spiny dogfish 2016 commercial quota of 40,360,761 pounds, which is consistent with the commercial quota recommended to NOAA Fisheries by the Mid-Atlantic and New England Fishery Management Council; motion by Mr. Hasbrouck, seconded by Mr. Reid.** No further discussion? Yes, Peter Burns.

MR. PETER BURNS: Just a comment. I just want to recognize that NOAA Fisheries is still in rulemaking on this and we recognize that this is consistent with what the councils have recommended. But I'll be abstaining on this because we're still in the rulemaking process, thank you.

CHAIRMAN BORDEN: Thank you very much, Peter. Any further discussions, any objections to approving this motion as presented? **No objections; the motion stands approved.** The second issue is the two councils took no action on the trip limits; and that is one of the issues that can be considered at this point.

Just so everyone is clear, we have a system in terms of the management system. We have two slightly different management systems that operate. In the Mid-Atlantic we have a quota system, a regional quota system with state shares. The states manage those shares. Any of the fishermen in that region that have federal permits and fish in federal waters, are bound by the federal regulations and trip limit.

When they fish without their federal license in state waters they are bound by whatever the state water regulations are. In the New England area we do not have a state quota system, what we have is a regional quota system; and therefore the states basically adopt a trip limit for state waters that complements the trip limit in federal waters. Let me just open it up. Does anyone want to suggest a change in the trip limit? Eric Reid.

MR. ERIC REID: **I would like to make a motion to that effect, Mr. Chairman; if it is okay with you. I move to adopt a 6,000 pound trip limit on spiny dogfish for the fishing year 2016 to only be consistent with compatible action by NOAA in federal waters.** I have some rationale if I can get a second.

CHAIRMAN BORDEN: Is there a second? Ritchie White. We'll wait, Eric have you got that in writing?

MR. REID: Do I have it in writing?

CHAIRMAN BORDEN: We'll just make sure we get the motion up on the board. Then I'll come back to you, Eric and you can describe why.

MR. REID: You're missing the compatible with NOAA.

CHAIRMAN BORDEN: Eric, let me just ask this from the Chair's intent. The 6,000 pound trip limit applies in federal waters, right?

MR. REID: Yes, to be consistent with NOAAs.

CHAIRMAN BORDEN: Okay, but not just the northern area.

MR. REID: No, I would like to see it coastwide.

CHAIRMAN BORDEN: Eric, would you like to describe this, why you want to propose this, please?

MR. REID: There are more than a few reasons for it. One is currently we're underfishing the

resource. We're not catching current or the proposed ABC. As far as the market goes we need to gradually increase the trip limit to methodically promote full market potential and the utilization of the resource.

We also need to reduce regulatory discards. We need to promote economies of scale in this fishery; it is a cheap fish and we need to take advantage of economies of scale in order to make it work for everybody. The higher trip limit would encourage more participation in the fishery, which is certainly warranted in this case.

CHAIRMAN BORDEN: All right so I'll open the discussion to the board, comments on the motion; anyone? Does anyone care to comment on the motion? Mike.

MR. MICHAEL LUISI: This would only happen in the event that NOAA also establishes 6,000 pound limits for all federal waters, correct?

CHAIRMAN BORDEN: Okay other comments on it; anyone else? I'm not seeing a lot of hands.

MR. DOUGLAS E. GROUT: I have a comment, but I think Luisi still had a follow up question.

CHAIRMAN BORDEN: Oh, excuse me, Mike.

MR. LUISI: I was just clarifying. I just wanted an answer. I am reading it again now and seeing that I think that is the intent that the 6,000 pound limit would apply to federal waters as well; not just the state waters in the northern region. I would speak in support of this.

I have advocated at the council level for the last few years for increases in federal waters trip limits, however I didn't use Mr. Reid's approach, which is a subtle approach. I kind of doubled limits and tripled limits and it wasn't going to fly. But I think this stepwise approach to trying to achieve a better harvest of the resource is a good thing, and I'll support the motion.

CHAIRMAN BORDEN: I just add from my own personal perspective as everyone knows, I have advocated higher trip limits on dogfish. But I would point out that the motion that Eric Reid is making is entirely consistent with the advice that Jason gave us from the industry. Don't do anything radical; just kind of slowly ratchet up the catch so that the market can adjust to it, back to Doug Grout, please.

MR. GROUT: Yes, I just wanted to say that I support this motion. Last year we did try to get a 1,000 pound increase in the trip limit. The information we get from our fishermen is that given the low value of dogfish, to be able to make this a viable trip, having somewhere between a 6 and 7,000 pound trip limit makes the trip a more cost effective trip. I would support this, but again only if this was something that was compatible with what happens in federal waters.

MR. DIDDEN: There were no motions at the councils. I don't know if the proposed rule by NMFS will have any consideration of any changes from the 5,000 pound trip limit for this year, although it is obviously something the councils could entertain in the future.

MR. BURNS: Yes I guess I'm a little confused about what would happen with this motion. As I mentioned we're rulemaking right now. It is assumed that the council recommendations for the trip limits would be 5,000 pounds; consistent with what happened last year, and so that is what we're strongly considering.

This would be inconsistent with that and it is unclear to me. This would be contingent upon our rulemaking, in favor of this I imagine. I'm not really sure what the commission would adopt in the event that we did not make rules that were consistent with this motion.

CHAIRMAN BORDEN: My response to that Peter would be, if this motion were to pass the Executive Director or Commission Chairman would send a letter to NOAA; basically saying this is what the commission adopted. Then

NOAA within the constraints of its rulemaking process would either address it in one way or another, or maybe not address it. But at least on the record they would have a letter recommending a slightly different strategy. After all, the commission is, in my own view, an equal partner with the two councils on this. Doug Grout or someone else can comment on that.

MS. KERNS: I think the language is a little bit confusing if someone were to read this in a press release with nothing else, no discussion that we were going to a 6,000 trip limit. It may want to consider changing the language to say, only if NOAA Fisheries were to increase. Then a question to Peter, in order to consider this change from NOAA, would it be helpful if the commission sent a letter making that request and rationale for why we're making an increase request?

MR. BURNS: Yes, I think that certainly the commission can adopt what they want to adopt. We're in the middle of our rulemaking right now; trying to consider what the council has brought forward. If you sent a letter we would consider it; if we're still in our rulemaking process looking forward on this.

But the way that the motion is written it says that it would only go forward if we did it in federal waters, so it is unclear. Maybe if you want to go with a 6,000 pound limit I guess that would be the motion. But this is a contingency that it would only go in if we adopted it.

CHAIRMAN BORDEN: Discussion on that point. Bill Adler.

MR. WILLIAM A. ADLER: Yes I think it probably should be done, to the point where we say, we're going to 6,000 pounds and our partners, and I underline that; have our partners conform to us for a change.

DR. LOUIS B. DANIEL: The motion kind of changed a little bit. Is this just for the northern unit or is this now a coastwide 6,000 pound trip

limit; just a point of clarification? If it is coastwide I have comments.

CHAIRMAN BORDEN: I think the intent is, and the motion maker can correct this, the intent is that it would be a recommendation that goes to NMFS for a coastwide 6,000 pound trip limit in federal waters, which currently you have a coastwide 5,000 pound trip limit in federal waters. Any of the state boats, particularly in the Mid-Atlantic area that want to fish in state waters simply drop their federal permit and then, for instance in the case of your state may fish for dogfish and land 20,000 pounds on a trip. Correct that Louis if I misinterpreted it.

DR. DANIEL: No that is my issue. We've got a 20,000 pound trip limit, and I don't want this to jeopardize that. That is an important component of our fishery.

CHAIRMAN BORDEN: This doesn't. It doesn't change it at all.

MR. MCKIERNAN: To follow up on Toni's concerns, could this motion be reworked to be clearer before it is brought forward for a vote?

CHAIRMAN BORDEN: Toni is basically giving me the same advice you're giving me, Dan. Let's just take like a two minute break and we'll reword the motion and then bring it back. Don't leave the room. **All right we have a revised motion that we'll put up on the board.** I'll just read it and then I'll ask the maker and seconder to agree to this, or ask somebody to make it as a substitute, I guess.

Move to recommend to NOAA Fisheries to adopt a 6,000 pound trip limit. If the trip limit is approved in federal waters then set a 6,000 pound trip limit in the northern region; Maine through Connecticut. If the trip limit is not approved in federal waters then a 5,000 pound trip limit will remain in the northern region; Maine through Connecticut. Motion by Mr. Reid and seconded by Mr. White. Let me ask the maker and seconder of the motion. Do you agree to this perfection of a motion? Ritchie.

MR. RITCHIE WHITE: Yes.

CHAIRMAN BORDEN: Eric.

MR. REID: I agree with it. Hopefully Louis, you'll agree with it too.

CHAIRMAN BORDEN: Okay Louis, does this clarify what the intent is; getting back to the question you raised?

DR. DANIEL: Yes, and I support what Eric is trying to do 100 percent. This clarifies my concern about what the original motion said. The only question I would have would be that there is a 5,000 pound trip limit south of Connecticut in federal waters. I would defer to the other states.

But it would seem to me that we would want to go to the 6,000 pounds in federal waters coastwide. But accommodate Eric's request for a 6,000 pound trip limit in the northern states. That seems to me to be the most consistent way to do it, because otherwise south of Connecticut you've got a 5,000 pound trip limit and north you've got a 6,000 pound trip limit. That would be the only concern I would have.

CHAIRMAN BORDEN: I have Rob and then Mike; to that point please.

MR. ROB O'REILLY: My understanding is that the 6,000 pound trip limit would be in federal waters period, if National Marine Fisheries Service makes that change at some point.

CHAIRMAN BORDEN: I would add that is also my interpretation.

MR. LUISI: I was going to say the same thing. There is no line drawn through the federal waters that differentiates the north of Connecticut and south of Connecticut.

CHAIRMAN BORDEN: Okay discussion on the motion. Does anyone want to discuss the motion further? Peter Burns.

MR. BURNS: Just one more comment on this, Mr. Chairman. I just want to let you know that I appreciate you reworking the motion here. It looks like it would, if the trip limit is not approved in federal waters than the 5,000 pound trip limit would remain. Like I said, we've got two recommendations by the council that assumes that the trip limits would maintain a 5,000 pound. I'm going to abstain on this, because it is not consistent with what councils have recommended at this point.

CHAIRMAN BORDEN: Any further discussion. Let me ask whether or not there is any objection to approving this motion as revised. Any objection? **No objection the motion stands approved as submitted.**

ELECTION OF VICE-CHAIRMAN

CHAIRMAN BORDEN: Next item on the agenda is election of a Vice-Chairman.

MR. WHITE: **I would like to nominate the most distinguished commissioner from the Commonwealth of Virginia, Rob O'Reilly.**

CHAIRMAN BORDEN: Is there a second to that? Is it seconded; we've got to get a different state to second it? Seconded by Steve Heins, Pat Augustine, would you like to speak to this?

MR. PATRICK AUGUSTINE: Yes I would like to submit your name as Vice-Chair. No, I can't do that. Thank you very much, Ritchie White.

CHAIRMAN BORDEN: **Any objections to approving Rob O'Reilly as the Vice-Chair with acclamation and applause? You stand approved, welcome to the barrel.**

ADJOURNMENT

CHAIRMAN BORDEN: Okay any other business; if not the meeting stands adjourned?

(Whereupon the meeting was adjourned at 12:42 o'clock p.m. on February 3, 2016.)

2016 DRAFT REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

SPINY DOGFISH
(Squalus acanthias)

2015/2016 FISHING YEAR



Spiny Dogfish Plan Review Team

Max Appelman, Atlantic States Marine Fisheries Commission, Chair
Dr. Gregory Skomal, Massachusetts Department of Marine Fisheries
Tina Moore, North Carolina Department of Environmental Quality
William Whitmore, Greater Atlantic Regional Fisheries Office
Peter Burns, Greater Atlantic Regional Fisheries Office

Prepared October 5, 2016

Executive Summary

The Mid-Atlantic (MAFMC) and New England Fishery Management Councils (NEFMC) have managed spiny dogfish within the U.S. EEZ since 1999. The Atlantic States Marine Fisheries Commission (ASMFC) implemented a complimentary Fishery Management Plan for state waters in 2002.

Spiny dogfish was declared rebuilt in 2008 when female SSB exceeded the target level for the first time since implementation of the Interstate FMP. Spiny dogfish are not overfished and overfishing is not occurring (NEFSC 2015a and 2015b). Female SSB was estimated to be 168,207 metric tons (370.8 million pounds) in 2015. In 2015, F on exploitable females was estimated to be 0.210 and has remained below the target level since 2005.

In 2015, total landings along the Atlantic coast were estimated at 8,726 metric tons (19.2 million pounds). U.S. commercial landings were estimated at 8,663 metric tons (19.1 million pounds). Atlantic coast landings from Canada were estimated at 1 metric ton (2,205 pounds). Landings from distant water fleets were estimated at 23 metric tons (50,706 pounds). U.S. recreational harvest was estimated at 39 metric tons (86,832 pounds).

The commercial quota for the 2015/2016 season was 50,610,988 pounds, and commercial landings for the 2015/2016 season were estimated at 22.0 million pounds. No regions or states exceeded their quota during the 2015/2016 season.

In 2015, all states have implemented management programs consistent with the Interstate FMP and Addendum I-V for Spiny Dogfish (with the exception of Connecticut; the state just recently came into compliance with Addendum V). Delaware requested *de minimis* status for the 2016/2017 fishing season.

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I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	November 2002
<u>Amendments</u>	None
<u>Addenda</u>	Addendum I (November 2005) Addendum II (October 2008) Addendum III (April 2011) Addendum IV (August 2012) Addendum V (October 2014)
<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 – North Carolina (South Carolina, Georgia and Florida declared “no interest” in the FMP in 2014)
<u>Active Boards/Committees:</u>	Spiny Dogfish Management Board, Advisory Panel, Technical Committee, and Plan Review Team

In 1998, NMFS declared spiny dogfish overfished and initiated the development of a joint fishery management plan (FMP) between the Mid-Atlantic (MAFMC) and New England Fishery Management Councils (NEFMC) in 1999. NMFS approved the Federal Fishery Management Plan (FMP) in September 1999, but implementation did not begin until May 2000 at the start of the 2000/2001 fishing year.

In August 2000, the Atlantic States Marine Fisheries Commission (ASMFC) took emergency action to close state waters to the commercial harvest, landing, and possession of spiny dogfish when the Federal waters closed in response to the quota being fully harvested. With the emergency action in place, the Commission had time to develop an interstate FMP, which prevented the undermining of the Federal FMP and prevented further overharvest of the coastwide spiny dogfish population. Needing additional time to complete the interstate FMP, the ASMFC extended the emergency action twice through January 2003. During that time, the majority of spiny dogfish landings were from state waters because states had either no possession limits or less conservative possession limits than those of the Federal FMP.

The ASMFC approved the Interstate FMP for Spiny Dogfish in November 2002 (first implemented for the 2003-2004 fishing year). In general, the Interstate FMP (“FMP”) for spiny dogfish compliments the Federal FMP. The goal of the FMP is “to promote stock rebuilding and management of the spiny dogfish fishery in a manner that is biologically, economically, socially, and ecologically sound.” In support of this goal, the FMP established the following objectives:

1. Reduce fishing mortality and rebuild the spawning stock biomass to prevent recruitment failure and support a more sustainable fishery.
2. Coordinate management activities between state, Federal and Canadian waters to ensure complementary regulations throughout the species range.
3. Minimize the regulatory discards and bycatch of spiny dogfish within state waters.
4. Allocate the available resource in [a] biologically sustainable manner that is equitable to all the fishers.
5. Obtain biological and fishery related data from state waters to improve the spiny dogfish stock assessment that currently depends upon data from the Federal bottom trawl survey.

The original Interstate and Federal FMPs established an annual quota that was allocated via fixed percentages between two seasonal periods; 57.9% to Period I (May 1st to October 31st) and 42.1% to Period II (November 1st to April 30th). When the quota allocated to a period is exceeded, the amount over the allocation is deducted from the same period in the subsequent fishing year. The periods could have separate possession limits that are specified on an annual basis. The FMPs also allowed for a five percent rollover of the annual coastwide quota once the stock is rebuilt, and allows each state to harvest up to 1,000 spiny dogfish for biomedical supply or scientific research.

In November 2005, the Spiny Dogfish and Coastal Sharks Management Board (Board¹) approved Addendum I to the Interstate FMP for Spiny Dogfish. Addendum I provides the Board with the flexibility to establish spiny dogfish specifications (quota and possession limits) for up to five years. The MAFMC and the NEFMC took similar action under Framework 1 (providing flexibility to adopt specifications for up to five years without the requirement of annual review and approval by NOAA Fisheries), which became effective February 2006.

In October 2008, the Board approved Addendum II which established regional quotas in place of the FMPs semi-annual period allocation. Under the addendum, the annual quota is allocated regionally with 58% to the states of Maine to Connecticut (Northern region), 26% allocated to the states of New York to Virginia (Southern region), and the remaining 16% allocated to North Carolina. The Board allocated a specific percentage to North Carolina because spiny dogfish are not available to their fishermen until late into the fishing season when most of the quota has already been harvested. Also included in the addendum to maintain the conservation goal of the plan is a quota payback provision whereby any overage of a regional or state quota would be deducted from the corresponding region/state in the subsequent fishing year. The seasonal allocation scheme as described in the 2002 FMP are still applied to federal waters.

In March 2011, the Board approved Addendum III (the addendum was implemented prior to the 2011/2012 fishing year). The addendum divided the combined Southern region and the North

¹ In May 2014, the Spiny Dogfish and Coastal Shark Management Board became two independent management boards

Carolina quotas from Addendum II (i.e., 42% of the annual coastwide quota) into state-specific shares (Table 2) for those states of New York – North Carolina. Also, the addendum permits those states to implement possession limits that best suits their needs, and allows for quota transfer (states in the Northern region continue to share 58% of the coastwide quota and thus do not have individual quotas necessary for transfers). Lastly, the addendum allows for rollovers of up to five percent of that state or regions final allocation. The Board has continued to implement the allocation percentages described in Addendum III, and may revisit those allocations at any time through the adaptive management process (e.g., an addendum). The seasonal allocation scheme as described in the 2002 FMP are still applied to federal waters.

In August 2012, the Board approved Addendum IV. This Addendum addressed the differences in the definitions of overfishing between the NEFMC, MAFMC and the ASMFC. The Board adopted the fishing mortality (F) threshold to be consistent with the Federal plan. Overfishing is defined as an F rate that exceeds the $F_{threshold}$. The $F_{threshold}$ is defined as F_{MSY} (or a reasonable proxy thereof) and based upon the best available science. The maximum fishing mortality threshold (F_{MSY}) or a reasonable proxy may be defined as a function of (but not limited to): total stock biomass, spawning stock biomass (SSB), total pup production, and may include males, females, both, or combinations and ratios thereof which provide the best measure of productive capacity for spiny dogfish. Currently $F_{MSY} = 0.2439$ which is that level of F that allows for the production of 1.5 female pups per female that will recruit to the spawning stock biomass.

In October 2014, the Board approved Addendum V. The addendum mandates that all spiny dogfish must be landed with fins-naturally-attached to the corresponding carcass (i.e., the removal of any fin of spiny dogfish at-sea in state waters is prohibited). The addendum modified the FMP to maintain consistency with the Shark Conservation Act of 2010, which prohibits the removal of all shark fins (except smooth dogfish) at-sea.

II. Status of the Stocks

Stock size estimates (e.g., female SSB) for spiny dogfish rely heavily on fishery-independent data collected during the NEFSC spring bottom trawl survey. Due to mechanical problems, the 2014 survey was unable to sample strata in the mid-Atlantic region. As a result, the 2015 assessment update for spiny dogfish was unable to produce reliable estimates of stock size for 2014, as well as stock size projections utilized for annual specifications. Accordingly, at the direction of the MAFMC and the Science and Statistical Committee, the NEFSC examined alternative methods to smooth out the effects of the missing 2014 survey data on projected estimates of SSB, F, and other stock status indicators (NEFSC 2015b). A Kalman filter approach was ultimately chosen as the best method to smooth out the effects of the missing data, and to project SSB forward.

Based on results of the most recent assessment, and in comparison to the biological reference points below, spiny dogfish are not overfished and overfishing is not occurring (NEFSC 2015a and 2015b). Spiny dogfish was declared rebuilt in 2008 when female SSB exceeded the target level for the first time since implementation of the Interstate FMP. Female SSB has remained above

the target level and was estimated to be 168,207² metric tons (370.8 million pounds) in 2015 (Table 1 and Figure 1). In 2015, F on exploitable females was estimated to be 0.210 and has remained below the target level since 2005 (Table 1 and Figure 2).

	Female Spawning Stock Biomass (SSB)	Fishing Mortality (F)
Target	B_{msy} Proxy = SSB_{max} (the biomass that results in the maximum projected recruitment) = 159,288 metric tons	There is no F target defined for management use at this time
Threshold	$\frac{1}{2}$ of SSB_{max} = 79,644 metric tons	F_{msy} Proxy = 0.244

The next stock assessment for spiny dogfish is tentatively scheduled for 2018. In the interim, in order to inform fishery specifications, the NEFSC will conduct annual data updates to summarize the most recent information on the status of spiny dogfish.

III. Status of the Fishery

In the U.S., majority of spiny dogfish commercial fisheries operate in state waters targeting aggregations of large females. As a result, an estimated 94% of the commercial landings (2014) are comprised of females which is consistent with the longterm pattern (NEFSC 2015a).

In 2015, total landings along the Atlantic coast were estimated at 8,726 metric tons (19.2 million pounds) which is slightly below average since 1981 (10,332 metric tons or 22.8 million pounds). In 2015, U.S. commercial landings were estimated at 8,663 metric tons (19.1 million pounds). Atlantic coast landings from Canada were significant from the early 1990s to the mid-late 2000s (hovering around 2,000 metric tons or 4.5 million pounds). In 2015, Canadian landings were estimated at 1 metric ton (2,205 pounds) which is the lowest reported value since 1988, but is more in line with the short term trend. In 2015, distant water fleets reported landings estimated at 23 metric tons (50,706 pounds). Recreational harvest is estimated via the Marine Recreational Information Program (MRIP). In 2015, recreational harvest (i.e., A + B1) of spiny dogfish on the Atlantic coast was estimated at 39 metric tons (86,832 pounds) which is a 26% increase compared to 2014. Landings estimates for the U.S. commercial and recreational sectors, Canada, and distant water fleets are detailed in Table 2.

In 2015, total dead discards from the U.S. commercial and recreational sectors were estimated at 3,322 metric tons (7.3 million pounds). Recreational releases (i.e., B2, fish caught by recreational anglers and released back to the water) are also estimated via the MRIP. In 2015, U.S. recreational releases of spiny dogfish were estimated at 1,224 metric tons (2.7 million pounds). Applying a 20% post-release mortality rate, 2015 recreational dead discards were estimated at 245 metric tons (539,757 pounds) marking a 74% decrease compared to 2014 (although more in line with the long term average). Commercial dead discards for U.S. landings

² 2015 female SSB estimated via a Kalman filter approach. Point estimates prior to 2015 using the Kalman filter were not available at the time of this report.

are estimated by multiplying total discards by the gear-specific mortality rates (NEFSC 2016). In 2015, U.S. commercial dead discards were estimated at 3,077 metric tons (6.8 million pounds). Dead discard estimates for the U.S. commercial and recreational sectors are detailed in Table 3.

IV. Status of Management Measures

Specifications

The spiny dogfish commercial fishery runs from May 1 – April 30. The coastwide quota for the 2015/2016 season was set at 50,610,988 million pounds with a maximum possession limit of 5,000 pounds for the northern region. Possession limits for states of New York – North Carolina vary by state and are detailed in Table 5.

Quotas

Per Addendum III, 58% of the annual quota is allocated to the northern region (states from Maine – Connecticut), and the remaining 42% is allocated to the states of New York – North Carolina via fixed percentages. Table 4 details 2015/2016 commercial quotas by region and state. Addendum III also specifies that when the quota allocated to a region or state is exceeded in a fishing season, the amount over the allocation will be deducted from the corresponding region or state in the subsequent fishing season. All regions and states harvested within their quota in 2014/2015 season, therefore no deductions were applied to 2015/2016 quotas. Five percent of the 2014/2015 final quota allocations rolled over for all regions and states for an adjusted 2015/2016 quota of 53,079,438 pounds (Table 4).

According to the Standard Atlantic Fishery Information System (SAFIS) and annual state compliance reports (see Section VI for more detail), commercial landings from the 2015/2016 fishing year were estimated at 9,990 metric tons (22.0 million pounds), which was less than half of the total available quota (Table 2). Massachusetts (36%), Virginia (19%), New Jersey (16%) and North Carolina (10%) accounted for the majority of commercial landings by weight (Table 4).

V. Status of Research and Monitoring

Under the Interstate FMP for Spiny Dogfish, the states are not required to conduct any fishery dependent or independent studies. The Interstate FMP requires an annual review of recruitment, spawning stock biomass, and fishing mortality which relies heavily on the NEFSC's spring trawl survey data. However, states are encouraged to submit any spiny dogfish information collected while surveying for other species. Table 5 details state implemented fishery-independent monitoring information relative to spiny dogfish compiled from annual state compliance reports. Please see individual reports for more information.

Exempted Fishing Permits (scientific/education permits)

States may issue exempted fishing permits for the purpose of biomedical supply, educational, or other scientific purposes. In 2015, North Carolina (55) and New Jersey (11) issued exempted fishing permits. Four reported catch of spiny dogfish totaling 125 fish (all but 11 were released alive).

VI. Annual State Compliance

The following lists the specific compliance criteria that a state or jurisdiction must implement in order to be in compliance with the Interstate FMP for Spiny Dogfish (*Section 5.1*):

1. States are required to close state waters to the commercial landing, harvest and possession of spiny dogfish for the duration of the seasonal period when the commercial quota is projected to be harvested in their state or region.
2. States are required to report landings weekly to NOAA Fisheries
3. Dealer permits issued pursuant to state regulations must submit weekly reports showing at least the quantity of spiny dogfish purchased (in pounds), the name, and permit number of the individuals from whom the spiny dogfish were purchased.
4. States in the northern region are required to implement possession limits as determined through the annual specification process.
5. States may issue exempted fishing permits for the purpose of biomedical supply not to exceed 1,000 spiny dogfish per year.
6. State regulations must prohibit “finning” as described in Addendum V.

Additionally, each state must submit a compliance report detailing its spiny dogfish fisheries and management program for the previous fishing year. Compliance reports are due annually on July 1st (Table 6) and must include at a minimum:

1. the previous fishing year’s fishery and management program including activity and results of monitoring, regulations that were in effect and harvest, including estimates of non-harvest losses;
2. the planned management program for the current fishing year summarizing regulations that will be in effect and monitoring programs that will be performed, highlighting any changes from the previous year; and
3. the number of spiny dogfish exempted fishing permits issued in the previous fishing year, the actual amount (in numbers of fish and pounds) collected under each exempted fishing permit, as well as any other pertinent information (i.e. sex, when and how the spiny dogfish were collected). The report should also indicate the number of exempted fishing permits issued for the current fishing year.

Under the Spiny Dogfish FMP, a state may request *de minimis* status if its commercial landings of spiny dogfish are less than 1% of the coastwide commercial total. If granted, the state is exempt from the monitoring requirements of the commercial spiny dogfish fishery for the following fishing year. However, all states, including those granted *de minimis* status, must continue to report any spiny dogfish commercial or recreational landings within their jurisdiction via annual state compliance reports³.

³ In 2014, Georgia, South Carolina and Florida declared “no interest” in the FMP and were removed from the Spiny Dogfish Management Board. These states are no longer required to submit annual compliance reports.

Maine, Connecticut, New York, and Delaware qualify for *de minimis* status, however only Delaware is requesting *de minimis* status for the 2016/2017 fishing season (Table 6).

VII. Plan Review Team Recommendations

Based on annual state compliance reports, all states have regulations in place that meet or exceed the requirements of the Interstate FMP for Spiny Dogfish and Addenda I-V. However, Connecticut did not meet the May 1, 2015, compliance schedule of Addendum V and only recently came into compliance with the addendum via an agreement with fishermen which states that if spiny dogfish are found to be landed with fins detached, then the fishery will be closed state-wide. Also, the PRT recommends granting Delaware with *de minimis* status for the 2016/2017 fishing year.

VIII. Research Recommendations

The following research priorities pertaining to spiny dogfish were identified in Special Report No. 89 (2013):

Fishery-Dependent Priorities

High

- Determine area, season, and gear specific discard mortality estimates coastwide in the recreational, commercial, and non-directed (bycatch) fisheries.
- Characterize and quantify bycatch of spiny dogfish in other fisheries.
- Increase the biological sampling of dogfish in the commercial fishery and on research trawl surveys.
- Further analyses of the commercial fishery is also warranted, especially with respect to the effects of gear types, mesh sizes, and market acceptability on the mean size of landed spiny dogfish.

Fishery-Independent Priorities

- Conduct experimental work on NEFSC trawl survey gear performance, with focus on video work to study the fish herding properties of the gear for species like dogfish and other demersal groundfish.
- Investigate the distribution of spiny dogfish beyond the depth range of current NEFSC trawl surveys, possibly using experimental research or supplemental surveys.
- Continue to analyze the effects of environmental conditions on survey catch rates.

Modeling / Quantitative Priorities

- Continue work on the change-in-ratio estimators for mortality rates and suggest several options for analyses.
- Examine observer data to calculate a weighted average discard mortality rate based on an assumption that the rate increased with catch size.

Life History, Biological, and Habitat Priorities

- Conduct a coastwide tagging study to explore stock structure, migration, and mixing rates.
- Standardize age determination along the entire East Coast. Conduct an ageing workshop for spiny dogfish, encouraging participation by NEFSC, NCDMF, Canada DFO, other interested agencies, academia, and other international investigators with an interest in dogfish ageing.
- Identify how spiny dogfish abundance and movement affect other organisms.

Management, Law Enforcement, and Socioeconomic Priorities

- Monitor the changes to the foreign export markets for spiny dogfish, and evaluate the potential to recover lost markets or expand existing ones.
- Update on a regular basis the characterization of fishing communities involved in the spiny dogfish fishery, including the processing and harvesting sectors, based upon Hall-Arber et al. (2001) and McCay and Cieri (2000).
- Characterize the value and demand for spiny dogfish in the biomedical industry on a state by state basis.
- Characterize the spiny dogfish processing sector

IX. References

Northeast Fisheries Science Center (NEFSC). 2015a. Update on the Status of Spiny Dogfish in 2015 and Projected Harvests at the Fmsy Proxy and Pstar of 40%. Report to the Mid Atlantic Fishery Management Council (MAFMC) Scientific and Statistical Committee (SSC) August 26, 2015. 65 pages.

NEFSC. 2015b. Evaluation of Alternative Smoothing Options for Spiny Dogfish Abundance Estimates. Report to MAFMC SSC November 22, 2015. 28 pages.

NEFSC. 2016. Update of Landings, Discards and Survey Indices for Spiny Dogfish in 2016. Report to the MAFMC SSC August 29, 2016. 31 pages.

Special Report No. 89 of the Atlantic States Marine Fisheries Commission. 2013. Research priorities and recommendations to support interjurisdictional fisheries management.

X. Tables

Table 1: Spiny dogfish female spawning stock biomass (SSB) in millions of pounds and fishing mortality (F) point estimates, 1991-2015. A Kalman Filter was applied to the 2015 point-estimate. Point-estimates from 1991-2014 via the Kalman filter were not available at the time of this report. Although the absolute values will change after the Kalman filter is applied, the time series trend is similar. Source: NEFSC 2015a and 2015b.

Year	Female SSB	F
1991	516	0.082
1992	594	0.177
1993	485	0.327
1994	410	0.465
1995	294	0.418
1996	266	0.355
1997	252	0.234
1998	202	0.306
1999	114	0.289
2000	116	0.152
2001	136	0.109
2002	143	0.165
2003	129	0.168
2004	118	0.474
2005	105	0.128
2006	234	0.088
2007	312	0.090
2008	429	0.110
2009	360	0.113
2010	362	0.093
2011	373	0.114
2012	476	0.149
2013	466	NA
2014	NA	0.214
2015	371	0.210

Table 2: Landings estimates (pounds) of spiny dogfish off the Atlantic coast by commercial fisheries of the United States, Canada, and foreign fleets, and U.S. recreational harvest, 1981-2015. All values in pounds. Source: NEFSC 2015a and MRIP.

Year	Canada	Distant Water Fleets	U.S. Commercial	U.S. Recreational	Total Landings
1981	1,243,406	2,147,300	15,134,716	3,290,809	21,816,231
1982	857,597	802,482	11,928,240	155,228	13,743,546
1983		1,022,944	10,794,944	147,828	11,965,715
1984	4,409	862,006	9,811,419	201,247	10,879,082
1985	28,660	2,231,075	8,880,246	196,525	11,336,507
1986	44,092	811,300	6,057,436	403,806	7,316,634
1987	619,498	306,442	5,959,859	674,738	7,560,538
1988	2,205	1,426,389	6,845,658	793,826	9,068,078
1989	368,172	564,383	9,903,197	923,156	11,758,908
1990	2,885,848	866,416	32,475,331	393,464	36,621,058
1991	676,818	515,881	29,049,484	288,410	30,530,593
1992	1,913,610	147,710	37,165,286	535,770	39,762,376
1993	3,163,630	59,525	45,509,707	263,846	48,996,708
1994	4,012,408	4,409	41,441,357	341,311	45,799,486
1995	2,107,617	30,865	49,775,493	148,935	52,062,910
1996	950,191	520,290	59,823,640	56,990	61,351,111
1997	983,261	471,789	40,457,417	146,560	42,059,027
1998	2,325,874	1,338,204	45,476,080	133,761	49,273,919
1999	4,609,860	1,221,359	32,748,858	119,595	38,699,673
2000	6,042,863	886,257	20,407,500	11,262	27,347,883
2001	8,421,648	1,492,528	5,056,497	61,877	15,032,551
2002	7,901,358	1,044,990	4,847,674	451,666	14,245,687
2003	2,870,415	1,417,571	2,579,437	87,466	6,954,888
2004	5,207,312	727,525	2,164,011	264,970	8,363,819
2005	5,004,487	727,525	2,528,114	77,823	8,337,949
2006	5,377,068	22,046	4,957,360	175,290	10,531,764
2007	5,255,814	68,343	7,723,004	190,018	13,237,179
2008	3,466,368	288,805	9,057,020	251,427	13,063,620
2009	249,122	180,779	11,854,242	94,133	12,378,275
2010	13,228	279,987	11,993,133	35,418	12,321,766
2011	273,373	315,261	20,899,798	70,556	21,558,987
2012	143,300	302,033	23,501,249	41,413	23,987,996
2013	NA	134,482	16,120,181	80,859	16,335,523
2014	119,049	68,343	23,481,408	68,996	23,737,797
2015	2,205	50,706	19,098,623	86,832	19,238,366

Table 3: Total dead discards estimates (pounds) from the U.S. Atlantic coast spiny dogfish fishery by sector, 1981-2015. Commercial dead discards estimated via applying gear-specific mortality rates to discard estimates. Source: MRIP and NEFSC 2016.

Year	Commercial	Recreational (20% B2)	Total Dead Discards
1981	43,625,021	130,521	43,755,541
1982	50,245,935	153,982	50,399,918
1983	49,177,576	238,002	49,415,579
1984	46,931,730	186,871	47,118,601
1985	39,768,479	425,091	40,193,570
1986	38,222,379	523,373	38,745,752
1987	35,239,087	465,470	35,704,557
1988	35,307,210	386,152	35,693,362
1989	34,724,970	594,784	35,319,753
1990	41,754,621	515,830	42,270,451
1991	28,668,217	594,951	29,263,168
1992	41,401,992	449,048	41,851,040
1993	25,898,443	489,373	26,387,816
1994	18,435,804	426,776	18,862,580
1995	23,812,762	288,134	24,100,896
1996	13,136,779	145,103	13,281,882
1997	9,255,656	371,849	9,627,505
1998	7,305,008	268,875	7,573,883
1999	9,865,123	236,901	10,102,025
2000	6,128,182	304,436	6,432,619
2001	10,236,492	928,526	11,165,018
2002	10,392,799	737,755	11,130,554
2003	7,998,031	1,321,838	9,319,869
2004	12,011,321	1,450,007	13,461,328
2005	10,775,411	1,476,032	12,251,443
2006	10,847,557	1,565,462	12,413,019
2007	12,456,478	1,715,901	14,172,379
2008	9,843,805	1,188,294	11,032,099
2009	11,735,909	1,137,116	12,873,025
2010	8,146,291	871,034	9,017,325
2011	9,533,163	1,019,230	10,552,393
2012	10,081,275	605,902	10,687,177
2013	9,875,386	1,169,360	11,044,746
2014	10,657,861	2,090,825	12,748,685
2015	6,783,726	539,757	7,323,483

Table 4: Commercial quotas and landings estimates in pounds for May 1, 2015 - April 30, 2016 by region and state. Adjusted quota reflects a 5% rollover from 2014/2015 season. Due to confidentiality, NY – NC landings estimates have been redacted. Source: SAFIS, and annual state compliance reports.

State	Fixed Percent Allocation	Preliminary 2015/2016	Adjusted 2015/2016 quota	2015/2016* Landings	Proportion of Total Landings
Northern Region	58.00%	29,354,960	30,786,690	10,476,140	48%
NY	2.71%	1,370,067	1,436,889		
NJ	7.64%	3,868,781	4,057,473		
DE	0.90%	453,484	475,601		
MD	5.92%	2,996,230	3,142,366		
VA	10.80%	5,463,565	5,730,040		
NC	14.04%	7,103,900	7,450,379		
Total		50,610,988	53,079,438	22,023,902	

* Landings estimates from annual state compliance reports are cross-referenced with the SAFIS database, and the larger of the two estimates for each state and region is reported here.

Table 5: State implemented fishery-independent monitoring programs that encounter spiny dogfish. Source: annual state compliance reports. Note: this list is not comprehensive.

Fishery-Independent Monitoring Programs That Encounter Spiny Dogfish	Number of Spiny Dogfish Encountered	Comments
ME-NH Inshore Trawl survey	1 (spring), 14 (fall)	7 females, 8 males
RI DFW, Monthly and seasonal trawl survey	4	November
CT Long Island Sound Trawl Survey	19	Spring (April-June)
NJ Ocean Stock Assessment (trawl) Survey	5122 lbs	< 5% of that in 2013 and 2014
DE Bay Bottom Trawl (30- and 16-foot)	318 (30-ft)	0 (16-ft)
NC DMF Gill Net Survey	11	Post-2015, Inshore waters only
SC DNR nearshore bottom longline survey	NA	NA

Table 6: State-by-state compliance with the Interstate Fishery Management Plan for Spiny Dogfish, 2015/2016 reporting period. Source: annual state compliance reports, 2016. 'C' is compliant; 'NC' is noncompliant. South Carolina, Georgia and Florida were removed from the Spiny Dogfish Board in 2014

State	Report Submitted (Due July 1)	De Minimis Request	Biomedical [^] Permit Harvest	Finning Prohibition	Possession limit (per trip)
Maine	C	No	No	C	4,000 lbs
New Hampshire	C	No	No	C	5,000 lbs
Massachusetts	C	No	No	C	5,000 lbs
Rhode Island	C	No	No	C	5,000 lbs
Connecticut	C	No	No	NC	5,000 lbs
New York	C	No	No	C	5,000 lbs
New Jersey	C	No	Yes	C	5,000 lbs
Delaware	C	Yes	No	C	10,000 lbs
Maryland	C	No	No	C	up to 10,000 lbs*
Virginia	C	No	No	C	5,000 lbs
North Carolina	C	No	Yes	C	20,000 lbs

[^] includes harvest under exempted fishing permit for other scientific and educational purposes

* possession limits range from 1,000 – 10,000 pounds depending on permit category

XI. Figures

Figure 1: Spiny dogfish spawning stock biomass, 1990 – 2015. Point-estimate for 2015 was derived via application of a Kalman filter. Estimates from 1991-2014 via the Kalman filter were not available at the time of this report. Although the absolute values will change after the Kalman filter is applied, the time series trend is similar. NEFSC 2015a and 2015b.

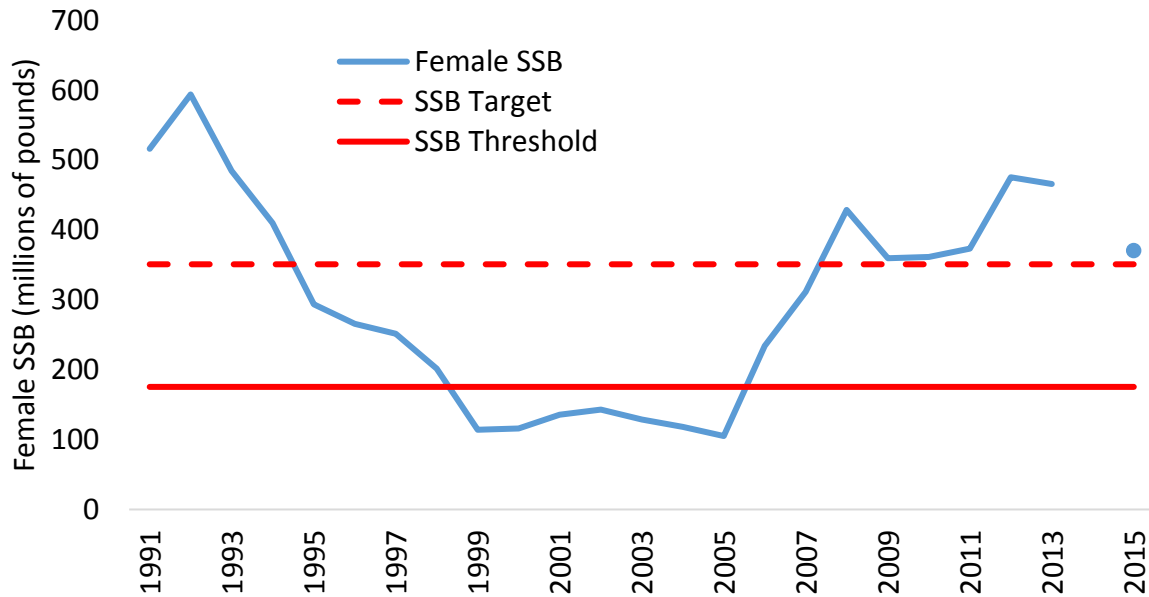


Figure 2: Fishing mortality rates in the spiny dogfish fishery, 1990 – 2014. 2013 point-estimate not available at time of this report. Source: NEFSC 2015a and 2015b.

