Atlantic States Marine Fisheries Commission

Spiny Dogfish Management Board

February 3, 2016
12:00 – 12:30 p.m.
Alexandria, 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 (*D. Borden)*	12:00 p.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from November 2015	12:00 p.m.
3.	Public Comment	12:05 p.m.
4.	Review and Set 2016-2018 Fishery Specifications **Final Action** • Review MAFMC 2016-2018 Specifications (*J. Didden*) • Review NEFMC 2016-2018 Specifications *(A. Harp)*	12:15 p.m.
5.	Elect Vice-Chair **Action**	12:25 p.m.
6.	Other Business/Adjourn	12:30 p.m.

The meeting will be held at the Westin Alexandria; 400 Courthouse Square; Alexandria, VA; 703.253.8600

MEETING OVERVIEW

Spiny Dogfish Management Board
February 3, 2016
12:00 – 12:30 p.m.
Alexandria, Virginia

Chair: David Borden (RI) Assumed Chairmanship: 10/15	Vice Chair: VACANT	Law Enforcement Committee Representative: Moran
Spiny Dogfish Technical Committee Chair: Scott Newlin	Spiny Dogfish Advisory Panel Chair: VACANT	Previous Board Meeting: November 2015
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 November 2015

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 2016-2018 Fishery Specifications (12:15 – 12:25 p.m.) Final Action

Background

- In December 2015, MAFMC & NEFMC approved the revised ABCs, which were developed using the best available method at the time (the kalman filter) to address the 2014 data gap.
- The Councils voted to set the 2016 commercial quota at 40.3 million pounds, a ~20% reduction from the 2015 quota of 50.6 million pounds. The reduced quota is unlikely to be constraining—landings have been below 50% of the commercial quotas for the last two full fishing years. The commercial quota will be 39 million pounds for 2017 and 38 million pounds for 2018.
- In March 2016, the SSC will expand their analysis, including considering other approaches and reviewing the kalman filter more closely.
- The current trip limit for northern states (Maine through Connecticut) is 5,000 pounds per day.
- **MAFMC & NEFMC Motions;**
  MAFMC Memo on Dogfish Specifications (Nov 24), and
  SSC Report (Nov 25) in Briefing Materials

Presentations
• MAFMC Presentation by J. Didden
Board Actions for Consideration at this Meeting
• Set the 2016-2018 Spiny Dogfish Specifications (which includes trip limits)

5. Elect Vice-Chair

6. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

SPINY DOGFISH MANAGEMENT BOARD

World Golf Village Renaissance
St. Augustine, Florida
November 4, 2015

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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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INDEX OF MOTIONS

ATTENDANCE

Board Members

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

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

Ex-Officio Members

Scott Newlin, Technical Committee Chair

Staff

Robert Beal
Toni Kerns
Ashton Harp
Max Appelman

Guests

David Bush, NC Fisheries Assn.
Rick Robins, Mid-Atlantic Council
John Whiteside, Sustainable Fisheries Assn.

The Spiny Dogfish Management Board of the Atlantic States Marine Fisheries Commission convened in the St. Augustine Ballroom of the World Golf Village Renaissance, St. Augustine, Florida, November 4, 2015, and was called to order at 4:30 o'clock p.m. by Chairman David V. D. Borden.

CALL TO ORDER

CHAIRMAN DAVID V. D. BORDEN: If everybody will have a seat, please, we'll start. My name is David Borden; and I'm the board Chair. Welcome to the Dogfish Board Meeting.

APPROVAL OF AGENDA

CHAIRMAN BORDEN: The first order of business is to approve the agenda. Are there any additions or deletions to the agenda? I see no hands up; so we'll proceed with the agenda as proposed.

APPROVAL OF PROCEEDINGS

CHAIRMAN BORDEN: Approval of the proceedings from November 14th, are there any comments on the proceedings, anyone? No comments; any objection to approving the proceedings as prepared? No objections, so the proceedings are approved.

PUBLIC COMMENT

CHAIRMAN BORDEN: Next item is public comment. We have at least one individual who has offered or asked for time, John Whiteside. John, if you would like to come up to the microphone there. Please try to limit your comments to a couple of minutes.

MR. JOHN WHITESIDE: Thank you and good afternoon, John Whiteside of the Sustainable Fisheries Association. Actually, I'll respond as comments come forward and the discussion goes along. I just was putting my name down at that time.

CHAIRMAN BORDEN: Anyone else in the audience who did not sign up; yes, sir, who would like to come to the microphone. Identify yourself, please.

MR. DAVID BUSH: Good afternoon, David Bush; North Carolina Fisheries Association. I would like to thank you for the opportunity to speak. If I understand correctly, there has been considerable time and effort already put into the spiny dogfish, trying to figure out what the assessment is, what the stock is, what our overfishing limits should be in that.

But if I understand it correctly, you are considering reducing the spiny dogfish OFL by almost 50 percent based on two years of data. I understand there are also efforts to include an average between an additional two years that would give you a composite third year to include in this data. While we wait, I would ask your advisor on this specie to consider the following:

One of my colleagues at East Carolina University, Dr. Roger Ellison, along with a graduate student, he is also a NOAA researcher, performed some very in depth studies of spiny dogfish in our area as well as some broader coastal studies in the species. Some of these include long term tagging studies of mortality and population densities that were published in 2000 and 2009 respectively. What they're finding is that although the majority of the North Carolina tagged fish are recaptured within 18 months up and down the coast, substantial numbers of those individuals that were tagged eight to ten years ago are just now being recaptured; many of them in Cape Cod. That begs the question of how these fish are able to avoid recapture for so long if they are only migrating up and down the coast. Some of the research performed along with Steve Campana of Canada, showed significant aggregations south of Cape Hatteras as well as offshore for extended periods of time.

Based on this research is a strong probability of multiple stocks. Additionally, the researchers concurred that there is an approximate 15 percent overlap in these stocks, which leads to a further question whether assessors truly have a handle on the range of the stock and how many more undocumented aggregations there are that are not accounted for in the assessment. We ask that you consider North Carolina fishermen, given the current and future quotas heavily impacted before North Carolina fishermen even have an opportunity to fish in this historic fishery.

CHAIRMAN BORDEN: Is there anyone else in the audience who wants the opportunity to address the board? I see no hands up so we'll go on with the proposed agenda.

2015 SPINY DOGFISH STOCK ASSESSMENT

CHAIRMAN BORDEN: Next item of business is the dogfish stock assessment.

MR. SCOTT NEWLIN: I am going to be giving the spiny dogfish assessment update for 2015. This was performed by Dr. Paul Ragou and he wasn't able to make it here today, so I'm going to do this presentation for him. This would be excerpts from the presentation he gave at the SSC meeting.

The first thing is 2014 catch highlights. The total landings in 2014 were 10,715 metric tons. This increased from a drop in 2013, but this was very similar to the landings in 2012. The recreation of foreign fleet had very little significance on landings, and they only landed 64 metric tons. The landings estimates from Canada were not available.

Total discards are on an increase from 12,820 metric tons in 2013 to 15,000 metric tons in 2014. This was a 19 percent increase. Total of dead discard increased from 5,000 metric tons to 5,700 metric tons; which is a 15 percent increase. The ratio of dead discard and landings increased to 0.54. This shows graphically the total landings for the east coast.

You can see the two major peaks. The first one in the seventies is the foreign fleet. The second one in the 1990s would have been the start of the industrial fishing. Then we see the decline and the subsequent increase in the last few years since 2002. You see the drop in 2014, but we've rebounded from that.

This is a table of the total discards and catch, with the total catch of note. In 2014 our total catch was 16,498 metric tons. That is all sources combined, so 16,498. This is a graph of the trends and the ratio total discard in the landings and total dead discard to landings. Of note in this graph, is that we were landing more of the spiny dogfish; basically more of the catch is being utilized. This is kind of a good thing.

The biological composition of the catch; as most of us know, the overall landings are dominated by female spiny dogs. This pattern and sex ratio has been fairly consistent throughout the period, except for a small period in 1996 to 2000. Graphically, you can see the large increase from 1995 to 2000 of males, but for the most part they don't really amount to much in the fishery; it is female dominated. This is the survey summary, and basically I'm going to go over points that an effect on the assessment. These are the notable points. The first one is that there were no estimates for 2014, due to the incomplete survey. The assessment is based on a three-year average and 2014 was not available. This shows the spatial distribution of spiny dogfish from the survey for 2015. The yellow dots represent the catch and the red dots represent the sixth highest values.

Of note in this, is that though the catch is distributed equally, for the most part up and down the coast, most of the higher top six values occur in the southern region; and that will be of note in a minute. This next map is the 2014 spatial distribution from the survey. What we see is the survey was incomplete; it didn't capture any of the southern region.

As it turns out the southern region has a dramatic effect on the composition of the

catch. That brings the question that everyone asks is, why didn't Paul just impute 2014. He basically just used the average of 2013 and 2015. He did come up with an alternate method to impute that value, and it basically the imputed value was the mean of all the regions divided by the mean of the reduced regions times the mean of 2014.

This basically gave an imputed value, and then he would take that imputed value and times it by the area of the survey by the trawl footprint, and that would give him a swept area biomass for 2014. But he had a lot of reservations with that, because that fraction of the population from the northern region was extremely variable.

It has turned out the southern region was really important in terms of the overall biomass calculation. We see that in this graph. This is the ratio of total area, the subarea. If we wanted to impute the 2014 value for males, that would be within reason. The ratio is very responsible, it is very reasonable.

The ratio of females though is extremely variable over the years. That is what didn't give him a lot of reliability and an imputed value for 2014. The second point of note; that the raw two-year average for 2013 and 2015 of the female spawning stock biomass was 135,000 metric tons for 2015. This was a sharp drop from the two-year average that we found in 2013.

We dropped from 235,000 metric tons to 135,000 metric tons. The one thing of note is the 2012 biomass was not only the largest biomass we had seen on record from this survey, but it was also the most variable. The TC noted in 2012 that they were concerned about the extremely high 2012 estimate, and they felt it might have been more indicative of availability versus abundance.

This next table shows the raw values for the biomass estimates. As you can see, 2011 was above average, 2012 was very above average and 2013 was average. The average of those would be very high. The 2013 was an average year and 2015 was below average, which all came together for a sharp decrease.

This is a comparison of the variance of the mean per tow versus the mean number of tow. What can be imputed from this graph is that 2012 variability is extremely high. The next survey point that I want to talk about was the pup production in 2015. It was 2.4, which is below the long term average of 2.59.

As most of us remember, there was a huge gap in pup production from 1998 to 2004, and it was only a matter of time that that effect of that low pup production was to come into effect. I believe we're starting to see that now. The last point was a two-year average for 2013 and 2015, so just a large number of recruiting females in the 40 to 60 centimeter range.

This pattern is very consistent with what we've seen, high recruitment since 2009. This shows that graphically. The recruitment starts becoming strong in 2008 and really becomes stronger in 2009. This is the assessment summary. They found the stock is rebuilt. Overfishing is not occurring. The F in 2014 was 0.214; our F at MSY is 0.2439 so we are not overfishing.

The stock is not being overfished. Our biomass in 2015 was 138,000; our biomass MSY is 159,000 metric tons. We're above threshold, but we're still below target by 87 percent. The short term decline in abundance was expected, but recruitment of sub-adults to exploit our biomass should increase the stock; and there is very low risk of falling below one half BMSY.

The median OFL for 2016 was calculated at 24,247 metric tons. The P-star based estimate for ABC for 2016 is 16,765 metric tons. This shows graphically the SSB, and of note is the 2015. There is not 2014 estimate and 2015 estimate is below the target but still above the threshold. Paul did a projection based on F equal Fmsy as the proxy.

He assumed the 2015 catch at 16,542; which he assumed the same catch as 2014. He projected out for 250 years to check for stability at Fmsy, and the model shows decreases in stock size as was expected in the next few years. But the current run suggests the stock has low probability of declining below the threshold biomass. Of note is the recruitment of strong year classes from 2008 to 2013 should show increased stocks beginning around 2019. This shows graphically the projections. You can see the drop and then the increase in 2019. That was my presentation.

CHAIRMAN BORDEN: Thank you very much, Scott. I would like everyone to ask your indulgence to kind of deviate very slightly from the agenda, because it is going to have a direct bearing on the questions you are going to ask; and we an essentially update the information you have so that the questions focus more on the specifics.

SET 2016-2018 SPINY DOGFISH SPECIFICATIONS

CHAIRMAN BORDEN: What I would like you to do is hold your questions for Scott. We'll do the Mid-Atlantic review. Following that, I'm going to ask Rick Robbins to come and brief us. Rick, do you want to do that now? If you would like to do that now just brief us on what the Mid-Atlantic Council intends to do in terms of reviewing this issue of the two-year average.

MR. RICHARD B. ROBINS, JR.: Mr. Chairman, thank you for the opportunity; I'm Rick Robins, Chair of the Mid-Atlantic Council. I'll be brief, but the Mid-Atlantic Council did meet at our October meeting and established specifications for spiny dogfish. Those are based directly on the assessment update results.

Perhaps most significantly, we recognize there was a problem with that missing year of data, so the council passed a motion that would engage the SSC and the Northeast Fisheries Science Center. They've already had that engagement. Dr. Errigo has been in communication with a working group for the SSC. They scheduled a webinar for November 24th. They are going to be looking at several things. They'll look at the analysis they've already done, but they'll also consider the algorithm that was proposed by Dr. Pierce in our council meeting, so that would be one way to fill in the data for 2014. They're also going to analyze a common filter and apply that to the data. That would be a smoothing function that would also provide an alternative data point for 2014. Pending the result of that work, the SSC will review it on November 24th and we will reconsider the question if that value is different at our December council meeting.

That will be the week after the New England Council meets, so when both councils meet in December they are going to have an updated value in front of them pending the result of that analysis. I don't know what those figures will be yet, the work hasn't been done. But we do expect to have it very soon. We are cautiously optimistic that will put us in a better position in December when we reevaluate the question, but I just wanted to provide a quick update in terms of where we are on that.

CHAIRMAN BORDEN: Thank you very much, Rick; any questions for Rick while he's at the microphone. No hands up. Ashton, would you just summarize the Mid-Atlantic Council activities**,** and then we'll go back to Scott for questions.

FISHERY PERFORMANCE REPORT

MS. ASHTON HARP: I am going to move forward, and this presentation is kind of a modified version of the one that was presented at the Mid-Atlantic Council by Jason Didden. For recent landings, this fishery is a May 1 through April 30th fishing year. This graph just shows landings to date. You will see in the yellow line is last year's fishing year and the blue dots are this year's fishing year. You can see we're trending slightly below where we were last year.

As of October 21st, we had harvested 8.7 million pounds, which represent 17 percent of the overall quota of 50 million pounds. For management measures, just to show in previous fishing years. In 2012 the fishery caught the quota which was 20 million pounds and the 2013 fishing year, they caught 27 million pounds.

You can see the quota starting to increase. In the 2014 fishing year 16 million, 22 million last year and as I just said we're trending slightly below where we were last year. The fishery performance report comes from a call that Jason convened with myself with the AP; just to kind of get their input before everything was presented to the Mid.

In general, the fisheries participants reported that they did not have any problems catching other trip limits. The main thing that they said is that there are limited markets to sell to. It affects the price and how much processors are willing to take in, so the processors will place restrictions on when they will accept the product. There was a lot of input on a slow and steady approach was needed for trip limits.

There were some people who felt that maybe they should be increased. This was done by region, and gear types maybe had differing opinions. But overall the majority felt that a slow and steady approach was needed given the market, and that processors will not accept higher volumes at this time. They didn't want any downward shifts in price if trip limits were increased. That is a very quick overview of the Fisheries Performance Report.

CHAIRMAN BORDEN: Questions for Ashton?

MR. WILLIAM A. ADLER: In other words, the catch so far is only 17 percent of the quota, which is 50 million pounds. Is that what you just said?

MS. HARP: Yes.

MR. ADLER: All right, thank you.

REVIEW OF MID-ATLANTIC FISHERY MANAGEMENT COUNCIL SPECIFICATIONS

CHAIRMAN BORDEN: Any other questions for Ashton? Okay, Ashton, you're going to finish your presentation on the specifications, is that correct?

MS. HARP: Just moving right into specifications. The SSC and subsequently the Mid recommended a 36.9 million pound ABC for spiny dogfish. As you can see here, the next point kind of – Rick just touched on that – is that there are discussions based on the motion that was passed at the Mid to kind of modify these numbers; however, I'm just going to go ahead and present the numbers that were recommended at the Mid-Atlantic Council so you guys can see them. They may change in early December.

You can see that the ABC is 36.9 million in the 2016 fishing year, which is about a 41 percent decrease from what we have now; which is about 15 million pounds in the 2015 fishing year. When we deduct out the Canadian landings of 143,000, then the U.S. discards of 11 million are deducted. The U.S. recreational landings of 68,000 are deducted.

Then finally we get to the commercial quota for the 2016 fishing year that's proposed is 25 million pounds. As you can see this is about a 50 percent reduction from the commercial quota, which is 50 million pounds in the 2015 fishing year. The recommended quota for 2016 would still be 11 percent above the landings in the most recent fishing year.

The risk of overfishing in these years from the council's risk policy would be a 33 percent risk of overfishing in 2016, 30 percent in 2017, 28 percent in 2018. Just as a reminder for ASMFC for trip limits, in 2014 the trip limits were set at 5,000 pounds per trip for northern states; Maine through Connecticut. Southern states can set their own possession limits. That concludes the presentation.

CHAIRMAN BORDEN: Any questions?

MR. ROB O'REILLY: Not a question but a comment. I'm not sure it was made clear that when the council asked through a motion to have the SSC and the Center revisit this situation of 2012 data that Chairman Robins from the council mentioned to you. The specification was only one year, so 2016 was the only year that was motioned at the council, pending whatever happens later on.

CHAIRMAN BORDEN: All right. Thank you very much, Rob. Any other points? David.

DR. DAVID PIERCE: I would like to thank Chairman Robin Robins for coming to our meeting today and providing us with the summary as to where they are right now; in other words it's not over yet. The council decision made not too long ago cut the commercial quota in half from 58 million pounds to about 25 million pounds, based on the two year moving average instead of three, because one year was missing due to a breakdown of a Bigelow.

It had a mechanical problem and it's made it by the chairman of the SSC, they couldn't get into areas to survey where high dogfish abundance was expected, and that was a critical strata that was missed. The debate, the discussion that we had at the Mid-Atlantic Council, with me being there as Vice-Chair of the board, it's a joint council plan. The spirited debate resulted in a decision to have some further discussion about what, indeed, should the ABC, the commercial quota be for the upcoming fishing year.

One reason for that decision was a motion that I made regarding how to find a third data point. How to find a third data point that would provide us with far better perspective of the amount of dogfish that is out there in the fishing grounds now. I think most of us involved in the dogfish fishery are well aware that dogfish are extremely abundant.

Apparently council staff, under the direction of Chairman Robins, has been working with the Northeast Fishery Science Center, Paul Rago specifically. They have maybe three ways in which this can be revisited. Scott noted some of those. One would be the approach that I suggested. If my approach actually has legs, and I really think it does have legs, because it is a common sense approach, frankly.

I won't get into the details except to say, using my approach the spawning stock biomass large females, instead of it being about 136,000 metric tons it is 184,000 metric tons. That will lead to a commercial quota much higher than 25 million pounds; where exactly I'm not sure. Anyway, that's all subject to further analysis, further discussion.

I'm suggesting to you, Mr. Chairman and to this board that we really don't have to take final action on the specification for 2016. It really makes sense for us to wait until we get the results of the discussions; the work being done with staff from the Northeast Fisheries Science Center. I'm optimistic that when they're through with their work we're going to find out that indeed the Mid-Atlantic Council will be revisiting the 25 million pounds. It will go up to some other number. I'm optimistic it will. How high will it go? I don't know yet.

I wait for those analyses to be presented. I don't want to, as a board member, make a motion for any particular quota for next year, because in all likelihood we'll have to revisit it once we get that information; that word from the Mid-Atlantic Council. That's my suggestion, Mr. Chairman that there is no need for us to take final action on the 2016 spiny dogfish specifications or '17 or '18 for that matter, certainly not on '16. We can wait until our winter meeting when we have all that information in hand.

CHAIRMAN BORDEN: I would ask the members of the committee to keep that in mind. As I said I was going to do, I am going to offer anyone an opportunity to ask Scott questions on the

assessment and then we're going to come right back to David Pierce's suggestion. Does anyone have questions on the assessment? No hands up. Okay, then, David has suggested a course of action. Oh excuse me, Terry.

MR. TERRY STOCKWELL: I'm just ready when you're ready, Mr. Chairman to move it to the next step.

CHAIRMAN BORDEN: All right, you would like to make a motion?

MR. STOCKWELL: Yes sir. Dr. Pierce provided all the rationale, so I'm going to move to postpone final action on the 2016 to 2018 spiny dogfish specifications until the winter meeting.

CHAIRMAN BORDEN: Is there a second? I have numerous; Dr. Pierce second. Discussion on the motion, any discussion? Any objections to the motion? **Seeing no objections; the motion stands approved.**

ADJOURNMENT

CHAIRMAN BORDEN: Is there any other business to come before the Board? If not, this meeting is adjourned.

(Whereupon, the meeting was adjourned at 5:00 o'clock p.m., November 4, 2015.)

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ATLANTIC STATES MARINE FISHERIES COMMISSION
Spiny Dogfish

The following provides a summary of the motions specific to spiny dogfish at the NEFMC and MAFMC meetings.

COUNCIL ACTIONS

New England Fishery Management Council
December 1, 2015

Final Motion
Dr. Pierce moved and Mr. Pappalardo seconded: to adopt the 2016 - 2018 Spiny Dogfish specifications provided in the MAFMC November 24, 2015 memo from Jason Didden to the Councils.

The motion carried on a show of hands (unanimously).

Mid-Atlantic Fishery Management Council
December 7, 2015

Final Motion
Move to revise the spiny dogfish ABCs for 2016-2018 (2016: 23,617 mt, 2017: 23,045 mt, 2018: 22,635 mt) and associated management measures. Batsavage/Hemilright.

Motion carries (20/0/0).

Table 1. Revised 2016-2018 ABC and Commercial Catch Quota (the same numbers are shown in Table 2)

Year	Acceptable Biological Catch (pounds)	Commercial Catch (pounds)
2016	52,066,572	40,360,761
2017	50,805,528	39,099,717
2018	49,901,633	38,195,822

Table 2. Revised OFLs, ABCs and ACLs, as referenced in the November 24, 2015 memo from Jason Didden to the Councils and Commission

Specifications	Basis	2016 (pounds)	2016 (mt)	2017 (pounds)	2017 (mt)	2018 (pounds)	2018 (mt)
OFL	Projected Catch at Fmsy	64,414,664	29,218	na	na	na	na
ABC	Council Risk Policy	52,066,572	23,617	50,805,528	23,045	49,901,633	22,635
Canadian Landings	= avg last 3 years (10,11,12)	143,300	65	143,300	65	143,300	65
Domestic ABC	= ABC - Candadian Landings	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
ACL	= Domestic ABC	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
Mgt Uncert. Buffer	Avg. pct overage since 2011	0	0	0	0	0	0
ACT	= ACL - mgt uncertainty	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
U.S. Discards	= 3 year average (12,13,14)	11,494,167	5,214	11,494,167	5,214	11,494,167	5,214
TAL	ACT - Discards	40,429,105	18,338	39,168,060	17,766	38,264,165	17,356
U.S. Rec Landings	= 2014 Estimate	68,343	31	68,343	31	68,343	31
Comm Quota	TAL - REC Landings	40,360,761	18,307	39,099,717	17,735	38,195,822	17,325

Mid-Atlantic Fishery Management Council
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: November 24, 2015

TO: Joint Spiny Dogfish Committee, Councils

FROM: Jason Didden

SUBJECT: Spiny Dogfish 2016-2018 Specifications

At the Mid-Atlantic Fishery Management Council's (Council) October 2015 meeting, in addition to passing a 2016 Spiny Dogfish ABC recommendation (16,765 mt) and associated management measures, the following motion was adopted: "Move that the Council request that the SSC, with guidance from the NEFSC, determine the OFL and the ABC for 2016 using a 3-yr average of mature female biomass for 2015, 2013, and 2012/2011 combined and any other options that the SSC/Center consider appropriate." [Pierce/Batsavage (24/0/0)]

Paul Rago (NMFS Northeast Fisheries Science Center) completed an evaluation (available at: http://www.mafmc.org/council-events/2015/ssc-meeting-nov24) of several smoothing options to deal with the missing 2014 data. The Council's SSC met November 24, 2015, and reviewed the evaluation and concluded that a Kalman filter was the best of the available smoothing methods. Application of the Kalman filter results in different ABCs and quotas than were recommended at the Council's October 2015 meeting. The table below describes the specifications that result from the same management measures (deductions for Canadian catch, discards, and recreational landings) as recommended previously by the Council, except applied against the new SSC ABC recommendations. The SSC report will be forwarded to the Councils as soon as possible. Additional background materials are available in the October 2015 briefing book: http://www.mafmc.org/briefing/october-2015.

Specifications	Basis	2016 (pounds)	2016 (mt)	2017 (pounds)	2017 (mt)	2018 (pounds)	2018 (mt)
OFL	Projected Catch at Fmsy	64,414,664	29,218	na	na	na	na
New ABCs	Council Risk Policy	52,066,572	23,617	50,805,528	23,045	49,901,633	22,635
Canadian Landings	= avg last 3 years (10,11,12)	143,300	65	143,300	65	143,300	65
Domestic ABC	= ABC – Canadian Landings	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
ACL	= Domestic ABC	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
Mgmt Uncert. Buffer	Ave pct overage since 2011	0	0	0	0	0	0
ACT	= ACL - mgmt uncertainty	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
U.S. Discards	=3 year average 12-13-14	11,494,167	5,214	11,494,167	5,214	11,494,167	5,214
TAL	ACT – Discards	40,429,105	18,338	39,168,060	17,766	38,264,165	17,356
U.S. Rec Landings	= 2014 estimate	68,343	31	68,343	31	68,343	31
Comm Quota	TAL – Rec Landings	40,360,761	18,307	39,099,717	17,735	38,195,822	17,325

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Mid-Atlantic Fishery Management Council
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: 25 November 2015

TO: Richard B. Robins, Jr., MAFMC Chairman

FROM: John Boreman, Ph.D., Chair, MAFMC Scientific and Statistical Committee

SUBJECT: Report of the November 2015 Webinar of the MAFMC SSC

On 24 November 2015 the SSC met via webinar to address terms of reference concerning Spiny Dogfish that related to a motion passed by the Council at its last meeting:

> *Move that the Council request that the SSC, with guidance from the NEFSC, determine the OFL and the ABC for 2016 using a 3-yr average of mature female biomass for 2015, 2013, and 2012/2011 combined and any other options that the SSC/Center consider appropriate.*

The final agenda for the webinar is attached (Attachment 1). A total of 15 SSC members were in attendance, which constituted a quorum (Attachment 2). Also in attendance were representatives from the Council, Council staff, NMFS Regional Office, state agencies, the fishing industry, and the general public.

Dr. Paul Rago, Northeast Fisheries Science Center, provided a background document (Rago 2015) for the webinar that served to guide the SSC's discussion of the terms of reference. He also walked the SSC through the document via a PowerPoint presentation during the webinar. The SSC received this document on Monday, November 23rd, which did not provide much time for review. As noted in the response to the second term of reference, the SSC wants to spend more time on an in-depth review of the approach proposed by Dr. Rago for estimating female spawning stock biomass prior to setting specifications for the 2017 fishing year.

The SSC's consensus responses to the Council's two terms of reference are as follows:

1. Estimate the 2015 spiny dogfish stock biomass using the existing approach, a three-year average of 2015, 2013, and 2012/2011 combined, and a Kalman filter approach.

The female spiny dogfish stock biomass was calculated by three approaches, as detailed in Rago (2015). The SSC accepts the following estimates:

Approach	2015 Female Stock Biomass Estimate (mt)		
	Median	10 %ile	90 %ile
Current method (3-yr moving average)	138,903	76,580	201,227
Council proposed method (5-yr average using 4 yrs of data)	189,705	92,430	286,980
Kalman filter	167,983	100,682	235,283

2. Based on an evaluation of the performance of the approaches, provide 2016-2018 ABC/OFL recommendations that represent the best scientific information available.

The SSC accepts the Kalman filter as the best available approach to overcome the data gap resulting from the incomplete 2014 survey. The SSC reached this conclusion because the Kalman filter provided an objective foundation for analyzing time series data, did not demonstrate a substantial retrospective pattern, and provided more stable estimates of survey abundance and hence catch advice.

The SSC recommends a three-year specification of ABC. The SSC used the 2016 OFL value of **29,218 mt** from the Rago report (Table 14 in Rago 2015). By using an assumed lognormally distribution of OFL with a CV of 100% for a typical life history, the following ABCs were developed:

Method	ABC (mt)		
	2016	2017	2018
Kalman filter	**23,617**	**23,045**	**22,635**

However, the SSC notes that it expects, at a minimum, to evaluate the statistical properties of the Kalman filter, as applied to the spiny dogfish stock, at a meeting before reviewing its specifications for the 2017 fishing year. The SSC requests support from the Council to provide participation of NEFSC center staff in this evaluation.

Reference Cited

Rago, P. 2015. Evaluation of Alternative Smoothing Options for Spiny Dogfish Abundance Estimates. *Draft Working Paper for Pre-dissemination Peer Review Only.* Northeast Fisheries Science Center. 28pp.

http://www.mafmc.org/s/Evaluation-of-Alternative-Smoothing-Options-for-Spiny-Dogfish-Abundance-Estimates.pdf

cc: SSC Members, Lee Anderson, Chris Moore, Rich Seagraves, Jason Didden, Paul Rago

Attachment 1

Mid-Atlantic Fishery Management Council
Scientific and Statistical Committee Webinar
November 24, 2015
Final Agenda

1. Introductory Comments (Boreman/Robins/Seagraves)
   - Purpose of Webinar
   - Motion by Council
   - Terms of Reference (TORs)

2. Presentation by NEFSC (Rago)

3. Supplementary Comments by MAFMC Staff and SSC Lead (Didden/Jiao)

4. Public Comments (only if related to TORs)

5. TOR Deliberations by SSC (Jiao)

6. Adjourn

Attachment 2

MAFMC Scientific and Statistical Committee
24 November Webinar
Attendance

Name	Affiliation
Members in Attendance:	
John Boreman (SSC Chairman)	NC State University
Tom Miller (SSC Vice-Chair)	University of Maryland - CBL
Dave Secor	University of Maryland - CBL
Doug Lipton	NMFS
David Tomberlin	NMFS Office of Science and Technology
Mark Holliday	NMFS (Retired)
Doug Vaughan	NMFS (Retired)
Sarah Gaichas	NMFS Northeast Fisheries Science Center
Sunny Jardine	University of Delaware
Bonnie McCay	Rutgers University
Olaf Jensen	Rutgers University
Ed Houde	University of Maryland – CBL
Yan Jiao	VA Tech
Mike Frisk	Stony Brook University
Wendy Gabriel	NMFS Northeast Fisheries Science Center
Others in attendance:	
Rich Seagraves	MAFMC staff
Jason Didden	MAFMC staff
Kiley Dancy	MAFMC staff
Paul Rago	NMFS Northeast Fisheries Science Center
Richard Robins	MAFMC Chairman
Lee Anderson	MAFMC Vice Chairman
Chris Batsavage	MAFMC member
Rob O'Reilly	MAFMC member
Jeff Kaelin	MAFMC member
Greg DiDomenico	
Dave Borden	
Eric Schneider	
Greg Hinks	
Tobey Curtis	
Jason McNamee	
John Whiteside	
Nichola Meserve	
David Pierce	
Katie Mae Laumann	
Matt C (?)	
Holly White	
Fiona Hogan	
Ashton Harp	
Angel Willey	