

**PROCEEDINGS  
OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
SPINY DOGFISH AND COASTAL SHARK MANAGEMENT BOARD**

**November 9, 2004  
The Wentworth by the Sea  
New Castle, New Hampshire**

Approved August 18, 2005

## ATTENDANCE

### Board Members

Lew Flagg, Maine DMR  
Pat White, Maine Gov. Apte  
Senator Dennis Damon, Legislative Apte. (ME)  
John Nelson, New Hampshire Fish & Game Dep.  
G. Ritchie White, New Hampshire Gov. Apte.  
Representative MaryAnn Blanchard (NH)  
David Pierce, Massachusetts DMF  
William Adler, Massachusetts, Gov. Apte.  
Vito Calomo, proxy for Representative Verga (MA)  
Mark Gibson, Rhode Island DEM  
Everett Petronio Jr., Rhode Island Gov. Apte.  
Gil Pope, proxy for Rep. Naughton (RI)  
Eric Smith, Connecticut DMR  
Lance Stewart, Connecticut Gov. Apte.  
Senator G.L. Gunther, Legislative Apte. (CT)  
Gordon Colvin, New York DEC

Pat Augustine, New York Gov. Apte.  
Bruce Freeman, New Jersey DFG&W Tom Fote,  
New Jersey Gov. Apte.  
Dick Herb, proxy for Assemblyman Smith (NJ)  
Roy Miller, Delaware DFW  
Pete Jensen, Maryland DNR  
Bruno Vasta, Maryland Gov. Apte.  
Russell Dize, Proxy for Senator Colburn (MD)  
Jack Travelstead, Virginia MRC  
Fentress Munden, **Chair**, North Carolina DMF  
Damon Tatem, North Carolina Gov. Apte.  
David Cupka, SC DNR, Gov. Apte.  
Spud Woodward, GA DNR Coastal Resources  
Gil McRae, Florida FWC-FMRI  
Representative Mitch Needleman, Legislative Apte. (FL)  
Harold Mears, NOAA Fisheries  
Bill Cole, USFWS

### Ex-Officio Members

Chris Batsavage, Technical Committee Chair  
Rich Otterstedt, Law Enforcement Rep

### ASMFC Staff

Bob Beal  
Megan Gamble  
Lydia Munger  
Toni Kerns

Vince O'Shea  
Nancy Wallace  
Brad Spear

### Guests

Bob Ross, NOAA Fisheries  
Dennis Abbott, NH Legislative Proxy  
Louis Juillard, AML, MA  
Anne Lange, NOAA Fisheries  
Kathleen Szleper  
Janice Plante, Commercial Fisheries News  
Clare McBane, NH F&G  
Bennie Williams, US FWS  
Greg Skomal, MA DMF

Dan McKiernan, MA DMF  
Paul Diodati, MA DMF Bob Glenn, MA DMF  
Patrick Paquette, MA Striped Bass Association  
Alexei Sharov, MD DNR  
Gregory DiDomenico, Garden State Seafood Assoc.  
Dan Furlong, MAFMC  
Jim Armstrong, MAFMC  
Sonja Fordham, Ocean Conservancy  
David Simpson, CT DEP

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## MOTIONS

**1. Move that the annual specification for the 2005-2006 bycatch quota be 4 million pounds, with trip limits of 600 pounds for quota period 1 and 300 pounds for quota period 2.**

Motion by Mr. Augustine, second by Mr. R. White; motion carries (10 in favor, 4 opposed, 2 abstentions).

**2. Motion to amend to change the trip limit to 1500 pounds of males and females for quota periods 1 and 2.**

Motion by Mr. Adler, second by Mr. Petronio; motion fails (4 in favor, 10 opposed, 1 abstention).

**3. Move that Maine, Delaware, South Carolina, Georgia, and Florida be granted *de minimis* status for the 2004-2005 fishing year.**

Motion by Mr. Cupka, second by Mr. Flagg; motion carries (14 in favor, 0 opposed, 1 abstention).

**4. Move approval of the 2003-2004 FMP Review.**

Motion by Mr. Augustine, second by Mr. Flagg; motion carries.

**5. Move to nominate Pat Augustine as Chair of the Spiny Dogfish and Coastal Shark Management Board.**

Motion by Mr. R. White, second by Mr. Calomo; motion carries.

**6. Move to nominate Eric Smith as Vice-chair**

Motion by Mr. Nelson, second by Mr. Calomo; motion carries.

**ATLANTIC STATES MARINE FISHERIES  
COMMISSION  
63<sup>rd</sup> ANNUAL MEETING**

**SPINY DOGFISH AND COASTAL SHARK  
MANAGEMENT BOARD**

**Wentworth by the Sea  
New Castle, New Hampshire  
November 9, 2004**

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The Spiny Dogfish and Coastal Shark Management Board of the Atlantic States Marine Fisheries Commission convened in the Wentworth Ballroom of the Wentworth by the Sea, New Castle, New Hampshire, on Tuesday, November 9, 2004, and was called to order at 10:45 o'clock a.m. by Chairman Red Munden.

**WELCOME & INTRODUCTIONS**

**CHAIRMAN RED MUNDEN:** All members of the Spiny Dogfish and Coastal Shark Management Board, please take your seat at the table so we can begin the meeting. Good morning. I'm Red Munden. I'm with the North Carolina Division of Marine Fisheries.

I serve as chairman of the Spiny Dogfish and Coastal Shark Management Board, at least until the meeting adjourns today, which is scheduled to be at 12:45. I want to welcome you all. We have a number of things that we need to accomplish today.

First of all, I had a request from Paul Diodati to add one item to the agenda, and that is an update on a large white shark that visited his state's waters this past summer. I would like to add that as the last thing on the agenda.

**BOARD CONSENT**

**CHAIRMAN RED MUNDEN:** I'll ask if the board members have any other items that you'd like to add to the agenda. Is there any opposition to adding the presentation on the large white shark to the agenda? Seeing none, I'll ask for a motion to approve the agenda.

Okay, Bill Adler and Bruce Freeman. Any opposition to approving the agenda? Seeing none, then the agenda is approved with the addition of the update on the great white as the last item.

The briefing material that you received from the staff should have included the minutes from the December 17<sup>th</sup>, 2003, meeting, our last meeting. Any additions or corrections to the minutes? Dave Cupka.

**MR. DAVID CUPKA:** Motion to approve, Mr. Chairman.

**CHAIRMAN MUNDEN:** Motion to approve; second by Bill Adler. Any discussion on the motion? Any opposition? Seeing none, the motion is approved. Before going to the public comment section, we have actually four things that we have to accomplish today.

They are covered by the agenda, but just as a way of a review, the first thing we have to do is establish the quota and trip limits for the 2005-2006 fishing year. The first thing we'll have to do is establish the specifications for the upcoming fishing year.

The second thing is an approval of the FMP review. This is a new process. This will be the first time that we've had a report of the FMP and Megan is going to handle that for us.

The third item would be approval of de minimis status for the states of Maine, Delaware, South Carolina, Georgia and Florida. The fourth thing will be approval of a chairman and a vice chairman for the Spiny Dogfish and Coastal Shark Management Board.

We are currently operating without a vice chairman, so Action Item 4 will be to elect a chairman and a vice chairman. Then the fifth item will be an update on the Massachusetts update on the great white shark visit this past summer.

**PUBLIC COMMENT**

**CHAIRMAN RED MUNDEN:** I now move to the third item on the agenda, public comment. Are there any members of the public who would like to make comments? Would you please come forward and identify yourself, please.

**MS. SONJA FORDHAM:** Thank you, Mr. chairman. Sonja Fordham, the Ocean Conservancy. I just have a few brief remarks before you get started. We have circulated a letter from a group of scientific and conservation organizations regarding the spiny dogfish specifications for the next fishing year.

We continue to support science-based management. We urge you to stay the course in terms of adopting the recommendations from your monitoring committee. That would be a quota of no more than 4 million pounds in the form of an absolute limit on bycatch and not a target for the fishery; and trip limits of 300 and 600 pounds for the different quota periods. I would like to request the opportunity to speak later on a specific motion if necessary. Thank you.

**CHAIRMAN MUNDEN:** Thank you for your comments, Sonja. Other comments from members of the public? Yes, sir, please identify yourself.

**MR. LOUIS JUILLARD:** I'm Louie Juillard. I'm a processor of dogfish, monkfish and skatefish in New Bedford. We think that the trip limit for the boats at 600 pounds and 300 pounds is not enough.

We have observed this summer miles long of dogfish schools. The tuna association has been complaining that they couldn't fish any tuna because of the dogfish. They couldn't put the bait down to the tuna when they're swimming under the dogfish.

We think that something has got to be done pretty soon because that dogfish is going to keep eating everything that they can, and you're going to have a problem with other species.

I think that we don't ask for much right now, but if each boat could fish 1,500 pounds, the limit of the 4 million pounds, that will help everybody to just maintain a little market that we are trying to maintain for better days. Okay, that's all I have to say. Thank you.

**CHAIRMAN MUNDEN:** Thank you for those comments. Are there other members of the public that would like to provide comments? Yes, sir. Please identify yourself.

**MR. WALTER BARRETT:** My name is Walter Barrett, and I'm manager of Sea Trade International in New Bedford, Massachusetts. We process scallops, monk, skate and dogfish. It seems that every year we're back to talk about dogfish, and we don't really seem to be, in our opinion, making gains in what we can process as fast as the dogfish is making gains.

Every other species, lobstermen, people fishing for cod, for tuna, come to us and complain about the vast number of dogfish that are in the ocean now. I think

that while I know there is some consideration here for landing of just males, I think that in theory is probably good, but in practice probably would not work.

I think that it would be counterproductive if in fact looking to conserve a species, I would see that we would only probably wind up destroying more fish. For instance, if you can only keep males, instead of bringing in 600, maybe now you have to bring in 1,200 or 1,500 to find 600 pounds of males. We would be adamantly opposed to that suggestion.

I would like to see limits increased. 600 per boat or 300 per boat, economically still it is not real feasible because of the price of dogfish.

I think if you continue to listen to the conservationist figures about dogfish, I think that probably within the next three or four years we'll go back to probably asking boats to go please land dogfish because there will be nothing else to fish.

Dogfish are predators. We are seeing tremendous increases in numbers, so I ask that you please consider at least upping the boat limit or the trip limit to 1,500. Thank you.

**CHAIRMAN MUNDEN:** Thank you for your comments. Other individuals who would like to speak. Yes, sir, please come forward.

**MR. PATRICK PAQUETTE:** My name is Patrick Paquette. I'm the government affairs chairman for the Massachusetts Striped Bass Association. I'm also a charter boat captain in the state of Massachusetts.

Our membership sent me here today, and I would normally not come to this board meeting, but the abundance of dogfish in coastal Massachusetts from early May to yesterday afternoon is starting to interfere with the charter boats in a way that trips are getting cut down.

We had four trips, full-day trips, that were cut to half-day trips this summer alone. We have repeatedly over 150-fish days, and we're on the water six to seven days a week. You can walk on dogfish from Gloucester to Provincetown to Martha's Vineyard.

And, members of our association are reporting the same as the gentleman just did, that it's almost impossible for them to go tuna fishing. They sent me here just to learn, and I'm here to learn today.

I wanted it at least to be said from our experience, being on the water, there is a lot of dogfish at least in Massachusetts. I just hope that's reflected. I know that they're maybe not coastwide, but it's unbelievable the numbers of them in the last two years.

**CHAIRMAN MUNDEN:** Thank you for your comments. Are there other members of the public that would like to provide comments to the board? Seeing none, that closes the public comment period.

### **TECHNICAL COMMITTEE REPORT**

The next item on our agenda is a report by Chris Batsavage, the technical committee that met most recently so, Chris, it's all yours.

**MR. CHRIS BATSAVAGE:** Thank you. The Spiny Dogfish Technical Committee met with the Mid-Atlantic and New England Fishery Management Council's Spiny Dogfish Monitoring Committee on September 24<sup>th</sup> to set specifications for the 2005-2006 fishing year.

**CHAIRMAN MUNDEN:** The information that Chris is presenting to you was sent to you in the briefing book. It's the ASMFC Spiny Dogfish Technical Committee Report dated 24 September.

**MR. BATSAVAGE:** The objectives of the meeting were to review the current stock status information and recommend an annual quota and trip limits for the upcoming fishing year. The first thing the technical committee reviewed was the 2003 landings data.

The U.S. commercial landings last year were only 1,170 metric tons or about 2.6 million pounds, which was about half of the landings in 2002. Lack of available processors was the reason for the landings failing to reach the quota.

Port sampling revealed that about 98 percent of the spiny dogfish landed were females, which is consistent with the past several years. Canadian landings also decreased in 2003 compared to 2002, with only 1,270 metric tons or about 2.8 million pounds landed last year.

This graph shows the size composition of the commercial catch since 1988. Specifically, it shows proportion of females greater than 80 centimeters in the catch. As the population of dogfish declined, the size composition of the catch also declined.

Now that landings are restricted by annual quotas and trip limits, the proportion of dogfish greater than 80 centimeters is increasing. However, this is a reflection of gear selectivity in the commercial fishery and does not correlate to the size composition found in the Northeast Fisheries Science Center Trawl Survey.

Recreational landings of spiny dogfish in 2003 were estimated at a little over 3,000 metric tons or 6.7 million pounds. Using numbers of fish estimated from the Marine Recreational Fisheries Statistics Survey and the average weight from the latest stock assessment, Massachusetts and New Jersey were the states with the highest recreational harvest.

Few dogfish are sampled by the MRFSS survey because dogfish are not targeted recreationally, so the average weight from the stock assessment was used instead of the one from the MRFSS survey, because the few dogfish sampled may not reflect the recreational catch.

And as in the stock assessment, the recreational discard mortality was assumed to be 100 percent. The total removals of dogfish in 2003 -- and this is landings and dead discards combined -- was 11,429 metric tons or about 25.2 million pounds.

This slide shows how the total removals were distributed among the commercial and recreational landings as well as discards. Dead discards made up the highest proportion of the removals at 5,962 metric tons or about 12.1 million pounds.

This graph shows the comparison of dead discards to landings from 1988 to 2003. Dead discards are indicated by the blue line and landings are the red line. Dead discards have been at a relatively constant level the past several years and are on the same level as total landings.

The next thing the technical committee reviewed was the results from the 2004 Northeast Fisheries Science Center Spring Trawl Survey. This slide provides a general overview of the results with the following slides going into more detail.

The 2004 survey indicates that the current fishing mortality is at 0.044. This is below the target and threshold fishing mortality rates so overfishing is no longer occurring.

However, the F rate required to rebuild the spawning stock biomass, which is at 0.03, was not maintained. The spawning stock is still considered overfished

with the latest estimate at only about 32 percent of the target.

This graph shows the total stock biomass estimate of spiny dogfish. This is males and females combined of all sizes. The three-year moving average of the total stock biomass has decreased from 415,533 metric tons in 2001 to 2003 to 388,767 metric tons in 2002 to 2004.

This graph shows the estimate of spawning stock biomass, which is females greater than 80 centimeters. Spawning stock biomass continues to decrease from over 65,000 metric tons in 2002 to 2003 to a little over 60,000 metric tons in 2002 to 2004.

This graph shows the biomass estimates for intermediate-sized dogfish. These are dogfish between 36 and 79 centimeters, males and females combined. The overall abundance of intermediate-sized dogfish remains quite high at over 310,000 metric tons from 2002 to 2004, contributing significantly to the total population size.

Dogfish in general remain rather abundant, but the population has shifted to these smaller, immature fish. This next graph shows the biomass estimate of the intermediate-sized females, taking the males out.

The immature females show a fairly sharp decline in abundance compared to the overall abundance of these intermediate-sized dogfish. This could be some evidence of low pup production that we've seen in the last seven years.

The 36 to 79 centimeter males include older mature fish, which is why the declining trend for males in this size class is not as pronounced as with the females. The declining trend in the different size classes of dogfish is attributed to the removal of the larger females and seven years of low pup production.

This graph shows the biomass estimates of pups. These are animals less than 36 centimeters. The pup abundance in 2004 increased for the first time in eight years, possibly showing some evidence of improved recruitment.

The pup abundance estimate in 2001 to 2003 was 153 metric tons, but was estimated at 653 metric tons for 2002 to 2004. It is possible that dogfish pups do not inhabit the bottom like the older, larger dogfish, and, therefore, are less vulnerable to being caught by the survey trawl.

It may be possible to determine where these pups reside by studying their diet, looking at whether they're eating prey that are found up in the water column or prey that are pretty much bottom dwellers.

In an attempt to explain the high abundance of dogfish recently encountered by commercial and recreational fishermen, inshore and offshore trawl survey sites were compared. This graph shows the percent of the population found in the inshore stations.

Males are the dotted blue line and females are the solid red line. The spring survey shows a greater proportion of males than females in the inshore areas since 2000. However, more research is needed to explain the shift in the population's abundance.

This graph shows the mean weight of female dogfish in the inshore and offshore sampling areas since 1980. The dotted line is the average weight of females in the inshore areas, and the solid line is the average weight of the females in the offshore areas.

The larger females tend to be found in the inshore strata than in the offshore strata. Males do not show as significant a difference in size between inshore and offshore strata. The increase in pup abundance, uncertainty in discard mortality estimates, and a continued low spawning stock biomass are reasons to support status quo management measures.

The directed fishery has a profound effect on the rebuilding of the spawning stock since it targets mature females. A 1,500 pound trip limit was discussed by the technical committee; however, an economic analysis of this trip limit found that it would not be profitable for most vessels and gear types.

Increased trip limits result in an increase in total landings. It's counterproductive to the existing management measures, especially since the commercial fishery does target mature females.

So, for the 2005-2006 fishing year, the technical committee recommends the maximum bycatch quota of 4 million pounds and possession limits of 600 pounds in Period 1 and 300 pounds in Period 2. That concludes the technical committee report.

**CHAIRMAN MUNDEN:** Thank you for that report, Chris. Just in summary, the technical committee recommends status quo for the upcoming fishing year; is that correct?

**MR. BATSAVAGE:** Yes, that's correct.

**CHAIRMAN MUNDEN:** Questions of Chris from board members? I have Bruce Freeman and Dave Pierce.

**MR. BRUCE FREEMAN:** Thank you, Mr. Chairman. There is one aspect of the report that continues to reoccur each year, and it's just bothersome. That deals with the MRFSS information relative to the recreational catch.

It's very interesting on Page 1 it indicates that the recreational catch and total mortality is something in the order of 6.7 million pounds, and the average weight is a little over 2 kilograms, so it is somewhere in the order of 2 million fish a year.

The total sample size for that 2 million fish on the average, in 2000 the total sample size for the entire coast was 6 fish. Bear in mind we're catching somewhere around 2 to 3 million fish.

In 2007 it was 27 fish, what was a high point. Then it dropped down to 18 fish in 2003. And then based upon that, we have an average weight of fish taken in the recreational fishery.

Now, it just seems almost ludicrous we're even using those numbers because of the very low sample size. Then we go on to indicate that since there's no indication of what the discard mortality is in the recreational fishery, the assumption is 100 percent discard mortality.

Now, as a fisherman, as an individual recreational fisherman in this instance, I can verify I've taken about five or six spiny dogfish last year, released all of them, so I know there is not 100 percent mortality, maybe 99.99.

But in my instance these fish were released in the water, and in fact most of them tend to be large females. The point being, we're using such ludicrous numbers on the recreational side, we should either do a better job of determining what those numbers are, particularly the average weight, or essentially not use them. It's almost – again, it's ludicrous to use what we know is not correct, but each year we tend to use and reuse and reuse those numbers.

**MR. BATSAVAGE:** The recreational data that we have is obviously not as good as the commercial data that we use to assess the stock.

An inherent problem with the MRFSS survey is when you have species of fish that aren't targeted recreationally, you don't get the number of samples as you would with, say, striped bass or summer flounder, and the level of precision is not very good at all.

I think the reasoning for the estimates that we're using is to kind of look at what the total amount of dogfish taken by this fishery could be. We've discussed in technical committee meetings and in board meetings here, too, that the discard mortality is likely less than 100 percent.

But as far as the estimates from the MRFSS survey, until some more intercepts with spiny dogfish occur, we're going to end up having numbers like this that end up being pretty large projections.

**MR. FREEMAN:** I understand the difficulties that are being faced, but it seems to me that there are various private as well as party boats that do catch large number of these, not that they're interested in catching them, but they do incidental.

In our area, particularly in the recreational fishery, we have a large bycatch in the spring and fall in the sea bass fishery. But it seems with very little effort, on a voluntary basis we could get much better information just from a few boats located along various coastal states to get a much better estimate of mortality and also of size.

But just in our instance, to use the numbers we're using, it's just not realistic, and to perpetuate doing that seems to be an injustice to the biology of the species and for our understanding of what occurs in the fishery.

**CHAIRMAN MUNDEN:** I have Dave Pierce and then Mark Gibson.

**DR. DAVID PIERCE:** Thank you, Mr. Chairman. I was at the technical committee meeting; and as always, they did a fine job. They had Paul Rago there. They met with the monitoring committee, and, of course, they struggled to figure out what's going on with dogfish.

Dogfish assessments are very difficult to do, swept area, biomass estimates. That's all we can really do with dogfish assessments at this point in time. That's how it's done, swept- area biomass. And there are all sorts of questions regarding that, for example, huge swings in abundance changes from one year to the next.

In the data that was provided by you, Chris, I noted that there were some rather tremendous shifts in abundance from one year to the next, last year to this year, for example, all ages, all sizes, all sexes, around 250,000 metric tons.

We lost 250,000 metric tons in one year, and I think everyone around this table knows that's not likely. Anyways, that's another issue.

To the point just made by Bruce, mortality of dogfish, clearly, the technical committee struggled with this and they went with the 100 percent mortality assumption. I just distributed some information that I acquired after the technical committee meeting.

Because of the technical committee's great interest in this issue and, of course, my own interest in this issue, I decided to delve a little bit deeper into what's out there now, research that has been done, what can help us get a better understanding of discard mortality since, as Chris just indicated in his presentation, it's critical.

Discard mortality, according to the technical committee, the dead discards equals total landings. That's a lot. It has a great impact on the fishing mortality rate and, of course, had a lot to do I suspect with our being above the 0.03 level that is needed for rebuilding.

Now we're at 0.044, assuming we can measure that, I guess we can. Anyways, that's another issue. So, we need to reduce the discard mortality or at least to change the assumption. Right now the assumption is very high discard mortality.

I spoke with Dr. Marianne Farrington and her doctoral student, John Mandelman, who have been doing work with dogfish survival, putting dogfish caught hook and line, caught by otter trawls in pens, putting them back on the ocean bottom using standard techniques. I believe they've also consulted with Greg Skomal, a shark biologist, on this.

They had some very revealing results that I'm sharing with you now. I assume that once these results are finalized, because this is preliminary, unpublished information -- they gave me permission to use it -- I'm assuming this will be reviewed by the technical committee and also by others to see indeed if it does stand up, and I suspect it will.

It will have, I suspect, a very significant impact on the kind of advice we get from the technical committee down the road. It's not going to influence what happens here today, I suspect, but at least it's something we can work with.

It also addresses a concern expressed by Sonja Fordham in her correspondence to us, the other sources of mortality where she indicates on behalf of her organization that they remain troubled by the high levels of dogfish bycatch and discard.

Of course, we all are. So this information feeds into that particular concern, and I think will eventually lead all to conclude that concern is overblown. Because, with the results that were obtained from this particular research, we had at the most approximately 23-26 percent post-release mortality.

I have learned from my discussion with the researchers that they believe that mortality is actually on the high end, that there were some cage effects that resulted in higher mortality than there otherwise would be.

In addition, they had one aspect of their experimental work that revealed to them that these dogfish, as Bruce indicated, are extremely hearty, and that in one of their treatments they found a 94 percent survival, and that was after post capture, transport and 30-day confinement, so a 94 percent survival of otter trawl caught dogfish.

So, again, that's excellent information, and we'll be able to embrace that, I'm sure, so, technical committee, please, if you would, take a look at that information. We need it. I'm not asking specific questions and I suppose I should be.

I really don't have any questions to ask Chris, because I was there and I heard it all. A lot of uncertainty, but this is the best they can provide regarding what to do with dogfish for this year.

I note that their recommendation is different from the decision that was made by the Mid-Atlantic Council at its last meeting. We'll get to that as another item of agenda business.

So that really is the purpose of my jumping in here, just to pass this information to you and to encourage you to reflect on it and to give you some encouragement that all is not lost with dogfish, that this concern about dead discards is probably, in all likelihood, very much overstated.

**CHAIRMAN MUNDEN:** Chris, would you like to respond?

**MR. BATSAVAGE:** Yes, you make a good point as far as the discard mortality. The main point is, of course, the technical committee has not reviewed any of this research taking place, and there are several research studies going on.

You mentioned some up in New England and there are some looking at discard mortality down in North Carolina as well. It's something the technical committee awaits. I assume at one time we will get an opportunity to review this. It's possible that our discard estimates will change based on the findings these reports have.

**CHAIRMAN MUNDEN:** Mark Gibson.

**MR. MARK GIBSON:** Thank you. I don't think this issue of discard mortality rates is particularly relevant to the status of the resource.

The assessment already shows that fishing mortality is lower than the threshold and if you increase post-release survival rates, you'll just reduce the body count and move fish into the live column and fishing mortality will be lower.

The really relevant issue is the biomass of the large females and the pup production that have -- both of those have a long way to go, and I think that's what -- and from a resource standpoint, that's what needs to be focused on. For sure, these fish are a nuisance, but they have some way to go in terms of rebuilding the large female biomass.

**CHAIRMAN MUNDEN:** Other questions of board members of Mr. Batsavage? Seeing none, we'll move to our next agenda item. Thank you, Chris, for that update.

#### **UPDATE ON NEFMC AND MAFAMC ACTIONS FOR THE 2005-2006 FISHING YEAR FEDERAL SPECIFICATIONS**

**CHAIRMAN MUNDEN:** Megan is going to give us an update on the New England Fisheries Management Council and the Mid-Atlantic Fisheries Management Council actions for the 2005-2006 fishing year.

**MS. MEGAN GAMBLE:** Okay, thank you. I just wanted to run through several dogfish-related meetings that the councils has held in the past month or two, give you an update on where they are with

setting the federal specifications for the 2005-2006 fishing year.

Their process started with the Dogfish Monitoring Committee that met in September, and they met jointly with our Spiny Dogfish Technical Committee meeting. At that meeting Dr. Paul Rago presented the latest information on the NMFS Northeast Fisheries Science Center's Trawl survey and updated us with much of the information that Chris has shown you today.

The end results for that meeting was similar recommendations to those of our Spiny Dogfish Technical Committee meeting, and that is that they recommended a bycatch quota of 4 million pounds to be divided between the two semi-annual periods. They also recommended trip limits of 600 pounds for Period 1 and then 300 pounds for Period 2.

The next meeting that occurred in the council's process was the joint spiny dogfish committee meeting. That occurred in October. When that committee met, they made a motion to recommend a 4 million pound bycatch quota for the 2005-2006 fishing year, and they also recommended that there would be a 1,500 pound trip limit of males only dogfish, and that the harvest quota would be allocated between the two periods; such that 58 percent would go to Period 1 and 42 percent would go to Period 2.

The next meeting that occurred was the Mid-Atlantic Fishery Management Council meeting. That was the following day. They recommended the 4 million pound quota, so you see a trend there.

They recommended the 1,500 pound possession limit of males only and that the quota would be allocated between the two periods. They explicitly said there would be a prohibition on the possession of females.

So, the only meeting that's left outside of the process is for the New England Fishery Management Council, and they are going to be taking up the specifications next Thursday. I believe that meeting is actually in Portsmouth as well.

So, they will be making their recommendations and those two sets of recommendations will be forwarded on to the Regional Administrator, and I'm sure we'll have an answer early next year or so, prior to the start of the fishing year, anyway.

**CHAIRMAN MUNDEN:** Thank you, Megan. Board members, do you have questions of Megan? Dr. Pierce.

**DR. PIERCE:** As Megan correctly noted, the Mid-Atlantic Council has spoken. The New England Council meets next week to discuss that particular decision by the Mid-Atlantic Council.

Megan, would you happen to know what the position of the Regional Administrator was as expressed at the Mid-Atlantic Council, because clearly that is quite important.

The Regional Administrator last year disagreed with the position of the councils and went with the 4 million and the 600/300. The councils wanted to go in a different direction at that time. So, frankly, I think we need to know today what the Regional Administrator's position is.

Certainly, Harry is here; and if you don't know, he can relate that since it makes no sense for us to go in a direction that is contrary to the Regional Administrator. At least I would think that would be the wise course of action as a board today. So would you be in a position to relay?

**MS. GAMBLE:** I think it's probably more appropriate for Mr. Mears to address that question.

**DR. PIERCE:** If you would, Mr. Chairman, I would appreciate it if Harry Mears, representing the Regional Administrator, would let us know what the Regional Administrator is going to do as someone who knows that at this time. I would think he might.

**CHAIRMAN MUNDEN:** Harry, would you like to respond?

**MR. HARRY MEARS:** Thank you, Mr. Chairman. The position of the National Marine Fisheries Service, as well as the Regional Administrator, is certainly not to support the higher trip limit at the 1,500 pounds.

We've already heard various opinions given at this meeting that we're still at a point in the rebuilding of the stock where we're seeing very low abundance of females. The fact that we would advocate a higher trip limit over the one that currently exists intuitively would increase the mortality on older females, that cannot be tolerated in terms of the rebuilding of the stock, and, furthermore, would be an improper balance between the bycatch and the prevention of a directed fishery. So, once again, the position of the National Marine Fisheries Service is to fully support the recommendations of the technical committee. Thank you.

**CHAIRMAN MUNDEN:** I have Bill Adler and then Tom Fote.

**MR. WILLIAM A. ADLER:** Thank you, Mr. Chairman. The way I'm reading this is that the National Marine Fisheries Service and the technical committee and the monitoring committee is recommending continue to what I consider to be a waste of dogfish; because, based on what was taken versus the dead discards figures, it looks like 13 million and rising pounds of dogfish are going to be discarded dead while we take 4 million.

I just consider this a total waste; and if this is how we're managing to try to get the biomass up, we're going to kill and discard more than we're going to take and something just doesn't seem right about that philosophy. Thank you.

**CHAIRMAN MUNDEN:** Tom Fote.

**MR. THOMAS FOTE:** I'm not a commercial fisherman for dogfish, but through the chair, I mean, if I can remember the conversations that went on last year in New York, when we discussed this, that it basically is not viable to have 400 to 600 pound trip limits and actually make it for commercial fishermen to basically go out and harvest it because the processor won't process it. And at \$.13 a pound or whatever they're getting paid it is not a viable trip.

You know, I haven't got an answer now. I'm looking at the catch. The catch was half of what we set up last year in the quota. So, is it realistic to have a fishery at 400 to 600 pounds or are we just basically saying we should close the fishery? It's the same question I asked in New York and never really got an answer.

Can you have a viable fishery at 400 to 600 pounds or should we just shut the fishery? Is it realistic? Or, should we make it the 1,500 pound trip limit so there is a viable fishery to harvest the 4 million pounds? I never really got an answer to that question last year.

**CHAIRMAN MUNDEN:** Other questions of Megan? Dr. Pierce.

**DR. PIERCE:** I was going to respond to Tom Fote's question if you would care to, Mr. Chairman. I could provide some insights into the viability of a particular limit and perhaps Megan can.

**MS. GAMBLE:** Well, I was just going to make the point that if you look at the recommendation from the council as well as the recommendation from our

technical committee, you will note that it's a bycatch quota. The intent is not to have a directed fishery.

And also the technical committee reviewed an economic analysis from the Northeast Fisheries Science Center that showed that a 600 pound/300 pound directed trip limit on spiny dogfish is not economically viable or feasible, nor is a 1,500 pound trip limit for most of the vessels that would target it. The intent is not to have a directed fishery or to support a commercial fishery for spiny dogfish.

**DR. PIERCE:** Mr. Chairman, if I could, to Tom's question.

**CHAIRMAN MUNDEN:** Dr. Pierce and then Tom Fote.

**DR. PIERCE:** Because of the very high abundance of dogfish off the coast of Massachusetts and elsewhere, I assume, but certainly off of Massachusetts, as already noted by the public when they got to the microphone a little earlier on, and as noted by much of the correspondence that we have that was sent to us by individuals in Massachusetts specifically troubled by their inability to fish any more because of dogfish interference, it is possible now for a processor -- and in Massachusetts we have two, but one in particular with whom I'm more aware and more familiar, that's AML -- it's possible for them to actually put a tractor trailer truck, as they always do, on the dock, for example, in Chatham and then the fishermen bring in their small amounts of dogs that they catch as bycatch.

They have to discard, of course, a lot because they're unavoidably caught. They bring in their small amounts, 600 pounds or 300 pounds, depending upon the season. Now it's 600 pounds or at least it was.

And even though they're getting something like \$24 for their fish, thereabouts, enough is coming in to the docks so that the processor as the truck there, and he can then fill a truck and bring it back to his processing facility to process.

The abundance is so large, the bycatch is so large, it now makes it possible for those fish to be brought in. True, it's not a very viable fishery. It's not. It's a bycatch amount that is being brought in in small dribs and drabs.

But according to some of the fishermen I've talked to, I guess their attitude has been the truck is there; it's \$24; \$24 is \$24 or \$50; therefore, it helps to defray some of the expenses that they have for

increased fuel costs; they may as well bring it in; there is a way to get rid of it.

So that's the reason why the 300 and 600 pounds as a bycatch limit is actually allowing the landings of dogfish in Massachusetts, at least it did during the summer and fall, early fall. That's why landings were occurring as bycatch amounts being landed.

It was feasible, not economically profitable in any way for these fishermen, just pocket change for them, but for the processor at least product to process so that they can -- as indicated by AML, they can at least try to maintain their very small share of some of the markets that they're involved in.

**CHAIRMAN MUNDEN:** In order to focus our discussions on the task ahead, I would like to go ahead, after I recognize Tom Fote, and call for a motion for the quota for the upcoming fishing year and trip limits because I think a lot of these discussions will be more applicable to trip limits and the quota so, Tom, I recognize you, and then I'll go to the board for a motion.

**MR. FOTE:** Dave answered my question.

**CHAIRMAN MUNDEN:** Thank you. I will recognize you in a moment, Mr. Augustine. Board members, the technical committee has recommended status quo, which is a 4 million pound quota with trip limits of 600 pounds during the summer harvest period, 300 pounds during the winter harvest period.

The Mid-Atlantic Council and the joint Spiny Dogfish Committee for both the New England and the Mid-Atlantic Council have recommended a 4 million pound quota with a 1,500 pound trip limit applying to both harvest periods with the 4 million pound quota being allocated 42 percent/58 percent, roughly, as specified in the FMP.

We've heard from Harry Mears, and he has indicated that National Marine Fisheries Service will most likely not be able to approve the recommended trip limits from the Mid-Atlantic Council.

#### **ESTABLISH 2005-2006 FISHING YEAR SPECIFICATIONS FOR STATE WATERS**

So with that, board members, I'll open the floor for a motion for quota for the upcoming fishing year and I recognize Pat Augustine.

**MR. PATRICK AUGUSTINE:** Thank you, Mr. Chairman. **I would move that the annual**

**specification for 2005-2006 bycatch quota be 4 million pounds to be divided into two semi-annual quota periods as follows: Quota Period 1, 2,316,000 pounds or 57.9 percent; Quota 2 Period, 1,684,000 pounds equal to 42.1 percent.**

**Also, that part of that would be Measure 2, trip limits would be as follows: Quota Period 1, May 1<sup>st</sup> through October 31<sup>st</sup>, equals 600 pounds; Quota 2 Period, November 1 to April 30<sup>th</sup>, equals 300 pounds.** That's the full content of my motion, Mr. Chairman, and I would like to speak to it, if I may, after I get a second.

**CHAIRMAN MUNDEN:** Is there a second to Mr. Augustine's motion? Seconded by Ritchie White. Mr. Augustine.

**MR. AUGUSTINE:** Thank you, Mr. Munden.

**CHAIRMAN MUNDEN:** The staff has reminded me that we do not need to include the percentages in your motion because that's already in the FMP.

**MR. AUGUSTINE:** Then if they would correct it accordingly, I would appreciate it. Thank you.

**CHAIRMAN MUNDEN:** If you would perfect that motion by removing percentages, it would be appreciated. Discussion on the motion? I have Dr. Pierce.

**DR. PIERCE:** I have every expectation that this motion will pass. This was the decision of the board at its last meeting when we talked about dogfish and set the specifications for the current fishing year.

I was disappointed last time when the board went with this particular strategy because it deviated in a major way from the previous fishing year's approach for dealing with dogfish; specifically a small-scale directed fishery with modest landing limits, tightly controlled fishery.

I don't expect that we will find the board receptive to that approach, at least not on the near term; that is, going to back to a small-scale directed fishery, so I'm certainly not going to push that point, even though I feel that there still is a great deal of justification for going in that direction.

Certainly, I would like to see a larger bycatch allowance. A great deal of fish are going over the side. Fortunately many, very many are surviving. That does, of course, feed into some of the logic for

the 600 and 300 pounds because of this high survival rate. Still, I would like to see it higher.

But, clearly, I don't support the strategy that the Mid-Atlantic Council adopted that has been described for you here today, making it a males-only fishery. That's just ill-advised, to put it mildly.

So, with every expectation, as indicated by Harry Mears, that the National Marine Fisheries Service is going to go with a 600/300 for the upcoming fishing year, it makes very little sense for me to urge the board to vote against this particular motion.

This is certainly a better alternative than the one the Mid-Atlantic Council has offered up. New England has not yet spoken, of course, and we'll see what New England does next week. I'm not going to support this motion, but, as I said, I expect that the board will approve it.

**CHAIRMAN MUNDEN:** Thank you, Dave. Other comments from board members? Bill Adler.

**MR. ADLER:** I can't support this motion mainly because of the fact of the waste factor and the fact that I also don't think that if the limit was a little higher, that the statistics would come out that we are now overfishing.

We are not overfishing at this current level, and I don't think that if a little higher bycatch allowance was put into the mix, that we would really be still -- you know, I think we'd still be not overfishing.

I think that a little bit more might cut down actually on the waste and get rid of some of these things that are upsetting the rest of the fishing world out there. Thank you.

**CHAIRMAN MUNDEN:** Thank you, Bill. Pete Jensen.

**MR. W. PETE JENSEN:** I need a little help on this one. I don't understand why, if we have a quota of 4 million pounds, the trip limit of 600 or 1,500 pounds makes a difference. What's the difference?

**MS. GAMBLE:** This predates my history with the commission, but I think that people are just used to what has been done in the past several years. I think that it was to address the number of dogfish that were seen in the northern portion of the range.

The portion of the population up there was greater than what was seen in the southern portion of the

range. I really don't know, I think it was also tied to some economic analysis that was done for the federal FMP. I don't know if Jim knows more about the history of that, Jim Armstrong from the Mid-Atlantic.

**MR. JIM ARMSTRONG:** Jim Armstrong, Mid-Atlantic Council staff. The question is why 600/300; is that right?

**MR. JENSEN:** The question is if we have a quota of 4 million, and that's the quota and the limit, why does catching at 600 or 1,500 pounds a trip make a difference?

**MR. ARMSTRONG:** I think that's a different question, then. The intent of the very low trip limits, as I think has already been described here, is to discourage any development of a directed fishery. The updated stock status indicated no justification for liberalizing the harvest policy.

If you're curious as to the 600/300 allocation, that was based on economic analysis and the number of trips that occurred in the various periods. So if you divide the quota up, then it was expected that the harvest stream would be relatively constant with that allocation scenario.

**CHAIRMAN MUNDEN:** Dave Pierce.

**DR. PIERCE:** I must admit even though I've been involved in this for so long, my memory fades on why 600/300. Nevertheless, they're the numbers.

I should point out for the benefit of the board, however, that with these particular bycatch limits that we've had in place for at least this past fishing year in state waters, the amount of landings of dogfish as bycatch have been far below the 4 million pounds and fishermen have said, well, hold on a second; the bycatch allowance is 4 million pounds.

We're throwing a lot of dogfish over the side anyways, can't we land more because we're not even coming near the 4 million pounds? Can't you increase the 600 and 300. And, of course, my response has been, well, no, obviously it's an ASMFC and it's a federal decision. It's 600/300.

And they've said, well, why not 1,500 pounds; therefore, we can bring in more; there is less waste; and we can make a bit more money, not much more, but a bit more money with a slightly higher allowance, 1,500 pounds for males and females, not just males. And again I've have said, sorry, it's

600/300 pounds. Those are the decisions of ASMFC and the councils.

So, again, just for your information, with 600 and 300, we're falling far short of the 4 million pounds, and this is raising some questions in the industry why are we doing this. It just does not make much sense. I know it has been said that the 4 million pounds is supposed to be a target that we're not supposed to achieve.

I find that to be a bit difficult in terms of the logic of it. I know that has been -- I suspect that has been the intent of this board all along to make it a target that nobody will achieve. That's a different perspective than mine.

I've always considered it to be a target that should be achieved, especially since it reduces waste. But, anyways, I would certainly -- at times I find myself tempted to amend the motion, to make a motion to substitute, to make it 1,500 pounds of males and females combined, but I'm not going to go there, because, once again, you know, the federal government has spoken on this issue, and it really wouldn't do any good for ASMFC to have a different approach.

It would just result in some major complications at least at this point in time. I'm more hopeful that by examining the discard information, by taking a closer look at some of the oddities of the assessment itself in terms of these wild swings in abundance of dogs that don't make much sense, that we'll eventually get ourselves into a position where we can liberalize the amount that can be landed as a directed fishery, small scale, or as increased bycatch landings. That's for the board, of course, to eventually decide.

**CHAIRMAN MUNDEN:** I'm going to ask Chris Batsavage, the chairman of the technical committee, to provide a response to Mr. Jensen.

**MR. BATSAVAGE:** The perspective of the technical committee on the trip limits is, as stated before, economic analysis said that a 1,500 pound trip limit wasn't economically feasible nor is 600/300 pound trip limits.

With that in mind, we wanted to go with the lower trip limits to reduce the amount of overall catch. Since the commercial fishery generally targets the mature females, the mature females make up the largest portion of that fishery, we didn't want to have a trip limit -- recommend a trip limit that would result in more mature females being harvested.

Our fishing mortality rates are based on the mature females, not the total population. The dead discards that we see in the various fisheries occurs across the population, from the small, immature fish up to the mature fish.

So, we don't really have a situation where we're basically converting discards into landings as we might see with other fisheries, so, therefore, we're recommending the lower trip limits.

**CHAIRMAN MUNDEN:** I have Tom Fote. Before I recognize Tom, I will say that before I take comments from the audience, I want to give the board members an opportunity to speak first.

**MR. FOTE:** I think Chris made it clear to me. I mean, I was as confused as Pete because if I'm doing the math right, from what I heard here, when you go from a \$24 fishery to a \$60 fishery, it is not a directed fishery.

I mean, I can't see anybody making a living at \$60 so if there is a purpose that we're setting up a quota that's not going to be caught, then let's be honest about what we're doing. I mean, not to tell me that by going to a 1,500 pound trip limit I'm going to basically promote a directed fishery.

Well, that's not going to happen. But if you could tell me that we have to do this to keep under this quota because we really don't want you to catch the 4 million pound quota and we're setting up impossible parameters to do that, then I can accept that, not agree with it, but I can accept it.

**CHAIRMAN MUNDEN:** Next I have Everett Petronio.

**MR. EVERETT A. PETRONIO, JR.:** Thank you, Mr. Chairman. Actually, Mr. Fote covered quite a bit of what I had to say. It just doesn't seem to make any sense to me that doubling a \$20 income to \$40 or \$50 or \$100 is going to result in a directed fishery.

If we have an overall quota that we have set, should we not try and skew this to some point? I understand that there are arguments against this, but I'm confused as to why we cannot set a trip limit that allows us to have some approximation or some hope of getting back to the total quota that we might reach.

**CHAIRMAN MUNDEN:** Harry Mears.

**MR. MEARS:** Thank you, Mr. Chairman. I believe the strongest argument for not going to a higher trip limit is that it would be taking one step closer to a directed fishery.

The entire fishery management plan and the entire hope for being successful in the stock rebuilding approach is in fact to have as close to zero as possible mortality from fishing on large mature females.

So by doubling a trip limit from 300 or 600 up to 1,500, by implication takes a step closer to a directed fishery and jeopardizes that part of the stock that we should not be jeopardizing.

**CHAIRMAN MUNDEN:** Gil Pope.

**MR. GIL POPE:** Thank you, Mr. Chairman. There again I've got to tell you I don't think we're doing a very good job on this. I think that we're leaving our processors and I think we're leaving our recreational fishermen who have come here today out in the cold.

I think that we can do a much better job with how we deal with the amount of fish that are actually being killed versus what can actually be harvested.

I think that it's very nice we're going to meet our targets, and I hope and pray that these numbers that we're talking about are right; because if they're not, we're going to have a big problem, I think, in the numbers of fish that we're seeing out there.

I did a lot of fishing this summer. I probably caught over 500 or 600 of those fish myself just fishing for fluke. I mean, at times I'd pull up one and there were schools underneath them.

And from the testimony today, I don't think you need to be told any more that there are a lot of dogfish out there and they may be small, but we're not doing enough for these people that come to this table. Thank you.

**CHAIRMAN MUNDEN:** Comments on the motion? Vito.

**MR. VITO CALOMO:** Thank you, Mr. Chairman. All my life I've tried to use common sense as my guide in anything, whether it be private or management. I, like Pete Jensen, am trying to figure out what we're doing here.

We're not asking to go to 6 million pounds. We're asking to stay at 4 million pounds, only to raise the

trip limit to what seems to be agreeable in the Mid-Atlantic to 1,500 pounds.

I hear Harry Mears speak. I'm still not convinced that the 300/600 pound daily limit or trip limit is the way to go. I see wasteful discard to reach the same area. When you catch 4 million pounds you shut it down, that's it, you've got a 4 million pound trip limit.

I mean that's it, that's a TAC, total allowable catch is 4 million pounds. But in the interim a vessel that could bring in, say, 1,500 pounds, not a lot of money, but most of these vessels are small gill netters or hook boats or whatever the case may be, very small vessels.

This would alleviate part of their fuel bill. And some, that's what they would burn, somewhere around that \$60-\$80 worth of fuel.

And in these times where every little niche market helps out to keep survival of a fishing vessel, whether it be a commercial vessel or a recreational vessel, it's immaterial to me. I just don't see it. I'm not asking to increase the total allowable catch of 4 million pounds, but to use common sense.

And say we're going to catch approximately 4 million pounds, why not have some economic benefit to all that are concerned. The processor will be happier, the fishing vessel will be happier, and we'll have less wasteful discard. Thank you, Mr. Chairman.

**CHAIRMAN MUNDEN:** Other comments on the motion from board members? Bill Adler.

**MR. ADLER:** Could you explain to me please why it doesn't matter what we vote here because the National Marine Fisheries Service is going to supercede us? You know, we discussed this thing and we're arguing about 600/300, 4 million, and then maybe 1,500, and those of us that might think that 1,500 would be a better, more equitable way with less waste to accommodate this, and are we just simply spinning our wheels here; because, even if we did pass or go with a 1,500 pound limit, that we wouldn't have a 1,500 pound limit because of the federal process? Are we spinning wheels here? Do we have a choice?

**MS. GAMBLE:** That was a comment from Dr. Pierce. It's actually not true. The commission does have an ability to put a different trip limit in place for state waters. In fact, the current fishing year that

we're in right now is the first time we have ever had the same trip limit as federal waters.

The first fishing year under our management plan, the 2003 to 2004 fishing year, some states had 7,000; some states had 4,000. Federal waters were closed, and then it opened up again with the 300 pound trip limit, so those states still had 7,000, 4,000 so we can have a separate trip limit in state waters.

**MR. ADLER:** Mr. Chairman, can I make a motion to amend to just the trip limit part to 1,500 pounds instead of the 600 pound quota, leaving the quota at 4 million pounds, but with a trip limit of 1,500 pounds, males and females?

**CHAIRMAN MUNDEN:** Mr. Adler, do you intend for that to apply to both harvest periods?

**MR. ADLER:** Pardon me?

**CHAIRMAN MUNDEN:** Fifteen hundred pounds for both harvest periods?

**MR. ADLER:** Yes.

**CHAIRMAN MUNDEN:** Is there a second on the motion to amend? Are you providing a second, Everett?

**MR. PETRONIO:** I'll second that, please.

**CHAIRMAN MUNDEN:** Okay, a second provided by Everett Petronio. Discussion on the motion to amend? Ritchie White.

**MR. G. RITCHIE WHITE:** Thank you, Mr. Chairman. Actually, I would withdraw my second on the original motion because that was based on the fact that I thought we had no choice. I would support the new motion; so if that is the case, I'll withdraw my second on the original motion.

**CHAIRMAN MUNDEN:** I recognize John Nelson.

**MR. JOHN I. NELSON:** Vince could or staff could check on it parliamentarily, but I think after the motion has been debated, there's some rules in there about what can be withdrawn or what cannot be withdrawn.

I think the cleaner approach is you've got an amendment up here now that kind of supercedes even Ritchie trying to withdraw his second from the original motion, so I would suggest, Mr. Chairman,

that you deal with the amendment and let's move ahead.

**CHAIRMAN MUNDEN:** Mr. Nelson, I would agree with you. The advice that general counsel has given Mid-Atlantic Council on an issue like this is if there has been significant debate, then you cannot go back and withdraw your motion. So with that said and done, we will accept comments on the motion to amend. Eric Smith.

**MR. ERIC SMITH:** Just to be sure we're clear on what we would be voting, I heard Mr. Adler say it would be sexes combined, and I think that should be added to the motion. In other words, it's different from the Mid-Atlantic recommendation which is a male-only fishery. This motion doesn't talk about that. And without a view one way or the other, I just think it ought to clearly say what he said.

**MR. ADLER:** Yes, can I clarify it, Mr. Chairman? It was sexes combined; it wasn't just one or the other.

**CHAIRMAN MUNDEN:** Other comments on the motion to amend? Comments from board members on the motion to amend? John Nelson.

**MR. NELSON:** Mr. Chairman, I personally understand the desire to deal with it this way, but I'm not going to personally support it, and let me say why, even though it really pains me to say this.

We're really not achieving anything by going to 1,500 pounds except when the feds go to the 600/300, then we will be the ones that will sit out there with the PR problem of destroying the dogfish.

We all know we've gone through this iteration once before, and I don't think we need to go through it again. We achieve nothing. You know, \$20 more for the guys to bring in 1,500 pounds, and now we'll be charged with targeting females again.

And we all know that you can't really separate out the males, so this is just a -- I know I sound frustrated because I am. This is not worth it. You know, the 1,500 pounds doesn't mean anything to the fishermen except for \$20 more according to the technical committee.

And \$20, I realize is \$20, but it's not going to be worth it. We're going to expend a huge amount of our time dealing with the PR issue that we're going to look like we're decimating the dogfish fishery, the resource, which is totally wrong, I agree.

And anyone with their sane mind would recognize we're not doing that, but that's not what we're going to be dealing with. It will be the flood of those impassioned pleas to save the dogfish and not looking at any other issue other than we have more than doubled what the conservation-minded federal plan will have called for. That's my prediction, so please keep that in mind when you're debating this. Thank you.

**CHAIRMAN MUNDEN:** I have Gordon Colvin, Pat Augustine and Gil Pope.

**MR. GORDON C. COLVIN:** I will not support the motion to amend. You know, there is obviously a great deal of frustration today and historically shared by board members, and I can assure you by council members, as well, with respect to the situation we find ourselves in with dogfish.

I think Mark Gibson had it right earlier. It's pretty simple when you boil it down. We've had a very thorough review of the issues from the monitoring committee and the technical committee.

I haven't heard anything here today that suggests that there is a solid, defensible reason to substitute 1,500 for the recommendation that came from those two bodies. I appreciate that some members would like to do a little bit more with discards.

I'm not sure that 1,500 will get us there. Maybe some other number would, but we don't have an analysis that supports another number, whether it's 800 or 642 or what it might be. But, we do have analysis and recommendations that support maintaining the status quo, and that's how I'm going to vote today.

**CHAIRMAN MUNDEN:** Pat Augustine.

**MR. AUGUSTINE:** Thank you, Mr. Chairman. Gordon, as usual, very eloquently described most of the things I was going to say. We've started a course of action based on what scientific information we had available to us. This has been going on for two or three years.

I think the finest approach that could have been made in defense of going to any farther than 600 and 300 was what Dr. Pierce put together in terms of his technical paper.

In the final analysis he may have been right, but the science that we've had to deal with that was accepted by this board to the technical committee and all the

information that was available deemed that we make the decision we did.

We did that back in New York. To come up with emotional concerns and comments now that we're going to continue to kill more fish if we go to 1,500 pounds, we're going to have a lot more discards and so on, it does come down to dollars and cents.

I don't want to see a commercial fisherman or recreational charter boat/party boat guy hurt any more than they're being hurt right now. The bottom line is we are charged with trying to make sure that this stock recovers. I think we have to stay the course. It's going to be painful. And having said all that, I'd like to call the question.

**CHAIRMAN MUNDEN:** I've already indicated I'm going to recognize Gil Pope, Lewis Flagg, and then I will accept comments from Sonja Fordham from the floor, and then we will vote on the motion. I will go now to Gil Pope.

**MR. POPE:** Thank you, Mr. Chairman. I am going to support this motion for any number of reasons, only because I don't think that whether we harvest 4 million or 8 million or even 20 million pounds of this fish, that at 4 million pounds, if my calculations are right, we're talking about 4/100s of 1 percent of the population.

Now that's ridiculous, in my mind. I know that this is the scientific information that we have been given. There are times in this process -- and I've said this over and over, there are times in this process when we have to recognize these people out here and their concerns. We have to do something about it.

Now, I don't know if there is anybody in this room that thinks that the dogfish are going down the tubes right now or whether they're not going to recover no matter what we do. I don't believe that, not from the numbers that I'm seeing.

I believe and I totally agree with what Mark Gibson says. This is why it's such a tough question. I think at this particular time that whether it's 1,500 pounds or whatever, it doesn't matter.

But any little thing that we can do at this point to make sure that when they do recover, that there will be people there that will say, sure, I'll jump back in, and I will help to bring this back into some kind of balance, then I'm going to support that for that reason. That 4/100 of 1 percent, that's ridiculous in my mind. Thank you.

**CHAIRMAN MUNDEN:** I have Lewis Flagg.

**MR. LEWIS FLAGG:** Thank you, Mr. Chairman. I think this is not the way to go with this particular motion. I'm opposed to it. Last year we had considerable debate on this issue. One of the reasons that really convinced me last year that we should go with the 600/300 pounds is based on the stock assessment.

We had seven consecutive years of recruitment failure. Somewhere there is going to be a huge gap in the age structure of this stock. I think the fact that we last year did vote for the 600/300, to now to go something higher than that in the face of the fact that we've only had one -- the most recent year we've had some increase in recruitment, but one year is definitely not enough to make a sea change like this in terms of increasing the trip limit, so I think we need to stay the course.

We need to be consistent with what we did last year, because, frankly, I see no evidence to suggest that we can go to a higher number at this point in time.

**CHAIRMAN MUNDEN:** Sonja Fordham, we will accept brief comments on the substitute motion.

**MS. FORDHAM:** Thank you, Mr. Chairman. Sonja Fordham, the Ocean Conservancy. I appreciate and support the comments of Lew Flagg. In addition to it, an impassioned plea to save the dogfish, I have a few clarifications for the record.

I don't believe anyone has ever called 4 million pounds a target. It's very clear in the documents before you that says that's intended to serve as a bycatch cap and not a target. I hope that Chris was clear this time when he talked about the problems with the fishery, but I'm still amazed that this key point escapes from this debate.

The problem with a directed dogfish fishery is that it targets mature females based on market demand. You've seen the results in the graphics from targeting those mature females and seven years of recruitment failure.

There was a study back in the late 1990s, an analysis of what levels would be best to discourage directed fishing while allowing some fishermen to land limited amounts of bycatch, and those numbers came out as 300 and 600 pounds through an analysis done when the Mid-Atlantic Council was developing the plan.

In terms of being honest about what we're doing for the fishery, I would like to give credit to most of the managers sitting around this table, particularly the Mid-Atlantic Council and the National Marine Fisheries Service.

I think throughout this development of the FMP they've been extremely up front with the industry and clear about what needs to happen. The simple fact is that directed fishing on such an exceptionally slow-growing species is no longer sustainable, at least not for the near term.

In the federal FMP, the first year was deemed an exit year fishery, allowed rampant overfishing for a year based on purely economic reasons, so that was intended to allow the fishery to exit.

This is all largely because the fishery went for so many years without any management at all. We've seen the first encouraging signs of science-based management, but the stock is still in a precarious state. We have still low levels of reproductive females.

We urge you to stay the course with the science-based management that is consistent with the federal strategy, and we urge you to vote against the motion to amend and vote in favor of recommendations that match those from your technical committee. Thank you.

**CHAIRMAN MUNDEN:** Sir, I will recognize you to speak if you will make your comments very brief, keeping in mind that Mr. Augustine has already called the question, and I said that I would recognize the board members and Sonja. So if you will make brief comments, then we are going to vote on this motion.

**MR. BARRETT:** Thank you, I'll be very brief. Walter Barrett, Sea Trade International, New Bedford, Mass. I keep hearing \$20 and about \$20 difference between 1,500 and 600. But, this information, the people keep referring back to the technical committee.

My calculations show that on 600 pounds, currently the boats are receiving \$.25 for the dogfish. That's \$150. Fifteen hundred pounds at \$.25 is \$375. It seems to me that's over ten times the \$20 difference.

I'd like those people who have been basing their information here on the \$20 difference, saying it's not worth it, to think about if you're on a boat paying

the fuel price today, if for \$225 more, whether it's worth it or not.

I just make the point that I've heard that \$20 referred to by so many people that it doesn't make a difference; it does make a difference, and that figure is inaccurate. Thank you.

**CHAIRMAN MUNDEN:** Thank you for your comments. We're going to vote on the motion to amend. Board members, do you need time to caucus? We'll take one minute to caucus.

(Whereupon, a caucus was held.)

**CHAIRMAN MUNDEN:** Board members, please take your seats. Are you ready to vote on the motion to amend? Mr. Adler, would you please read your motion.

**MR. ADLER:** The motion is to change the original part to amend the trip limit to 1,500 pounds of males and females for the Quota Periods 1 and 2.

**CHAIRMAN MUNDEN:** Point of clarification, do you intend this to mean a total harvest, total landings of 1,500 pounds, not 1,500 of males and 1,500 pounds of females.

**MR. ADLER:** No, 1,500 pounds could be a mix of males and females. May I just note also that we're still only talking 4 million pounds here.

**CHAIRMAN MUNDEN:** Yes, I just wanted to get that on the record. Board members, all in favor of the motion to amend, please indicate by raising your hand, four in favor; all opposed, ten opposed; null votes; abstentions; no null votes, one abstention. The motion fails.

Now we go back to the original motion. Mr. Augustine has called the question. Board members, do you need time to caucus on the original motion?

Seeing no need to caucus, board members are you ready to vote? **All in favor of the motion, indicate by raising your hand, ten in favor; all members opposed, indicate by raising your hand, four opposed; any null votes; seeing none, any abstentions, two abstentions. The motion passes.** Mr. Augustine.

**MR. AUGUSTINE:** Thank you, Mr. Chairman. Back to an issue that Mr. Freeman raised earlier relative to recreational harvest/discards. I am dealing

with the same problem as he is and I think most recreational fishermen are.

It's ludicrous to believe that we are being taxed, I'll call it "taxed" the full 100 percent of all the spiny dogfish we catch. I know that's the information that the technical committee is working off of that MRFSS makes available to them, but can we -- and I'm not sure whether we have to ask our staff to talk with the MRFSS people, or I would look for a suggestion from staff or from someone to find out how we can get that addressed.

Mr. Freeman brought it up. It has come up for three years in a row now, and we end up with the same thing. It's a 100 percent discards. When I look at the numbers, it gets kind of scary. We're talking about recreational landings being 6.6 million.

I'm assuming what's being discarded at 100 percent will give it another 6 million pounds; whereas, the commercial folks are hung in with 4 million pounds, of which they've only landed about 3 million.

There is just something that has got to be done here, and I'm not sure what course of action to take. But to go through this one more year surely doesn't make sense, so I don't know if we would ask Bob or if we would ask Vince or someone what action could we take as a board in asking or directing our staff to look into that particular issue relative to the discards for recreational.

**MS. GAMBLE:** The issue of discards can only be resolved by having more research on discard mortalities associated with different gears, so I don't think it's anything staff or the technical committee can immediately take care of.

There are several studies that the technical committee is aware of that are ongoing, that they probably could sit down and review. I think that's a worthwhile exercise, probably for them to sit down with the monitoring committee as well. I think it's going to take some money dedicated to those types of efforts.

**MR. AUGUSTINE:** A follow-on, Mr. Chairman, a follow-on before we leave that. It seems to me for those folks of us that fish a little offshore, whether you're fishing for cod or black sea bass on rock piles and you encounter spiny dogfish, it seems that when we come back to shore, as usual the only folks that appear, and maybe it's perception, appear to get interviewed are those folks that have caught fish.

I'm not sure -- most of the folks, I know we've had people on our vessels stopped and interviewed three times in the last three times I was out, only to find out I've never heard them ask did you catch any fish and refer to spiny dogfish in particular.

Maybe they're just being overlooked, but somehow there has got to be either a change in the mechanism or the questions or the fleet, meaning fleet party boat/charter boat people, recreational folks, and where they're fishing, to be looked at to determine what this catch rate is.

Because, they're there and they're being caught in great numbers. I personally will tell you that we've caught as many as 35 spiny dogfish in one outing; and to my recollection, I don't know of one of them we put back dead. Yet we're being attributed with 100 percent discards, so we just have to have someone look at that. Thank you.

**CHAIRMAN MUNDEN:** I think Dr. Pierce is going to provide some information that will lead us out of the woods here.

**DR. PIERCE:** Chris and Megan, correct me if I'm wrong, but I believe that the assumption is that a recreational caught dogfish tends to be caught with a hook deep, so there is more chance of damaging the fish and killing the fish.

Plus, if I remember correctly, there is a general belief that recreational fishermen tend to intentionally kill the dogfish because of the nature of the beast. You, of course, wouldn't do that, Pat. You wouldn't bang their head against the transom.

I think I've heard that said a number of times. But there is animosity between recreational fishermen and dogfish as a consequence. I'm serious, I believe that has factored into some of the discussions regarding why mortality is high, the deep hook and the way the fish are treated. So it's up to the recreational fishermen, I would think, to assist the scientists dealing with this issue as to how dogfish caught recreationally are actually hooked.

Are they hooked like a line trawl where it's, you know, in the mouth? So that kind of information needs to be passed on. And, of course, Megan also is correct, that eventually someone I suppose is going to have to take a bunch of recreationally hooked dogfish and then put them down in cages and see how they survive. And, of course, you know, the heads of the dogfish can't be trashed against the transom.

**MR. AUGUSTINE:** The only thing I have a problem with, how come Massachusetts shows here 3,884,000 pounds landed recreationally, and commercially only did 1.9 million? There's something wrong with that, but just an observation.

#### **FMP REVIEW FOR 2003-2004**

**CHAIRMAN MUNDEN:** Let's move on to the next agenda item because we are running short on time. That's a report by Megan Gamble which is a report from the plan review team, review of the Spiny Dogfish Plan and actions for 2003-2004.

**MS. GAMBLE:** Thank you, Mr. Chairman. As we stated or as the chairman stated earlier, this is the first fishery management plan review from the plan review team, and it covers the fishing year 2003-2004.

The first section of the report covers the history of the interstate FMP. Because the history is rather short, I'm not going to cover it here, but it is in the report for you to review.

The next section of the report covers the status of the stocks. Chris covered this issue in his presentation earlier, so I'll be brief and just state that the spiny dogfish continues to be overfished but overfishing is not occurring.

And as Chris mentioned, we do take a three-year average of the female spawning stock biomass; so for the 2002-2004, female spawning stock biomass is 32 percent of the target. And as we spoke earlier, the 2003 F on the exploitable females was 0.04.

We also saw in the 2004 trawl survey one year of improved recruitment, but as stated earlier, we take a three-year average when evaluating dogfish biomass.

The next section of the FMP review covers the status of the fishery, and it breaks down the recreational and commercial landings by state. I do caution you to be careful when looking at this table.

The recreational landings cover the calendar year; whereas, the commercial landings cover the fishing year. I chose to do it this way because we set our specifications on the fishing year and not the calendar year, although the recreational data is not available on our fishing year.

The commercial landings for the 2003-2004 fishing year are very much a function of the state regulations that were in place for this year. I'll get to that in a

minute. I'm going to skip over the status of the assessment advice because there is no new information there.

The next section following that is the research and monitoring and it summarizes the information that the states provided that they voluntarily collect. We do not have any required biological monitoring for spiny dogfish in our management plan.

So this next section summarizes the actions that the states and the board took in the 2003-2004 fishing year. As stated earlier, the federal waters was closed in July of 2003 because of concern regarding the interstate specifications. There was concern that it would lead to exceeding the federal quota.

In January of 2004, the federal waters reopened because the quota went largely unharvested, and both state and federal waters remained open for the rest of the fishing year. That's the first time that's happened since management measures have been put in place.

If you will recall, the board approved a commercial quota of 8.8 million pounds for the 2003-2004 fishing year and a trip limit up to 7,000 pounds. The commercial quota was further divided into regional quotas. You will note on the slide there, the interstate specifications were very different from the federal specifications that were put in for that fishing year.

So following that, there was a states' agreement outside of the commission's process, and it was in response to concern for the interstate quota. The states cut the interstate quota in half and maintained the trip limits and the regional allocation of the total allowable catch.

In fact, the regional allocation was further allocated on a state-by-state basis. The reason I'm explaining all this is so that you realize why the actual commercial landings were so much lower, and we did not reach the 4 million pounds in the 2003-2004 fishing year.

The next slide covers the Canadian regulations. Canadian spiny dogfish management measures continue to remain status quo while they continue with their five-year research program. They are in their third year of that research program.

Their status quo regulations are a 2,500 metric ton quota for the fixed gears and a 25 metric ton bycatch quota for mobile gears that are less than 65 feet -- or

vessels, sorry, and a 10 metric ton bycatch cap for vessels larger than 65 feet.

Then I also listed the commercial landings for the 2002 to 2003 fishing year and the 2003 to 2004 fishing year, and then the landings as of when this report was written. As I mentioned earlier, they do have a five-year research program that they are working on, and that research program is geared toward collecting information on size and sex and age information.

It has brought about -- this is reported from the Canadians that there is some question about the single stock theory. So, the bottom line there is that there is no transboundary assessment in the works, and Canada does not want to consider one until they have completed this five-year research program.

The next issue is biomedical harvest. The interstate FMP includes a provision that limits the number of dogfish that should be collected under the special exempted permits and restricts the collection to only biomedical harvest.

States were asked in their implementation plans to indicate whether or not they intended to collect dogfish for biomedical harvest for the 2003 to 2004 fishing year.

Maine, New Hampshire, Massachusetts, New York, New Jersey, Maryland, North Carolina, South Carolina, Florida all indicated that they may issue exempted permits limited to a thousand dogfish per permit.

Maine was the only state that did issue an exempted permit for this purpose, and 900 dogfish were collected by the Mount Desert Island Biological Labs. For the 2004-2005 fishing year, only Maine and New Hampshire have indicated that they may issue exempted permits for this purpose.

The next slide is an update on Germany's proposal to list spiny dogfish in Appendix II of CITES. The purpose of Appendix II of an Appendix II listing is to prevent further endangerment to the stock due to international trade.

Appendix II listing imposes a strict permitting system for exporting species commercially. In March of 2004 the CITES animal committee determined dogfish did meet the biological criteria for an Appendix II listing, although the secretary made the statement that CITES cannot fix the problem of

uncoordinated data-limited shark management via trade regulations.

The bottom line was for Germany to be able to submit a report to CITES, the proposal needs to first be approved by the European Union. Germany failed to garner the support of the EU so it was not submitted to CITES.

The next slide covers de minimis status. Maine, Delaware, South Carolina, Georgia and Florida all have de minimis status in the 2003-2004 fishing year and are requesting de minimis status again.

The PRT has determined that all states meet the criteria for de minimis status, so we will be asking for a motion from the board to approve that.

The last slide covers compliance. The state of Maine -- I'm sorry, this is the second to last slide. The state of Maine has not implemented trip limits for the current fishing year and does not have a finning prohibition on the books. It is my understanding that Maine has initiated the process to modify their regulations, and I'm sure Lew Flagg can give us an update on that.

The last slide -- and I'm moving along, because I'm really anxious to hear about the great white -- the last slide is a recommendation from the plan review team. We've been told that the Mid-Atlantic Council may initiate a framework to modify the federal Dogfish FMP.

The modification would be to move to a multi-year specification process rather than setting the quota and the trip limits on an annual basis. If the council does initiate this framework in 2005, the plan review team recommends the commission initiate the corresponding addendum to address the same issue.

There has been quite a bit of talk about this with the stock assessment committee. The benefits are that it reduces the technical committee's workload if both the commission and the council implement this, but also the population is slow to respond to regulatory changes.

We will continue to review the status of the stock through the trawl surveys on an annual basis, but we would not have an annual F estimate. That concludes the plan review team's report.

**CHAIRMAN MUNDEN:** Thank you, Megan. The action item before us is to approve de minimis status as requested by the states of Maine, Delaware, South

Carolina, Georgia and Florida. I recognize Dave Cupka.

**MR. DAVID CUPKA:** Thank you, Mr. Chairman. Based on the data presented and the recommendation of the PRT, I would move that Maine, Delaware, South Carolina, Georgia and Florida be granted de minimis status for the 2004-2005 fishing year.

**CHAIRMAN MUNDEN:** Do we have a second? Second by Lewis Flagg. Discussion on the motion? Board members, do you need time to caucus? Seeing no request for caucus, board members are you ready to vote on the motion?

**All in favor of granting de minimis status to Maine, Delaware, South Carolina, Georgia and Florida, indicate by raising your hand, 14 in favor; opposed, none opposed; null votes, no null votes; abstentions, 1 abstention. The motion passes.**

**Do we have a motion to approve the report from the plan review team? Mr. Augustine.**

**MR. AUGUSTINE:** Thank you, Mr. Chairman. So moved.

**CHAIRMAN MUNDEN:** Second from Lew Flagg. Discussion on the motion? Lew.

**MR. LEWIS FLAGG:** Thank you, Mr. Chairman. I just wanted to follow up on Megan's comments in terms of Maine's compliance. We are in the process right now of implementing some new regulations that will impose the 600/300 pound trip limit and the finning prohibition.

The reason we hadn't done it earlier is because over the last three years our landings have been from 500 pounds a year to 0 pounds a year. But, we do intend to get this implemented and it should be in effect by February of 2005, at least prior to the opening of the next dogfish fishery in May.

**CHAIRMAN MUNDEN:** Thank you. Other discussion on the motion? Board members are you ready to vote? Is there a need to caucus? **Seeing no need to caucus, all in favor of the motion, please indicate by raising your hand, 13 in favor; those in opposition to the motion, indicate by raising your hand; seeing no opposition, null votes, no null votes; any abstentions? The motion passes.**

The next agenda item is the election of the chair and vice chairman. This will be for two years, I believe. As I mentioned at the beginning of the meeting, we currently do not have a vice chairman. I would open the floor to nominations for the chairman first. Ritch White.

**MR. WHITE:** I nominate Pat Augustine.

**CHAIRMAN MUNDEN:** Pat Augustine has been nominated for the position of vice chair, **seconded by Vito Calomo.** Other nominations for chairman. The floor is open for other nominations for chairman. **Seeing none, congratulations, Mr. Augustine.**

**MR. AUGUSTINE:** Thank you, Mr. Chairman, it's going to be fun.

**CHAIRMAN MUNDEN:** Would you like to come forward and chair the rest of the meeting?

**MR. AUGUSTINE:** No, sir, you have only got 12 minutes, so you're doing very well.

**CHAIRMAN MUNDEN:** The floor is now open for nominations for the vice chair. John Nelson.

**MR. NELSON:** Thank you, Mr. Chairman. **I'd like to nominate Eric Smith.**

**MR. CALOMO:** Second.

**CHAIRMAN MUNDEN:** I'm sorry, John, who was that?

**MR. NELSON:** Eric Smith.

**CHAIRMAN MUNDEN:** Eric Smith.

**MR. CALOMO:** I second.

**CHAIRMAN MUNDEN:** Eric Smith has been nominated for vice chairman. Other nominations for vice chairman? Other nominations for vice chairman? **Seeing none, I congratulate Eric Smith for the vice chairman.**

#### **OTHER BUSINESS: MASSACHUSETTS GREAT WHITE SHARK VISIT**

We added one other item to the agenda. Is Paul Diodati still here or did Paul leave? Paul, would you come forward and introduce your staff member and tell us about the great white shark that visited your waters this past summer.

**MR. PAUL DIODATI:** Thanks, Red. I'm just going to introduce Greg Skomal. John Nelson had asked that we give a short presentation of the occurrence of a white shark in our coastal waters several weeks back. It was in September.

This is certainly one shark the Commonwealth feels needs special protection, and it's occurrence did create quite a media stir. I think there was a lot of linkages between a famous motion picture that was filmed several miles away and having a shark specialist from Amity -- I mean, Martha's Vineyard (laughter) fueled some of that.

But it was an exciting time and Greg Skomal is here from the Vineyard. He is our shark specialist. He has been working with sharks not only in Massachusetts, but Greg's experience is somewhat international. So with that, I'll have Greg go ahead and give you this sort but interesting presentation.

**DR. GREGORY SKOMAL:** Thank you, Paul. We had an excellent opportunity and a rare opportunity to spend some time with a great white shark right in my backyard. What I'm going to do here is give a broad overview of what occurred, how we dealt with the issue from a scientific perspective as well as from a public safety perspective.

I've integrated some video. I promise this will be somewhat, mostly, painless so kick back, relax, and I'll entertain questions at the end if you guys have any. Naushon Island is off the south side of Cape Cod, very close to Woods Hole, about three miles from Martha's Vineyard Island.

I got a call one night from a friend of mine. It was about 8:00 o'clock, and he said he had a pretty solid report that a white shark was spotted close to or near this island. And, as I usually am with these reports, because I field quite a few of them throughout the year, I was fairly skeptical.

In 20-something years of working with sharks, I've only seen a handful of great whites and certainly didn't expect one to be very close to Naushon Island.

I went over to the area the following morning, which was actually the 23<sup>rd</sup> of September, and realized that it was indeed a great white shark, and it was restricted in its movement to a very specific area referred to as the West Gutter.

This is an inland spot. It's estuarine; it's tidal; it's basically like a maze in there. This shark was in a

spot that seemed to be the deepest area of the entire estuarine system, maxing out about 20 feet deep.

This is an aerial view of the West Gutter. And in looking at it, you see it is basically just two inlets, one to the north, which is very, very restricted, covered by a bridge. The shark seemed extremely hesitant to go under the bridge or leave the area.

And then to the south it looks like a much broader outlet or inlet, but if you get over there and look at that particular area to the south, it seems to be obstructed by shallow water, shoaling, eelgrass and stone. This seemed to be preventing the shark from leaving the area.

We spent quite a bit of time observing the shark in the beginning. This is one of our first observations. Basically you saw a lot of the shark at the surface as it continuously swam in this area, probing the shoreline.

Working with National Marine Fisheries Service scientists from Narragansett, Rhode Island, we came up with a pretty solid estimate about 14 feet long in total length for this animal, using published regression estimates came up with an estimated weight of about 1,700 pounds.

So it's a sizeable critter. And, of course, looking at her, we were able to also determine that she was a female, indeed a female. Let's see how this video plays. This is basically her behavior from day to day, swimming at the surface, probing the periphery of the area she was in.

We're right here in the West Gutter. We started to attract quite a bit of public interest immediately, as one would imagine, and that became something we had to deal with right off the bat.

This is a different view of the shark from under water, and now you get a better idea of what it's like, what these animals look like, and maybe even a little better idea of their size. It's very difficult for us to give you a sense of how big she was because there's no scale, but believe me this animal had some major girth.

When you take a step back and look at the distribution of the white shark in the Western North Atlantic, you can see it's broadly distributed from the Gulf of Mexico up into the Canadian waters. Jack Casey and Wes Pratt wrote a summary paper back in 1985 basically compiling as many records as possible

published and otherwise as far as the distribution of the critter is concerned.

Distribution, of course, in Massachusetts is seasonal. We generally see them, although rarely. We do see them in July and August and September. If we take a closer look at the insert there and look at specifically Mid-Atlantic Bight and Southern New England, you could see that most of the observations are generally offshore, although there is some inshore occurrence.

So, this one in particular was extremely odd to have this white shark not only very close to shore but entrapped in an embayment.

Recently we've had the opportunity to examine a couple of white sharks. This one was caught in Massachusetts Bay. It was 18 feet in length. It was entangled in a gill net and brought in by a fisherman.

This is prior to the National Marine Fisheries Service passing the FMP regulation that white sharks are prohibited from harvest, so this shark was brought in. We had a chance to dissect it with National Marine Fisheries Service personnel. It was determined to be a mature female, probably in excess of 2,000 to 2,500 pounds.

And more recently in August, Greg Mahew, dragging for fluke came up with a four-foot young-of-the-year female right in Vineyard Sound, so basically in the body of the water between Naushon Island and Martha's Vineyard.

This little female was judged to be newly born that year, so we do get a fairly broad size range of great white sharks in Southern New England waters, albeit we do not see them very often. If we look at what we know about age and growth, maturity in this species, there are currently two published growth curves, one by Greg Kiyay for Pacific white sharks and one by Sabine Whitner for white sharks sampled off the coast of South Africa.

Those growth rates show an animal that probably doesn't mature until in excess of 12 years of age and lives well over 20 years. More recently Lisa Natanzin, using similar techniques on vertebral samples, looked at banding patterns and determined that the growth rate of the white shark may be slower than previously thought, at least in the western north Atlantic.

If we look at what is thought to be the minimum size at maturity, it's well over 4 meters in fork length. And if we compare that to the shark that we had a

chance to look at, she came in just short of 4 meters estimated size.

And if we then look at estimated ages, we get somewhere between ten and fourteen years, depending on which growth curve is indeed valid, and that's, of course, one of the problems we have with age and growth in the lab validating growth curves.

More often than not, we were asked a lot of questions particularly by the media as to whether this white shark was going to jump out of the water and eat us. I decided to look a little bit about what we know about the feeding ecology of the great white shark.

Tim Tricas and John McCosker published a summary paper in 1984 which showed an ontogenetic shift in dietary patterns, basically meaning that small white sharks prefer fish; and as they get bigger, they tend toward larger prey items, namely pitapeds and cetaceans.

And this certainly borne out to be true in the Pacific where I'm sure many of you have seen wonderful images of white sharks eating seals. In the Atlantic here, we know from gut content studied, particularly that large female taken off in Massachusetts Bay, that we seem to find harbor porpoises and the remains of cetaceans, primarily whales. Any time a large whale is found floating offshore -- sometimes, I should say sometimes we find great white sharks feeding on them.

The white shark that we were dealing with came in at over 4 meters in total length, and that means that she was probably one of those animals that was feeding or had switched to feeding on larger prey items, so it is certainly likely that she feeds on harbor porpoises, perhaps whales and perhaps even seals and sea lions.

As far as what is known or published about the behavior of great white sharks, it's actually very little. In the Western North Atlantic, there is only one study done by Frank Kerry back in the '80s.

In the Pacific more recently we have some interesting data coming from a new technology tag referred to as a PAT tag, a popup archival transmitting tag. And what this has shown is basically that -- I guess you can't see that.

Well, basically, if you look at the dark line in this graph, PAT tagging has shown -- this is from a single shark -- is that white sharks in the Pacific seem to

inhabit two different areas. They have an offshore phase and an inshore phase.

Their inshore phase is when they stay shallow, primarily less than 100 meters. They roam around the coastal waters of California feeding on seals and sea lions. Then they move shore for the latter part of the year into the beginning of the new year where they go much deeper and inhabit a completely different environment.

So my question, of course, with the opportunity to study a white shark in my backyard, was to determine whether or not these same patterns were exhibited in the Western North Atlantic. So fortunately, because of a study I'm doing on basking sharks right now, I had a number of pop-up archival tags in my office.

So when I got the report from the fisherman about the white shark, I halfheartedly grabbed a PAT tag, wired it up, programmed it, threw it in my back pocket and hopped on the boat the next morning to go see if indeed this was a white shark.

So certainly within a couple of hours of being with her, I decided the important thing to do was to put this PAT tag in her. PAT tag looks like this in the upper left-hand corner. You could see it somewhat.

It measures depth, light and temperature every 30 seconds. But, one of the misconceptions with the media -- and it probably has a lot to do with the fact that I used the term "satellite tag" -- is that people get the feeling that you get to know what the shark is doing at any particular moment, just log onto the Internet and find out where the shark is. And it's not that kind of tag.

It's an archival tag which means that it collects the information and stores it, and that information is kept until the tag will pop off the animal. It's preprogrammed. In this case, I programmed it for April 1<sup>st</sup> to come off the animal and then begin transmitting to a satellite, which then will transfer the information to me.

Using that information, using information of depth, light, temperature, you then can recreate the movement patterns of the animal as well as look at habitat preferences.

Okay, here is a video of the shark swimming by the side of the boat in the area with the PAT tag. You'll see it. I inserted it at the base of the dorsal fin. It trails posterior at the base.

As she goes by, you'll get a good look at it. But you can see she went into shallow water, but often went right back into that deep hole. You can see the PAT tag trailing. One of the interesting things about the shark is she did not pay much attention to us.

We could get very close to her. We did not get in the water with her but we could get very close to her. I think this is an underwater view of the shark with the PAT tag. There you can see the tag behind her dorsal fin.

Of course, once the shark was PAT tagged and a number of people began showing up, realizing that there was indeed a great white shark in this embayment, the media became extremely interested and we had to put a number of measures immediately in place.

Paul Diodati immediately passed an emergency regulation prohibiting the harvest of great white sharks in Massachusetts waters, just basically coming into compliance with federal regulations.

We also contacted our Office of Environmental Police and got them there because we had people swarming to the area, land, sea, kayaks, dingys, inflatable boats. You name it, they were showing up, helicopters, planes.

So we had the environmental police there basically 24 hours a day, 7 days a week to try to keep people away. We were also working with the Coast Guard to keep the area limited in terms of access to just our personnel and other scientists.

One of the issues we had to deal with was the fact that Naushon Island is a very private place, so we don't even have permission to go on their property. But we did work very closely with locals, because we didn't want this kind of thing continuing to happen where people were piling up very close to shore, children, et cetera, and spying on the shark as it circled in the area.

So we worked very closely with the local folks to make sure that they, too, were protected. We don't want the shark harmed and we certainly didn't want them harmed. Immediately we had to consider the "what ifs" when this shark showed up.

We realized the embayment was shallow about the edges, and we also knew that at some point we may have to take measures to move the shark. Of course, our preferred option was let nature take its course.

You know, nature ultimately brought her in, that and a little bit of dumb luck, and ultimately we were hoping that nature would take her out. However, after several days of observing her, that was not the case, and we started to think about other kinds of options.

We really wanted to take advantage of the fact that she has a fairly highly developed sensory system, so we thought that maybe boat engine noise would get her to move. I mean, the objective was to move her in the direction we wanted her to go in which, of course, was to the south and out the southern inlet.

We tried boat engine noise to see if we could move her. We attempted to lure her, to bait her, to see if she was interested at all in feeding. We tried to establish silt clouds because she seemed to react to silt in the water columns, so we limed the area.

We silt clouded it. We tried to move her in that way to see if we could obscure her vision and force her in the opposite direction. That failed. We even went as far as to use a new technology that's out referred to as "shark shields."

This overwhelms the shark's electrosensory perception, and basically what it does is it sends out a fairly powerful electrical field that creates an uncomfortable situation for the shark, therefore repelling it. That wasn't 100 percent successful.

We knew in the long run that if we had to begin physically handling the animal, the first thing to do was to establish maybe some barriers and progressively move the shark out of the area, so weir netting came to mind.

We do have professional trap fishermen in the state of Massachusetts that know exactly how to move big animals because they inadvertently catch them.

So, we did ultimately bring in weir fishermen to establish these nets, to set them up to progressively move the shark to the south. We combined that with some physical coaxing and herding, and we used water pumps and water pressure in order to do that.

All the options were on the table, including these last two options which I'm very, very happy to say we didn't have to use, and that's, of course, physically handling the animal. Grabbing a 1,700 pound shark by the tail is not something I would recommend to anybody.

But, ultimately it was something we had to consider, that and, of course, perhaps sedating her and moving her out after that. So those two options I'm very, very happy to report did not have to be done.

There is a book out called "Twelve Days of Terror." These were my fourteen days of terror, but there weren't a lot of terror; there wasn't a lot of terror. She came in on the 21<sup>st</sup>. When she was first sited by locals -- and this is such a private place that they didn't want to tell anybody.

They were actually able to keep this big fish a secret for well over a day. I wasn't contacted until the 22<sup>nd</sup> and that was at night. I didn't get out there until the 23<sup>rd</sup> when we put the tag on her.

On the 24<sup>th</sup> we had the environmental police officers there; we started holding press conferences, keeping people at bay and putting together plans with the local people, as well as throwing the options on the table.

We were hoping that with the first weekend and the subsequent week, we would let nature take its course, and tides would bring enough water in through that area that she would just cruise right on out. We were particularly hoping that the remnants of Hurricane Jean, which were passing through our area, would cause enough tidal surge, coupled with, of course, a full moon, which was occurring. And we tried to, of course, use some of these other techniques from bait to electricity to sound and silt and et cetera and none of them worked.

It wasn't until the first of October that we actually set up the weir netting and began using water pumps. We were able to move her from the gutter, the West Gutter and get her into the bay proper.

However, she remained in the bay proper until Monday; and then using primarily water pumps, we were able to coax her out at about 1:00 o'clock. Of course, the icing on the cake for this whole event is the fact that my PAT -- "my PAT tag" -- our PAT tag came off, even though I'm responsible, came off at 2:00 o'clock, about an hour after we were able to get the shark out.

I'm going to show you a couple video clips here. One is the reaction of the shark to the shark shield, which is the electrical device. She's going to swim at us, toward the boat, and then we have the electrical device in the water on a pole. Watch the way she reacts to the pole.

I don't think she cared for it. However, we did try multiple attempts after this, over the course of the next several hours, and she adapted to it quite readily; and, as a matter of fact, didn't find it comfortable much longer than that one or two first trials.

So the netting worked. The netting moved her to the south, out of the embayment. Here are the weir fishermen setting their nets. You could see the nets set up, the boat there for scale, you get an idea of how big this fish is.

Water pumps were just portable water pumps that we used to jet the water. We didn't actually physically hit her with the pumps. We were actually just trying to disrupt the water around her, which forced her to turn in the opposite direction.

Once we got her out of the West Gutter, we wanted to keep her out of the West Gutter, so here is a short video clip of the weir fishermen setting their net and prohibiting her. Ultimately we wanted her to move to the east, which is the way this camera is pointing. However, we had one additional problem. Although we had her out of the gutter, so to speak, we still had her in the shallows, and she did not want to cross in particular an eelgrass bed. This is the entrance to the gutter here.

You can see the net coming across. Then we had this expansive eelgrass bed that was in about three feet of water, and this is all sand flat. We had to try to move her over this flat, and she had no interest in doing that, so that's when we were very, very fortunate to have success using the water pumps.

And this is some aerial footage shot by Channel 7 News out of Boston, and it shows the shark and our efforts to herd her in the final moments of our ordeal with her. She's only in about three to four feet of water here, but once she gets into about 12 feet of water, she just completely disappears and not to be seen again.

And, of course, after dealing with her for two weeks - and they were two enjoyable weeks for me, but I was very relieved when we were able to get her out. I know that the director was as well.

There were a number of interesting slides circulating on the Internet, particularly with some of my friends who study sharks, and this was one of them. There were a lot funnier ones, but I dare not put them up in a general setting like this.

We did get results from the pop-up archival tag, which clearly indicated to us that the shark was in four meters of water, maximum, every day. I mean, we knew exactly where she was so this data is all but useless.

The most intriguing part of it for me was to figure out what caused the tag itself to initiate the abort sequence and to come off. It didn't shed the tag because the dart wasn't holding. The dart is still in her.

It shed the tag because the tag is a microcomputer that makes decisions. And, the decision this particular tag made was that the shark had not fluctuated its depth enough, particularly in the last 54 hours, and therefore it must be dead. Therefore, it initiated a sequence that caused it to pop off prematurely.

So the same thing it would have done on April 1<sup>st</sup> it actually did on October 4<sup>th</sup>. So, you could see here we got her out and then she started going into deep water and, of course, the tag then popped off.

So, although she did get into deep water that last hour, the sequence to abort had already initiated and it couldn't turn around and go back, and that was that. That's why we lost it.

One of the big questions that I fielded -- and it was continuously brought to our attention at the agency level -- was are we going to see more white sharks. And it's a really good question.

I don't know what the answer to that question is going to be. If we look at NMFS data on seal populations off the coast of New England, clearly, we're seeing a recent rise. We do have now year-round populations of gray seals on Meskegut Island, which are between Nantucket and the Vineyard, so we are seeing more seals.

Does this mean we're going to see more white shark predation events? It's entirely possible. Recent evidence of this came this year when a seal pup was observed attacked by a shark off of Chatham.

This is the first known observation of this, and it could be simply because there are people now observing seals on a daily basis, making routine seal trips out there, so we may have an opportunity to observe this.

I also looked at a dolphin that had washed ashore, and that was clearly attacked by a very large shark, so

we are seeing some evidence. What ultimately will happen remains to be seen. I thank you for your attention.

A number of people did help out during the whole process. Certainly not all their names are there, but ranging from, of course, the commissioner and the director right to the commercial fishermen who were integral to the entire process of motivating her to leave the area. Thanks for your attention. I know it's lunchtime and I know you've been sitting here for a while. I appreciate your time.

**CHAIRMAN MUNDEN:** And that concludes the meeting of the Spiny Dogfish and Coastal Shark Board.

(Whereupon, the meeting was adjourned at 1:00 o'clock p.m., November 9, 2004)

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