

# Atlantic States Marine Fisheries Commission

## American Lobster Management Board

*November 2, 2015  
8:00 – 10:30 a.m.  
St. Augustine, Florida*

### Draft Agenda

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

1. Welcome/Call to Order (*D. McKiernan*) 8:00 a.m.
2. Board Consent 8:00 a.m.
  - Approval of Agenda
  - Approval of Proceedings from August 2015
3. Public Comment 8:05 a.m.
4. Discuss Management Response to the 2015 American Lobster Benchmark Stock Assessment **Possible Action** 8:15 a.m.
  - Report from SNE Subcommittee (*D. McKiernan*)
5. Discuss Initiation of Addendum to Set Effort Controls for Jonah Crab-Only Trap Fishermen (*J. Gilmore*) **Action** 9:00 a.m.
6. Discuss Non-Trap Bycatch Limit and Claw Exemption Provisions of the Jonah Crab FMP (*M. Ware*) **Possible Action** 9:45 a.m.
7. Consider Approval of 2015 Lobster FMP Review and State Compliance (*M. Ware*) **Action** 10:20 a.m.
8. Review and Consider Approval of American Lobster Advisory Panel Membership (*M. Ware*) **Action** 10:25 a.m.
9. Other Business/Adjourn 10:30 a.m.

The meeting will be held at the World Golf Village Renaissance; 500 S. Legacy Trail; St. Augustine, FL; 904-940-8000

# MEETING OVERVIEW

**American Lobster Management Board Meeting**  
**Monday, November 2, 2015**  
**8:00 a.m. – 10:30 a.m.**  
**St. Augustine, FL**

Chair: Dan McKiernan (MA) Assumed Chairmanship: 08/14	Technical Committee Chair: Bob Glenn (MA)	Law Enforcement Committee Representative: John Cornish (ME)
Vice Chair: David Borden (RI)	Advisory Panel Chair: Vacant	Previous Board Meeting: August 4, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NMFS (11 votes)		

## 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from August 2015

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

<b>4. Discuss Management Response to 2015 American Lobster Stock Assessment (8:15 a.m. – 9:00 a.m.) Possible Action</b>
<b>Background</b> <ul style="list-style-type: none"> <li>• The 2015 stock assessment showed the SNE lobster stock is at record low abundance and experiencing requirement failure</li> <li>• The SNE Subcommittee met in October 2015 to discuss objectives for the stock</li> </ul>
<b>Presentations</b> <ul style="list-style-type: none"> <li>• Report from the SNE Subcommittee by D. McKiernan (<b>Supplemental Materials</b>)</li> </ul>
<b>Board actions for consideration at this meeting</b> <ul style="list-style-type: none"> <li>• Board task the TC with questions on potential management of the SNE lobster stock</li> </ul>

<b>5. Discuss Initiation of Addendum to Set Effort Controls for Jonah Crab-Only Trap Fishermen (9:00 a.m. – 9:45 a.m.) Action</b>
<b>Background</b> <ul style="list-style-type: none"> <li>• The Jonah Crab FMP was approved by the American Lobster Board in August 2015</li> <li>• The FMP allows Jonah crab-only trap fishermen to participate in the fishery; however, no effort controls were established for these fishermen</li> </ul>
<b>Presentations</b> <ul style="list-style-type: none"> <li>• Discussion of Jonah crab-only trap fishermen by J. Gilmore</li> </ul>
<b>Board actions for consideration at this meeting</b> <ul style="list-style-type: none"> <li>• Initiate an Addendum to set effort control for crab-only trap fishermen</li> </ul>

**6. Discuss Non-Trap Bycatch Limit and Claw Exemption Provisions of the Jonah Crab FMP (9:45 a.m. – 10:20 a.m.) Possible Action**

**Background**

- Exemptions were made in the Jonah FMP for claw fishermen in NJ, DE, MD, and VA; however, there are more claw fishermen than previously thought and other states, including NY, have determined that they have participants in the claw fishery
- An incidental bycatch limit for non-trap gear was set at 200 crabs per day, 500 crabs per trip in the Jonah Crab FMP. GARFO and NEFMC have expressed concern that this limit may not be appropriate (**Briefing Materials**)

**Presentations**

- Discussion of non-trap bycatch limit and claw fishery by M. Ware

**Board actions for consideration at this meeting**

- Initiate an Addendum to address concerns regarding the claw fishery and incidental non-trap bycatch limit

**7. Fishery Management Plan Review (10:20 a.m. -10:25 a.m.) Action**

**Background**

- State Compliance Reports are due on August 1, 2015
- The Plan Review Team reviewed each state report and compiled the annual FMP Review.
- Virginia and Delaware have requested and meet the requirements for *de minimis*. Maryland requested *de minimis* status but did not meet the requirements.

**Presentations**

- Overview of the FMP Review Report by M. Ware. (**Briefing Materials**)

**Board actions for consideration at this meeting**

- Accept 2015 FMP Review and State Compliance Report.
- Approve *de minimis* requests

**8. Advisory Panel Membership (10:25 a.m. -10:30 a.m.) Action**

**Background**

- Grant Moore from MA has been nominated to the American Lobster Advisory Panel

**Presentations**

- Nominations by M. Ware

**Board actions for consideration at this meeting**

- Approve nomination

**9. Other Business/Adjourn**

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
AMERICAN LOBSTER MANAGEMENT BOARD**

**The Westin Alexander**  
Alexandria, Virginia  
August 4, 2015

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

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## INDEX OF MOTIONS

**Approval of Agenda by Consent** (Page 1).

**Approval of Proceedings of May 2015** by Consent (Page 1).

**Motion to approve the 2015 Lobster Benchmark Assessment and peer review comments for management use.** Motion by Mr. Adler, seconded by Mr. Keliher. Motion passes unanimously. (Page 25).

**Motion to combine the reference points for the Gulf of Maine and Georges Bank to one. The new reference point will be for Gulf of Maine/Georges Bank. The reference years (1982 through 2003) would remain the same and the targets and thresholds would remain the same (below the limit/threshold if model abundance is less than the 25 percentile and requires action; if above the 75 percentile, the stock is in favorable condition. Overfishing is occurring if model exploitation is greater than the 75 percentile and requires action).** Motion by Mr. Borden, seconded by Mr. Adler. Motion passes unanimously. (Page 25).

**Motion that the board convene a subcommittee of state representatives, federal representatives, industry representatives, and technical committee representatives to devise input to the commission on goals and objectives to manage the Southern New England stock and the component fisheries. Report of the group should be submitted to the board at the annual meeting.** Motion by Mr. Borden, seconded by Mr. Hasbrouck. Motion fails (2 in favor, 9 opposed, 1 abstention). (Page 33).

**(Main Motion): Motion to adopt the following provisions to address the issues of commercial permitting and harvest limits of Jonah crab: Approve Section 4.1 (Issue 1) Option 5: Commercial Fisheries Management Measures, to limit participation in the trap fishery to only those vessels and permit holders that already hold a lobster permit; and further require all traps conform to specifications of the lobster plan (including trap tags), and establish an incidental permit for retention of Jonah crab; approve for Issue 6 (Incidental by-catch limit for non-trap gear) Option 1: No coast-wide possession limit.** Motion by Mr. Adler, seconded by Mr. Train. Motion amended. (Page 48).

**(Motion to Amend): Motion to amend to include Option 2 for Issue 6 (200 pounds per calendar day/500 pound trip limit).** Motion by Mr. Grout, seconded by Rep. Kumiega. Motion passes (7 in favor, 5 opposed). (Page 49).

**(Motion to Amend): Motion to amend to insert “or can prove prior participation in the crab fishery that can be demonstrated before the control date”.** Motion by Mr. Gibson, seconded by Mr. Gilmore. Motion passes (11 in favor). (Page 51).

**(Main Motion as Amended) Motion to adopt the following provisions to address the issues of commercial permitting and harvest limits of Jonah crab: Approve Section 4.1 (Issue 1) Option**

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**5: Commercial Fisheries Management Measures, to limit participation in the trap fishery to only those vessels and permit holders that already hold a lobster permit or can prove prior participation in the crab fishery that can be demonstrated before the control date; and further require all traps conform to specifications of the lobster plan (including trap tags); and establish an incidental permit for retention of Jonah crab. Approve for Issue 6 Option 2: Incidental Bycatch Limit for Non-Trap Gear, 200 pounds per calendar day up to a maximum 500-pound trip limit.**

**(Motion to Amend): Motion to amend to change 200 pounds to 200 pieces and 500 pounds to 500 pieces.** Motion by Mr. Reid, seconded by Mr. Adler. Motion passes (11 in favor). (Page 54).

**(Main Motion as Amended): Motion to adopt the following provisions to address the issues of commercial permitting and harvest limits of Jonah crab: Approve Section 4.1 (Issue 1) Option 5: Commercial Fisheries Management Measures, to limit participation in the trap fishery to only those vessels and permit holders that already hold a lobster permit or can prove prior participation in the crab fishery that can be demonstrated before the control date; and further require all traps conform to specifications of the lobster plan (including trap tags), and establish an incidental permit for retention of Jonah crab. Approve for Issue 6 Option 2: Incidental Bycatch Limit for Non-Trap Gear 200 pieces per calendar day up to a maximum 500 pieces per trip limit.** Motion passes (11 in favor, 1 abstention). (Page 55).

**Motion to adopt the following biological measures for commercial Jonah crab harvest: For Issue 2, minimum size, Option 5, a minimum size of 4.75 inches; for Issue 3, commercial minimum size tolerance, Option 1, no tolerance for undersize crabs; for Issue 5, egg-bearing females, Option 2, prohibit retention of egg-bearing females.** Motion made by Mr. Adler, seconded by Mr. Keliher. Motion passes unanimously. (Page 55).

**(Main Motion): Motion to adopt the following measure regarding landing of parts; Option 2, only whole crabs may be retained and sold.** Motion by Mr. Adler, seconded by Mr. Gibson. (Motion amended). (Page 57).

**(Motion to Amend: Motion to amend to exclude individuals who can prove a history of claw landings before the control date in the states of New Jersey, Delaware, Maryland, and Virginia from Option 2 (only whole crabs may be retained and sold).** Motion by Mr. Luisi, seconded by Mr. Clark. Motion passes (6 in favor, 5 opposed, 1 abstention). (Page 61).

**(Main Motion as Amended): Motion to adopt the following measure regarding landing of parts – Option 2: Only whole crabs may be retained and sold; and to exclude individuals who can prove a history of claw landings before the control date in the states of New Jersey, Delaware, Maryland, and Virginia from Option 2 (only whole crabs may be retained and sold).** Motion passes (9 in favor, 2 opposed, 1 abstention). (Page 61).

**Motion to adopt the following biological measures for recreational Jonah crab harvest: For Issue 1, possession limits, Option 2, 50 whole crabs per person; for Issue 2, prohibition on retention of egg-bearing females, Option 2, no egg-bearing females may be retained.** Motion by Mr. Adler, seconded by Mr. Grout. Motion passes unanimously. (Page 61).

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**Motion to adopt 3.4.1, Monitoring Programs. For Fishery-Dependent Data Collections, adopt Option 3, coast-wide mandatory reporting and fishery-dependent sampling with Sub-option 1, 100 percent mandatory dealer and 100 percent harvester reporting. However, jurisdictions that currently require less than 100 percent of harvesters to report are required to maintain at a minimum their current programs and extend them to Jonah crab.** Motion made by Mr. Adler, seconded by Mr. Keliher. Motion carries unanimously. (Page 62).

**Motion to adopt *de minimis* criteria: approve a modified Option 1 and Sub-Option 1A by establishing *de minimis* criteria allowing states to apply for *de minimis* status if that state lands less than 1 percent of the overall commercial landings only. Due to inadequate recreational catch data, no consideration shall be given to recreational landings for purposes of *de minimis* determination.** Motion by Mr. Adler, seconded Mr. Abbott. Motion carries (11 in favor, 1 abstention). (Page 62).

**Motion to recommend to the full commission to adopt the Jonah Crab Fishery Management Plan as modified today.** Motion by Mr. Adler, seconded by Mr. Hasbrouck. Motion carries unanimously (Roll Call Vote: In favor – ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NMFS). (Page 65).

**Motion to table the motion of May 5, 2015, until a final decision by the National Marine Fisheries Service on the New England Fishery Management Council Habitat Omnibus Amendment.** Motion by Mr. Grout, seconded by Mr. Simpson. Motion passes (11 in favor, 1 abstention). (Page 67).

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**ATTENDENCE**

**Board Members**

Steve Train, ME (GA)	James Gilmore, NY (AA)
Pat Keliher, ME (AA)	Emerson Hasbrouck, NY (GA)
Rep. Walter Kumiega, ME, proxy for Sen Langley (LA)	Katherine Heinlein, NY, proxy for Sen. Boyle (LA)
Douglas Grout, NH (AA)	Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Tom Fote, NJ (GA)
G. Ritchie White, NH (GA)	Tom Baum, NJ, proxy for D. Chanda (AA)
William Adler, MA (GA)	Roy Miller, DE (GA)
Jocelyn Cary, MA, proxy for Rep. Peake (LA)	John Clark, DE, proxy for D. Saveikis (AA)
Dan McKiernan, MA, proxy for D. Pierce (AA)	Michael Luisi, MD, proxy for D. Goshorn (AA)
Mark Gibson, RI, proxy for R. Ballou (AA)	Bill Goldsborough, MD (GA)
David Borden, RI (GA)	Rob O'Reilly, VA, proxy for J. Bull (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Catherine Davenport, VA (GA)
David Simpson, CT (AA)	Kyle Schick, VA, proxy for Sen. Stuart (LA)
Rep. Craig Miner, CT (LA)	Peter Burns, NMFS
Lance Stewart, CT (GA)	Terry Stockwell, NEMFC

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

**Ex-Officio Members**

Bob Glen, Technical Committee Chair	Mark Robson, LEC Coordinator
John Cornish, LEC Representative	John Hoenig, Review Panel Chair

**Staff**

Megan Ware	Robert Beal
Toni Kerns	

**Guests**

Alli Murphy, NMFS GARFO	Jim Dawson, VA Fisherman
Chip Lynch, NOAA	Meghan Lapp, Seafreeze
Brandon Muffley, NJ DFW	Arnold Leo
John Bullard, NMFS GARFO	Drew Monkiewicz, KDF/FSF
Mike Ruccio, NMFS GARFO	Mark Alexander, CT DEEP MFD
Kevin Chu, NMFS GARFO	Derek Orner, NMFS
David Spencer, LCMT 3	Cheri Patterson, NHFG
Richard Allen, Little Bay Lobster	

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The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of The Westin Alexandria, Alexandria, Virginia, August 4, 2015, and was called to order at 12:45 o'clock p.m. by Chairman Dan McKiernan.

### **CALL TO ORDER**

CHAIRMAN DAN MCKIERNAN: Good afternoon, everyone. Welcome to the Atlantic States Marine Fisheries Commission and American Lobster Management Board Meeting. My name is Dan McKiernan, the chairman. We have a couple of introductions to start. Louis Daniel.

DR. LOUIS B. DANIEL, III: It gives me great pleasure to finally be able to introduce our new legislative appointment from the great state of North Carolina to the commission. Representative Bob Steinburg is a representative from Edenton, a lovely town on the coast. We'd love to see you come by and say hello. Please welcome Bob Steinburg.

CHAIRMAN MCKIERNAN: Another introduction; Peter Burns.

MR. PETER BURNS: Mr. Chairman, I just want to take a moment to introduce Allison Murphy. She is sitting here next to me. Allison is a fishery policy analyst with us, working on lobster. She is also the regional point of contact for the Jonah Crab Fishery Management Plan.

CHAIRMAN MCKIERNAN: Welcome, Allison. Staff have requested me to remind all the members and proxies that on final actions meeting-specific proxies are not allowed to vote. If that needs to be clarified, you can talk to Bob or Toni.

As far as the agenda goes, what I would like to do is I'd like to move Item Number 6, the Update on Federal Action Regarding the Omnibus Habitat; I would like to move that to after what is formally number nine, to become a new number nine, toward the back of the meeting so that we are guaranteed to get through some of the critical business, if there is no objection to that.

### **APPROVAL OF AGENDA**

Other than that, the agenda is satisfactory to everyone? Seeing no objections; approval of the proceedings from May 2015.

### **APPROVAL OF PROCEEDINGS**

Is there a motion to approve the proceedings from the last meeting? My good friend Bill Adler has made the motion to approve the proceedings; seconded by Steve Train of Maine. Any discussion? Seeing none; approved unanimously. Our next order of business is a big one. It is the stock assessment report. Today we have to review the assessment. Yes, Bill.

### **PUBLIC COMMENT**

MR. WILLIAM A. ADLER: How about public comment?

CHAIRMAN MCKIERNAN: Bill, we didn't get any public comment from – no one has signed up in advance; but is there anyone here who wants to make public comment prior to our business meeting? Terry.

MR. TERRY STOCKWELL: Mr. Chairman, no public comment from me but just to remind the board I'm sitting at the table to represent the New England Fishery Management Council.

### **2015 AMERICAN LOBSTER BENCHMARK STOCK ASSESSMENT**

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CHAIRMAN McKIERNAN: Very good; thank you, Terry. Let's get into the presentation of the lobster stock assessment; and I'll turn that over to Bob.

### **Presentation of Stock Assessment Report**

MR. BOB GLENN: I thank the American Lobster Management Board for having me here today to present this. It is an honor to represent the committee who worked very hard. A lot of thanks go out to the assessment committee on this process to get this assessment done. I'm under strict orders to get this done within my allotted time.

It is about a 600-page documents, so fasten your seat belts. I'm going to try to go through this and give you sufficient detail and hopefully answer any of your questions at the end. Just a quick review on the management unit. Most of you are aware we have three different stock units; currently the Gulf of Maine, Georges Bank and Southern New England. That's divided into seven different management areas.

The figure that I have up above, the colors represented on the screen are the different lobster management areas. The different stippled patterns on the screen – it is a little hard to see from here, I apologize – represent the stock unit. What we have is three stock units and seven management areas of which many of the management areas span the stock units.

You guys have been pretty active on the management board; and since 1997 we have a total of 24 addenda to Amendment 3 that have been passed. This is just a matrix of all the different management measures in place for each of the management areas. The take-home message is that the management areas have kind of a mixed match of different biological measures, depending on where you are across the range.

Some of this makes it a little bit difficult to assess the lobsters. A quick reminder about our reference points; currently we used empirical-based reference points – well, I'm sorry, excuse me – we used model-based reference points that are based on time series. We have for the Gulf of Maine and Georges Bank the stock is in favorable condition if the reference abundance is over the 75<sup>th</sup> percentile.

If it is anywhere between the 25<sup>th</sup> and the 75<sup>th</sup> percentile, it is kind of a holding pattern. We monitor the stock; and then a stock would be considered in Gulf of Maine or Georges Banks depleted if the reference abundance were to go below the 25<sup>th</sup> percentile. We have slightly different abundance reference points for Southern New England; the main difference being that the target for Southern New England is the 50<sup>th</sup> percentile instead of the 25<sup>th</sup> – excuse me, instead of the 75<sup>th</sup> percentile.

We monitor the stock between the 25<sup>th</sup> and 50<sup>th</sup> percentile; and then the stock would be considered depleted if the reference abundance were to drop below the 25<sup>th</sup> percentile of the time series. For exploitation rates, all three stocks use the same reference point. The threshold is when the exploitation rate exceeds the 75<sup>th</sup> percentile. We monitor the stock and exploitation anytime it is between the 25<sup>th</sup> and the 75<sup>th</sup>.

The target for exploitation is when exploitation rates drop below the 25<sup>th</sup> percentile for the time series. Okay, just a quick brief overview of natural history, kind of the ten-cent tour. Lobsters are long-lived species. However, we can't reliably age them. We do know that from rearing studies they recruit to the fishery between five and eight years. Because we can't age them, it means that length-based methods to assess lobsters are still standard practice as is most all crustaceans.

Lobsters grow incrementally in distinct events. The growth parameters were updated for this

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assessment, but in general that's one of our most difficult life history parameters that we have trying to parameterize because we don't have a lot observations on growth increments or frequency for the larger animals or a lot of new information on that. We're still largely relying on older growth data.

It is important to understand that abundance and exploitation estimates as well as any biological references that we might look at are very sensitive to assumptions of growth. Because it is difficult to estimate growth in lobsters, you'd either have to do a rearing study or a tagging study to get sufficient reporting rates.

It is not possible for us to estimate time-varying growth although it is very likely that growth does vary with time based on environmental conditions; and we are all very aware that the environment has changed in the Northwest Atlantic. Similarly for sexual maturity water temperature has a direct influence on the rate of sexual maturation.

Typically in warmer waters lobsters mature earlier; and the figure that I have up on the screen shows three different maturity ogives for South New England, the Gulf of Maine and Georges Bank. The one to the farthest left is Southern New England; and you can see that the L-50 for maturity of Southern New England is 76 millimeters; whereas, for the Gulf of Maine and Georges Bank it is 91 and 100 millimeters, respectively.

Our current size at maturity estimates are based on data that were collected in the late 1980's and early 1990's; keeping in mind that this biological parameter is very sensitive to temperature and knowing also that we've seen some changes in the thermal environment in recent years. Looking at natural mortality, lobsters are long-lived, slow to reach maturity and generally considered to be a case-selected species.

Because of this, low and stable rates of M make sense when we have stable environments. For the Gulf of Maine and Georges Bank, M is held constant at 0.15 for all size classes. However, in recent years, in the last decade or so, or 15 years we've had a lot of empirical evidence of increasing rates of natural mortality in Southern New England.

This is believed to be related to prolonged exposure to water temperatures above the stress threshold of 20 degrees C., which causes increased physiological stress, increased disease rates. It has been related to hypoxic situations and large die-offs in Long Island Sound. It has been related to dramatic declines in young-of-the-year settlement; and also we've dramatic declines in adult indices.

For this assessment, we looked at the negative relationship between annual recruitment as measured in four Southern New England surveys and the number of days when the average temperature was 20 degrees C.; and we found a strong positive correlation with that increase in M. For Southern New England, we used an M of 0.29 during the most recent 15-year period or 16-year period, 1998 to 2014, due to this evidence.

Then we also found that based on sensitivity runs and model fitting that M's of this magnitude allowed for the best model fits. There are four critical components to lobster habitat; temperature, salinity, dissolved oxygen and pH. Any changes in these critical habitat components can lead to both habitat contraction or possibly habitat expansion depending if those changes are favorable or negative.

Of the four, temperature probably has the most pervasive influence on American lobster. Instead of thinking of temperature in terms of like the annual mean or changes in the absolute magnitude of the temperature, for cold-blooded animals it probably makes more sense to look at how long temperatures are within or above

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certain temperature thresholds or within certain temperature ranges.

If you look at the lobster primary literature on the relationship between temperature and lobster physiology, you can find that a range between 12 and 18 degrees C. is considered an optimal temperature. Within this range we see faster rates of sexual maturation and egg development. Hatching occurs within this time period. We find faster larval development and higher larval survivorship. We also know that thermal preference for lobsters is 15.9 degrees C.

In addition to that, we know that lobsters will actively avoid water below 5 degrees C. and above 18 degrees C. On the flip side we have the stress threshold for lobsters; and in the last decade there has been a ton of research conducted in Southern New England waters, looking at 20 degrees C. and its effect on lobsters. It is pretty well defined that this is the stress threshold.

Prolonged exposure above this temperature we find increased physiological stress, depression of immune-competence, increased rates of disease, increased rates of larval mortality. We've also seen changes in the distribution of spawning females. The Northwest Atlantic has undergone pretty significant and widespread warming over the last century.

In the Gulf of Maine we have seen about a 1 degree increase in the mean water temperature over the last 100 years; and similarly, if you look at Southern New England in Woods Hole, we've seen a similar increase there. More recent work has shown that the rate of increase on the Northeast Shelf has accelerated in the last 35 years or so.

If we look at our own temperature data that we've collected in the last few decades, we find this warming trend has been very pronounced in coastal waters of New England since the 1990's.

Finally, climate projections for the Northeast Shelf predict that water temperatures will continue to warm over the next 50 years at a rate to what has been observed for the last 50 years.

Looking at some local examples of temperature trends, this is the sea surface temperature Boothbay Harbor, Maine, from 1960 to 2012. This is a count of the number of days between the optimal thermal range of 12 to 18 degrees C. The dashed line or the solid line across there represents the time series' median.

What you can see is from 1960 to roughly 2000 that the number of days within this temperature range kind of bounced around the median; and then in the late 1990's or 1998 we start to see some strong positive anomalies in the number of days have really increased. That is on the sea surface temperature; so a logical question is then, well, how does that reflect what happens on the bottom where lobsters primarily live?

We see similar trends on the bottom temperature. In this assessment we looked at probably a dozen different sources of water temperature data. I'm just highlighting a few of them today to show you some trends. This graph here is a similar one – this is in Cape Cod Bay in about 60 feet of water. It is going from 1988 to 2013. This is a count of the number of days in the optimal range.

The take-home message for this is that the number of days in the optimal range has been above average in 14 out of the last 20 years. As we switch gears and talk about going back to the temperature stress threshold, sea surface temperature anomalies from the number of days above 20 C. from 1945 to 2014 in Woods Hole, Massachusetts – so this is a nice, long time series – these anomalies are the count of days above the time series' average.

Over that long time series, the average number of days was roughly 75 days where the water would exceed that. What you see is those lines represent either the number above or the

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number below that average over the course of time. You can see some cold periods in the 1960's and late 1980's. What is very prominent is since 1998 we've basically had – 17 out of the last 18 years we've had positive anomalies in the number of days above 20 degrees C.

In some years you can see we have in excess of 90 days a year where the surface temperatures exceed that temperature. We see similar things when we look at bottom temperatures. This is data that was provided to us by the Dominion Nuclear Power Plant. This is Eastern Long Island Sound in about 11 meters or water or roughly 33 feet.

Bottom water temperature; the anomalies are the same – we're looking at the same piece of information. It is the number of days above 20 degrees C. relative to the time series' mean. Interestingly, just like the sea surface temperature, starting in 1998 you see a strong series of positive anomalies in only one out of the last – I don't have the count here, but it looks like 17 or 18 years all of those days had strong positive anomalies, meaning the thermal environment in Southern New England has changed pretty dramatically since the late 1990's.

The take-home points about temperature is that the waters of the Northwest Atlantic have warmed dramatically. In Southern New England this has had a negative effect on lobsters where we've seen higher rates of natural mortality, lower stock productivity, evidence of habitat contraction where we see many inshore areas like Buzzards Bay and Long Island Sound and parts of Narragansett Bay that once held very dense lobster populations no longer is really a viable lobster habitat.

It is important to remember that a stock that is under environmental stress is less resilient to fishing pressure. In the Gulf of Maine temperature changes have had a positive effect on lobster. We have seen higher rates of larval

survival, faster rates of sexual maturity, higher stock productivity. We have evidence in Eastern Maine of habitat expansions where areas that were once too cold to support lobster settlement are now seeing large increases in settlement and subsequent recruitment.

As such, it is important for the board to remember that stocks under favorable environmental conditions are more resilient to fishing pressure. Moving on to stock definitions, we don't have any clear genetic differentiation in American lobsters for which to divide the stocks up by. As a result, we use biological information like rates of growth, sexual maturity, location of spawners, patterns of abundance, similarities in size composition and size at sexual maturity to try to define the stocks.

Historically, we've had the three stock units from the last assessment in the Gulf of Maine, Georges Bank and Southern New England. One of our terms of reference in this last assessment was to assess the stock definitions; and the technical committee did – and based on the work that we did that I'll go over in a second; the technical committee for this assessment recommends combining the Gulf of Maine and the Georges Bank stock.

This information was based on looking at the National Marine Fisheries Trawl Survey Data. What we found is that there are large increases in the abundance of large egg-bearing females in Georges Bank in the fall but we don't see them in the spring. Conversely, when you look at the Gulf of Maine Survey Indices we see large increases in abundance in egg-bearing females in the spring but we don't see them in the fall.

If you coupled this with tagging data that we've looked at, historical work that was done in Massachusetts and Provincetown, which is really the border between the Gulf of Maine and the Georges Bank stock, is we find from that tagging data is we see easterly movements of lobsters in the fall from Gulf of Maine to Georges Bank and

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westerly movements of lobsters in the spring from Georges Bank to the Gulf of Maine.

This is just another piece that kind of relates back to those abundance trends that we're seeing. In addition to this, there is some anecdotal evidence that supports this. It is understanding from talking to several fishermen that fish on Georges Bank that v-notch lobsters are now fairly common on several parts of Georges Bank; yet this activity isn't widely practiced there, so we suspect that the large amount of v-notching that is conducted in the Gulf of Maine has kind of constructed an accidental experiment.

Then finally the management measures that the board took in the late 1990's in LMA 1 protect the brood stock, which included the five-inch maximum size, mandatory v-notching as well as a 100/500 possession limit on non-trap gear have really increased this segment of the population of large female animals. This is very evident when you look at all the survey indices.

It is our feeling based on these large increases and the fact that we have evidence of them moving back and forth between the boundary and the fact that they seem to disappear from Georges Bank and show up on the Gulf of Maine and vice-versa makes us feel very confident that the Gulf of Maine and Georges Bank stock should be combined.

That would simply change that map to look like this where the red area would be the new combined Gulf of Maine/Georges Bank stock and the blue area would be the new Southern New England stock. Just a quick overview on information used to assess each stock; the empirical data that we used can be classified into fisheries-dependent and fisheries-independent biological data.

We look at model-free indicators, which are mortality indicators, abundance indicators and fisheries' performance indicators. Then for the models we're looking at reference abundance

estimates, reference exploitation estimates and the threshold reference points. Our fisheries-dependent data include catch reports that most jurisdictions require their fishermen to fill out for the lobsters they harvest.

All the jurisdictions conduct sea-sampling programs to characterize the size distribution, sex ratio and discard rates. Similarly, some of the jurisdictions also conduct port-sampling programs, which collects similar information. In this assessment we were fortunate enough to have data provided to us by two industry groups; one, the Atlantic Offshore Lobstermen's Association and the other the Commercial Fisheries Research Foundation.

Both of these groups provided us with sea-sampling data that helped us fill in gaps in the offshore area where we don't have good sampling coverage. For fisheries-independent data we have our standard trawl surveys from the states of Maine, Massachusetts, Rhode Island, Connecticut, and New Jersey. We also used the National Marine Fisheries Service; and for the first time we also included the regional survey from the NEAMAP Program.

I'm very happy to report also for the first time we were able to directly integrate the survey indices from the Coast-wide Ventless Trap Survey run from Maine, New Hampshire, Massachusetts and Rhode Island and both the Gulf of Maine/Georges Bank run as well the Southern New England run. Then finally we also relied on Young-of-the-Year Larval Surveys from Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut.

The stock indicator approach is what we call kind of a traffic light approach; and these are just commonsense stock indicators that are model free that we used to corroborate the model results and provide additional information and context about the overall health of the stock. These stock indicators are not used in the legal determination of stock status, but they just help inform both the technical committee and the

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management board as to other health indicators.

These can be broken down into mortality indicators, abundance indicators and fisheries' performance indicators. What we do is we characterize these time series into quartile ranges; and they characterized as positive, negative or neutral depending on where they rank. The strength of this approach is that the use of percentiles as objectives; and the focus on trends is robust to many biological and modeling assumptions.

For mortality indicators we looked at the exploitation rate. For abundance indicators we looked at recruit abundance, post-recruit abundance, spawning stock biomass, the settlement indices and the proportion of positive tows in the trawl surveys. The fisheries' performance indicators; the primary ones that we looked at gross catch-per-unit effort, and we also looked at a few revenue indicators as well.

The only model used in this assessment to assess all three stocks was the University of Maine Model that was developed two assessments ago and has been refined over time. The bookkeeping in this model basically keeps track of lobsters by quarter, sex and size in five millimeter bins. It employs a standard maximum likelihood statistics for comparing observed and predicted data.

Natural mortality, growth, seasonal progression of biological processes and discards are assumed to be known, and those are parameters that we feed into the model. The strength of this model is that it was specifically built for lobster. It is capable of using pretty much all the data streams that we can come up with; and the results tend to make sense.

They're plausible and they estimate trends reliably. Some of the weakness of the model is that there is probably more uncertainty than meets the eye from our model diagnostics. It is

hard to deal realistically with the spatial complexity and the stock in the fishery. It assumes that growth is known and biological sampling is representative; and so probably out of those weaknesses biggest one that could affect the magnitude of the estimates that we worry about is probably the growth. That is all the background information; and now I'm going to dive right into the results.

For the Gulf of Maine/Georges Bank stock, this represents the largest fishery that we have in the U.S. In 2013 it accounted for 98 percent of the U.S. landings. The largest portion of that harvest occurs in the inshore/nearshore portion with smaller amounts caught in the offshore area. Effort has remained high and stable at roughly 3.5 million traps around the last decade or so.

The majority of the boats in this fleet are smaller boats that make day trips, although there is also a larger-boat offshore component. This figure here depicts the commercial harvest of lobsters; the black line being females; the dashed line being males. You can see it has kind of been a one-way trip in this stock. Landings have continued to increase dramatically and seem to have no bounds.

If we look at some of the fisheries' performance indicators; looking at these indicators it is going to be fairly difficult for you to actually see any of the values in here without actually looking at the assessment; but what I find most valuable in trying to study these is actually looking at them from a distance probably is the way to do it.

The black areas characterize a negative trend. The gray area is a neutral trend and the white area is a positive trend. If you look at this table, what you see is there is a few negative trends going on. One of the major ones is the effort. The effort is measured by the number of traps fished and this stock is well above the 75<sup>th</sup> percentile; so it seems to be really high in recent years or for the last 15 years, anyway.

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Another important one is that the Consumer Price Adjusted Index of revenue is above the 75<sup>th</sup> percentile, showing that the overall revenue per pound is down quite a bit. Other than that, the total catch, the gross catch-per-unit effort and the total revenue are all characterized as positive. Looking at the relative exploitation rate, which is simply the survey index of lobsters over 77 millimeters divided into the landings; the surveys we looked at are the Northeast Fisheries Science Center, the Maine, New Hampshire and Massachusetts.

For the five-year terminal average, which you can see is that out of the six indicators for spring and fall that we presented, four out of the six are positive, one neutral, and one negative. Overall it looks like the exploitation rates are in a good-to-moderate area right now. Abundance indicators tell a pretty consistent story where we see positive trends for spawning stock abundance in all areas.

For full recruit abundance we see positive trends in all areas except for Massachusetts, which would be 514, the southern part of the Gulf of Maine, which is in a neutral category right now. Similarly, for recruit abundance we see positive trends for all of the indices' indicators with the exception of spring in 514, which would be characterized as neutral.

The one word of caution of the Gulf of Maine in recent years is in some areas we have seen a downturn in the young-of-the-year settlement; and that would be the table on the far right. What you can see in recent years is there is an increase in the number of gray and black cells; and especially in Southwest Maine, in Area 513, the last six years the settlement has been well below the 25<sup>th</sup> percentile; so we're seeing some declining trends in settlement. That's one thing in the Gulf of Maine and Georges Bank stock that we need to keep an eye on is that we have some disturbing settlement trends.

These are all the individual trawl survey indices. The reason I'm flashing them up there is just to show you a lot of the similarities between the direction of both the NMFS Survey, the Maine Survey as well as the Ventless Trap Survey. The one survey that kind of sticks out is the Massachusetts Survey, which is down in the southern end of the Gulf of Maine, which tends to have a flat trend; but the rest of the survey abundance indices show that the Gulf of Maine has dramatically increased.

These figures are the model outputs. What we have is that the solid gray line are both sexes combined. The upper left is the reference abundance. The horizontal dashed line is the threshold reference point for abundance. What you can see for the combined sexes, which is the solid gray line, is that the reference abundance for the Gulf of Maine is well above the threshold level. In fact it is above the target level for abundance in the Gulf of Maine.

You see similar trends when you break it down by sex in females and males. Females is the dotted line; males is the solid black line. You can see in general that the reference abundance has increased very substantially. Looking to the top right is the effective exploitation. This is a little bit different. We are kind of right at the threshold for effective exploitation.

It is technically the terminal three-year average, which is used for the legal definition. It is below the threshold, but it is pretty close. The lower left hand is the female spawning stock biomass, which shows similar dramatic increases in the biomass in the Gulf of Maine stock and things appear to be very healthy there.

For the Gulf of Maine/Georges Bank stock we've also seen really – in the lower right hand we've seen really dramatic increases in recruitment. If you look at a status determination plot, we are in kind of the quadrant that you want to be in, which is the lower right quadrant of this type of plot where you can see that the single dot

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represents the three-year average for this relationship; and it basically shows us that we are well above the threshold for abundance and just slightly below the threshold for exploitation.

To summarize this, the Gulf of Maine/Georges Bank biomass is high and the stock is not depleted and overfishing is not occurring in the Gulf of Maine/Georges Bank stock. If we look at the empirical indicators, the exploitation rate is mixed. We've seen some signs in the fall of increased rates. The spawning stock abundance is favorable above the 75<sup>th</sup> percentile. Recruit abundance is favorable. Full recruit abundance is favorable as well as the encounter rate, and the survey indices are favorable.

Okay, moving on to Southern New England; Southern New England represents a much smaller portion, especially in recent years. In 2013 the Southern New England stock accounted for only 2 percent of U.S. landings. Historically, inshore landings have dominated, but in recent years the offshore component has accounted for an increasing proportion of the stock.

There is an inshore fleet of smaller vessels as well as an offshore fleet of larger vessels. Since the early 2000's we've seen pretty dramatic declines in effort mostly due to attrition because of the poor stock conditions. This is the landings' trend; and again the black line represents female catch and the gray line represents male catch. You can see we have really dramatic increases in catch up until the late 1990's; and then since then we've had pretty dramatic declines in catch. In fact the last three years, it is the lowest three years of combined catch for Southern New England that we've seen on record since we've been monitoring the catch in a standardized fashion in the early 1980's.

If you break down the catch into an inshore/offshore component, you kind of get a better sense of the dynamics of what is going on. The dashed line in this graph represents the

inshore landings and the solid black line represents the offshore landings. What you see is that large increase in trend in the 1990's is largely driven by inshore catch, which has since declined dramatically.

The offshore catch has been more stable but in general slightly lower in recent years. If we look at the fisheries' performance indicators, out of these the only one that's positive is effort; and unfortunately it is not positive for a very good reason. The effort indicator is well below the 25<sup>th</sup> percentile. As I mentioned before, the effort declines are more related to attrition than anything else.

As far as total landings, gross catch-per-unit effort revenue for the stock; all of these are characterized in the negative category. Trawl survey indices – I'm showing a bunch of spring/fall – we used Northeast Fisheries Science Center, New Jersey, Rhode Island, Connecticut, Massachusetts and NEAMAP, as well as the Ventless Trap Survey.

What we found is a fairly consistent picture of low abundance in the early 1980's, increasing abundance through the 1990's and then pretty dramatic declines. In the shorter time series like NEAMAP and the Ventless Trap Survey, if you look here, fall females are up on the right. Since those were initiated in the mid-2000's, we've seen declines in those shorter time series as well.

It paints a pretty consistent picture in the overall abundance trends in Southern New England over a fairly broad area. Looking at exploitation rates; that gives a mixed signal. In the offshore areas, as measured by the NMFS Survey, they're characterized as positive to neutral; but in the inshore areas in Connecticut and Massachusetts in the fall they're characterized as negative and in the spring they're neutral; so it is kind of a mixed bag when it comes to looking at the relative exploitation rates.

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However, when we look at spawning stock abundance, it is a much more consistent picture. Out of the eight different indicators that we looked at, six out of the eight are characterized well into the negative category and two would be in the neutral. I wanted to kind of give you a graphic pictorial of what this has looked like when we map out all the trawl survey data, looking at spawning abundance.

This map represents – each dot represents a catch where egg-bearing females were found. We broke it down into five-year stanzas. This is 1996 and 2000, within the time period when the stock was near record-high abundance. The larger the dot the higher the concentration of egg-bearing females in this.

I'm going to scroll through in five-year stanzas and demonstrate kind of what we've seen. This is 2001 to 2005; 2006 to 2010, and you can see there is really a small numbers of egg-bearing females. These are all the trawl surveys combined, so this would be NMFS, Massachusetts, Rhode Island and Connecticut. Then finally in the most recent stanza there almost none. We see very, very few in any of the trawl surveys where in the late 1990's we used to see large amounts of them.

Looking at other abundance indicators, looking at full recruit abundance – so these would be legal-sized animals – depending on where you are, in the inshore areas like in Connecticut/Long Island Sound they're characterized as negative. In the other areas they're characterized as neutral. Recruit abundance is really concerning.

These are animals between 71 and 81 millimeters; so these typically would make the following year's commercial catch. What you can see is kind of a really consistent trend among all the eight different indicators that we looked at of very low recruit abundance with the exception of the fall survey in Massachusetts, which would be characterized as just barely neutral. It is very close to the cut point.

Then the other disconcerting trend is to the right. The young-of-the-year indicator indices, which show either both negative trends in Rhode Island and Connecticut and negative-to-neutral trends in Massachusetts, showing that in general we've seen really poor settlement in the last decade as well as really poor recruitment indices.

This lower right-hand table, when you see the area shaded in black where we see extremely low settlement, it is important for the board to understand that the year classes have yet to recruit to the fishery; so those are still yet to come. The very low landings that we've witnessed in the last two or three years came from year classes that were fairly moderate back in the early 2000's.

The expectation is that with this poor settlement is things are going to probably be worse for catch than what we've seen in the last couple of years. Then finally if we look at the survey encounter rate, which is the proportion of tows that have a lobster in them, you can see all but the offshore area is characterized as negative; so Massachusetts, Rhode Island and Connecticut have all been negative. We see the vast majority of tows have zero lobsters in them.

In the NMFS Survey relative to the time series it would be characterized as neutral; so the offshore is not quite as bad. Looking at the model outputs, the reference abundance, you can see the gray line at the top, the highest line is the reference abundance. The dashed line represents the threshold reference point for abundance; and you can see that the combined sex threshold abundance – I'm sorry, reference abundance for Southern New England is well below the threshold.

The lower dashed, dotted line and solid line represent males and females; and then the solid black line that is the combined sex reference abundance from the last assessment; so you can

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see where it ends there; and 2007 I believe is the terminal year in that. It gives you a sense of where we are relative to the last stock assessment. The last stock assessment we were already well below the reference abundance; but based on this, the stock is even in worse condition than it was from then.

Looking at the exploitation rate; the overall catch rates have been so low that the catch has dropped faster than what the stock abundance has; so the exploitation rates are in fact below the threshold for exploitation. The lower left-hand graph is the female spawning stock biomass; and that is at or near the time series low; as well as the recruitment indices, that lower right-hand graph, shows that the recruitment is at or near a time series low.

Looking at where we are on the status determination plot; in the lower left-hand quadrant it shows us that we are well below the threshold of abundance, but we are also well below the threshold exploitation currently. Just a quick synopsis on Southern New England; the stock is depleted. However, overfishing is currently not occurring.

Recruitment and spawning stock biomass are at all-time lows. Looking at the indicators for abundance, most of them are negative. Exploitation; they're moderate to negative. I should note that recruitment is extremely poor and they're at or below the 25<sup>th</sup> percentile. Finally, the Southern New England stock is in extremely poor condition and is substantially worse than what was reported in the previous assessment.

The low levels of catch observed over the last three years were derived from moderate year classes that settled between 2003 and 2007. The record low settlement observed between 2009 and 2013 has not yet recruited to the fishery. The technical committee expects that landings, full recruit abundance, spawning stock biomass and the overall condition of the Southern New

England will continue to decline in the coming years.

Environmental conditions in the inshore portions of Southern New England are stressful to lobsters; and the overall productivity of the stock is severely diminished. The technical committee continues to feel that the Southern New England stock is experiencing recruitment failure. I'll take questions.

CHAIRMAN McKIERNAN: Bob, should we postpone questions until Dr. Hoenig gives his review of your assessment?

MR. GLENN: That's fine with me.

CHAIRMAN McKIERNAN: Okay, does anyone object to that? Maybe you want to jot down your questions that you might have come up with the presentation. Dr. Hoenig.

#### **Presentation of Peer Review Panel Report**

DR. JOHN HOENIG: I couldn't resist putting two pictures of lobsters on the screen; a normal-looking one and one with epizootic shell disease on the right. The technical review took place in Woods Hole from June 8 to 12. There were three of us. I chaired the meeting and I worked with Dr. John Tremblay from Canada Department of Fisheries and Oceans – he has since retired, but I don't think it was because of the stress of the review – and also Dr. Robert Muller from Florida Fish and Wildlife Research Institute.

As you know, the Lobster Assessment Subcommittee and the Technical Committee developed the assessment and the Independent Review Panel was asked to focus on reviewing the science, meaning the biology and ecology of lobster and the assessment. We produced a 20-page report, which you should have in your briefing book; and if not, you can find it online on the commission's website.

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What I would like to do is put the cart before the horse a little bit and give you our overall conclusions and then I will justify those conclusions. The Stock Assessment Review Panel accepted the assessment in its entirety; that is to say both the model results and the results of looking at empirical stock indicators.

We concluded that the Gulf of Maine and Georges Bank stocks should be combined for assessment purposes, but we also spent quite a bit of time looking at what would happen if you assessed them separately. The conclusions really don't change if you do it separately or if you combine them. The panel agreed with the Stock Assessment Subcommittee that there was good reason to combine the two units.

The Gulf of Maine/Georges Bank combined stock is not overfished and overfishing does not appear to be occurring. The situation in Southern New England is quite a bit different. The stock is not only overfished but it appears to have the lowest biomass on record. Not only that, but it appears to be suffering from very poor recruitment, from recruitment failure.

Overfishing is technically not occurring in 2014 according to the criteria in place; but the subcommittee and the review panel thought that this was a very misleading result that may obscure the need for management action. Two other points are that forecasting for Gulf of Maine and Georges Bank is really not possible because it all depends upon what the recruitment is going to be like, and we don't know what will happen with recruitment.

To make a forecast would basically say, well, if it has been going up, it will continue to go up; and that will work for a while but it can't work forever. Finally, the panel finds that the stock assessment is acceptable for management use. We had nine terms of reference. The first one was to evaluate the thoroughness of the data collection in the presentation and the treatment

of fishery-independent and fishery-dependent data in the assessment.

The panel noted that almost all data sources were incorporated directly into the University of Maine Model or into the stock indicator tables. There were a couple of surveys that were not put into the assessment model mainly due to limitations of the assessment model. The model really should be rewritten to be a little bit more flexible, but this was really not serious. What was eliminated was viewed to be unimportant.

The data limitations were substantial. For example, in the early years there is missing data and the coverage is not uniform spatially, but the stock assessment subcommittee did a thorough job of filling in the gaps using a very resource-intensive approach. The data trends were so strong that it basically overcame any limitations of the data; so we felt that the results were robust.

We also noted that to understand the effects of reducing effort on stock status better information on fishing effort would be vital. The second term of reference dealt with evaluating the methods in the models used to estimate the population parameters and the reference points for each stock unit. The stock assessment subcommittee was thorough in its review and use of life history information and environmental data.

In fact, the panel the commended the stock assessment subcommittee for its use of temperature data to explore changes in natural rate in Southern New England and also to use temperature data to try to explain recruitment trends. The SASC used a wide variety of data types to examine the movements between Gulf of Maine and Georges Bank areas. We felt that was a thorough analysis.

There is a need for updated information on growth and maturity; and the panel concluded that the most appropriate model was used.

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Actually they were directed to use the University of Maine Model, but they used it in appropriate fashion with the proper parameterization. The next term of reference, TOR 4, was evaluate the methods used to characterize uncertainty in estimated parameters and were the implications of uncertainty clearly stated.

It was quite clear that the University of Maine Model gave confidence intervals that grossly understated the true uncertainty in the base case. This is because the confidence intervals from the model are conditional on the model being correct. You calculate them assuming the model is correct; and you assume that the data do not have any problems; and as such, it gives you a very low estimate of uncertainty. The uncertainty is much greater.

The stock assessment subcommittee recognized that and felt really the best thing to do would be to do a lot of sensitivity analysis runs and see how that affected the results. That's what they did. The panel concurred that was probably the best way to go. The trends turned out to be robust to all that uncertainty.

We also noted that retrospective patterns which plague a lot of stock assessment models did not seem to be a problem at all for this assessment; and I'll show that in a moment. The fifth term of reference is evaluate the diagnostic analyses performed, including the sensitivity analyses. The biggest problem that struck the review panel was that the data for the early years was quite sparse and there was some cleverness in trying to fill in the gaps.

We asked for a run where the early data were simply eliminated and start the model at a later point. You can see two lines on the graph on the screen; and basically they fall on top of each other, so eliminating the early data did not seem to change the results at all. This slide here shows the retrospective analysis; and essentially it is hard to find an example of less of a retrospective pattern than this. You do not see a systematic

revision of the conclusions as you collect more information, which is a very good thing.

The next term of reference is evaluate the preparation and interpretation of indicator-based analyses for stocks and sub-stock areas. The panel supports the use of indicators or model-free indicators. There is an example on the screen here, but Bob went into it in quite a bit of detail so I won't repeat it; but we did think it was appropriate.

We noted on the panel that the subcommittee used – sorry, we recommended that the subcommittee develop an environmental indicator table to also inform the managers of what to expect, especially based on temperature. Term of Reference 7 is a very important one; evaluate the current and recommended reference points and the methods used to calculate them and evaluate the stock status determination from the assessment in terms of these are alternative methods.

The panel agreed that the traditional reference points based on yield and spawning biomass per recruit and based on MSY considerations are not appropriate given the life history of the lobster and the recruitment trends. What this table here is showing is that for Gulf of Maine or a combined Gulf of Maine/Georges Bank, the current fishing mortality shown in red, 0.48, is way too high compared to any of those yield-per-recruit-based reference points.

That really doesn't make a whole lot of sense because it is saying you've got the highest abundance on record; therefore, you must be way, way overfishing the stock. Similarly, when you look at Southern New England, the value of 0.27 is green, saying it is low, but by that if it is really so low, then we shouldn't be in the current situation we are now.

Basically the reference points do not make a whole lot of sense because the recruitment is what is driving the system and these reference

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points are not dealing with that. Instead the panel agrees with the subcommittee that you should use trend-based abundance and exploitation reference points determined from the model; so you're basically getting quartiles of abundance and exploitation rate based on what was observed in the past and comparing the situation to those.

The panel agrees that the Georges Bank/Gulf of Maine combined stock is not overfished and overfishing is not occurring according to both the model results and the stock indicators; and it doesn't matter if you look at those two areas separately or combine them, although we think it is appropriate to combine them.

The Southern New England stock is clearly overfished according to both the model and the stock indicators, meaning that the abundance is at or near the lowest record, with the inshore abundance extremely low. It is apparently not due to fishing because the fishing mortality is low. There is recruitment failure in the inshore and it is believed that the offshore depends on the nearshore settlement for recruits.

I have here a quote because this is so important that I didn't want it to be my opinion, but this is actually from our report. It says the subcommittee and the panel believe the Southern New England stock has little chance of recovering unless fishing effort is curtailed. Essentially what we're saying is that the reference points defined by the time series of model outputs say that the exploitation rate for the entire Southern New England stock does not appear to lie in the overfishing zone; but this definition was created without considering the possibility that the stock could be brought to the lowest abundance level ever and that the production of recruits in the inshore area on which the offshore depends could be brought to extremely low level.

Hence, by any reasonable standard it is necessary to protect the offshore component of

the stock until increased recruitment can be observed. I'd like to tell you something that the late Ransom Myers used to say when talking about  $F_{0.1}$ , which was supposed to be a conservative way to manage a stock. Ransom would say that  $F_{0.1}$  means that if you have two fish left, you can safely harvest 0.3 of them.

I think that is the point is when the abundance is extremely, extremely low, then what would normally be a reasonable fishing mortality rate may be a death blow. Essentially when abundance gets really low, you need all of your spawners to have any chance of keeping the thing from collapsing.

That led the panel and the subcommittee to conclude that looking at the fishing mortality rate now in Southern New England is really not the issue. The issue is the amount of spawners and where is the recruitment going to come from in the future. The eighth term of reference was to review the research and data collection and assessment methodology and make recommendations.

The panel looked at a long list of recommendations from the subcommittee and tried to boil it down to something you could deal with; so we came up with four. First is that updating the growth information is important. The report actually said imperative, so I'll say is imperative. The second is to investigate the stock connectivity to support the combined Georges Bank/Gulf of Maine analysis. A tagging program was suggested as a ways to do this.

The third priority was to increase sea sampling for biological data in the offshore. That's where most of the holes in the data collection appear to be at the moment. The fourth priority was to rewrite the University of Maine Model Computer Program because it is inflexible now; and when you want to make changes, it is a major task. It shouldn't be that inflexible.

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The last term of reference; review the recommended timing for the next assessment. For Southern New England the panel recommends close monitoring to try to save the stock. The stock indicators should be updated annually and reported to the management board for appropriate action. For the Gulf of Maine/Georges Bank, at the moment everything is booming; so it is not clear that you need to do a benchmark assessment every year. Given the good condition of the stock, a five-year interval may be appropriate for a benchmark. However, stock indicators should be updated frequently so that we can detect changes quickly. That's the panel report.

#### **Discussion of Acceptance of Reports for Management Use**

CHAIRMAN McKIERNAN: Before we take any questions from Bob or Dr. Hoenig, I do want to recognize all the members of the technical committee in addition to Bob. Bob got to give the long presentation, but he knows that so much effort went into this from so many members: Tracy Pugh, Burton Shank from NMFS, Jay McNamee from Rhode Island, Penny Howell from Connecticut, Kim McKown from New York, Larry Jacobson from NMFS, Carl Wilson from Maine, Kathleen Reardon from Maine, and Josh Carloni; really an outstanding job.

As someone who started their career as a junior lobster biologist, I'm really impressed with the level of accomplishment and also collaboration among the states and also with the industry to accomplish such a great assessment. Our hats off to you. (Applause) Let's take some questions of Bob and Dr. Hoenig. Dave Simpson.

MR. DAVID SIMPSON: A very good presentation. Early on, Bob, you emphasized the importance of modeling growth but recognized that time-varying growth rates couldn't be modeled. I'm wondering about how shell disease plays into this assessment and how much of that concern

is incorporated into the model both in terms of its effects on growth rate and on reproduction of females. As you know, shell disease tends to be most prevalent in the reproductive female because she is not molting. Is that an additional concern that we should have on top of what you've told us or has it really been incorporated already into this assessment?

MR. GLENN: It has been incorporated into the assessment in that we took increased disease rate along with all the other stressors that we saw for the Southern New England stock to help kind of characterize the increase in natural mortality. When we did that, we applied it across all year classes and size and sexes.

Specifically, we didn't increase it for that segment of the population, but the evidence suggests that demographic within the population experiences higher rates of shell disease than any other and that also – and actually based on some of Dr. Hoenig's work it would show that demographic also experiences probably higher mortality rates. We weren't able to integrate that at this time.

MR. JAMES J. GILMORE, JR.: That was a great presentation from both you guys. Either one of you can answer this. From both the presentations there is obviously the strong correlation to temperature in terms of what is happening with recruitment and the whole fishery. Having lived through the disaster in Long Island Sound – and we don't have a fishery there anymore – we can see that sort of moving its way north.

This is kind of a two-part question. Dr. Hoenig, you said that we can't forecast what is going to happen in the Gulf of Maine and Georges Bank into the future in terms of how the stock is going to perform. However, can we forecast temperature change; and if that is the biggest indicator, is that something will help us to maybe do management five or ten years out.

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Long Island Sound went pretty quick from when it was a viable fishery to the graphs you saw before in the nineties. It was good reproduction and then it was gone; and the concern is if climate change is happening as we're going into the Gulf of Maine, it is going to keep going; and the Gulf of Maine, it is its heyday right now; is that going to change later?

Secondly, you indicated that reduced mortality was needed to help the Southern New England stock recover and if there is such a strong connection for temperature; is there really anything we're going to be able to do? We talked about a moratorium five years ago, but is there anything we can actually do to bring that stock back?

DR. HOENIG: Okay, you asked a bunch of things, so let me see if I can answer them. If I missed something, please remind me. Climate change is not uniform; so you have on average warmer temperatures. That doesn't mean that every year is going to be warm. My personal feeling – and I think it can be substantiated – is that it seems Southern New England is more sporadic recruitment.

When you get a year with good temperatures, you might get some decent settlement, but it won't be every year because the trend is to get too warm. That is why what I was saying is you can get some good recruitment if you get a cool year or a year that is not favorable to all the causes of mortality provided you have some spawners left.

If you eliminate all the spawners, then even if you have a cool year or a good year conditions, without the spawners you won't get the recruitment. In terms of prediction, when I was saying you can't forecast the recruitment, what I was basically saying is you can't forecast how many settlers you will have.

If you have surveys like the ventless trap surveys and the settlement surveys and so on that can

quantify what your potential recruitment is because you see what has settled out, that you could project forward. But to say, well, how many are going to settle; that is hard. It has just been going up and up and up; and obviously it can't go up forever; because if it did, we could walk on the moon on the backs of the lobsters.

At some point it is going to have to stop going up; and we don't know where that is and that has been a big question for 20 years, maybe. Then beyond that, what I can report is that the subcommittee told us about quite exciting research they were doing in compiling the environmental indicators and checking the correlations with what is happening.

You have question of can we forecast the temperature changes over time; and there are climate models that can make some predictions and then translate that into what does that mean for Gulf of Maine/Georges Bank recruitment. I don't think we have very good ability to quantify that now, but the panel was very impressed with all the work that the stock assessment subcommittee did in compiling the environmental data and exploring how it was related to it. I think the next time you hear presentations like this, you probably will have some better indications of what we think climate will do.

MR. ADLER: Very good reports, both of you. I know it goes deep and a lot of stuff; and I keep going back to the last one and Southern New England. When you check for the young of the year trends, the settlement, is that something that is done close to shore or all the way out into that area? That is my first question, Mr. Chairman.

MR. GLENN: Our settlement surveys are focused on looking for lobster post-larvae in what would be considered optimal nursery habitat, which would be shallow water or less than ten meters and with rocky substrate most often with a southwesterly exposure. It does not include

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settling in deep waters because the technique requires divers, so we can't have divers out working in deeper waters to do that.

The large question is if those inshore-preferred habitat types, the habitat type that lobsters have evolved from millions of years to utilize, if those are no longer favorable for them and they're relying solely on lobsters that settle out in deeper water, you have to question the productivity of that based on overall productivity in deeper waters is typically lower.

The temperatures are going to be a little cooler, lower light penetration and probably less food availability. Also, it is possible that in the process of settling in deeper water they may experience higher mortality rates than they would in shallow water because it is a long way to dive down as opposed to being in 15 feet of water you can hit the bottom pretty fast.

CHAIRMAN MCKIERNAN: Bob, as a follow-up question, would your ventless trap survey also detect these broken year classes?

MR. GLENN: Yes; the ventless trap survey would actually detect them maybe three years after settlement; and when we see them right around 55 to 60 millimeters, it really targets that. That includes shallow and deep water; so we could look at that as another way.

CHAIRMAN MCKIERNAN: Bill, did you have a follow-up?

MR. ADLER: Yes. Okay, getting back to when we first had this disaster unfolding, it was said that – and I think the stock assessment said it again – that the temperature forced the lobsters out into cooler water. Therefore, it seems like even the eggers that were there went out into deeper water.

As you just indicated if they drop their eggs out there, there are problems with getting the recruitment out there because the tides take

them down south, outside; or as you just said, they have higher mortality on the babies. It is one of these things where I don't know how you can win here because they're not there to settle where you would check or where the checking would be done because that was shallow inshore.

Then the other comment that was made had to do if you shut the fishing down completely, there was no guarantee it would bring the stock back. That is because the amount of other issues could destroy what you're trying to get by stopping the fishing. The other issues will keep it down low. It is a quandary, but I just remember that those were the issues that came up.

If I may, Mr. Chairman, I'll make one more thing. This has to do with the combining of Georges Bank and the Gulf of Maine. If we were to do that – technical question, I guess – would we have to do a whole amendment/addendum stuff to change that particular section in the world or do we just do it?

CHAIRMAN MCKIERNAN: Bill, I have been advised that if we accept the stock assessment, we will be accepting the new stock units.

MR. ADLER: Okay, so it is not our bible that it has to be three sections; we can just accept it and it automatically will go to two?

CHAIRMAN MCKIERNAN: That's right. Mark Gibson next.

MR. MARK GIBSON: Mr. Chairman, we emphasize your compliments. This is a terrific piece of work. We've come an awful long way from the old length cohort analysis and EPR and all the things we used to do. Terrific work, not perfect, but it is the best that I've seen yet for lobster if not crustacean.

Bob, you had a four-panel graph I think to summarize Southern New England. Would you bring that back up? I'm thinking about some of the remarks that Dr. Hoenig made – no, that one,

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the four-panel one that had the exploitation rates, reference abundance. I'm looking at the exploitation rate graph, which clearly there was a major drop-off in the exploitation rate in the early 2000's; but it looks to me as though it bottomed out and actually have been somewhat of an uptick in recent years.

At the point you reach historic low abundance in the time series, certainly the reduction in mortality exploitation has not continued and actually have even ticked up. It is not unheard of in fisheries at very low abundance that last gasp of fishing effort can in fact do that. I've heard Dr. Hoenig use the term "the death blow" and I'm very concerned about that; that we have an action already approved that engages us on a trap-reduction schedule.

I think you showed in the indicators that was the one lone positive indicator of falling effort, falling number of traps fished. It looks to me like we have reached an inroad in terms of where fishing mortality is being influenced by reductions in effort and are being driven more now that abundance is falling faster than the catch is. I think that's a very dangerous place to be; and I just wanted to hear if either one or both of you expound a little more on that.

MR. GLENN: I'll take a first stab at it. Yes; it is a concern I have as well. In general it is a phenomena often seen in stocks of low abundance, especially in the case like Southern New England where there is good evidence of habitat contraction. What we've seen is that if you look at Southern New England, say, historically, it would include all the embayments like Long Island Sound and Buzzards Bay and Narragansett Bay, way up into the reaches of those areas.

Now if you think about it as the amount of total area where lobsters live in Southern New England, it has shrunk dramatically and now they live largely outside those areas and what main biomass is left is largely concentrated in deeper

water south of Rhode Island and Massachusetts and to the east of Long Island Sound. It is really concentrated there and then to lower densities offshore. The result of that often is that the fishery is sitting right top of it.

What remaining effort there is, even though effort has declined, it is focused on that remaining stock in a much smaller area. You almost have a little bit of shooting a fish in a barrel situation there where although the amount of fishing effort has declined, it is probably much more concentrated on the stock.

DR. HOENIG: I agree exactly with what Bob said; and I would just like to add that Bill Adler was pointing out that if you reduced the fishing effort that doesn't guarantee you'll save the stock; and that is entirely true. I don't have a crystal ball and it may be that nothing can save the Southern New England stock; but if you don't protect the spawners, it is not likely that the stock will persist. You need a certain amount of spawners in order to produce offspring; and that's why I think some thought should be given to how many spawners do we need.

DR. LANCE STEWART: Thanks for the great summary report and hearing again the dismal situation of Southern New England stocks really bothers me. It really makes me look at the differences between the Gulf of Maine and offshore stocks and Southern New England. We did work in the seventies, a long ago, but it was pretty comprehensive.

Some of the population differences and geographic differences for Long Island Sound are unique. Our lobsters in Southern New England we found to be a centimeter below the Gulf of Maine size at maturity. Not only were they much, much smaller; the populations undergo mass molts twice a year, in the spring and fall when temperatures go to 53 degrees.

This causes again mass reproduction during those two molt periods and their sizes increase appropriately. The other factor is that the

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populations that we studied in western Long Island Sound, central and east; the central and western portions showed very little movement – 1 to 5 percent of tag lost is essentially 10,000 lobsters in these different areas to the east.

The berried female index was tremendous. They live in a habitat that isn't brought out here. We look at surface temperatures when we mark it off to extreme temperatures. Essentially environment is much different. When you're diving and you go through 60 feet, there is a thermocline in western Long Island Sound in the middle into the summer. It is dark. The sun penetration and thermal range isn't at great.

The lobsters love it there. They have 24 hours of nocturnal conditions to feed. Their burrows are much different. Probably 80 percent of them in central and west of Stratford Shoal and Execution Rocks are in mud burrows that give them thermal protection. They have the cooling ground water, so to speak. During the nineties, mortality, which was tremendous, the density of lobsters per square meter would eclipse any area in the Gulf of Maine.

It was this crescendo effect that I don't believe was caused by temperature. The only things we can control are environmental inputs. I, as many of the fishermen, was strongly suspicious of pesticides. We're still 15 years later trying to determine absolutely what the tissues' level are or were in hepatopancreas.

Now, this brings me to the plight of the western Long Island and central Long Island to the lobstermen. They are essentially cut out of business because they have no alternative. They can't escape geographically. They're in a dead-end enclosure. We as the commission share responsibility for the water quality in the largest fishery along this coast that existed back 15 years ago. The only thing that bothers me further is that we say fishing mortality caused it. That is absurd in my thought of the issue.

The 10 percent closure has caused dramatic impacts on especially pressured industry. I would propose that we might even take off the 10 percent, have western and central Long Island Sound become a special management area where fishing is allowed the full term and monitored full term so can determine exactly when and where these mortality events are occurring along with water quality assessment; because we're speculating –

CHAIRMAN MCKIERNAN: Lance, I think that is part of the next section and sort of our management response to this decline; so maybe I'd ask you to hold off on that. If you have a specific question for these guys, I think maybe that's opportunity now.

DR. STEWART: My question would be how confident are you in citing the water temperatures or hypoxia or overfishing have been the main cause in Southern New England declines. Again, the pump of lobster that we saw going from Long Island Sound; our studies indicated five times the abundance of lobster larvae in Long Island Sound, we always considered it a recruitment pump for all of Southern New England. Now, if that has discontinued, we would expect it might affect the stocks to Block Canyon.

CHAIRMAN MCKIERNAN: Bob, why don't you take a crack at that quickly?

MR. GLENN: I believe the question is how confident is the assessment panel that temperature was one of the primary causes of the declines in Southern New England and also fishing mortality. Well, first I would clarify that neither the assessment panel nor the review panel attributed fishing mortality as the primary cause of the decline in Southern New England stock.

We attributed one of the primary causes to increase in natural mortality that we felt the preponderance of the evidence from the primary

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literature related back ultimately to temperature through increased rates of disease, through die-offs, through increased rates of physiological stress, depression of the immune system, increased rates of shell rates.

I think I mentioned disease rates. The combination of those factors we felt probably largely related to an increase in natural mortality and has contributed substantially to the decline of the Southern New England stock. That said, I would caution the board about the role of fishing mortality in this in that while it may not be the primary cause of the decline, a stock that's under extreme stress does not handle additional sources of mortality as well as one that is not under extreme stress.

I think as Dr. Hoenig pointed out, it is like an additional death blow. You have all these negative stressors going on, water quality issues in Long Island Sound as well as increases in temperature throughout the shelf waters. On top of that a fishery who is concentrating on a combination of those things have really probably contributed together to cause the stock to decline.

DR. HOENIG: I would just like to say that I believe what Bob just said was the opinion of the review panel; so it is an accurate characterization of what the review panel thought.

MR. MIKE LUISI: I can't argue. I wouldn't be able to do it with a straight face that there is not some problem in Southern New England as the assessment results and the evaluation of that assessment. I do have a concern, though, given the data sources that are going into the assessment and the focus of those sources in and around New York, Connecticut, Rhode Island with the addition of some information coming from the federal surveys.

I guess my question about that, given that there is very little information feeding into the assessment from areas south of New Jersey,

Delaware, Virginia and my state of Maryland, how reasonable is it to assume that what you're seeing as part of the results from the northern part of Southern New England, you can extrapolate that and just assume that the entire area, all the way down through Cape Hatteras, North Carolina, isn't having similar reactions to the indicators that you have said are problematic.

MR. GLENN: Well, the lobster distribution off the Mid-Atlantic is largely isolated out to the Continental Shelf and the canyon areas in deep-water environments and not in nearshore areas. It is the committee's belief that the Southern New England stock is interrelated in that lobsters throughout their range in both Southern New England, Gulf of Maine as well as Atlantic Canada seem to exhibit similar behavioral demographics in that they tend to settle out in shallow and nearshore waters and live there for the first three or four years in a very limited area.

As they reach sexual maturity, the range of their migrations tend to increase; and then as they get larger and older, they tend to make seasonal offshore/inshore migrations. Our concern about, yes, we're seeing slightly moderate trends in the offshore area compared to inshore areas, the abundance is higher in offshore areas right now than inshore areas.

Our feeling is that those lobsters with almost certainty did not settle out there and group up there and that those offshore areas are relying on settlement in the nearshore areas that eventually populate those areas. An analogy I would make would be for the offshore portions of Southern New England; my expectation is that we've shut the hose but all the water hasn't run out of it yet.

The abundance of larger animals that you're seeing offshore right now is fairly low compared to historically the highs that it was at, but not as low as inshore. Our expectation is that the recruitment that the offshore area receives is

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going to continue to decline and conditions there should – we would expect them to decline as well in the near term.

MR. ADAM NOWALSKY: Under the natural mortality heading in the stock assessment, there were a handful of paragraphs devoted to fish predation. The last line of those paragraphs concluded with data may understate consumption particularly for small juvenile lobsters. Now, that statement I think would lead us directly to think of its impact on recruitment.

I understand a lot of the conversation on natural mortality here today in the presentation has focused on temperature; but we do have this question of fish predation. I would be interested in hearing comment about the discussion during the stock assessment and the peer review about the level of predation, how it is contributing to recruitment; and depending on the level of that discussion, if it was not too in depth that you could report on, any personal feelings you might have on that.

MR. GLENN: The assessment committee; when we look at natural mortality, it is often hard to parameterize exactly where it is coming from so we try to look at it in a combination of factors, which would include environmental parameters which I characterize that we feel we're well out of the norm for lobsters and probably the primary contributor. Also, in addition to that finfish predation is something to be considered. In general when we put into the model, we're trying to account for all possible sources of it.

At that level and trying to model the results, it is almost academic as to whether you attribute that to environment or to finfish predation. It is a natural source of mortality. It has its impact on the stock and it also reduces that stock's resiliency to fishing mortality. We did discuss it and we did talk about a lot of the primary candidates are things like black sea bass, which have increased dramatically in abundance in recent years. There is no doubt that those do

prey on lobsters and they do contribute to the natural mortality.

MR. G. RITCHIE WHITE: Dr. Hoenig, the technical committee has recommended to us for a number of years a moratorium in Southern New England. My question to you is do you see anything short of that that would have the ability to potentially save what stock is left?

DR. HOENIG: Speaking personally, I don't see anything short of that. Speaking for the panel, we did not actually discuss that. I can report that the panel noted in the draft of the assessment the conclusions were not as strong as I might have expected. I asked the stock assessment subcommittee why aren't the conclusions worded more strongly, emphasizing not just that the biomass is in the lowest quartile but the lowest on effort, recruitment failure, the dependence of the offshore and so on.

I think they thought, well, what was the point. They didn't anticipate any action being taken. Especially they thought if the indicator says that the fishing mortality is in green zone, they've lost the battle. I said the fishing mortality being in the green zone is misleading. It is not that this is a normal fishing mortality for a normal stock; this is a fishing mortality on a stock at extremely low levels that is stressed.

I think they thought that if the rules say that you rate it green, then how are you going to tell them but it should be red? I think that the stock assessment subcommittee and the panel – I know the stock assessment subcommittee and the panel thought that some action was taken. We did not discuss what action should be taken because it is not our position to tell you what to do. Our job is to tell you there is a problem.

MR. JOHN CLARK: Thanks to the committee for this fine piece of work. This question will probably reveal my ignorance of lobster biology; but just to follow up on what Mike Luisi was saying, I was talking to Delaware's lobster fishery

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the other week, all one of him, and he has had steady increasing catches now for about the last five or six years. He is not going that far offshore. I was just curious again about whether the data is capturing what is going on in Southern New Jersey south to North Carolina.

MR. GLENN: We utilized all possible data sources that we have, which would be catch report data as well as trawl survey data from the NMFS survey down in that area and then any fisheries-dependent sampling that we can get, which would be I believe for Delaware or off the Mid-Atlantic it would be from any NMFS observing or port sampling that occurred.

We incorporated all data sources. We haven't seen any strong trends in any of the statistical areas for catch that we looked at. We don't have admittedly as high resolution in the Mid-Atlantic as we do up in Southern New England; but we haven't seen – any of the data that we reviewed, we have not seen anything to suggest that the stock condition is better in other places.

MR. CLARK: So you still feel it is all connected, then, so we're just maybe an artifact of the data that he is still seeing the lobsters that –

MR. GLENN: Yes; I think we have to be really careful about when we look at catch-per-unit effort indices. For example, right in my backyard that I'm familiar with in Lobster Management Area 2, I know several lobstermen who are still doing two pounds a pot throughout the entire summer; and that catch rate is reflective of what they did 20 years ago because they're fishing on where the remaining lobsters are and because there has been about a 60 percent attrition in the number of Massachusetts fishermen who fish next to them. We have a hard time interpreting what those CPUEs actually mean because they tend to be really hyper-stable.

REPRESENTATIVE CRAIG A. MINER: So not being any kind of a biologist or scientist, I do this kind of as a policymaker. One of the concerns that I

have is that when we get to the full red stoplight, the constituency that advocates on behalf on lobsters or advocates on behalf of something else – Dr. Stewart referred to it as kind of the economic value – I worry about whether that is lost forever; and in that loss the search for the reasons as to why this animal went away will be lost with it.

Agencies will put dollars into study, research, protection of animals that are still around and still alive and will check lobsters off a list somewhere. As a policymaker, is that a bad conclusion for me to be wrestling with or I guess does the red light – should the red light, let's say a full moratorium, we'd be discussing some enhanced study that goes beyond this group to get to the root cause of why this animal is not recovering.

Otherwise, if I think I hear what I'm hearing, it is not only going to affect Long Island Sound and southern states; the potential is that it will affect the Gulf of Maine eventually; and if these animals settle out in nearshore and not deep water, Georges Bank as well. Have I got this right or have I got it wrong?

CHAIRMAN MCKIERNAN: I'm not sure of the question.

REPRESENTATIVE MINER: So the question is as a policymaker should I be concerned about a full red light? I think the discussion that we're going to get onto is whether there should be some other decisions made by this group with regard to further reductions in harvest or a moratorium, which I understand is for a future point, but it is how we got there. It is the information and then the peer review with the information that has pointed this out as being not a shortcoming but a very risky assumption for us to be making that because it is a green light still, we're going to run out of time. Is that where we are?

DR. HOENIG: It is an interesting question. Sometimes when a stock crashes, the

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government response is to throw money at the problem; and so the researchers get a bonanza in terms of research dollars. Cod on the Grand Banks generated a big research fund. Sometimes the response is, well, if there is none left, then we don't need anybody to study something that doesn't exist anymore. It can go either way; but I think in the case of lobster the problems and the questions and the research won't go away.

Epizootic shell disease, which is very important in Southern New England in the inshore, is now found in the Gulf of Maine. About I think 1 percent in some places of the lobsters can have it, which went from a handful of reports to in some places now maybe 1 percent. Everybody is wondering is that disease going to spread into the Gulf of Maine and take off or is it not going to.

If it is related to the temperature, people want to know that, and I think that research is going to be going on trying to forecast temperature regimes into the future in the Gulf and where will it be the warmest and is that where we should see the disease and is the disease related to temperature and so on. I don't think any actions taken with regard to Southern New England are going to turn off the questions and the research about what happens in the Gulf of Maine and Georges Bank.

MR. THOMAS FOTE: The only two species that I can remember in the last ten years that we put almost a red flag on or red light or whatever you want to call it – because I made the motion on both of those species – was weakfish and winter flounder to set dramatic cutbacks. We didn't know where the natural mortality was supposed to be coming. We made guesstimates on them.

I have not seen any more research on why both of those happened; and I haven't seen any growth in either one of those populations since we really implemented that; and weakfish is now, what, four or five years old. Since they

spawn at one year, they should be coming back; winter flounder the same thing.

Is the technical committee looking at the red lights that we've already put in place and studying the effects of putting in a moratorium or close to a moratorium? When you talk about one fish and a couple thousand pounds on weakfish; and when you talk about two fish and then a couple of hundred pounds again on winter flounder, where are we going?

That is part of my concern here and I'm asking the question since we've done that. Now, with sturgeon we know is starting to come back; but that was put on a real long time ago. I think it was actually before I sat at this table in 1990 we started having moratoriums on that. Sometimes on winter flounder there were moratoriums put in many years before we put it in the final bill.

States did their own work on that. Has the technical committee basically looked back at those species and see how those red lights are working? In my estimation I don't in the stock assessment that they're basically coming back. That is my concern. With red lobster here, we put a red light in effect, we lose whatever gain that we have with fishery-dependent data and we don't basically know – we find no answers because we haven't found them in weakfish and winter flounder. That's my concern here.

CHAIRMAN MCKIERNAN: Tom, I appreciate that, but I'm going to consider that a rhetorical question and not a direct question for our technical experts.

MR. FOTE: Well, the question I asked is have we studied the other two species to help us do that.

CHAIRMAN MCKIERNAN: So you're asking the Lobster Technical Committee Chairman if he has studied the weakfish issue.

MR. FOTE: A lot of those technical committees – a lot of people sit on both. I know in New Jersey

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people sit on the lobster, they sit on the weakfish, they sit on the winter flounder, because we don't have that many people that we have to spread them out on a lot of technical committees; so that's why I'm asking the question.

DR. HOENIG: Speaking I guess professorially, it has been noted that species have a really annoying habit of not performing on command; so if you pass a law that says you have to rebuild the stock within ten years, the stock is very likely to be in Contempt of Congress because it will grow when it grows.

If you think about lobster, I would imagine that if you got a cold year, you might get some good settlement. If you can tell me when the cold year is going to come, I might be able to predict when the next good recruitment is going to come. Otherwise, you just have to wait, and it might come next year or it might come in three years or five years or who knows when.

It was thought that you could rebuild stocks on a regular schedule and there were questions about whether you should frontload it or whether you could backload the rebuilding schedule if you had to do it within ten years; and they realized the rate at which a stock rebuilds is highly variable and unpredictable.

If you think about Hokkaido herring; that took I think 80 years to recover and Georges Bank herring took about 50 years to recover. Herring are notorious for taking a very long time to come back. Other stocks will rebound very quickly; and I just do not know how long it takes a lobster stock to rebound.

CHAIRMAN MCKIERNAN: At this point I really want to move this along and see if we can get this assessment accepted by the board. I have a couple of hands up, so, Rob, I'll recognize you, but I ask you not to be commenting and instead asking questions.

MR. ROB O'REILLY: No comment; question; and thank you for finally making eye contact. Mine is a follow-up to John Clark. I heard a nice scenario that the best information possible is cobbled together below New Jersey, so for the DelMarVa area. It doesn't like very strong data to me to be drawing the inferences that what happens in the northern part of the Southern New England stock happens in the southern part, which is a very small component.

I did hear a dismissal of the idea on catch-per-unit effort; that you had to be careful on how you look at that. At the same time I've listened to contrast about fishing mortality rates and just what is going on there, whether catchability really has increased and that discussion that the other board members had. The question is really how wise is it to simply assume that the DelMarVa area, which is a small component of the overall harvest now and before, has adequate data. I'm certainly not asking that adequate data appear. I just would like a good qualification on the adequacy.

MR. GLENN: Maybe I mischaracterized and led the panel to believe that we didn't look at sufficient data for the DelMarVa area. I can quickly review a few of the trawl survey indices that we included that would go down that far. We have the Northeast Fisheries Science Center Survey that goes down there.

More recent data would be – the far right panel would be from the NEAMAP Survey, which is kind of not inshore or not offshore, kind of a nearshore survey there. Then in addition we also have the New Jersey Trawl Survey, which is an inshore trawl survey. Since the inception of that, the trend in abundance has gone down dramatically. There were three fisheries-independent surveys that we looked at that would cover that area.

We also used all the catch data available for that area; and what we found was that what abundance indicators we do have, have declined

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and that the catches has stayed consistent to slightly declining. It hasn't declined at the same rate as the inshore; but the indicators are that we're seeing abundance in the survey indices decline. Our conclusion is that area is related to the rest of the Southern New England stock.

MR. ADLER: I was wondering if you wanted a motion to accept the benchmark assessment and peer review for management use.

CHAIRMAN MCKIERNAN: I would.

MR. ADLER: I so make that motion.

CHAIRMAN MCKIERNAN: Okay, Mark as the second. Any discussion on the motion? If this is approved, it means we do accept the new stock units as Southern New England versus Georges Bank/Gulf of Maine combined. Move to approve the 2015 Lobster Benchmark Assessment and peer review comments for management use. Motion by Mr. Adler; seconded by Mr. Keliher. That is what is up there. Tom Fote.

MR. FOTE: I think we should have a 30-second caucus.

CHAIRMAN MCKIERNAN: Certainly, I'll give you 30 seconds.

(Whereupon, a caucus was held.)

CHAIRMAN MCKIERNAN: All right, the 30-second caucus is completed. All in favor of the motion raise your right hand; opposed; abstentions; null votes. It passes unanimously. Thank you both, Dr. Hoenig and Bob Glenn. The next item on the agenda – and I'd like to complete this by 3:00 o'clock if possible because we have a lot of business on Jonah Crab – is to discuss our management response.

#### **DISCUSSION OF POTENTIAL MANAGEMENT RESPONSE**

Obviously, I've tried to focus some of this conversation and I've even cut some people off – this is the time to get into some of the substance beginning at this meeting and possibly going into the next meeting and even maybe something outside of this meeting. David Borden; did you have your hand up?

MR. DAVID V.D. BORDEN: Mr. Chairman, I would make a suggestion and then I probably have a motion. The suggestion is that we talk about the Gulf of Maine separately from Southern New England, because I think there are going to be two entirely different dialogues, if that is acceptable to the Chair.

CHAIRMAN MCKIERNAN: Sure; do you want to start with the Gulf of Maine at this time?

MR. BORDEN: And what I'd like to do is just clarify one point. Now that we've accepted the benchmark assessment; do we need to proceed with an addendum to combine the reference points for the Gulf of Maine and Georges Bank?

CHAIRMAN MCKIERNAN: I'll look for help from Toni on that. Toni or Megan; do you have any thoughts on that?

MS. MEGAN WARE: My understanding is that we do need an addendum. We do.

MR. BORDEN: Okay, I gave a motion to the staff. I would move to combine the reference points for the Gulf of Maine and Georges Bank to one. The new reference point will be for Gulf of Maine/Georges Bank. The reference years (1982 through 2003) would remain the same and the targets and thresholds would remain the same (below the limit/threshold if model abundance is less than the 25 percentile and requires action; if above the 75 percentile, the stock is in favorable condition. Overfishing is occurring if model exploitation is greater than the 75 percentile and requires action).

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CHAIRMAN McKIERNAN: Is there a second; Bill Adler. Toni, did you want to make a comment?

MS. TONI KERNS: I apologize; I was misunderstanding where we were going with this. The Lobster Board actually has the ability to change the reference points through board action. Essentially all you're doing is combining the – you're not making any changes to the reference points.

All you're really doing is combining the areas that you're referencing; so this can be completed through board action because it is the advice that came out of both the stock assessment and the peer review panel as well concurred.

The addendum that looks at reference points; the last time we went through them allowed us to make these changes as long as it concurred with the advice of the assessment and the peer review. Also, if you want to seek public comment on this, then you can go out for public comment through the addendum process.

CHAIRMAN McKIERNAN: Does anyone want to discuss the motion and make comments on whether we should go to public comment? Pat Keliher.

MR. PATRICK C. KELIHER: Mr. Chairman, I guess it has been my thought all along that this was going to start an addendum process to deal with reference points and to deal with potentially other management issues; so I would prefer to see this being recommendations potentially even to go to a PDT for further discussion and refinement to develop a document that would go out to the public.

MR. GIBSON: The only question I had – I'm generally supportive of the motion and what Pat just said. Retaining the original reference years, I'm just wondering what are the pros and cons given that we have stock assessment data now that goes through 2013. Is there any rationale for extending that window, shifting that

window? I don't have the answer to that; I just bring it up as a question for Bob.

MR. GLENN: That's a good question and a difficult one to answer. Usually when you have empirical-based reference point like that, you look for some period of stability and good stock productivity to set your reference period. The problem we have with the Gulf of Maine/Georges Bank stock is we don't have that stability. We have a one-way trip to the moon; so it is very hard for me to comment beyond what we already have is that current reference point of – I believe it is 1982 to 2003 is the reference period years.

CHAIRMAN McKIERNAN: So, back to you, Pat. If the board passes this, it seems like an addendum isn't necessarily warranted because the board would have taken action; so what were you hoping to get feedback on in the addendum?

MR. KELIHER: Honestly, Mr. Chairman, I was going to suggest to the board that we potentially hold the turn on any management actions until we come back to the next meeting this fall to discuss it and give us all a chance to go home and think about the ramifications about combining the management areas of the Gulf of Maine and Georges Bank and to think kind of a little bit more holistically about other components. I've had a lot of talk with my staff at home and there hasn't been much more talk beyond that with industry. I think it would be much more beneficial to think about potentially next steps instead of just rushing into making adjustments now.

CHAIRMAN McKIERNAN: So you're sort of pointing out that the peer review suggested you could keep them separate or you could combine them and you want to just not make a decision just yet on that?

MR. KELIHER: Yes; the reason I seconded it; I'm supportive of combining those management areas, but there are a lot of differences with

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some of the management between those areas that I think would be worthwhile having a thorough discussion about is there any benefit of creating any consideration of standardizing some of the work that has been done, whether it is minimum/maximum, v-notching and those things that are paramount to the management of lobster.

MR. BORDEN: To Pat's point, I just state from my perspective, this is not designed to commit us to a particular course of action. It just starts the action, and I think the dialogue that Pat wants to take place should play out over a number of months. Every time we have a meeting, we should have reports on the status of this. That is what my intent is, Mr. Chairman.

CHAIRMAN MCKIERNAN: Pat, to that point, we already have disparate rules within the Gulf of Maine now; so I'm not sure that it forces the hand to have common management measures. Would you object to this motion going forward?

MR. KELIHER: The reference years that are on the board within the motion now are consistent with the technical advice within the report; so if that's the case, I wouldn't have any objection to this particular piece moving forward.

CHAIRMAN MCKIERNAN: Any other comments on the motion? Seeing none; let's take a vote on the motion. All in favor of the motion put your right hand up; opposed, right hand up, please; any abstentions or any null votes. It passes unanimously. The second half of this trying to tackle the dreaded Southern New England problem. From my personal perspective, we've been working for almost a decade on the effort limitations and the trap limits; and that is one of the areas in green; those that were positive. We are on the verge in Southern New England especially in Area 3 and Area 2 where a lot of the fishing occurs about to implement the Trap Transfer Program working with the National Marine Fisheries Service and the ACCSP. This comes at a very difficult time because we are

about to reduce trap allocations by almost 50 percent over the next six years.

All this is being done on the backs of the permit holders. As Dr. Hoenig mentioned stocks collapse, typically politicians bring a lot of finances or aid to the fishermen or the industry. That has happened for the most part in Southern New England except for, of course, the Long Island issue about 15 years ago.

We have a situation where many of the fishermen are about to self-finance essentially a buyback; and we do expect to see substantial trap reductions further. Having said that, we clearly have a lot of different management regimes in Southern New England. We have some real disparate rules and I think they're worthy of sort of refocusing and taking a second look at.

It might be worthy to gather the folks who fish on this stock together between now and the fall meeting. I'd look to my Southern New England partners to think about that and maybe consider some kind of a gathering of those folks. Any thoughts on that? David.

MR. BORDEN: Mr. Chairman, I concur. I just point out to the board if you listened to the discussion that has already taken place here, when you start discussing Long Island Sound, the area by the DelMarVa, the actions that the Area 3 industry has been taking over the past ten years, the basically industry-funded buyback that the Area 2 industry has initiated, I think the dilemma I think for all us is we don't have a common objective for this area.

In fact, we have very different perspectives on what is needed to move forward. I think if we tried to put a motion on the table for a specific action today, it probably would go nowhere and not reach a consensus. I totally support this concept of convening the Southern New England states with their respective technical advisors and industry advisors and try to put together

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some common objectives for this area that are attainable.

Given the scientific advice we heard today, I think there is going to be a long dialogue over can you rebuild to some of the levels that previously existed particularly in the late nineties when we had this enormous pulse of lobsters come into the population. How fast could you rebuild; what is a reasonable timeframe? To me what you need is everyone needs to bring their perspectives to the table and try to put together a common perspective.

I have a motion that I would like to put up, and it is related specifically to Southern New England. I would move that the board convene a subcommittee of state representatives, federal representatives, industry representatives, and technical committee representatives to devise input to the commission on goals and objectives to manage the Southern New England stock and the component fisheries. Report of the group should be submitted to the board at the annual meeting. If I get a second, I'd just like to add a quick comment to that.

CHAIRMAN McKIERNAN: I've got a second from Emerson.

MR. BORDEN: Okay, I do not do this – and I want to be clear on the record; I'm not doing this to delay action by the commission. The stock is overfished. From my perspective we need to have a management response. I think that management response should look at all of the components of the fishery issue, all the environmental types of information that is available, but that is going to take some time and it is going to require I would think either a number of meetings or a number of conference calls on the issue to sort through with the collaboration of the industry and the technical people.

I realize that some people around the table are going to want to take immediate action, but I

think that this is the fast way to get to a state where we actually take action. Part of that action should consider – if you went back to Bob Glenn's PowerPoint and you looked at the regulations in Southern New England, you have five different management areas.

You have eight different jurisdictions including the federal government that manage the area. We have literally overlapping regulations. In some of the overlap areas we have fishermen fishing under two minimum sizes and two maximum sizes. There is a lot to discuss with this; and I think we need to get on with the discussion. Thank you.

CHAIRMAN McKIERNAN: Can I turn to Toni or Bob for some kind of feedback about whether this kind of a gathering of the Southern New England stakeholders; how do you envision this being accomplished in terms of resources or what is the best way to do it given your resources?

MS. KERNS: Is this a convening of your LCMTs? Are you utilizing that process? Are you going to just pick random representatives from – I shouldn't say "random", but I'm trying to figure out how we're choosing which industry representatives we're going to bring into the mix. Are we bringing in AP members? What is the number of individuals you anticipate bringing into this group? It was my understanding that the states were going to go back and convene their LCMT's; so this is a little bit different than the process that I thought we were going to go through.

MR. BORDEN: I recognize the constraints on travel and that type of thing; and I'm not trying to make more work for the staff. I think there is a simple way or methodology to do this is simply have each of the states take the lead collectively, probably.

In some cases, for instances, I could see Massachusetts and Rhode Island working

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together and some of the Mid-Atlantic states working together and meet with their industry representatives and technical advisors – this is kind of an open-ended charge – and then formalize some recommendations, submit it to the commission staff and then have the commission staff try to consolidate those suggestions into a common theme for Southern New England. I'm sure there are going to be differences of opinion; but at least we'll have a starting point for the dialogue.

CHAIRMAN MCKIERNAN: Does that help?

MS. KERNS: That does help. Is it the expectation that the states would want reimbursement for these meetings or not?

CHAIRMAN MCKIERNAN: Well, I guess one of the challenges you have is Area 3 goes all the way down to the Mid-Atlantic or to the DelMarVa Peninsula; so it all depends on what kind of resources you need to convene those groups even in a larger – I think maybe it is a conference call or webinar. Maybe that is the best way to do it.

MS. KERNS: And that works. The only reason I ask is to consider the budget and typically the commission does not have a hand in the LCMT process if that's the process that you're going to go through the states. The LCMT process was set up so that the states had full control of working with their advisors on that level and that the commission work with advisors on a coast-wide level and the LCMT's would be bringing back proposals to the board for their consideration. I'm just trying to make sure I understand.

CHAIRMAN MCKIERNAN: Why don't I recommend this; why don't the Chair, the Vice-Chair and the Technical Committee Chair speak to each of the individual LCMT chairmen in the individual states and try to create some kind of a white paper or some kind of a consensus document about what the problems are in terms of the disparate management, the lack of goals,

and we'll try to bring something together in the interim before the next meeting; does that make sense?

MR. ADLER: Yes; that's fine, Mr. Chairman, but I'm just a little bit concerned about "should be submitted to the board at the annual meeting"; people are fishing. You've got to try to get people together and hit them with another hardball. I don't know what you are expecting to have to submit by the annual meeting. If this was over the winter, that would be different. I'm not opposed to it, but trying to get this all together and get something out of it by the fall meeting I have my doubts.

MR. SIMPSON: In terms of what we do next, this is way down the road. This is too forward for me. I think first my need would be to address some of the fundamental issues that the technical committee brought forward, which I think was in caps. The environment has changed; and so our expectations for this resource, this fishery need to be realigned with new expectations of what recruitment might be.

Certainly it is not the 20-year-old time series median, 75<sup>th</sup> and 25<sup>th</sup> percentile. I'd like some insight into what the technical committee thinks this stock's productivity is currently and will be in the future, presuming these environment conditions persist. With that, I would like to be able to go back as a delegation in Connecticut and talk to our own constituents in Connecticut separate from a commission process. I know we have different rules, but we've had different rules for years.

The stock assessment is no reason to now go back and address the different rules by LCMA. That is how this FMP was designed that it would be customized to meet each Lobster Management Area's preferences. 50 percent reduction in traps; if that's what you want to do, that's great. To me that doesn't address fishing mortality; that's making the fishery more efficient, so it could actually be

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counterproductive in those terms, but I understand it as an objective.

I was hoping what we would do for Southern New England is charge the technical committee with giving us some advice on what to expect for productivity of this stock into the future given the environmental conditions that have persisted since 1998.

MR. FOTE: I guess it has always been quirk and I'm going to put it since we're talking about this and how we're going handle Southern New England. The name of Southern New England is a misnomer. If you think about it, you have Massachusetts, Rhode Island and Connecticut; and the other states of New York, New Jersey, Delaware, Virginia and Maryland all in the Mid-Atlantic.

It is like because McCluskey got mad at New England for calling it the New England Council. It is not really Southern New England. It is basically the Mid-Atlantic and part of New England. If we're going to start doing it this way, we should really get a different name to use. When you say Southern New England and try to tell a guy in Virginia or Maryland that you're in Southern New England it doesn't sound right.

CHAIRMAN MCKIERNAN: It is a fair point. Peter Burns.

MR. BURNS: Mr. Chairman, I guess just a suggestion. I liked what David Simpson said, but I think it is really important, too; that this is an important juncture here because we're implementing management measures now in Southern New England that we're trying to reduce exploitation. We're just starting to see the results of those and putting them in play.

Given the results we've heard from the stock assessment subcommittee today, likely we're going to have to think long and hard about what we're going to do next. I see the word "subcommittee" up there and I see "federal and

state representatives". I certainly think that NOAA Fisheries would want to be involved in any kind of subcommittee that is involved in this, especially because the Southern New England fishery takes place almost predominantly in federal waters.

We would like to be involved in any kind of discussion on this. This is something that maybe the plan development team could be involved in maybe on an initial basis to maybe put some parameters or management measures in place, working with the technical committee maybe to give some guidance before it goes out to the industry.

CHAIRMAN MCKIERNAN: So is the board comfortable if I work with the commission to put this group together at least initially through a conference call to develop some goals or a statement of the problem and then share that with the board as we work on it? Comments?

MR. SIMPSON: No, I'm not; I don't support the motion and I don't want to form a unique committee or assemblage or people that isn't part of a normal commission structure. If you want to assemble a subcommittee of board members with some technical committee people, a plan development team type of thing, that would be great, but not this. I'm not ready for this.

CHAIRMAN MCKIERNAN: Toni, who is on the plan development team?

MS. KERNS: Currently we don't have a plan development team. They got disbanded after the finalization of the last document. We haven't had a document out for a while so we could create a plan development team; either take nominations through the board now or through e-mail later on.

CHAIRMAN MCKIERNAN: Okay, do you want to reformulate the plan development team between now and the next meeting and do it

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after the next meeting; as Bill says during the winter when people might have some more time?

MR. SIMPSON: Well, I think something that is a more traditional body for the commission to work in with strong representation from the board and the technical committee. Yes; that kind of timeframe and structure helps me. Again, I hope we could, among the charges, ask the technical committee to give this board some insight into what we should expect in the future for lobster in Southern New England/Mid-Atlantic area. That will also give us time in our individual states to bring this news formally to the public and talk about where we are, what does this mean, where do you want to go with this? I don't think anyone could walk in front of their industry and say if we just addressed fishing mortality, we can rebuild the stock. I don't think anybody feels like that.

It is sort of the requiem for lobsters; what do we do now? We have the formal new word. It is even worse than last time. It is not getting better. It is a statement of the obvious to everyone in the fishery and around it, but I think a more measured approach, understanding that, yes, it is a collapsed stock so what do we do?

CHAIRMAN MCKIERNAN: To David Borden; do you want to respond to David and consider the motion?

MR. BORDEN: My response is simple that it is just my intent to get the dialogue going. I would be totally happy following the path that David is suggesting; but we need to very clear and I think we need to be consistent in our application of this. In other words, this is one stock in Southern New England.

If we have five different management areas, it is fine to have different management regulations in those areas; but I think the regulations have to be consistent and they should all be targeted on the same objective. All of us should be kind of

carrying our weight to reach a common goal for the stock. How you capture that in a motion – if you want to do that by consensus, that's fine with me. I defer to the Chair and I would be happy to withdraw the motion if that would expedite the deliberations.

CHAIRMAN MCKIERNAN: Emerson, if he withdraws the motion, is that acceptable to you?

MR. EMERSON C. HASBROUCK, JR.: Yes.

CHAIRMAN MCKIERNAN: Mark, did you want to comment?

MR. GIBSON: I was prepared to support the motion in general. I don't have any problem with convening whatever group or subcommittee that is workable within the commission's structure and budget and so on. But like Dave Simpson, I hope that they wouldn't take a very broad view of goals and objectives. That could take us all the way back to the original FMP.

I hope it quickly hones down into the thing that David Simpson is talking about; what is a regional abundance expectation for the Southern New England/Mid-Atlantic stock; what is the likelihood that our current suite of measures in place and coming down the road will reduce fishing mortality in accordance with what the assessment group has said and the peer review panel. If those are not going to get the job done, then where do we go from there? I would hope whatever group is constructed wouldn't have a very broad discussion of goals and objectives but a more focused one along those lines. Thank you.

MR. DOUGLAS E. GROUT: Mr. Chairman, I have difficulty with the process here of withdrawing the motion. This is a motion that has been made and seconded and there has been considerable discussion. I think a more proper way would either, one, be voted on it and decide whether it goes up or down or to table this motion to the annual meeting. At this point this is the board's

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motion and you'd have to have a motion to table this to – I don't think withdrawing is proper.

MR. WHITE: I agree with Doug; but to comment on this motion, it seems like this process is backwards to me. We're going out to the fishermen asking what do we do here. Doesn't it start with this board determining how much we're going to reduce mortality and then we take it out to the public to try to figure out how do you implement that.

It seems like we're going backwards to me. We just heard an assessment that suggested moratorium. Now maybe that's not totally appropriate, but I think it starts here that we have to figure out how much more reduction in mortality do we have to absorb and it goes out to how do we implement it.

REPRESENTATIVE MINER: Just to correct the record; I don't moratorium was in the assessment. I think there was a lot of discussion about whether it should have included that kind of language. I think that's part of what I'm wrestling with here is – I can tell you personally I'm not asking anyone's permission to go back to talk to constituents. I'm suggesting that we are in the middle of, just as other states are I think, trying to understand the management decisions that we made last time that was hopefully going to achieve a goal doesn't appear to be achieving a goal.

To change those right now before – I mean, in Connecticut I think we were talking here before is that one year or two years and I still get phone calls from people saying is there an opportunity here to expand, we see different things than what people are reporting. I am resistant to doing anything to relax what we've already done. In fact, I'm willing to consider more than what we've already done. I just want to correct the record; I don't believe the word "moratorium" was in that report.

MR. ADLER: I'm not opposed to moving ahead on something here, but first we're going to look at asking somebody how long or what do we have to do to get things back. I basically heard the report. The report is not going to change. They said what is wrong; they said why. They did not give a recommendation. As they've indicated, they don't do that. They just put in this is the situation, good, bad or ugly.

We're going to come back with some people meeting and coming back with I don't know what. I mean, they're going to come back and say, well, according to our models we can recoup this species if we do something; and we don't even know what that is. I'm not opposed to getting together to get started on however you want to do it, whether it is done here at the board first or second, but I just don't see what we're coming up with that we don't already know. I'm sorry; I just don't see it.

CHAIRMAN MCKIERNAN: Okay, why don't we do this; why don't we vote on the motion up or down and ask Toni to reconvene or reestablish the PDT and have the PDT try to set some goals and objectives for the Southern New England stock with input from the chair and the vice-chair and the technical committee; does that work? Dennis.

MR. DENNIS ABBOTT: Mr. Chairman, if I may, I haven't spoken on this issue yet and probably shouldn't be speaking on the issue; but this is so similar to where we were 15 years ago. Fifteen years ago they told the house was starting to burn and we ought to do something about it; and we're so many years down the road and we have a raging forest fire or house fire going, and we're going to go off and think about it again. I just think doing this isn't in my mind the correct thing to do at this point.

CHAIRMAN MCKIERNAN: Can we vote on this motion up or down and then convene the PDT? We have a motion and we have a second. Let's take a vote. Bill.

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MR. ADLER: What if I made a motion to table it?

CHAIRMAN McKIERNAN: You could do that, Bill, but I was thinking to Toni's point that the PDT has sort of evaporated, and I think we want to reestablish that. Maybe the PDT ought to take the first crack at this.

MR. ADLER: Okay, can I have a caucus before you vote?

CHAIRMAN McKIERNAN: Certainly, we'll give you a one-minute caucus.

(Whereupon, a caucus was held.)

CHAIRMAN McKIERNAN: All right, can we vote on the motion? All in favor of the motion, right hand up; opposed; abstentions. Terry, are you voting from Maine or as a council member?

MR. STOCKWELL: Council seat.

CHAIRMAN McKIERNAN: Council seat, okay. Null votes. All right, the motion fails two, nine, one, zero. Toni, can we reestablish the PDT?

MS. KERNS: Yes, Dan, you can reestablish the PDT. I would suggest that if you are looking at some specific goals and objectives; that you want to be looking to populate that PDT with individuals that can get you to goals and objectives so that you can task the technical committee to respond to those very specific goals and objections; and that we get that group together quite quickly so that we ask the technical committee to do a little bit of this work and so that they have specific tasks to get at instead of sort of going in a circular direction. Without having specific tasks, the technical committee doesn't know where to go and give you advice.

CHAIRMAN McKIERNAN: Historically, the PDT has been comprised of folks that are beyond this board, right?

MS. KERNS: Historically, but we also have done sometimes where we have board members as part of PDTs or special sub-groups.

CHAIRMAN McKIERNAN: And is that something you would recommend we do now?

MS. KERNS: I'm not saying you need to do it right at this moment, but let's try to get that group figured this week or next week.

CHAIRMAN McKIERNAN: All right, between now and the Policy Board Meeting?

MS. KERNS: We can do that, you and I.

MR. SIMPSON: At least my suggestion – I don't know if I brought the PDTs up – was only in defense for the motion that just failed. I don't really see it as being necessary. Again, in my view the question that we have is how to respond to this stock assessment that says the stock has collapsed in so many words. It is not likely to get back to where – this is my interpretation of what has been said – it is not likely to get back to the reference point that we currently have no matter what we do, because it is not caused by overfishing.

I was looking for the exact quote; 'stock abundance is low but it is not due to overfishing'. That's as close to the exact quote from the screen as I can get. What I think we need is to look our target, as we did a couple years ago, and adjusted the Southern New England target kind of seat of the pants. We know we can't get to here so maybe we should shoot for the 25<sup>th</sup> percentile.

I don't think we achieve the 25<sup>th</sup> percentile; so rather than the PDT – I won't make it as a motion now. I kind of want to hear what others think – simply charge the technical committee with taking into consideration the current environmental conditions that led us to where we are, what would a target be for biomass and

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fishing mortality under that new, much lower productivity condition?

I'd kind of like to hear what other board members think. I don't want the PDT to take us down the path of solving every other problem in lobster management. I think we could do that another day. Right now we need to know how to respond to this assessment. I hear different feelings depending on where you are within Southern New England about the sense of the problem and what should be done about it.

MR. GILMORE: Mr. Chairman, I generally agree with Dave; but I actually have a different point; just a point of order. We have eleven votes on this board and there is twelve on the thing. There was something about a New England vote; so could somebody explain that to me.

CHAIRMAN MCKIERNAN: Well, as I understand it, Terry was representing the New England Council today on Jonah Crabs. I'll turn to Toni on the issue of Terry's participation as a council vote on lobster issues.

EXECUTIVE DIRECTOR ROBERT E. BEAL: The Charter provides for the opportunity for a board to invite any affected council to participate as a voting member. This board agreed to invite the New England Council to vote primarily on Jonah Crab issues. The Charter is silent on once you invite that person to participate on the Lobster Board; are they just voting on a subset of issues or all the issues that come before the Lobster Management Board. Maybe it is an issue that the Policy Board or Executive Committee needs to clarify given this board is dealing with multiple species now and in the past they weren't. As of right now, the New England Council was invited to have a voting seat to participate on this board.

CHAIRMAN MCKIERNAN: To clarify David's point, he is asking the technical committee to prepare a response to the board about establishing new target biomass levels and F given the reduced productivity of the stock. I

turn to Bob to see if that's something that the technical committee would be willing to undertake between now and the next board meeting.

MR. GLENN: That would be a pretty tall order. We would need a lot of advice from the board as to what the direction is for those. Based on the biological evidence that the technical committee reviewed, if you were asking purely for biological advice and only taking that into consideration, I don't really see a scenario where we can justify any removals from fishing from the stock. If you want to consider other factors like socioeconomic factors, then I think that's something that the board needs to strongly consider; but that is kind of beyond the realm of what the technical committee really looks at.

The Southern New England stock is at record low abundance, record low settlement, record low recruitment, record low spawning stock biomass; and it is experiencing fishing mortality and unprecedented natural mortality. While I can't speak for the entire committee, I can't venture to guess that we could give you any more meaningful reference points that would be more than just arbitrarily lowering the bar.

CHAIRMAN MCKIERNAN: All right, David, we need to wrap this up because we've got a bit Jonah Crab challenge so maybe we can continue this conversation in November in Florida. Tom.

MR. FOTE: I was not satisfied with the answer of why the New England Council voted on a lobster issue. New Jersey never invited them to basically participate in lobster on this issue. I don't remember Jonah Crabs, but it probably could have happened and I probably missed it. There is very strict criteria voting on this that we are going to basically invite somebody from the Mid-Atlantic Council. We don't do that on scup, summer flounder, and we have joint managed plans. I really think this needs to go before the Policy Board. I thank Terry for abstaining; but

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this would have been a real problem with a tie vote.

CHAIRMAN McKIERNAN: Tom, fair point; we'll ask the Policy Board to take it on. All right, I'm going to suspend – David.

MR. BORDEN: If I could, Mr. Chairman, just a question of process. Are you going to go straight through until five o'clock; is that what your intent is?

CHAIRMAN McKIERNAN: I would be willing to take a five-minute break before we do Jonah Crabs.

MR. BORDEN: If you're going to take a five-minute break, could I request you take a five-minute break now and a couple of us can talk; I can talk to Dave Simpson.

CHAIRMAN McKIERNAN: Sure, let's do that, take a five-minute break.

(Whereupon, a recess was taken.)

CHAIRMAN McKIERNAN: I'm going to turn to my good friend Toni Kerns to help us create a vision for what we want to do between now and November.

MS. KERNS: I think what we agreed is that we would convene a group of board members with a few technical committee members to give the technical committee some direction and follow up from the assessment; and we can allow the technical committee to have a dialogue with those board members to make sure that we're understanding what type of work that they want them to do. We'll have the technical committee report back to the board at the annual meeting, if that's enough time for them to do the work that has been tasked. If there is any other work that this small sub-group wants staff to do as any history, then we can also get that going at that time as well.

CHAIRMAN McKIERNAN: David Simpson, do you want to comment on that; do you concur?

MR. SIMPSON: Yes; I think that's a good idea.

### **JONAH CRAB FISHERY MANAGEMENT PLAN**

CHAIRMAN McKIERNAN: Thank you, Toni, for getting us through that. It is 3:33; and I am really going to try hard to push all the rest of the agenda items through here. Specifically, I'd like to take on the Jonah Crab issues next. We have the draft management plan for final approval. I guess at this point I will turn it over to Megan for her presentation.

#### **Review of Background and Options**

MS. WARE: Just a brief overview of what I'm going to talk about today. First I will go through a timeline of where we are and we've been. I'll go through a bit of the fishery background and then I'll review the management options that are in the plan. Then I will go through the public comment that we received since the last board meeting.

In terms of timeline, this was all started in May 2014 when the board initiated the Jonah Crab Fishery Management Plan. Since that time we've had a Draft PID and we've also had the draft fishery management plan created. At the last meeting in May the board approved the document for public comment; and so since that time we've had a public comment period from May 22<sup>nd</sup> to July 24<sup>th</sup>. We also had a law enforcement meeting and an advisory panel meeting and we are now here to hopefully taken final action on this plan.

As a reminder to kind of what has led us to this place; the FMP has been initiated due to a rapid increase in landings in the fishery. The blue bars here are landings in millions of pounds and the red line is value in millions of dollars. Between 2000 and 2014 we've seen over a six and a half

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fold increase in landings; and we think that is due to a couple of things.

The first is that as the price of other crab such as Dungeness Crab have soared. Jonah Crab has kind of come in as an alternative to the market. Also we believe that given the poor condition of the Southern New England lobster stock that fishermen in that area are supplementing their income with the catch of Jonah Crab.

As I had mentioned, the majority of Jonah Crab are caught by lobster fishermen using lobster traps. This pie chart here shows that approximately 95 percent of Jonah Crab is caught with pot and traps. This has created a unique link between the lobster fishery and the Jonah Crab fishery; so it is a mixed crustacean fishery now.

In terms of stock status, there has not been a range-wide stock assessment; so we are unsure on the status of Jonah Crab. Size at maturity data; we also don't have a specific study yet for New England; but we believe the size at maturity is between four and five inches. Those values come from two studies; one in Virginia and one in Nova Scotia.

Currently data collection is quite variable among the states. We have a bit of a question as to liability of it given that sometimes Jonah Crab is called rock crab; and so when we see rock crab on landings we're not sure if it is rock crab or actually Jonah crab. This here is a table; it is Table 5 in the fishery management plan.

I realize it is a bit daunting on the screen here, but what I'm hoping to show is that most of the boxes are no; so most of the different states do not have specific management plans or management measures for Jonah Crab. When they do, it is in direct regulation to the lobster fishery. Also, the crab resource is not directly regulated in federal waters but regulated incidentally through lobster. These are kind of

the four issues that have led us to the fishery management plan.

We've had a rapid increase in landings and value. We have a stock status that is unknown. We have current management that is quite variable; and we have a Jonah Crab and lobster/crab fishery that are inherently tied together. This FMP seeks to cap effort and protect the spawning biomass in the absence of a stock assessment.

Now I will go through the different issues in the fishery management plan and their associated options. The first one is fishery-dependent data collection. We have three options here. The first is harvester reporting as catch, so this would be data recorded daily by fishermen and then reported into the states on a monthly basis. Some of the information in this include traps hauled, pounds, dates fished and soak time.

The next option is harvester and dealer reporting of catch; so there would be a hundred percent mandatory dealer report and X-percent harvester reporting. We have four options there that range between 100 percent and 10 percent. These two reports would be linked with a two-ticket system and they would each share a trip ID.

The third option built off of Option 2 so it adds port and sea sampling; so in total there would dealer and harvester reporting of catch and then port and sea sampling by federal or state agency staff. Some of the things that the state and federal agencies would be interested collecting information on are the shell condition, trap per trawl, bait type and soak time. Those are the three options for fishery-dependent data collection.

The next issues pertain to the commercial fishery; and we have six issues there, I believe. The first one is permits; and we have five options for permits; so I'll go through those now. The first is status quo; so in this case states would

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maintain their current permit requirements. In federal waters you would be required to possess a lobster license and lobster tags; or in the absence of a lobster license and lobster tags, an individual would be allowed to fish for Jonah Crab but you would not be able to retain lobster.

Option 2 builds off of Option 1; so again it is discretionary state permitting, but in federal waters we would recommend to NOAA Fisheries that there be a new federal Jonah Crab permit. This is a recommendation because we are only a regulatory authority in state waters. Option 3 is to create a new Jonah Crab license to participate in a state or federal Jonah Crab fishery.

How this would work is if you're a lobster fisherman with a crab endorsement, you would continue to fish as is. If you do not have that crab endorsement with your lobster license, you would have to obtain this new Jonah Crab permit; and then in federal waters you would need a new Jonah Crab federal permit.

Option 4 builds off of Option 3; selects this new crab license with a specific trap design. The trap design is to ensure that any additional traps have a minimal impact on the Southern New England stock, which we just heard is in poor condition. The trap would be created such that it would minimize the catch of lobster. Finally, the fifth option is to tie the Jonah Crab fishery to the lobster fishery.

It would require that if you direct fishing effort on the Jonah Crab fishery with traps; that you would need to have a lobster permit. Otherwise, you would need an incidental permit from the state or federal agency. Those are the five options for permits.

Another issue for the commercial fishery is minimum size. We have minimum size options that range from 4 inches to 5-1/2 inches. We have an option for no minimum size. The two charts that I have up on the slide are sea sampling; and they show the percent of female

or male crab that are under some of the different minimum size options.

For example, the majority of females are under 5 inches and approximately a third of males are under 5 inches. If a minimum size is chosen, there is also an option for tolerance. We have three options here. There would be no tolerance, a 5 percent tolerance or a 10 percent tolerance. How it is tentatively written in the FMP document is that tolerance would be determined through sampling procedures that the law enforcement would undertake.

The issue is crab part retention. There is a small but historic claw fishery in the DelMarVa Peninsula; and we believe it is less than 1 percent of total landings, but it is still there. There are two options. One is that crab parts such as claws may be retained and sold in any form; and the second option is that Jonah Crab fishery be strictly a whole crab fishery.

Another issue for the commercial fishery is the retention of egg-bearing females; and we have three options here. One is that there is no prohibition on the retention of egg-bearing females. The second option is that egg-bearing females may not be retained. The third option is that no females may be retained with a 1 percent tolerance.

The final issue for the commercial fishery is an incidental bycatch limit for non-trap gear; and there are two options here. The first is no coast-wide possession limit; and then the second is a limit of 200 pounds per day up to a maximum of 500 pounds per trip. How this second option will work is on your second day you would be able to have a limit of 500 pounds; and then on your third day, that's when that 500-pound limit would kick in.

There are two issues in the recreational fishery. The first is possession limits; and we have two options there. We could have no coast-wide possession limit or a 50 whole crab, 100 claw

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possession limit per person. Then we're also considering the retention of egg-bearing females in the recreational fishery; and it is the same three options that were presented for the commercial fishery; so either no prohibition on the retention of egg-bearing females; egg-bearing females may not be retained; or no females may be retained with a 1 percent tolerance.

Finally, the Draft FMP is considering de minimis criteria. In this case de minimis criteria would get a state out of fishery-independent sampling; and then if port and sea sampling is also chosen, a state would not be required to implement that. There are two options here for how we can define the de minimis criteria.

The first is that we keep the commercial and recreational landings separate; and they would have to be less than X percent of the three-year coast-wide average. That percentage could range between 1 and 3 percent. The second option is to combine commercial and recreational landings into one value; and that would have to be X percent under the three-year coast-wide average. Those are the issues and associated options that are up for discussion today in the Jonah Crab Fishery Management Plan.

#### **Review of Public Comment**

I'm now going to move on to the public comments that we've received since the last board meeting. Again, our public comment period was from May 22<sup>nd</sup> to July 24<sup>th</sup>. We received 12 letters from four groups and eight individuals; and then we had five public hearings in Maine, New Hampshire, Massachusetts, Rhode Island and Maryland.

For public comment on the fishery-dependent data collection, it was a bit varied, but a slight majority were in favor of Option 2, which is harvester and dealer reporting. This mostly came from Maryland fishermen who stated that

Option 2 aligns with their current processes. Those who were in favor of Option 3 generally pointed out this is a data-poor fishery and so there is a need for sampling.

We also had some letters that said it was important for sea sampling and to make sure we understand what the bycatch is in this fishery. For those who were in favor of Option 1, which is just harvester reporting, that was mostly from New Hampshire. They were concerned that a lot of their outlets for Jonah Crab are non-dealer related, so either restaurants or crab sales. They were concerned that if there was dealer reporting, the people they sell to would be required to have a dealer permit. That's why they were in favor of Option 1.

We didn't get too many comments on what the percentage of harvester reporting should actually be. We had those four options ranging from 10 percent to 100 percent. Some of the letters especially from the groups did request 100 percent harvester reporting. Then we had one letter which asked that harvester reporting, to make that in the lobster plan, so that would 100 percent dealer report and 10 percent harvester reporting.

Public comments on permits; the vast majority were in favor of Option 5, which is tying the Jonah Crab fishery to the lobster fishery. Some of the reasons for this was that Option 5 prevents the proliferation of traps. It can help cap effort and it is also just an easier way to implement this given the connection between the lobster fishery and the Jonah Crab fishery.

We did have several fishermen comment that they were in favor of the status quo; and they felt that there should be more biological studies on the Jonah Crab fishery before any changes to management occur; so that's why they were in favor of maintaining current state regulations. We did have comments that were against Option 4, which was the new Jonah Crab permit with the trap design.

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A lot of people felt that creating a trap that actually minimized lobster catch while maximizing Jonah Crab catch seemed a little impossible to them and so they didn't think that was a very practical option. We did have letters on this; and one of the letters said that they were in favor of any option that preserves existing levels of participation in the fishery.

In terms of public comment on minimum size, I would say that responses were kind of all over the board. A lot of times this was cited as the most important issue in this fishery management plan. The 5-inch minimum size was the majority; and people said that this was important because it would protect the vast majority of females. However, we had a lot of Rhode Island fishermen say that they would prefer a 4-inch minimum size; and that was because their catch Area 2 is smaller than the offshore catch. They were afraid that a 5-inch minimum size would really lock them out of this fishery. We did have people say that there should not be any minimum size; and that was because there is kind of this market standard for a 5-inch crab and this has de facto created a minimum size so that this management measure is not needed.

Then one of the topics of discussion at the Maryland public hearing was how does the claw fishery fit into this; how would a minimum size affect the claw fishery. In terms of tolerance, most fishermen at the public hearings preferred a 5 percent tolerance. They felt that this was important given the high volume of the fishery and how difficult it can be to actually measure all the crabs.

We did have some fishermen ask for a 10 percent tolerance especially in the infancy of the fishery management plan. Those who were against the tolerance generally were against it because they did not feel it would be enforceable. That was one of the common themes at public hearings and in the letters was how this would actually be

enforced. Some of the suggestions included a count or a volumetric standard.

Public comment on crab parts; the majority were in favor of a whole crab fishery; and not surprisingly it was the Maryland fishermen that were in support of a claw fishery. They pointed to their continued catch over the past 30 years as well as their stone crab claw fishery points that this is a sustainable practice.

We did have some suggestions on how to incorporate the claw fishery while maintaining a whole crab fishery. One of the suggestions was to create a potential conservation equivalency for those claw fishermen. Another letter suggested that those who can demonstrate significant history of catch in the claw fishery should be allowed to continue that process.

Public comment on egg-bearing females in the commercial fishery was the majority were in favor on no retention of egg-bearing females. This was mostly to protect the spawning stock. There was concern over zero tolerance of this; so someone asked if I have one egg-bearing female and I catch, what happens? Does that mean the whole catch gets thrown back? Do I get a ticket? There was concern over the zero tolerance with this.

We had several comments that with the correct minimum size, this management measure is not necessary since most of the females would already be protected. Those who were not in favor of a prohibition generally felt it was important to harvest sex equally and that there was no science yet to prove that protecting females in the Jonah Crab fishery was important; or, you know, some sort of magic bullet.

In terms of comment on incidental bycatch, everyone was unanimous that there should be a bycatch limit. I think most of the discussion was on how this limit should be implemented and what the actual level should be. We had many suggest that a count or a volumetric limit would

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be more appropriate, because boats do not have scales on them so they would not be actually able to weight how much Jonah Crab they have.

We also had one letter that suggested a thousand pound trip limit would be more appropriate. Oftentimes we had fishermen asking for clarification on what the definition of a trip is. In terms of the recreational measures for the possession limit, we had a majority who favored a recreational possession limit. They felt that it was important to have limit to keep the recreational fishery recreational. A lot of people asked that it only be a whole crab limit so it just read 50 whole crabs and that a hundred claw limit be eliminated from the option.

Then we had one person who did not want a possession limit. They felt that the recreational fishery was really just too small management so that this was not needed. Public comment on the recreational retention of egg-bearing females again was in favor of a prohibition on the retention of egg-bearing females. They felt that the recreational fishery should mimic the regulations in the commercial sector.

We also had some people say that a minimum size is needed for the recreational fishery. Finally, for the de minimis criteria, we didn't have too many comments on this. They were kind over the board; but in general for the percentage in the criteria I found that groups were generally in favor of a 1 percent criteria where fishermen were generally in favor of a 3 percent criteria.

In terms of separating the commercial and recreational landings versus combining them, it was kind of split with a slight majority for keeping them separate. In Maryland state fishermen were asking how did the claw fishery account for this; how would the poundage of claws be converted so that could be comparable to the other states. T

These are just some of the other comments that people had in general on the fishery

management plan. They felt that there should be limits on the number of traps, their total catch. One person felt the FMP needed to include marine protected areas, total allowable catch, and rights-based management.

We had several fishermen say that the fishery is underutilized and we should not be limiting effort. Especially in Rhode Island this came up as an issue is that they suggested there be area management to mimic that in the lobster fishery. They felt this was important for the different regional aspects of the Jonah Crab fishery.

We had one person say that the Jonah Crab fishery is primarily in federal waters and should be jointly managed with the New England Fishery Management Council. We also had another one that said the board should recognize the baited-dropped trap in the Jonah Crab Fishery Management Plan and that incidental trap provision should be made for any trap capable of catching Jonah Crab.

Then we also had a letter that said that it was important to include escape vent specifications in the management plan so that we could reduce the juvenile catch of Jonah Crab. With that, I will take any questions on either the plan or the comments.

MR. GROUT: I had a couple of questions. The first one involves one of our monitoring options here. Option 3 has 100 percent dealer reporting with some percentage of harvester reporting; but there is also provisions for port and sea sampling. The wording is not really clear. It says, "States shall have port and sea sampling where possible."

Does that mean that it is a mandatory or not a mandatory provision of the plan? If I hadn't had "where possible" in there, I would say that is mandatory. Every time I see the word "shall", I think mandatory; and then it said "where possible"; so what is the "where possible" here. I would like to know because it may make a

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difference on which option I vote for. Then I have another question once I get an answer to this.

MS. KERNS: If I remember correctly, Mr. Chairman, I believe this comes straight from the lobster plan is how we worded it as well. The port and sea sampling, we do not hold states accountable to their port and sea-sampling programs for lobster either. It would be recommended "not held accountable to".

CHAIRMAN McKIERNAN: I suggest you make that motion. Well, when it comes up, you can clarify that.

MR. GROUT: Sounds good. Then if we get to Issue 6 on the incidental bycatch limit, it has a 200 pounds a day maximum, up to 500 pounds per trip. I think as we move forward here, if go with this option we have to be defining a day and defining a trip because obviously you could have some arguments as it the way it is worded right now that some people could have a trip that is less than a day and so maybe you could land more than 500 pounds.

Then I also wanted to get a feel, because I was not in attendance at the last board meeting, why did we come up with 200/500 pounds as opposed to what we have in the lobster plan is a 100/500. I know lobster is a count and this is pounds; that is fine with me, but why was it 200/500? Are these like 2-1/2 days if what you're figuring a trip will be? Those are the two questions. One, make sure we define a day and what a trip is if we go with this.

CHAIRMAN McKIERNAN: Those are good points and whoever makes motions on that, I hope they'll try to clarify that through the motion.

MR. GROUT: Is there anybody that remembers via the PDT or the board suggested why 200/500?

CHAIRMAN McKIERNAN: I don't see anyone nodding their head. Yes, Walter.

REPRESENTATIVE WALTER KUMIEGA, III: I don't know if that is why it is on there, but I believe those are the bycatch limits that the state of Maine has on trawlers.

CHAIRMAN McKIERNAN: Megan still has to present the AP Report; so are there more questions that we want to have at this point? We're not ready to take motions; but she is going to give an AP Report and then we have a Law Enforcement Report. There is plenty of time to discuss issues like the one Doug brought up. Jim Gilmore.

MR. GILMORE: Just a quick question; Megan, on the claw-only fishery; is there any mortality information on discards or is there not?

MS. WARE: As far as I know there is not.

CHAIRMAN McKIERNAN: All right, can we proceed, then, to the AP Report, Megan.

### **Advisory Panel Report**

MS. WARE: The advisory panel met for the first time on July 22<sup>nd</sup> in Providence, Rhode Island. It was an in-person meeting. I am just here to report on some of the recommendations they had on the fishery management plan. In terms of data collection and permits, they were in favor of Option 3 for data collection, which is the harvester and dealer reporting along with port and sea sampling.

Even though they didn't specify a specific level of harvester catch, those in attendance did note that they currently do 100 percent harvester reporting. They wanted to keep that practice. For permits they were in favor of Option 5, which is requiring the lobster permit or incidental permit to participate in the Jonah Crab fishery. They said that this was the best option to cap effort and prevent the proliferation of traps.

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For minimum size and tolerance, this was primarily the two options that were discussed and took most of the time; and consensus was not reached. I'm going to go through all of the options that were discussed. We had one AP member that was in favor of a 4.75 inch minimum size with a tolerance. He didn't care if it was 5 or 10 percent; he just wanted a tolerance. He noted that a tolerance was particularly important in the beginning of this fishery management plan.

Another AP member favored a 4.75 inch minimum size. He did not support a tolerance. He did not support a tolerance because he questioned the enforceability of it. A third AP member liked the 5-1/2 inch minimum size with no tolerance. He thought the 5-1/2 inch minimum size is important as a starting point; so that if the minimum size is changed, the fishery is not getting pigeonholed into a minimum size that is too high.

The fourth AP member thought a 5-1/2 inch minimum size and a 5 percent tolerance was the best option. He felt that this combination was important because it provided flexibility for future changes in market demand. Then we also had one AP member who was not able to attend but did send a comment on this; so I'm going to give it even though he was not part of the discussion. He favored a 5-inch inch minimum with a 5 percent tolerance. He felt the 5 inches was important because that is the current market standard; so there was no need to go below that.

In terms of crab part retention, the AP did not really like either of the options that were presented so they created their own third option, which they're presenting to you today. This was to, quote, maintain the status quo. This alternative option would allow those who currently participate in the claw fishery to continue to fish and would institute a maximum

claw count to cap effort in this portion of the fishery.

The AP members felt that if a minimum size is instituted in the whole crab fishery that there should be some sort of cap in the law fishery. For the retention of egg-bearing females they were in favor of Option 2, which is the prohibition on the retention of egg-bearing females. For the incidental bycatch limit they were in favor of Option 2 as well, but they preferred a count instead of poundage; so they proposed a 200 crab count per day and a 500 crab count per trip.

For recreational measures they supported a possession limit, Option 2, but they felt that it should only read for the 50 whole crabs, so again eliminated that 100 claw limit. They were also in favor of the recreational prohibition on the retention of egg-bearing females. The AP did not have any comments on de minimis status criteria. That is the AP Report.

CHAIRMAN MCKIERNAN: Questions on the AP Report?

MR. WHITE: On the slide that showed the sizes; I think the slide said 4-1/2 and was that supposed to be 5-1/2?

MS. WARE: No, it is supposed to be 4-1/2.

MR. WHITE: Didn't you report 5-1/2 or wasn't I hearing you?

MS. WARE: Maybe I misspoke, but it was supposed to be 4.75, 4.75 and then two 4-1/2.

CHAIRMAN MCKIERNAN: Okay, next we have the Law Enforcement Report from Mark Robson and then I think John Cornish will also speak as well. The Law Enforcement Committee got together in New Bedford a couple of weeks ago to review this issue.

#### **Law Enforcement Committee Report**

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MR. MARK ROBSON: I'll go ahead and kind of briefly go through the process that the Enforcement Committee went through to evaluate this draft FMP and then Colonel Cornish can answer more specific questions you might have about some of the points that we discussed during our deliberations.

First starting with the process we went through, we had the opportunity and we thank Mr. McKiernan and also Mr. Borden for helping to facilitate and encourage an actual visit to a dockside facility. We had a subcommittee of Law Enforcement Committee members participate in that field visit. I wasn't there, but from everything I understand it really helped to inform and improve the process of the discussion that the Law Enforcement Committee had during the second part of our deliberation, which was a teleconference call with the entire committee.

We didn't have everybody on the committee there; but as we had that teleconference call, we prepared a written summary which is provided to you in your supplemental materials. We lay out the participants at the field visit from the committee and also who were on that teleconference call. We've tried to as quickly and briefly as we could summarize our perspective on the various management options that were presented in the draft FMP.

I will go through those first for the commercial. Again these are all laid out in the memorandum to you from the Law Enforcement Committee. The committee, after the teleconference call and hearing the report from the subcommittee, felt that we would recommend issuing permits through the lobster permit holders and the lobster permit fishery as it exists.

We feel this potentially eliminates the proliferation of more traps and lines and it allows us to manage this fishery without developing a whole new set of permit holders with the inherent complications of potentially different

kinds of traps. Essentially if the fishery is being prosecuted now under the existing lobster fishery, we felt that would be suitable and certainly would simply enforcement.

You might be surprised we would actually even have a recommendation on a specific minimum size. Certainly from an enforcement perspective whatever minimum size you choose, it doesn't necessarily have an enforcement implication. In this case we recommended the 4.75 inch minimum size because of our understanding and our information from the field visit and elsewhere; that this would be an optimal minimum size that obviate the need for any kind of size tolerance.

It is the size tolerance issue that gets to the enforcement discussions that we had. That gets to no size tolerance for undersized crabs; that is the recommendation coming from your Law Enforcement Committee. We've had these discussions over different fisheries where size tolerances are put into place. These are notoriously difficult things to enforce in the field.

We certainly understand the reason for size tolerances or other types of measurement tolerances of a catch; but they are notoriously difficult to enforce. In the case of this crab fishery you could have a very large offload; that to be effective in terms of a field enforcement effort to determine whether they have exceeded a size tolerance, it could require a fairly significant team of enforcement officers.

There is a significant effort in actually measuring that tolerance at the field level. There have also been indications that in some cases courts have questioned or not accepted a limited sampling as adequate for purposes of prosecution when you're looking at a size tolerance violation. Of course, in this particular fishery you have the opportunity for very legitimate sorting and separating of the catch; and as soon as that happens to a particular catch, it makes any enforcement of a overage or underage in terms of a tolerance almost impossible to deal with.

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Moving on to the next management option, we also recommended only whole crabs be retained and sold. We do not support the allowance for parts or claws. We just feel that this would complicate effective enforcement of minimum size standards. We don't say that it necessarily would all the time, but it could introduce an opportunity to move perhaps undersized crabs through the system in a way that's covered.

Adding the additional measurement standards for claws, if you go to a count per pound or something similar to that, it can also greatly complicate enforcement efforts for this particular fishery. We also do not recommend retaining egg-bearing females. We feel that it is fairly simple process to determine those crabs that are egg-bearing females and that it is a simple matter to enforce that in the field.

With regard to the bycatch, we don't have any concern or opposition to a bycatch limit, whether it is 200 pounds per day or whatever the limit that the board decides they would want to implement. We have commented – this is not in the memo, but it occurred to me that in the past the committee has commented on the relative difficulty of sampling and measuring a bycatch or any catch that is based on pounds versus counts or numbers.

Either way it can be done, but you have to keep in mind also that a bycatch limit based on pounds does require some calibration of scales and working with enforcement officers in the field to make sure that when they're checking those poundages; that they're accurate. Moving on to the recreational management measures, again we support the 50 whole crab limit.

There was an additional discussion at our teleconference call with this one in that not only do we support the 50 whole crab limit that would be consistent in terms of looking at whole crabs only; we also recommended that if there is going to be a minimum size limit in the commercial

fishery; that you go ahead and implement a minimum size limit that is the same for the recreational fishery and base the whole crab limit on a minimum size as well. We don't support the possession of claws or parts; and that would be recommended to be consistent again with a commercial restriction on the possession of claws or parts.

In general try to make sure you standardize your minimum sizes and your whole crab versus part restrictions between both the commercial and the recreational fishery. We feel this makes for much more effective enforcement in the field; and it eliminates any confusion and ambiguity about whether undersized crabs may have been caught commercially or recreationally.

We also again similar to the commercial fishery do not recommend retention of egg-bearing females. We feel this is consistent with our previous comment. There were just two other things in the memo that I will point out that we discussed are not necessarily things that are part of the existing management options in the FMP.

We did discuss the possible advantage or need of being able to really evaluate the Jonah Crab fishery. The Law Enforcement Committee didn't really take a position way or the other on this, but to the extent that if you were to implement some sort of an endorsement attached to the lobster or other gear permits; and if that would aid in the assessment, we didn't see a problem with implementing such an endorsement.

The other issue was – and this was really something that came out of the field visit – and I'm sure Colonel Cornish can elaborate a little bit more on that; but we saw that there could be very good value in making sure that the containers at these unloading facilities or at the fish houses; that you develop or encourage some kind of a marking system for those crabs coming off the vessels, particularly if it is a large catch, so that you can easily identify where that catch is coming from once it enters the dealer facility or processing site.

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There is a fairly separation and sorting that goes on; and so if you're going to start looking at things like tolerances or some kind of catch limits, you definitely need to have a way of keeping track of where those individual containers came from in terms of the fisherman. With that, I'll conclude my summary; and again, Mr. Chairman, if you have any questions, especially tough questions, Colonel Cornish can take those.

CHAIRMAN MCKIERNAN: John, would you like to make some comments?

COLONEL JON CORNISH: Yes; I just wanted to comment briefly here because it is getting late in the day, I know. This field trip was really valuable to us. Hopefully in the future we can continue to try to do those in assessing fisheries like this. John Williams, who runs Atlantic red crab, was nice enough to let us into his facility, view the operation, view the processing Jonah Crabs as well as red crabs. He does 11 million pounds a year.

He gave us a lot of good feedback about the whole process. From there we were able to go to a boat down the bay a little ways and talk to a couple of crab fishermen that had just landed Jonah Crabs that day and get some assessment from them. It was kind of nice. I think what came out of that was this 4-3/4 inch.

There was concern amongst the dealers that even though the market calls for a 5-inch crab, they're worried that they're going to get a lot of 4-15/16<sup>th</sup> or whatnot in crabs. Of course, when you have a 5 inch, 4-15/16<sup>th</sup> isn't enough to get through. There was concern about that. We thought by going with the 4-3/4 that it eliminate a lot of the need or push to have a tolerance. A tolerance is a big thing for us.

Kurt Blanchard, who is the law enforcement representative from Rhode Island and Pat Moran from Massachusetts, where 70 percent of these Jonah Crabs are landed, both had a big concern

with trying to enforce tolerances on the fishermen. There is just a lot of reasons for it; accuracy, time-consuming. Some of these catches are many, many thousands of pounds that are coming in.

The last thing that I thought was helpful to us that hasn't been mentioned is Massachusetts Environmental Police did some outreach to Oregon and Washington with a Dungeness crab fishery. They have zero tolerance there. It has worked out quite well for them. Some of their landings are 40 to 50,000 pounds, so it is a comparable fishery.

Their input was that if you have a tolerance, some fishermen will fish to that tolerance and you will have more crabs being landed than you would otherwise. I would say that my experience has been that is sometimes true and sometimes it isn't because it depends on the fishermen. In Maine we've had a lot of experience with tolerances; and sometimes they work like on shellfish and whatnot; but when it comes to – I can't imagine trying to do it in the lobster fishery or in this type of fishery. That's all.

CHAIRMAN MCKIERNAN: I just would like to add one comment about tolerances. I attended that meeting and was transpired was a presentation from Burton Shank from the National Marine Fisheries Service. What he did is he presented a statistical analysis of what proportion of the catch an officer would need to subsample in order to determine with certain statistical confidence that a violation had occurred; and I think the conclusion was whatever was proposed in the document, a few, quote-unquote, batches, which I was responsible for putting that language into the plan, is going to be grossly insufficient. Actually, this table is up on the board now; so, Bob Glenn, do you want to speak to that a little bit.

MR. GLENN: Yes; this is a nice power analysis that Burton Shank from the National Marine

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Fisheries Service put together looking at what is the potential for trying to enforce a tolerance in a manner that was statistically valid. What this represents is basically on the left-hand column is the sample size that the officer would take; and then each column for the first three are the confidence limits, 95 percent, 99 percent and 99.9 percent; how many lobsters they would have to detect out of an X number of crabs to detect a violation at the 5 percent level.

I will go across and say the officer were to measure a hundred crabs, if he were to find nine in violation, he would have 95 percent confidence that there was a violation of the tolerance; and then at the 99 percent, 11; and at the 99.9 percent, 13. However, there is a catch to this; and if you look over to the next three columns over, this is the proportion at which – the percentage tolerance that you’re actually enforcing at a 50 percent confidence rate.

What this means is that with these numbers – what this is telling you for that same row is that at the 95 percent confidence limit, if an officer were to find nine, he would actually be detecting a violation at the 9.7 percent level and not the 5 percent level; and moving to the right for 99 percent confidence, a violation wouldn’t actually be 5 percent; it would actually be someone who violating at the 13.7 percent level. This is only catching it half the time.

The take-home message, if you go down even down the scale and the number sample size going to a thousand, even if an officer were to measure a thousand crabs out of a catch, he would at best-case scenario only be able to detect a 7.5 percent violation 50 percent of the time. I know it is a little convoluted, but the take-home message here is that for an officer to truly detect a 5 percent tolerance violation, he would have to measure an extreme number of crabs and even then would only do so at about 50/50 percent chance of actually catching it.

CHAIRMAN McKIERNAN: I just wanted to share that with the board so you all kind of understood what went into the thinking when the Law Enforcement Committee brought this forward going with a de facto tolerance, which is simply a lower minimum size as opposed to a numerical tolerance on an enforcement action. Doug, do you have a question?

MR. GROUT: I appreciate that piece of information. This is a good piece of information for the board to have; and I was wondering if there would be a possibility at this point in time, after we make a final decision on this, to include that analysis as an appendix in the FMP. I think this may or may not have some deciding factor on how some members might vote on this; and it is not something that was brought out to the public. I think it would be a valuable piece of information if it is possible – I don’t know if we can do that kind of thing; but if it is, I think that and any kind of report that went with it should be put as an appendix.

CHAIRMAN McKIERNAN: It would certainly be valuable to a fisherman’s attorney. Mike.

MR. LUISI: Mr. Chairman, I’ve got just a point of clarification and then a couple of quick questions. The first point of clarification goes to the report that Megan gave regarding the public hearings. While in the report it was identified that Maryland held a public hearing and that there were comments from Maryland, stakeholders from both Delaware and Virginia attended that meeting. I just wanted the board to be clear that the information coming from that particular meeting mostly in reference to the crab part issue, which we will discuss, was from more than just my one fisherman in my state.

The question is to the Law Enforcement Committee. I just would be interested in hearing your perception or your feedback on whether or not a second means of measuring crab which could relate to the overall carapace width would

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be something that we might be able to work on, such as if we were to take samples and get claw lengths compared with carapace width and have enough samples to be relatively confident that a claw of a certain size equals – would have been equal to a crab of 4.3/4 or 5 inches, how enforcement would be able to handle something like that? I may have a follow-up depending on the answer, Mr. Chairman.

COLONEL CORNISH: We talked a little bit about that. I can't tell you where but I believe there is already existing – maybe Bill has the answer, but there are already existing places where there are crab measurements, leg measurements. It was a concern of ours because it would be a lot more – if there was no limit on them and someone came in with 2,000 crab legs, it would be quite an effort for us to have to go through and measure all those times two. That was our biggest concern, I think. I suppose if there is a method of doing it, we can measure anything if we have a certified measure.

MR. O'REILLY: Letting things roll on a little bit, I wanted to what Mike said a little bit more. We have had landings of claws in Virginia in five of the last ten years. There is one lobster permittee; his letter is in the packet. The average landings for the five out of the last ten years where there were claw landings is 80 pounds. The high amount is 133 pounds; the low amount is 11; so that has taken place. The other thing I wanted to comment on, but I know you're pushing time, was in looking at the public comments, there was a letter produced by Bradley Stephens, a Ph.D from the University of Maryland, Eastern Shore.

Having heard that Rhode Island has a preference or at least in the comments from the public comments on a fairly smaller minimum size limit and maybe some others; it was interesting to see that he had a five-point recommendation as to why minimum sizes really may not be the best route to go. I'd ask the technical committee if they looked at that and what kind of information

is there. It certainly isn't the classic MSP or SPR type of approach with a minimum size; so it is a little different than finfish.

#### **Consideration of Actions for Final Approval of Jonah Crab FMP**

MR. ADLER: Mr. Chairman, did you want to start to look at the options for this plan?

CHAIRMAN McKIERNAN: I do, Bill, but I actually want to take two comments. I want to take one from Terry because the New England Council has given an extensive letter. I think it would be valuable to get Terry's presentation of some of the key points in terms of what we do as a final action. Then I would like to recognize Peter Burns. Go ahead, Terry.

MR. STOCKWELL: Mr. Chairman, actually I was about to raise my hand; and that was specifically to address the comments questioning the New England Council's participation on this board. I do want to note that the Jonah Crab fishery is almost entirely in federal waters and that the final measures that this board votes on today are of direct interest to the council.

Pending the results, the council may well prioritize a Jonah Crab Amendment as a 2016 priority similar to the way the council manages red crabs. As Dan says, there is a letter written by Executive Director Nies in the package; and it is dated 7/10. I will highlight five of the issues that are in the letter.

One is that depending upon whether what gear or what licensing is selected, there is no proposed trap limit. There is no proposed total allowable catch. The council has concerns for adequate monitoring and reporting. The council has concerns about the FMP allocating to almost an entirely directed fishery with differential landings for the incidental fishery and also the differential gear type catch limits. I will comment specifically as the motions are made if needed, Mr. Chairman.

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CHAIRMAN McKIERNAN: Thank you, Terry; we want to certainly create a management plan that doesn't run afoul of the council; and we certainly don't want to have two different management plans on the same species. I turn to Allie Murphy, if you'd like to speak.

MS. ALLISON MURPHY: Mr. Chairman, during the comment period, NMFS submitted a letter on a Draft Jonah Crab FMP to the commission. We had several comments on the draft measures. I will quickly summarize those comments. We do believe that data collection programs are important and will give us better information on this fishery.

We support harvester reporting levels that match the Lobster FMP requirements. We believe that selecting otherwise would create conflicting reporting requirements between these FMPs and create confusion. With regards to permitting, we support options that preserve existing levels of participation in the Jonah Crab fishery. We believe it may be difficult for us to justify excluding any existing crab-only harvesters and doing so may open us up to potential litigation.

As Megan's presentation stated, there is not a lot of data on this fishery; so we felt that it was difficult to select many of the biological measures that were included in the draft plan; but we do think that protection of egg-bearing females is important. Similarly, we support a whole crab fishery; because there are no post-release survivability studies on crabs with one or both claws removed.

Finally, after consulting with our law enforcement folks, we do not support the inclusion of tolerances in this plan; and that has been extensively covered by the Law Enforcement Committee representative. Thank you for the opportunity to summarize our comments.

CHAIRMAN McKIERNAN: What I want to do going forward as use of discretion, I want to bundle issues that I think are related. I would like to bundle the issues of permitting and non-trap limits. I would like to bundle biological measures. I would like to then take the parts' issue, the recreational limits, the monitoring and the de minimis all separate. The first one is if I could get a motion on the issue of permitting and the non-trap limits. It looks like Bill Adler has got his hand up.

MR. ADLER: I will make that motion.

CHAIRMAN McKIERNAN: All right, the motion is on the board. Would you like to read the motion, Bill.

MR. ADLER: Motion to adopt the following provisions to address the issues of commercial permitting and harvest limits of Jonah crab: Approve Section 4.1 (Issue 1) Option 5: Commercial Fisheries Management Measures, to limit participation in the trap fishery to only those vessels and permit holders that already hold a lobster permit; and further require all traps conform to specifications of the lobster plan (including trap tags), and establish an incidental permit for retention of Jonah crab; approve for Issue 6 (Incidental by-catch limit for non-trap gear) Option 1: No coast-wide possession limit. That's my motion.

CHAIRMAN McKIERNAN: Thank you, Bill. Can I get a second on that motion? Steve Train from Maine has seconded the motion. Any discussion? Bill.

MR. ADLER: Yes; I wanted to ask Terry with his council hat on if we don't put a limit on non-traps in; is the council still going to go ahead and try to – excuse me – gum up the issue by putting their stuff forward or would this sort of leave that up to them or up to us later?

MR. STOCKWELL: The council is always good at gumming the issues. The lack of a coast-wide

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possession limit for the incidental bycatch would be perceived favorably by the council.

CHAIRMAN MCKIERNAN: Any other comments on the motion on the board? Doug Grout.

MR. GROUT: Move to amend that under Issue 6 we choose Option 2, which has the 200 pound/500 pound limit.

CHAIRMAN MCKIERNAN: You want to amend the motion to choose that other option, which is 200 per day with a 500 pound trip limit?

MR. GROUT: 200 pounds per calendar day.

CHAIRMAN MCKIERNAN: And 500 for any trip?

MR. GROUT: A trip that exceeds a calendar day.

CHAIRMAN MCKIERNAN: And if that trip were two days; would it be a 500 pound limit or would it have to be in the third day to get to 500?

MR. GROUT: Up to a maximum.

CHAIRMAN MCKIERNAN: Okay, can we get a second on that motion? Walter Kumiega seconded the motion. Discussion on that motion from Terry.

MR. STOCKWELL: Mr. Chairman, I guess I need to ask Doug what is the conservation benefit for limiting the incidental catch with no limits on the trap fishery?

MR. GROUT: The limits on the trap fishery are that we have trap limits based on the first part of this motion because it is tied to the lobster fishery. We have that and so now what I'm trying to do is provide some mechanism for limiting the effort in catch on the other fisheries as opposed to allowing it to be wide open.

CHAIRMAN MCKIERNAN: Any other comments? Yes, Dave Simpson.

MR. SIMPSON: I'll just say I'm opposed to the motion. I don't think this type of allocation at the outset is fair; and I don't think it is going to pass the federal muster.

MR. NOWALSKY: Just for clarification the move to amend to add Option 6; are we actually changing Issue 6 and using Option 2; is that the intent. I'm not clear on what –

CHAIRMAN MCKIERNAN: Yes; I believe that's what he is doing is replacing that option and that issue. Jim Gilmore.

MR. GILMORE: I don't have a comment on the second part; but are we going to go back to the first again because I do have a question on that?

CHAIRMAN MCKIERNAN: Well, we need to vote on this to decide going forward. Do we need to caucus; 30 seconds.

(Whereupon, a caucus was held.)

CHAIRMAN MCKIERNAN: Okay, it is a motion to amend include Option 2 for Issue 6 (200 pounds per calendar day/500 pounds trip limit). Motion by Mr. Grout; seconded by Representative Kumiega. David Borden, did you want to make a comment?

MR. BORDEN: Yes; just a quick comment, Mr. Chairman. I intend to recuse myself consistent with the rules as I have expressed in the past.

CHAIRMAN MCKIERNAN: We will vote on the motion. This is the motion to amend to introduce Doug Grout's trip limit on the non-trap gears. All in favor, put their right hand up; all opposed; abstentions; null votes. The motion passes seven to five to zero. All right, let's proceed on a vote on the motion as amended. All in favor of the motion as amended –

MR. HASBROUCK: Clarification, please; what are we voting on?

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CHAIRMAN McKIERNAN: We're going to vote on this new motion that Doug has successfully amended. David; question?

MR. SIMPSON: So the motion is to – a favorable motion here or a favorable outcome would limit participation in the trap fishery to currently lobster permit holders only; and that would include in federal waters. We have from both the New England Council and NOAA Fisheries that that is not something they would support in a federal waters fishery; is that right?

CHAIRMAN McKIERNAN: Well, I think what they said in their comments is that they want to maintain existing levels of participation. It is my personal perception that having attended the hearings and read the comments the existence of a directed Jonah Crab trap fisherman hasn't been well documented. In the absence of data I think they would have to document that should they decide not to proceed with this rule.

MR. SIMPSON: So potentially there are people who have been participating in this fishery maybe for a number of years who would be locked out of this fishery – kicked out of the fishery if this passed?

CHAIRMAN McKIERNAN: They would have to obtain a lobster permit and trap tags; but to my knowledge we didn't hear from them during the public comment period. Jim Gilmore.

MR. GILMORE: Okay, perfect timing because that's exactly my question. I have seven fishermen that are state-only fishermen. If this passes, they essentially will be locked out of the fishery unless – and I need clarification on this – establish an incidental permit now; so how I would get those seven guys not locked out of the fishery if this passes?

CHAIRMAN McKIERNAN: These are fishermen who do not have lobster permits?

MR. GILMORE: That's correct; they just have state crab permits and they fish in state waters; but they're fishing for Jonah Crabs. According to this if they don't have a lobster license now, they can't fish any longer.

CHAIRMAN McKIERNAN: And they are using a trap that is a Jonah Crab trap?

MR. GILMORE: Yes; correct.

CHAIRMAN McKIERNAN: Is it defined by the state of New York as a Jonah Crab trap?

MR. GILMORE: I'm not a hundred percent sure. I don't know that, Dan, but in any event the way it is right now we could adjust that. We could maybe change some rules within the state fishery; but right now this precludes them, so that's what I'm trying to get an answer for on how we would deal with this.

CHAIRMAN McKIERNAN: They would have to be part of the population of lobster permit holders and use a trap that meets the lobster plan's specifications and have a valid lobster trap tag in the trap.

MR. GILMORE: Right; but our fishery, there is a moratorium on the lobsters, so they can't get that so they're out of the fishery.

CHAIRMAN McKIERNAN: You don't allow transfers? No. Bill Adler.

MR. ADLER: Doesn't "and establish an incidental permit for retention of Jonah Crabs" allow for New York to do that to keep them in the fishery?

CHAIRMAN McKIERNAN: We need to check the language in the document, Bill. Bill, the language in the document says, "Landing of Jonah Crabs by all others", which I assume is non-trap fishermen. I guess that would have to be clarified whether the person without the lobster permit can continue to fish with an incidental permit; but we don't have any definition of a

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crab trap. That's a different option in the list. That is not Option 5. Terry Stockwell.

MR. STOCKWELL: Mr. Chairman, while the current landings from non-trap gear are only 3 to 4 percent of the current landings; many of them are landing well in excess of 500 pounds a day. The motion as amended will essentially lock this fishery out of the – this existing fishery out of the new fishery. I can fairly well guarantee the New England Council's involvement come the fall prioritizations. I will be voting against this.

MR. BORDEN: Mr. Chairman, one way to handle Jim's problem – and because of what I've said before, I'm not going to make this as a motion to amend – would be after the end of "permit" in the third line, then add some language that said "or can prove prior participation in the crab fishery" after that. If you did that, then individuals like the eight individuals in New York and I think there are four individuals in Rhode Island that are in a similar circumstance where the state agency actually has catch records that can prove that they participated in the fishery before the control date; the agencies would have the flexibility to issue permits to them. Thank you.

CHAIRMAN MCKIERNAN: Mark, do you want to make that as an amendment?

MR. GIBSON: Yes; I will move to amend so that after "already hold a lobster permit or can prove past participation in the fishery".

CHAIRMAN MCKIERNAN: Seconded by Jim Gilmore. Question on the amendment; does that mean New York would issue a crab trap tag to those individuals?

MR. GILMORE: Possibly. Now I have a mechanism to fix this; so, yes, I probably would, but I'd have to make it consistent with the rest of our crab stuff. Yes, I would probably do that, Mr. Chairman.

CHAIRMAN MCKIERNAN: And what would the trap limit be for those fishermen?

MR. GILMORE: I probably would use – you know, if they're going to document existing harvest, we would just go with their history as opposed to increasing. The idea was to not increase harvest but not throw anybody out of the fishery; so if we maintain it at the existing level, then I think that would be in the spirit of what we're trying to do with the addendum.

MR. O'REILLY: So it turns out there is more than just a couple of states with that situation and I'm not sure we've even identified all the states that have Jonah Crab harvest; so I think what Jim is indicating is a good suggestion; and whether it is a permitting or how it goes at the state level, I think that would be the way to go.

CHAIRMAN MCKIERNAN: Sorry, I couldn't hear you.

MR. O'REILLY: I was going to say a permitting situation could develop for those who have already been landing in the state. I wasn't really sure about the trap part of it because from what I read, that is a variable situation.

If they're not tied to the lobster permit directly and the lobster fishery and they fall in the incidental, it may be gear that is not exactly similar to a lobster trap, but it could be permitted based on their landings.

CHAIRMAN MCKIERNAN: I think some of the other options in the plan tried to get at this by defining a crab trap with some kind of specifications which no one has come forward with, which is kind of frustrating. I guess at this point, if there are no other comments, we can take a vote on the motion. Yes, Jim.

MR. GILMORE: Mark, maybe you should look at that because I don't think that's exactly what Mark said.

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MR. GIBSON: No, it is not what I said. The motion was to add some wording about demonstrating past participation in the fishery probably before the control date. It wasn't specific to a particular state or type of license.

MR. ERIC REID: Mr. Chairman, I don't know where it fits in, but I like the piece count and not the pounds. We've got a mess going on here now and I don't know where that fits in. Roberts Rules of Order could maybe help me out across the way there, but I prefer the piece count and I think enforcement would the piece count as well in the original motion.

CHAIRMAN MCKIERNAN: Well, we need to get this resolved. I'd like to get this amendment resolved and then we can come back to you. Mark, what is your amendment?

MR. GIBSON: My suggested wording – I can't see the main motion so I can't refer you to where it should go, but the additional language would say "or can prove prior participation in the crab fishery" and that would be inserted after the sentence that ended in "requirement to be in the lobster fishery with a lobster license and lobster trap tags".

CHAIRMAN MCKIERNAN: Mark, do you envision states grandfathering them into the lobster fishery or do you envision states creating a stand-alone fishery with its own limits and specifications and trap tags?

MR. GIBSON: We wouldn't be requiring – anybody who can demonstrate his past participation to our satisfaction wouldn't have to have a lobster permit with lobster trap tags.

CHAIRMAN MCKIERNAN: And you would issue them a Jonah Crab permit?

MR. GIBSON: The states would have to devise the documentation and proper permitting documentation to do that.

CHAIRMAN MCKIERNAN: And do you suggest that come forward in an amendment to this plan?

MR. GIBSON: It is an amendment to this motion.

CHAIRMAN MCKIERNAN: But it is a long-term strategy to have a separate fishery for Jonah Crabs and the document discusses that with specifications on traps with trap limits. That would all have to be resolved if you went forward with that.

MR. GIBSON: Only for those individuals that qualify relative to past participation. It wouldn't be new participants.

CHAIRMAN MCKIERNAN: I'll read the motion: motion to amend to insert the following quote, "or can prove prior participation in the crab fishery that can be demonstrated before the control date". Motion by Mr. Gibson; seconded by Mr. Gilmore. Discussion on this? Walter.

REPRESENTATIVE KUMIEGA: Would these be state-water permits only? I know that Mr. Gilmore said that New York is a state-water fishery only. I don't know about other states.

MR. GIBSON: That is the only jurisdiction the states have over permitting matters.

CHAIRMAN MCKIERNAN: True, Mark, but we do intend to give NMFS guidance on what they're going to do with the federal part of the fishery. Doug.

MR. GROUT: I have empathy with this and sympathy; but the part that I'm having problems with is the fact that we have the lion's share of the fishery that has trap limits has certain gear restrictions or the other part of this motion limits the poundage landed. This clearly does a good job of limiting the participants but does not put any limits on the effort that are put on the other parts of the fishery. Without that in there or some kind of limit on the effort, I can't support

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this even though I'm very sympathetic to the historical crab trap participants. I think they should be left in.

MS. MURPHY: Mr. Chairman, just a question. If multiple states are considering allowing participation of crab-only fishermen, would it be helpful to have a consistent set of criteria to demonstrate their participation?

CHAIRMAN MCKIERNAN: Certainly. We do have a control date so that's the first criteria. Do you have some in mind?

MS. MURPHY: Not specifically, but I didn't know if other states have ideas on a set poundage that folks have landed or anything else that they feel would be useful.

MR. STEPHEN R. TRAIN: Mr. Chair, very similar to Doug, I don't have a problem with the fact that some of these guys have got participation and they would like to stay in; but without effort controls on the exemption, I can't support the amendment. This leaves a very increase possibility of effort.

MR. GILMORE: I understand your concept, but you're talking seven permits in New York, a couple in Rhode Island, whatever, so this is not a large increase, Steve. This is like to cover those guys. If the shoe was on the other foot and we were eliminating your guys, I think New England would be screaming bloody murder.

We're just trying to cover again a limited number of guys in the fishery with limited take, and we can control that by their history. We're not opening this up to the Wild West of the Jonah Crab fishery. I think it would be really inappropriate for us to not to compensate for that. If you want stuff in here to put more harvest controls, then that's fine, but I think we're just making this way too messy for a limited number of guys that are going to be in the fishery.

CHAIRMAN MCKIERNAN: Jim, to Steve Train's point, I think what is missing here is all the other limits that already exist on the lobster fishery. The trap limit, the escape vent; none of that exists for a Jonah crab fishery. I think that's where people get uncomfortable. Is there some way that we can approve this and resolve this with something going forward? Toni.

MS. KERNS: Dan, this is sort of one of the options, which I don't have the plan in front of me so I can't say which one it is, but it talks about how we can create a crab plan; and that if we were to do that, then we would have to go down the road with an addendum that would look at all of those things if we were to indicate that was the direction we were going to go.

We would have to do an immediate follow-up addendum that would put together what would be your participation history that you would need to establish to go through this and would you need to do any crab trap limits, et cetera, that would meet the specifications of the board. That would go out for public comment just like any other document would. That was the indication that we gave the public when we went out for comments on this document that this was the road we would go down.

CHAIRMAN MCKIERNAN: Toni, that would be Options 3 or 4 on Page 17 of the document. Jim, is that what you have in mind, one of the existing options?

MR. GILMORE: It is now.

MR. SIMPSON: I think there are enough board members around the table that feel like there is going to be something else needed to add to this later on, and the process I think Toni just laid out, but I'm comfortable voting for this measure now to make sure that we don't cut out current participants.

Let's face it; we're going to let every lobsterman in whether or not they ever landed any Jonah

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Crab; so talk about a potential for an expanding fishery. I think in fairness we can pass this and then later on this afternoon initiate an addendum to talk about trap limits and the specifications that others may feel are important to add on.

CHAIRMAN MCKIERNAN: Well, I guess we should call the question. Jim, just one clarifying question before we vote. Is it your intent to propose in the future, whether it be this afternoon at the next meeting, the limits that would be placed on these vessels?

MR. GILMORE: Yes, Mr. Chairman.

CHAIRMAN MCKIERNAN: All right, let's cast vote. All in favor raise your right hand; opposed; abstentions; null votes. It passes by eleven, zero, one. All right, the next issue is I'd like to bundle our biological measures. All right, let's take a vote on the final motion. The motion is up with the new amendment.

Motion as amended: Move to adopt the following provisions to address the issues of commercial permitting and harvest limits of Jonah crab: Approve Section 4.1 (Issue 1) Option 5: Commercial Fisheries Management Measures, to limit participation in the trap fishery to only those vessels and permit holders that already hold a lobster permit or can prove prior participation in the crab fishery that can be demonstrated before the control date; and further require all traps conform to specifications of the lobster plan (including trap tags); and establish an incidental permit for retention of Jonah crab. Approve for Issue 6 Option 2: Incidental Bycatch Limit for Non-Trap Gear, 200 pounds per calendar day up to a maximum 500-pound trip limit. Eric.

MR. REID: Mr. Chairman, I'd like to propose an amendment to change 200 pounds to 200 pieces and 500 pounds to 500 pieces. Without beating a dead horse, it is for the ease of enforcement.

CHAIRMAN MCKIERNAN: Is there a second to his amendment? Bill Adler seconds. Discussion on the amendment? Dave Simpson.

MR. SIMPSON: That's a pretty big cut, it seems like. I don't know what the average weight of a Jonah Crab is, but I suspect that it is substantially less than a pound. Maybe Bob can shed light on that.

MR. GLENN: In talking to John Williams, one of the primary processors in New Bedford, for what they call an average run, they run about a pound apiece.

CHAIRMAN MCKIERNAN: Any other questions or comments on the motion? All right, let's vote on the motion. All in favor, right hand up; opposed, none opposed; abstentions; null votes.

MR. GROUT: Just to clarify for the record that when we're talking – since this has passed; that we're talking about whole crabs and not parts with pieces. Is everybody clear on that; is that the intent? Okay.

CHAIRMAN MCKIERNAN: Now we're going to vote on that main motion as amended. Allie, did you have a comment.

MS. MURPHY: Mr. Chairman, I know there was discussion going; and I just didn't know where we landed with allowing crab-only participants. In this motion now, will the board be developing criteria to determine a level of past participation that is acceptable in a future addendum?

CHAIRMAN MCKIERNAN: That's an excellent question, and I turn to those who seek grandfather in these unfortunate participants. Jim Gilmore.

MR. GILMORE: The answer is yes, but I think we're going to have to do an addendum is probably the cleanest way to do this. I think we're probably going to have to start this at best today and then maybe going to the next

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meeting. I'm not sure of the timing, but, yes, an addendum would make the most sense.

CHAIRMAN McKIERNAN: So you would consider coming forward with a proposed addendum at the next meeting?

MR. GILMORE: Yes, Mr. Chairman.

CHAIRMAN McKIERNAN: Allie, does that help?

MS. MURPHY: Should we add some language to the motion then to get assurances that will happen?

CHAIRMAN McKIERNAN: I think that's a fine idea, Jim. I think the issues are what level of participation and whether there would be a trap limit that would be levied on these folks. Toni.

MS. KERNS: I was just going to suggest we stay clear of initiating an addendum in a motion that's trying to finalize an FMP. If we could do that once we are completely done with the FMP and then talk about initiating the addendum; that would be much cleaner.

CHAIRMAN McKIERNAN: So Jim promises to bring that up in a follow-up motion.

MR. GILMORE: And cross my heart and hope to die.

CHAIRMAN McKIERNAN: All right, we're going to vote on the whole motion that's on the board.

(The following is the main motion as amended: Move to adopt the following provisions to address the issues of commercial permitting and harvest limits of Jonah crab: Approve Section 4.1 (Issue 1) Option 5: Commercial Fisheries Management Measures, to limit participation in the trap fishery to only those vessels and permit holders that already hold a lobster permit or can prove prior participation in the crab fishery that can be demonstrated before the control date; and further require all traps conform to

specifications of the lobster plan (including trap tags), and establish an incidental permit for retention of Jonah crab. Approve for Issue 6 Option 2: Incidental Bycatch Limit for Non-Trap Gear 200 pieces per calendar day up to a maximum 500 pieces per trip limit.)

All in favor of the motion as presented on the board; opposed; abstentions; null votes. It passes eleven to one. Now I'll move on to the bundle of biological measures. I suggest that we consider a set of motions for the minimum size, the tolerance and the egg-bearing females as one motion. Bill Adler.

MR. ADLER: I'll make a motion to adopt the following biological measures for commercial Jonah crab harvest: For Issue 2, minimum size, Option 5, a minimum size of 4.75 inches; for Issue 3, commercial minimum size tolerance, Option 1, no tolerance for undersize crabs; for Issue 5, egg-bearing females, Option 2, prohibit retention of egg-bearing females.

CHAIRMAN McKIERNAN: Is there a second; I've got one from Pat Keliher. Discussion on the motion? Steve Train.

MR. TRAIN: As I understand from the discussion we had, the 4.75 inches was for ease of enforcement to do away with the tolerance. Everything we've seen so far scientifically, although it is not much said 5 inches is biologically better and the market wants a 5 inch; so can we step in a 5-inch minimum in two or three years? Should it be in this motion to allow the enforcement and the use of enforcement on this and then get to where I think we probably should be or we just wait until we get our science back and then go to an amendment?

CHAIRMAN McKIERNAN: I want to ask Bob Glenn o give us sort of a synopsis of the research that you guys are going to be doing over the next 18 months.

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MR. GLENN: We recently received a grant to conduct a Jonah Crab Maturity Study, which the results should be out in about 18 months. Given the port sampling that we've done looking at over 9,000 crabs in Massachusetts primarily that come from the offshore as well as inshore crabs that were taken in Rhode Island Sound, we don't even see – less than 1 percent of the female crabs that we see are in excess of 4-3/4 inches.

Based on the lack of existence of them larger than that size, it is my anticipation that the size at maturity is going to be below that 4-3/4 inch or certainly that would encompass it. I can't envision a scenario where it wouldn't unless we're just not sampling that segment of the population; and then I don't know how we would detect that in a study.

CHAIRMAN MCKIERNAN: Steve, I guess we could do either. We could await the results of that study or and do an addendum in the future. It is an open question. Doug Grout.

MR. GROUT: I saw in our public comment, outside of what was in the AP, a lot of support for a 5-inch minimum size because they believed that would essentially preclude the harvest of females. One of the arguments was in that case you obviously wouldn't even to have an egg-bearing female prohibition because you'd be precluding most of the females. I would like to make a motion to amend and if I can get a second on this I'll provide a justification, but a motion to amend that we make the minimum size 5 inches. I believe that is Option 6.

CHAIRMAN MCKIERNAN: Doug, it was our understanding that a lot of those desires for a 5 inch also were asking for a tolerance. I'm asking that you re-bundle these, so just be aware of that.

MR. GROUT: It doesn't include a tolerance at least in my motion because of the report of the Law Enforcement Committee.

CHAIRMAN MCKIERNAN: Okay, is there a second for Doug's amendment to the motion?

MR. TRAIN: I'll second it if he makes it effective 2018.

MR. GROUT: No, I'm not.

CHAIRMAN MCKIERNAN: Your response?

MR. GROUT: No; it is as is.

CHAIRMAN MCKIERNAN: I don't see a second on that amendment; so we're back to the back motion. Any other comments? Yes, Emerson.

MR. HASBROUCK: Mr. Chairman, I would just like to bring to the board's attention that under 4.4.2, adaptive management includes size limits, so that is something that we can do relatively easily and quickly depending on the results of this upcoming research that's going to be conducted.

CHAIRMAN MCKIERNAN: Thank you; that's a good point. Are we ready to vote? I see David Spencer from the audience; would you like to comment before we take a vote on this?

MR. DAVID SPENCER: Mr. Chairman, I have two comments; one regarding tolerance and one regarding minimum size. I support in my perfect world a 5-inch minimum size with 5 percent tolerance. Understanding that we're not going to get tolerance today, I'm willing to go with 4-3/4; but what does not make any sense to me – it is well documented.

The vast majority of crabs landed are 5 inch or better; and we're putting in a conservational management plan at a lower standard. That doesn't make sense. I'm willing to start there, but I'd like to see it go up as Steve Train suggested. The other thing on tolerance; I understand it creates a problem for law enforcement; but I think what everybody needs to know with no tolerance, every time an

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offshore boat lands there is going to be a violation. That's the nature of this business.

I don't care what the minimum size is; that is just going to be the way it is. I don't think it is prudent to create a management plan knowing that every time a boat lands, you're going to have a violation. I would hope that we can continue the discussion of tolerance and try to come up with something because I don't think it is a good idea to move forward. I will go forward at 4-3/4 without it, but it really needs to be vetted and find a way to make it work. Thank you.

MR. ADLER: Very quickly; that toolbox that we have at the end of this thing; does that include that people can talk about a tolerance thing later if somehow we work it out? Is that in the toolbox?

CHAIRMAN MCKIERNAN: Measures subject to change, 4.4.2.

MR. ADLER: I just don't want to have to do another amendment.

CHAIRMAN MCKIERNAN: Yes, I would say minimum sizes can be amended and tolerances can be part of minimum sizes. I don't see any problem with that, Bill. Let's vote on this motion as presented on the board. All in favor; all opposed; abstentions; null votes. The motion passes unanimously. The next issue I'd like to take up is the landing of parts. Bill.

MR. ADLER: Motion to adopt the following measure regarding landing of parts; Option 2, only whole crabs may be retained and sold.

CHAIRMAN MCKIERNAN: Do I have a second on that motion; Mark Gibson. Discussion on the motion? Any discussion on the motion about landing of parts? Yes, Mike Luisi.

MR. LUISI: There have been a few points made regarding the crab claw issue. Rob O'Reilly

mentioned kind of what the scale of the catch is in the DelMarVa area, which has been a historically significant fishery to the fishermen who have participated.

Given that I think I read in the plan that only a couple percent of the overall catch of Jonah Crab come from our three states, I would like to amend this motion – I guess there is two ways to do it – amend the motion for Option 2 to exclude Maryland, Delaware, and Virginia.

CHAIRMAN MCKIERNAN: Can I get a second on that motion? John Clark seconds. Discussion on the motion? Tom.

MR. TOM BAUM: I would like to see New Jersey included in that amendment. We do land claws. Actually the most recent at-sea sampling confirm that these guys are still cracking claws and landing them.

MR. O'REILLY: Mr. Chairman, it looks like from our data that it has not only been Virginians that have landed in Virginia on the claws; but I know in your packet earlier on that went over the public comments, some of the justification that was provided is pretty obvious that as a bycatch compared to the vessel size to take the whole crabs, the practice has developed over many years with very limited individual – if I say one – to take the claws.

I did read some of the comments that were also talking about the perhaps detriments of taking claws, but I don't know of an exact study other than maybe stone crab that really has covered it very much in terms of growth rates, reproduction and feeding, whether they really are impacted. I'm aware that there could be some information that we could get as we go forward.

CHAIRMAN MCKIERNAN: I'm going to ask Bob Glenn to comment on that, Rob.

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MR. GLENN: I'm not aware of any specific studies on Jonah Crabs that have looked at post-release mortality after they've had their claws taken off. One other basic way to think about it is if you take the whole crab home, that would be a hundred percent mortality whereas taking the claws off and throwing them back would be potentially some proportion of less mortality.

MR. WHITE: Mr. Chairman, is the intent of this motion that fishermen licensed in these states landing in these states; is that the intent?

CHAIRMAN MCKIERNAN: I look for the motion maker to make the clarification.

MR. LUISI: That was my intent. It would be for Maryland, Virginia and Delaware – and I can't address the point that Mr. Baum made about New Jersey; but it was my intent that these would be licensed fishermen from these states who would be coming with the crab claws only.

REPRESENTATIVE KUMIEGA: A question on this; are these states claw-only fishery or do they land whole crabs and other fishermen land claws?

MR. LUISI: We had two fishermen last year. One landed the whole crabs; the other one just landed claws. The one who landed the whole crab just sold his entire operation. The boat is no longer in our port so now we're to one. I think Virginia has two fishermen and Delaware has one fisherman currently that would qualify under the provisions that we sent for the permitting portion of this meeting to catch Jonah Crab. I don't know about New Jersey. It is awfully lonely on this side of the room today. I have been talking a lot with my neighbors, but I haven't stretched out across the table yet. I'd ask Tom to clarify that.

MR. BAUM: Yes; we have both lobster fishermen who land claws and also whole parts; so different fishermen land different products, yes. Mr. Chair, would I be able to amend this motion or substitute it to include New Jersey right now or

ask the makers of the motion to include New Jersey?

MR. LUISI: Yes; we'd be happy to do that as a friendly amendment if that's okay with you, Mr. Chairman.

CHAIRMAN MCKIERNAN: Certainly, that's fine; yes from John Clark. David Borden.

MR. BORDEN: Mr. Chairman, there is a little bit of a divergence in the discussion there about whether or not the participants in the states would be allowed to do it or whether anyone that lands in that state; so if in fact a northern boat went down to New Jersey, could they participate in the claw fishery or would this fishery be capped at its current rate.

I think as everybody knows around the table, this is an extraordinarily limited fishery right now. Personally I don't see anything wrong with a provision that caps the current fishery and allows the current fishery to continue; but I'm opposed to allowing an expansion of this for a number of reasons, most of which relate to some of the enforcement concerns.

CHAIRMAN MCKIERNAN: I think we're going to have trouble when we ask the National Marine Fisheries Service to enact federal rules if we're going to have boats with different ports of landing to have different conservation standards. That's just my view. Yes, Rob.

MR. O'REILLY: What Mr. Gilmore brought forward earlier really applies here as well, the previous history, because there might be some states that really haven't looked at their data carefully enough. I don't know that; I don't mean that disparagingly. There could be some landings of claws in other states; but we could certainly look at holding it to past landings, past participation. That would be the cap I think that Dave Borden is talking about; and I think that's important.

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CHAIRMAN MCKIERNAN: Rob, I think Jim was making an argument about a state-waters participant seeking sort of a treatment by its state officials. Are we talking about boats being able to possess claws in the EEZ?

MR. O'REILLY: I was talking about landing of claws and specifically as a bycatch from the lobster fishery landing in Virginia where we could identify the individual right now. We could identify who that was and I'm sure Maryland could do the same and New Jersey could do the same. I don't know about the other states.

MS. KERNS: Well, the board just approved a minimum size limit; so I'm just trying to determine if we would have some sort of equivalent measure to meet that. How would we know if we were meeting that minimum size limit in the claw fishery and would it apply here? Would you have a claw length that go along to match that 4.75 inches?

CHAIRMAN MCKIERNAN: Are you talking about a conservation equivalency for a part?

MS. KERNS: Well, we would need some sort of measure to prove that those claws were harvested from crabs that were at least 4.75 inches in carapace length.

CHAIRMAN MCKIERNAN: Yes; and this motion doesn't have that. Emerson wanted to comment.

MR. HASBROUCK: I had similar concerns where landing of parts could allow people to circumvent minimum size or even the possession of egg-bearing females just by breaking the claws off. I would also, with your permission, like to ask the maker of the motion why it is that these fishermen can't just bring in whole crabs and then let the wholesaler that they're selling them to break off the claws and put them into the marketplace as they would just the straight claws.

MR. LUISI: It is not that they can't do it. It has just been their practice for however many years they've been participating. Some of it goes to the perception that was mentioned in the issue earlier about a crab being landed whole is a hundred percent mortality. A crab where the claws are broken off and released back to the water; they see that some benefit back to the resource.

We're literally talking about the most minimal amount of effort you can place on a resource with just a couple of people fishing on it in deep water off of our tristate area. Can they land whole crabs; yes. If this board decides that the whole crab provision is ultimately where you'd like to go, I'm sure they can do it.

I think at that point I would work with my colleagues to begin the discussion on collecting information as to the comment or the question that I asked the Law Enforcement Committee earlier about coming up with some secondary measure. If minimum size and egg-bearing females, if that becomes an issue enough for this board, then we'll get there. It is just that is what I was asking as the maker of this motion. I don't know if John has anything to add.

MR. KELIHER: I thought the Law Enforcement Committee Report was pretty clear regarding the issues surrounding enforcement with landing claws; and that's the reason I support the original motion. I think the issue, though, here at hand as long as it can clear that we're capping these state fishermen to really this and to ensure that we don't have an explosion of growth in this area would be important. If we can get to that, I could potentially support it.

CHAIRMAN MCKIERNAN: I'm going to ask Peter or Allie to speak to this because we're talking about possession in the EEZ, in the federal zone of parts and rules being applied to fishermen from different states. You've got to weigh in on that.

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MS. MURPHY: Mr. Chairman, I agree with your previous statements that it would be difficult for us to have different regulations in different states and figuring out a way to implement that. I'll go back to our previous comment from our letter is that in general we don't support a parts' fishery until there is some survivability study done that can demonstrate that this isn't a bad thing.

MR. GILMORE: Just a question to Jersey, because Mike Luisi had characterized I think Virginia – each one of the three states – Delaware and Maryland had a couple of fishermen or whatever. Jersey just said that they had claw fishermen. Can you quantify actually how many fishermen are doing that or permits that you have?

MR. BAUM: I would say there are more that harvest whole crabs than just the claws; so at least one of them is harvesting claws right now. It could be up to three.

CHAIRMAN McKIERNAN: All right, we need to move on, but Rob O'Reilly raised his hand, so go ahead.

MR. O'REILLY: Mr. Chairman, I just wanted to follow up for Emerson's question. The information from the Virginia fishermen is volume and temperature; so lobster fishermen, the volume it would take to have the animals on board but also the temperature situation off Virginia compared to up the coast; and that's a consideration as well. Those are the two factors that he illustrated.

MR. GROUT: For clarity should we add to this that it would exclude Delaware, Maryland and Virginia for vessels that can document crab parts' landings prior to the control date, the same way that we applied that to the crab pot fishery? I mean it sounded like that's what Rob's intention was here; and I wanted to make sure that was the intention of the other three states that are potentially getting this exemption; that

it would be limited to just the people that can document crab parts' landings' history prior to the control date.

CHAIRMAN McKIERNAN: Again, I go back to Peter and Allie; is the National Marine Fisheries Service comfortable adopting complementary rules to this commission plan with states of origin – would those vessels with certain permits being exempted from the minimum size in this scenario?

MS. MURPHY: I think this would be difficult for us to do.

CHAIRMAN McKIERNAN: All right, let's call the question and get this over with. David, is it critical?

MR. SIMPSON: Well, just for clarification; I move to amend the motion to exclude New Jersey, Delaware, and Maryland from what? I mean, the discussion has been the claws, I think, but I'm just confused because we don't have a current motion, I don't think, to amend. If it could just clarify what you're being excluded from –

MR. LUISI: Yes; there was a motion to select Option 2, which was what I amended; so to select Option 2 which would require the whole crab to be landed; I'm suggesting that I amend this to exclude the four states from that provision with the assumption that it is crab claws that are being landed.

MR. ADLER: Mr. Chairman, if this motion fails – once again we go back to a toolbox – is it possible for those states to submit to this board conservation equivalency as they work out this crab/claw thing and submit it to us for possible approval; will that be possible for them?

CHAIRMAN McKIERNAN: Yes; I believe it will, Bill. Rob.

MR. O'REILLY: I'm not sure I like that route. I think what Doug was indicating and what I

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indicated earlier that I'd offer as an amendment to this that the exemption only apply to those individuals who had landed claws prior to the control date. I think that is necessary and would offer that as an amendment.

CHAIRMAN McKIERNAN: Is there a second? Doug seconded. Any discussion on that amendment? Rob.

MR. O'REILLY: I think we have the information and I think it is important to establish that and I think it is in keeping with the previous doubly or triply amended motion that we approved in terms of what we do as far as the fishery overall and as far as past participation.

MR. LUISI: Mr. Chairman, I was going to suggest that we can just add it to our amended motion as a friendly.

CHAIRMAN McKIERNAN: Mike, do you want to read the motion for the record?

MR. LUISI: Okay, move to amend to exclude individuals who can prove a history of claw landings before the control date in the states of New Jersey, Delaware, Maryland, and Virginia from Option 2 (only whole crabs may be retained and sold). Motion by Mr. Luisi; seconded by Mr. Clark.

MR. ABBOTT: Mr. Chairman, does the effect of this mean that they're not affected by minimum size and keeping egg-bearing females?

CHAIRMAN McKIERNAN: It certainly would make it difficult to enforce the minimum size with a claw allowance unless we come up with a conservation equivalency with a morphometric study that a claw of a certain size can be correlated with a crab of a certain carapace width. Dave.

MR. SIMPSON: I guess I'd say I'm sympathetic to the problem for a few fishermen, but the amendment to the amended motion makes it

even more difficult for me to support because this is a fishery that occurs in federal waters and so now it is not just what state are you landing in or do you intend to land it; but do you also have this special history so you'd even be treating fishermen from the same state. I think it is getting a little too refined for effective law enforcement.

CHAIRMAN McKIERNAN: All right, no more comments; why don't we vote on this motion to amend. One-minute caucus.

(Whereupon, a caucus was held.)

CHAIRMAN McKIERNAN: All right, all in favor of the motion; all opposed; abstentions; null votes. It passes six to five to one. All right, now on the main motion as amended; this is the new amended motion.

The motion is to adopt the following measure regarding landing of parts – Option 2: Only whole crabs may be retained and sold; and to exclude individuals who can prove a history of claw landings before the control date in the states of New Jersey, Delaware, Maryland, and Virginia from Option 2 (only whole crabs may be retained and sold). All in favor; opposed; abstentions; null votes. All right, it passed nine, two, one, zero. The next issue has to do with recreational harvest, recreational limits. Bill, do you have a motion?

MR. ADLER: Motion to adopt the following biological measures for recreational Jonah Crab harvest: For Issue 1, possession limits, Option 2, 50 whole crabs per person; for Issue 2, prohibition on retention of egg-bearing females, Option 2, no egg-bearing females may be retained.

CHAIRMAN McKIERNAN: Do we have a second for Bill's motion; Doug Grout. Any discussion on the motion? Roy.

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MR. ROY MILLER: Dan, for my own information can Bill tell me what a recreational fisherman fishes with for Jonah Crabs?

MR. ADLER: A long string; no, he could be catching them in traps. I don't know; I suppose he could dive down with a string and a hook.

CHAIRMAN McKIERNAN: I think scuba divers can take crabs at least in Massachusetts. Also recreational potters might retain some Jonah Crabs in their lobster traps; folks walking along the shoreline. Any other questions or comments? Let's take a vote. All in favor; opposed; abstentions; null. Unanimously. Okay, the next issue is monitoring programs. Bill, do you have a motion?

MR. ADLER: Okay, I make a motion to adopt 3.4.1, Monitoring Programs. For Fishery-Dependent Data Collections, adopt Option 3, coast-wide mandatory reporting and fishery-dependent sampling with Sub-Option 1, 100 percent mandatory dealer and 100 percent harvester reporting. However, states that currently require less than 100 percent of harvesters to report are required to maintain their current programs and extend them to Jonah Crab.

CHAIRMAN McKIERNAN: Do we have a second for Bill's motion. Pat Keliher seconds the motion. Any discussion? Doug Grout.

MR. GROUT: I was wondering if we might be able to say maintain at a minimum only because this sort of would prohibit – the way I would read it, states that don't have a hundred percent from ever increasing because it would say they must maintain their current programs.

CHAIRMAN McKIERNAN: Bill, would you accept that as a friendly amendment?

MR. GROUT: I basically want to give the states that don't have the current hundred percent, to have the opportunity to increase the percentage

if they find the resources to be able to do that in the future.

MR. ADLER: Yes; and what was the wording.

MR. GROUT: Maintain at a minimum.

MR. ADLER: Yes; that is what I thought; okay.

CHAIRMAN McKIERNAN: I will read the motion. Motion to adopt 3.4.1, Monitoring Programs. For Fishery-Dependent Data Collections, adopt Option 3, coast-wide mandatory reporting and fishery-dependent sampling with Sub-option 1, 100 percent mandatory dealer and 100 percent harvester reporting. However, states that currently require less than 100 percent of harvesters to report are required to maintain at a minimum their current programs and extend them to Jonah crab. Motion by Mr. Adler; seconded by Mr. Keliher. Rob O'Reilly.

MR. O'REILLY: At the end there, there is still dealer reporting. I wondered what the timeframe was. Is there any special time period involved with dealer reporting here or is that strictly up to the state?

CHAIRMAN McKIERNAN: I'm assuming it is up to the state because all the dealers are on land; so that would be up to the state. Is that an issue; does your state require a hundred percent dealer reporting?

MR. O'REILLY: A hundred percent harvester reporting monthly; so that's why I kind of wondered about the dealer part of it because we would be going to very limited but a dealer report now.

CHAIRMAN McKIERNAN: Just as a point of clarification; does Virginia require all dealers to report all transactions?

MR. O'REILLY: No, Virginia requires all harvesters to report all harvest; and the dealers have to hold all that information for a year.

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Some species, yes, there is mandatory dealer reporting, but not all species.

CHAIRMAN McKIERNAN: And would you be able to implement this in a certain amount of time?

MR. O'REILLY: Yes.

MS. MURPHY: Mr. Chairman, I was just wondering if Mr. Adler would accept a friendly amendment to change "states" in the second sentence that begins with "however" to "jurisdictions"?

CHAIRMAN McKIERNAN: Bill, Allie has requested that instead of the expression "states" to "jurisdictions to currently require", which would allow – the net effect of that would be to allow the National Marine Fisheries Service to not require mandatory reporting of the harvesters at this time.

MR. ADLER: I have no problem with it unless somebody can bring up some reason why that shouldn't be.

CHAIRMAN McKIERNAN: All right, so we accept that as another friendly amendment; change the word "states" to "jurisdictions". No other comments; would you like to vote on the motion? All in favor; opposed; abstentions, null votes. Unanimous. All right, the last issue is the de minimis criteria. Bill, would you have a motion on that?

MR. ADLER: Motion to adopt de minimis criteria: approve a modified Option 1 and Sub-Option 1A by establishing de minimis criteria allowing states to apply for de minimis status if that state lands less than 1 percent of the overall commercial landings only. Due to inadequate recreational catch data, no consideration shall be given to recreational landings for purposes of de minimis determination.

CHAIRMAN McKIERNAN: Is there a second to that motion? Dennis Abbott seconded the motion. Any discussion? Rob O'Reilly.

MR. O'REILLY: Mr. Chairman, I'm just wondering about the time element; so usually de minimis is reflective of the previous year or the average of the previous two years or some marker in the past.

CHAIRMAN McKIERNAN: Toni, can you weigh in on the issue of the de minimis criteria and the number of years that might be averaged for its determination in this motion.

MS. KERNS: It can be up to the board. In some species it is one year and other species we do an average of years. The FMP I believe had an option or range; is that correct, Megan?

MS. WARE: I believe in the FMP it says three-year coast-wide average.

MS. KERNS: Three-year coast-wide average and then within the range of that is one, two or three or the average.

CHAIRMAN McKIERNAN: Rob, does that help?

MR. O'REILLY: Yes, that's fine; thank you.

MR. SIMPSON: Just as always I'm never clear on what de minimis buys you. A state is de minimis; what don't they have to do, what do they have to do?

MS. WARE: De minimis status gets a state out of fishery-independent sampling; and with the last motion, Option 3 was chosen, a state would also not be required to do port and sea sampling.

MS. KERNS: Dan, is it the intention to stick with the language that was in the document, the three-year average, or did you want to do something less than that?

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CHAIRMAN McKIERNAN: I think the three-year average; yes. Let's vote on the motion. All in favor; opposed; abstentions; null votes. Abstention from NMFS. Motion carries by a vote of eleven to zero to one abstention. Bill Adler.

MR. ADLER: Mr. Chairman, is it appropriate to make a motion to accept the plan amendment as worded today?

MS. KERNS: If we could just get some implementation dates prior to approving the document; and when we approve the document, we actually want to make a recommendation that the full commission adopt the FMP since this is a brand new document. We'll look for some implementation timeframes. This is a new plan. There are some changes in here so we need to know what is realistic for states to put these measures in place for the timing.

CHAIRMAN McKIERNAN: Any comments on implementation dates from the board? I know you don't want it to be implemented immediately; so whatever time state directors need to buy time, let's think about that. Doug.

MR. GROUT: Well, I'll throw it out for discussion. I know other states have more constraints than I do on such measures; but I would say by January 1, 2016, as a proposal. Does that work for people or do you need more; and if you do, please come up with another date that would work for you folks. Another option could be if we're going to tie this to the lobster fishery is the beginning of the lobster fishing year, which is June 1, 2016.

MR. GILMORE: Since I promised to do an addendum in the next meeting and that would make this a little tight for January, I like June 1<sup>st</sup> better. I'm not a hundred percent sure what I have to do when I go back home; so I think a little bit longer timeframe might be appropriate.

MR. GIBSON: I agree with June 1, 2016, for the aforementioned reason.

CHAIRMAN McKIERNAN: There seems to be consensus. Do we need to put that in a motion? Toni says no. All right, a roll call on the entire plan as amended.

MR. ADLER: Mr. Chairman, could I just say everything else that is in this document, including the toolbox is in the document; am I understanding that? Okay, fine, so what do you need now, Mr. Chairman?

CHAIRMAN McKIERNAN: You make a motion, Bill.

MR. ADLER: Motion to recommend to the full commission to adopt the Jonah Crab Fishery Management Plan as modified today.

CHAIRMAN McKIERNAN: Is there a second; Emerson. Allie.

MS. MURPHY: I just have a quick question. I know back at the beginning of the permitting discussion we were talking about a potential addendum to round out allowing the crab-only harvesters in. I'm just wondering if states would want some additional time so that addendum could be fully developed and go out for public comment and all of this could come together at the same time.

CHAIRMAN McKIERNAN: Jim, would you care to comment on that?

MR. GILMORE: Well, if we were going to do the control date; are we going to do the implementation date of June 1<sup>st</sup>? I would think that if we did the addendum at the annual meeting, initiate it, would we be able to have it – it is just a definition of harvest and I guess for grandfather things with gear restrictions on harvester; Toni, do you have a suggestion on this because I'm –

MS. KERNS: I think it is up to the states on how you want to move forward. Do you want to go ahead and move forward with these at least

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simple measures that are here; and it would be beholden to those – you know, you can still hold it to those – the minimum size, et cetera, you can behold to those people harvesting those crab.

How you deal with the crab-only pot fishermen would take a little bit longer, yes, and it would not be a June 1<sup>st</sup> implementation date. It would probably be later down the line just because of typically how long it takes to get history, et cetera, approved through management. You could do this part first and then have a second implementation date for the other permit holders in terms of their ability to be in the fishery. Until then those individuals – it would be somewhat open access for all others in the crab-only pot fishery.

MR. STOCKWELL: Mr. Chairman, a process question for Bob and/or Toni. Given that this is primarily a federal fishery and the New England Council may well be taking an action in 2016; what would be the process for merging this into a joint plan, particularly if there is disparate measures?

EXECUTIVE DIRECTOR BEAL: Well, I think as the council moves forward with their plan, assuming they make that a priority for next year, we're going to have to work with them. Obviously, they'll be aware of what the interstate plan is. We're going to have work on process. There is no set sort of tracks to develop a joint plan; so it is going to take some time to figure how to do that.

I think the idea is that these provisions that this board is about to approve will be the interim measures for this fishery. If the New England Council does decide to do a plan, I imagine anyway that is a two-year process or so to develop the plan, final approval and approval by the National Marine Fisheries Service. I would look at these measures that were talked about today as the interim measures. As we get more science and the New England Council decides what to do, we're all going to have to work

together and figure out what the overall management plan looks like in the future.

MR. O'REILLY: Mr. Chairman, based on Toni's comments, I'm just a little concerned about extending the time too much. New York is not only in the same situation. It may be inland but I think Rhode Island and Virginia have a similar situation with past performance, past history of non-lobster pot fishermen landing Jonah Crabs. Perhaps by the annual meeting we could all have something that we bring forward in terms of similarities on the gear aspect, on the performance aspect according to landings and maybe take this up again then. I think waiting well beyond June might be a problem.

CHAIRMAN MCKIERNAN: Okay, we will on that in the interim, between now and the annual meeting. Let's take a final vote on this motion to approve the plan; recommend to the full commission to approve this plan. They say we need a roll call vote. Motion to recommend to the full commission to adopt the Jonah Crab Fishery Management Plan as modified today. Motion by Mr. Adler; second by Mr. Hasbrouck.

MS. WARE: Maine.

MAINE: Yes.

MS. WARE: New Hampshire.

NEW HAMPSHIRE: Yes.

MS. WARE: Massachusetts.

MASSACHUSETTS: Yes.

MS. WARE: Rhode Island.

RHODE ISLAND: Yes.

MS. WARE: Connecticut.

CONNECTICUT: Yes.

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MS. WARE: New York.

NEW YORK: Yes.

MS. WARE: New Jersey.

NEW JERSEY: Yes.

MS. WARE: Delaware.

DELAWARE: Yes.

MS. WARE: Maryland.

MARYLAND: Yes.

MS. WARE: Virginia.

VIRGINIA: Yes.

MS. WARE: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: Yes.

MS. WARE: New England Fishery Management Council.

NEW ENGLAND FISHERY MANAGEMENT COUNCIL: Yes.

CHAIRMAN McKIERNAN: It passed unanimously; 12 to zero to zero to zero. Toni, it is late and we have some items left on the agenda. We have update on the recent federal action concerning the Omnibus Habitat Amendment. We have the Lobster Trap Transfer Database Update; and we have a discussion of the New England Fishery Observer Program. Toni.

#### **NEW ENGLAND FISHERY OBSERVER PROGRAM**

MS. KERNS: I would like to suggest that we remove the discussion of the New England Fishery Observer Program, because our main discussant had to leave to catch a flight; Bob Glenn. Secondly, we invited a representative from NOAA and the Northeast Fisheries Science Center to come to talk to us about these issues

and no one was able to come down to attend; so we wouldn't have anybody to answer those questions directly.

#### **LOBSTER TRAP TRANSFER DATABASE UPDATE**

CHAIRMAN McKIERNAN: Okay, leaves us with the Trap Tag Database as the last item.

MS. WARE: There is just a quick overview of the program. The main issue we're trying to solve here is that there is no central database to track changes in allocation. This is particularly important for dual permit holders as the allocation for traps have changed overtime according to the Southern New England Addendum VII put in.

The goals have been to track allocations of traps across jurisdictions and to create a collaboration with state agencies and federal agencies and also to help agencies make more informed decisions. The overall message is that the Trap Transfer Program is ready to go for transfers affecting the 2016 fishing season.

Some of the features of it are a bank statement where it shows you what you had, what changed and then what you're left with. You get a receipt after each transaction; and then there is a limited ability to undo transactions but only for those that do not affect any other transactions, and so isolated events.

This is still in Phase 1; so what this means is that they are confident it is going to work, but we're still going to take suggestions as it is implemented since we're sure that some fishermen or maybe agencies will have some comments on how it could be improved. As for the timeline, applications for the trap transfers are now coming in.

Between October and December NMFS and the states are going to finalize the transfers. Then May 1, 2016, the revised allocations will become effective. We have sent notification out to

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fishermen. NOAA sent a letter to federal permit holders.

We have asked states in Areas 2, 3 and the Outer Cape Cod to send letters to their permit holders. Then there is also a Federal Register Notice June 4, 2015. That is it and I'll take any questions if there are any.

MR. ADLER: Mr. Chairman, first of all, what were those dates again after the August thing? You had it up on the board. That is October to December and then May 1<sup>st</sup> it takes place; is that what you've got?

MS. WARE: That is what is on the screen, yes.

MR. ADLER: Okay, and the last question I had was unrelated, actually. Did you put off the observer program item to another time?

CHAIRMAN MCKIERNAN: We did because we lost Bob Glenn to an early flight.

MR. ADLER: So that's off the agenda?

#### **CONSIDER TABLED MOTION FROM MAY, 2015**

CHAIRMAN MCKIERNAN: For today. Toni wants us to take some action on the issue of the Omnibus Habitat Amendment.

MS. KERNS: Well, the board tabled the motion to this meeting so it does automatically come back to the table. The board would need to either dispense the motion or –

CHAIRMAN MCKIERNAN: Can we table it until the November meeting?

EXECUTIVE DIRECTOR BELL: Obviously, it is up to the board what they want to do; but one suggestion might be to table the motion until the board determines what the National Marine Fisheries Service is going to do with the recommendation from the New England Council. As a reminder, this is the motion that the commission was going to initiate an addendum

to implement a closure for mobile gear, I believe is the wording, in Closed Area II north of the 41/30 line from June 15<sup>th</sup> through the end of October.

This was sort of a placeholder as the New England Council worked through their Omnibus Amendment. They've completed that action and the recommendation to the National Marine Fisheries Service includes that closure that this addendum would contemplate. The assumption is everything moves forward from the council to the National Marine Fisheries Service and the National Marine Fisheries Service approves this closure; then that action that this addendum would consider has already been taken care of; so there is no need for the board to take action.

But if something happens and the National Marine Fisheries Service ultimately does not approve that time-area closure; then this board likely would want to take some action. We're not going to really have a signal what NOAA Fisheries is going to do probably until they have a proposed rule out. One option would be to table that motion until the proposed rule on the Omnibus Habitat Amendment is available.

MR. GROUT: Well, I assume since this is a table motion to this meeting; it is on the table now again; and I would like to make a motion to table this motion until a final decision by the National Marine Fisheries Service on this particular issue in the Habitat Amendment.

CHAIRMAN MCKIERNAN: Is there a second to his motion; Dave Simpson. Any discussion?

MR. NOWALSKY: Would we want to table it until the final rule or would we want to table it until the proposed rule is out, which would then give this board the ability to submit comment to the Service?

MR. GROUT: Well, I think the board could comment to the Service one way or the other. The reason I wanted to table it until the final rule

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is out is because a lot of times in a proposed rule they'll propose it because it is something that the council has proposed; but then they may disapprove a part of that particular measure. They can partially approve an amendment. We really won't know what the final decision is until the final rule. As I said, if they propose the rule that includes these provisions; then the commission and the board can clearly provide comment that we support this.

REPRESENTATIVE KUMIEGA: Point of order; a motion to table isn't debatable.

CHAIRMAN McKIERNAN: Okay, Bob, do you agree with that. Okay, then we will take a motion to table until the final decision on the New England Fishery Management Council Habitat Omnibus Amendment. Motion by Mr. Grout; second by Mr. Simpson.

MR. ADLER: Motion to table until a final – if the final decision is made; what can we do?

MR. GROUT: We need to rework this motion to what I said was a final decision is made by the National Marine Fisheries Service on the NEFMC Habitat Omnibus Amendment. Now, at that point we will know one way or the other whether

they either approve the provision or they didn't. At that point we could take up the discussion about whether we're going to have an addendum to address this.

MR. ADLER: We can still even though they – you know, the final rule is the final rule, it is over and you can't do anything about it, but this leaves open the possibility that we can do something?

MR. GROUT: Yes.

CHAIRMAN McKIERNAN: All right, if there aren't any more questions; let's vote on this motion. All in favor, hand up; opposed; abstentions; null votes. It passes eleven to zero to one to zero. I think, Toni, if we're going to postpone that other item, I think that concludes the business today. Motion to adjourn.

MR. ADLER: So move.

CHAIRMAN McKIERNAN: Motion accepted and seconded. Good night.

#### **ADJOURNMENT**

(Whereupon, the meeting was adjourned at 6:15 o'clock p.m., August 4, 2015.)

— — —



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
GREATER ATLANTIC REGIONAL FISHERIES OFFICE  
55 Great Republic Drive  
Gloucester, MA 01930-2276

OCT - 5 2015

Mr. Robert Beal  
Executive Director  
Atlantic States Marine Fisheries Commission  
1050 N. Highland St, Suite A-N  
Arlington, VA 22201

Dear Mr. Beal:

Thank you for sending the formal recommendation of the Atlantic States Marine Fisheries Commission that NOAA's National Marine Fisheries Service issue federal regulations for the Jonah crab fishery, consistent with the Commission's new Interstate Fishery Management Plan. We appreciate the work of your staff and the Commission's Lobster Board to develop and consider a wide range of alternatives before adopting final measures at the August meeting.

As I stated in my July 16, 2015, letter, we believe that many measures easily lend themselves to state implementation. These measures include: Reporting requirements; minimum size; prohibition on retaining egg-bearing females; crab parts retention; and incidental bycatch for non-trap gear. We are encouraged that these key aspects of the plan will be implemented and enforced by states as of June 1, 2016.

However, it does not appear that all aspects of the proposed plan will be ready for implementation by June 1, 2016. While the Board reached consensus on the need to develop a limited access Jonah crab program, they postponed to a future action development of qualification criteria for the program. We fully intend to work with the Lobster Board and/or the Plan Development Team on the development of robust and defensible qualification criteria and we hope the Board will begin developing these criteria by the Annual Meeting in November. Nevertheless, it seems unlikely that final recommended criteria would be ready before the Winter Meeting in February 2016. Until such criteria are developed, it would be premature to initiate federal rulemaking. Further, such a timetable would make it extraordinarily unlikely that complementary federal regulations could be complete by June 1, 2016, even though my staff are already working on analyses and frontloading the federal rulemaking process as much as possible. In the interim, the implementation of some state regulations next June will help ensure effective Jonah crab management.

Because the federal rulemaking process will be delayed while qualification criteria are developed, there may be a disconnect with state regulations for some period of time after June 1, 2016. It would seem contrary to the Board's intent if disconnected state and federal regulations prevented historical Jonah crab harvesters without a lobster license from landing their federal waters catch while the Board develops qualification criteria. Therefore, during this interim time period, it is our understanding that Jonah crab harvesters without a lobster permit would be able to land Jonah crabs caught in federal waters, irrespective of any state regulation tying crab




possession or landings to a lobster license. The Board may wish to clarify how this situation may function in its future discussions, now that we realize there may well be inconsistencies after June 1, 2016.


As you are aware, the New England Fishery Management Council representative to the Board raised concerns about the incidental bycatch limit for non-trap gear. My staff supported the inclusion of a trip limit as a precautionary measure to protect this species from increasing harvest. There was little discussion at the Board meeting or analysis in the plan about whether the 200 crab/day up to 500 crab/trip limit that was adopted by the Board is appropriate. My staff is evaluating non-trap catch data to determine if a different non-trap landing limit may be more appropriate based on historic landings. The Council is expected to re-evaluate Jonah crab as a potential development priority this fall. This information may also inform discussion at the September Council meeting. We will certainly inform you of our findings.

If you have any questions or would like to discuss these issues further, please contact Allison Murphy at (978) 281-9122 or [allison.murphy@noaa.gov](mailto:allison.murphy@noaa.gov).

Sincerely,



John K. Bullard  
Regional Administrator



cc: Dan McKiernan, ASMFC Lobster Board Chair  
Megan Ware, ASMFC Fishery Management Plan Coordinator  
Terry Stockwell, NEFMC representative to the ASMFC Lobster Board

**2015 REVIEW OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
FISHERY MANAGEMENT PLAN  
FOR AMERICAN LOBSTER  
(*Homarus americanus*)  
2013 AND 2014 FISHING YEARS**



*Prepared by the Plan Review Team*



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**2015 REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN FOR AMERICAN  
LOBSTER (*Homarus americanus*)  
2013 AND 2014 FISHING YEARS**

**1.0 Status of the Fishery Management Plan**

Year of ASMFC Plan's Adoption:

Amendment 3 (1997)

Framework Adjustments:

Addendum I (1999)

Addendum II (2001)

Addendum III (2002)

Addendum IV (2003)

Addendum V (2004)

Addendum VI (2005)

Addendum VII (2005)

Addendum VIII (2006)

Addendum IX (2006)

Addendum X (2007)

Addendum XI (2007)

Addendum XII (2008)

Addendum XIII (2008)

Addendum XIV (2009)

Addendum XV (2009)

Addendum XVI (2010)

Addendum XVII (2012)

Addendum XVIII (2012)

Addendum XIX (2013)

Addendum XX (2013)

Addendum XXI (2013)

Addendum XXII (2013)

Addendum XXIII (2014)

Addendum XXIV (2015)

Management Unit:

Maine through North Carolina

Lobster is managed in seven different  
Lobster Conservation Management Areas  
(LCMA, see appendix A)

States with a Declared Interest:

Maine through Virginia  
(Excluding Pennsylvania and DC)

Active Committees:

American Lobster Management Board,  
Technical Committee, Lobster Conservation  
Management Teams, Plan Development  
Team, Plan Review Team, Advisory Panel

## **2.0 Status of the Fishery**

### **2.1 Landings History**

The lobster fishery has seen incredible expansion in effort and landings over the last 40 years. Between 1950 and 1975, landings were fairly stable around 30 million pounds; however, from 1976 – 2008 the average coastwide landings tripled, reaching 92 million pounds in 2006 (Table 1). Since 2008, total coastwide landings have further increased to just under 150 million pounds in 2012. Commercial landings in 2013 were 150 million pounds and slightly declined to 147.8 million pounds in 2014. Maine and Massachusetts accounted for 84% and 10% of catch, respectively. Landings were also reported (in descending order) by New Hampshire, Rhode Island, New Jersey, New York, Connecticut, Maryland, Delaware, and Virginia. The ex-vessel value for all lobster landings in 2013 was \$477 million. The ex-vessel value in 2014 was \$565 million.

Table 2 shows the break-down of commercial landings by Lobster Conservation Management Area (LCMA). Area 1 has the highest landings and accounts for 80% of total landings between 1981 and 2012. This is followed by LCMA 3 which accounts for 9% of total landings. Yearly trends in the Table show that while landings have generally increased in LCMA 1, they have decreased in LCMA's 4 and 6.

Lobster is also taken recreationally with pots, and in some states, by hand while SCUBA diving. While not all states collect recreational harvest data, Massachusetts reported a total recreational harvest of 221,529 lbs in 2013 and 206,975 lbs in 2014. This represents 1.5% of total Massachusetts's harvest. Similarly, Connecticut's recreational harvest ranged between 1-4% of the annual total from 2001-2011. In New Hampshire, recreational harvest in 2014 was 3,465 lbs and in New York it was 2,310 lbs.

**Table 1.** Landings (in pounds) of American Lobster by the states of Maine through Virginia (Sources NMFS, ME DMR, NY DMR). *C*= confidential data

Year	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	Total
1981	22,631,600	793,400	11,220,500	1,871,067	1,010,800	890,200	593,700	55,700	63,200	2,200	39,132,367
1982	22,730,100	807,400	13,150,900	2,254,930	1,094,100	1,121,600	846,300	90,700	64,800	4,700	42,165,530
1983	21,976,500	1,310,560	12,421,000	5,020,895	1,854,000	1,207,500	769,900	56,700	86,500	600	44,704,155
1984	19,545,600	1,570,724	14,701,800	5,064,760	2,011,600	1,308,100	927,700	103,800	98,900	17,400	45,350,384
1985	20,125,000	1,193,881	16,295,100	5,080,163	1,676,000	1,240,900	1,079,600	118,500	82,300	1,100	46,892,544
1986	19,704,400	941,100	15,057,600	5,513,831	1,656,100	1,407,100	1,123,000	109,000	57,700	1,000	45,570,831
1987	19,747,800	1,256,170	15,116,800	5,217,300	1,735,591	1,146,700	1,397,100	84,100	49,900	1,000	45,752,461
1988	21,738,800	1,118,900	15,866,312	4,758,990	2,053,800	1,779,890	1,557,300	66,200	23,000	300	48,963,492
1989	23,368,800	1,430,400	15,444,300	5,725,641	2,096,900	2,345,051	2,059,600	76,500	17,500		52,564,692
1990	28,068,238	1,658,200	17,054,434	7,258,175	2,645,800	3,431,111	2,198,867	68,300			62,383,125
1991	30,788,646	1,802,035	16,528,168	7,445,170	2,674,000	3,128,246	1,673,031	54,700			64,093,996
1992	26,830,448	1,529,292	15,823,077	6,763,085	2,439,600	2,651,067	1,213,255	21,000			57,270,824
1993	29,926,464	1,693,347	14,336,032	6,230,855	2,177,022	2,667,107	906,498	24,000			57,961,325
1994	38,948,867	1,650,751	16,094,226	6,474,399	2,212,000	3,954,634	581,396	8,400			69,924,673
1995	37,208,324	1,834,794	15,755,840	5,363,810	2,536,177	6,653,780	606,011	500	2,855		69,962,091
1996	36,083,443	1,632,829	15,323,277	5,579,874	2,888,683	9,408,519	640,198		28,726	1,252	71,586,801
1997	47,023,271	1,414,133	15,087,096	5,766,534	3,468,051	8,878,395	858,426	648	34,208	2,240	82,533,002
1998	47,036,836	1,194,653	13,277,409	5,618,440	3,715,310	7,896,803	721,811			1,306	79,462,568
1999	53,494,418	1,380,360	15,533,654	8,155,947	2,595,764	6,452,472	931,064			6,916	88,550,595
2000	57,215,406	1,709,746	15,802,888	6,907,504	1,393,565	2,883,468	891,183			311	86,804,071
2001	48,617,693	2,027,725	12,132,807	4,452,358	1,329,707	2,052,741	579,753			19	71,192,803
2002	63,625,745	391	12,853,380	3,835,050	1,067,121	1,440,483	264,425	551			83,087,146
2003	54,970,948		11,385,049	3,474,509	671,119	946,449	209,956	2,831	22,778		71,683,639
2004	71,574,344	2,097,396	11,295,474	3,064,412	646,994	996,109	370,112	15,172	14,931	13	90,074,957
2005	68,729,861	2,556,232	9,879,983	4,343,736	713,901	1,154,470	369,264	5,672	39,237	21,255	87,813,611
2006	72,662,294	2,666,344	10,966,322	3,749,432	792,894	1,242,601	470,877	3,315	26,349	28,160	92,608,588
2007	63,959,191	2,468,811	10,143,301	3,268,075	568,696	716,300	680,392	5,918	6,128	26,765	81,843,577
2008	69,863,132	2,567,031	10,597,614	3,528,445	426,292	712,075	632,545	4,884	32,429	17,701	88,382,148
2009	81,175,847	2,985,166	11,781,490	3,174,618	451,156	731,811	179,740	6,067	30,988	21,472	100,538,355
2010	95,506,383	3,658,894	12,768,448	3,258,221	432,491	813,513	641,556	4,574	30,005	16,345	117,130,430
2011	104,693,316	3,917,461	13,717,192	2,513,255	191,594	344,232	627,077	C	C	C	126,066,050
2012	125,759,424	4,236,740	14,917,238	2,932,388	236,846	275,220	919,260	C	C	C	149,336,623
2013	127,773,264	3,822,844	15,738,792	2,149,266	133,008	248,267	660,367	C	C	C	150,621,935
2014	124,440,799	4,939,310	15,060,352	2,387,321	141,988	216,630	526,367	C	C	C	147,805,965

**Table 2.** Estimated lobster landings (in pounds) by lobster conservation management area (LCMA)\* (Source, ASMFC Lobster Data Warehouse). This table can only be update in years when stock assessment reports are being conducted.

Coastwide Estimated Lobster Landings (lbs) by Lobster Conservation Management Area (LCMA)*								
Year	LCMA 1	LCMA 2	LCMA 3	LCMA 4	LCMA 5	LCMA 6	LCMA OCC	Grand Total
1981	32,369,320	527,284	4,321,500	441,478	115,653	1,220,159	134,327	39,129,721
1982	32,123,750	1,656,479	4,961,680	622,674	99,093	1,359,058	163,105	40,985,839
1983	32,826,685	2,958,366	5,645,179	633,254	71,804	2,428,633	198,448	44,762,369
1984	29,862,411	2,978,985	6,409,741	795,180	135,652	2,704,070	208,832	43,094,871
1985	31,590,759	2,992,330	5,853,851	964,043	170,998	2,273,337	261,929	44,107,247
1986	30,080,507	3,081,903	5,829,275	1,084,282	125,969	2,362,128	298,747	42,862,811
1987	30,682,754	3,219,900	5,357,273	1,473,841	98,486	2,378,765	276,250	43,487,269
1988	32,362,492	3,259,336	5,132,943	1,666,439	85,142	3,195,208	295,985	45,997,545
1989	36,800,166	4,175,114	5,450,786	2,232,935	106,126	3,735,250	352,155	52,852,532
1990	41,720,481	4,374,062	8,783,629	2,431,198	237,410	4,250,654	581,447	62,378,881
1991	43,648,773	4,140,145	8,537,053	2,096,138	115,020	4,393,986	740,267	63,671,382
1992	39,055,380	3,795,367	7,124,248	1,448,866	77,854	4,362,551	738,026	56,602,292
1993	40,962,969	3,772,494	6,773,992	1,597,447	89,495	3,968,663	938,486	58,103,546
1994	51,597,880	5,602,507	5,684,252	554,367	26,013	5,738,398	848,181	70,051,598
1995	49,771,715	4,960,453	5,008,551	962,077	45,054	8,564,325	1,000,609	70,312,784
1996	47,992,628	4,880,328	4,896,782	978,376	52,758	11,705,439	852,532	71,358,843
1997	58,016,197	5,324,775	5,549,295	1,162,862	36,623	11,650,701	849,126	82,589,579
1998	56,187,841	5,273,463	5,043,939	1,534,067	41,963	10,575,143	797,019	79,453,435
1999	65,375,535	6,938,658	6,166,601	1,346,509	77,621	8,331,142	739,904	88,975,970
2000	69,265,611	5,651,160	5,436,618	1,123,486	53,364	3,802,880	765,801	86,098,920
2001	57,531,942	3,862,054	5,525,209	762,408	55,537	3,013,551	611,242	71,361,943
2002	73,607,600	3,445,004	5,483,983	442,425	14,838	2,230,869	786,137	86,010,856
2003	63,005,041	1,110,534	6,978,808	423,583	17,394	1,448,011	804,355	73,787,725
2004	80,448,651	1,184,942	6,722,671	480,203	93,270	1,534,130	993,689	91,457,556
2005	76,240,627	1,464,433	7,442,771	457,275	54,181	1,673,396	966,787	88,299,470
2006	80,846,400	1,853,505	7,588,539	516,130	59,928	1,840,308	1,048,051	93,752,862
2007	70,862,089	1,430,836	6,375,646	617,978	56,866	1,263,648	1,132,991	81,740,055
2008	78,914,865	1,168,921	6,124,979	440,108	322,916	920,951	1,127,422	89,020,163
2009	91,133,844	1,051,241	6,960,119	488,792	308,212	896,594	1,256,201	102,095,002
2010	106,458,701	1,022,528	7,955,472	522,037	184,409	966,505	1,209,482	118,319,134
2011	116,042,515	730,889	7,890,340	488,977	148,587	306,079	1,244,299	126,851,685
2012	138,762,843	627,051	8,111,396	782,684	154,455	286,215	1,223,279	149,947,922
Grand Total	1,886,148,973	98,515,048	201,127,121	31,572,119	3,332,690	115,380,746	23,445,109	2,359,521,806

\*Landings data are not collected by LCMA in all states. To separate landings by LCMA NMFS statistical areas are placed into a single LCMA. For a complete description of how estimates are completed send a request to the PRT Chair, Megan Ware, at [mware@asmfc.org](mailto:mware@asmfc.org).

## 2.2 Recent Management Actions

The 2009 assessment indicated the resource presented a mixed picture of stock abundance throughout its U.S. range, with low abundance and poor recruitment in Southern New England (SNE). In the spring of 2010, the American Lobster Technical Committee (TC) reviewed trends in abundance from 2008 and 2009 and considered a variety of biological and environmental factors that may be impacting Southern New England (SNE) lobster stocks. In May 2010, the TC submitted a report to the Board contending that it was their belief that the SNE stock was experiencing recruitment failure. Evidence suggested the reproductive potential and abundance of the SNE stock had continued to fall to lower levels than what was presented in the 2009

assessment. While larval production and settlement are inherently variable, sustained poor production can only lead to reduced recruitment and ultimately to reduced year class strength and lower future abundance levels. The TC contended that recruitment failure was caused by overwhelming environmental and biological changes coupled with continued fishing. At that time, the TC recommended a five year moratorium on harvest in the SNE stock area to provide the maximum likelihood of rebuilding the stock above the threshold and toward the target abundance in the foreseeable future.

Following the presentation of the TC report to the Board concerning recruitment failure and stock projections, the Board moved to have the findings reviewed by the Center for Independent Experts (CIE). The CIE reviewers concurred that environmental changes in concert with fishing mortality were the principal causes of the recent stock decline and lower recruitment levels. Although it is not possible to predict how recruitment may change in the near future it was noted that environmental conditions are unlikely to return to the previous favorable state observed in the early 1990's and that reducing exploitation is therefore necessary to prevent further avoidable erosion of the spawning stock. There was general agreement with the TC reports that a moratorium or severe reductions (~75%) in fishing mortality were needed immediately to maximize chances of rebuilding the stock.

To address the concerns of the declining resource, the Management Board approved Addendum XVII (2012) which reduced exploitation by 10% in the management areas within the SNE. The management areas initiated either mandatory v-notch programs or season closures or a combination of the two measures to meet the requirements of the Addendum. The Board also approved Addendum XVIII, which implemented a 50% trap reduction in LCMA 2 and a 25% trap reduction in LCMA 3 over the span of six years. The goal of this management action was to scale the SNE fishery to the size of the resource.

In 2013 the Board approved Addenda XIX – XXII. Addendum XIX implemented a conservation tax of 10% for any transfer or full business sale of LCMA 3 traps. In response to action taken by the New England Fishery Management Council (NEFMC), which allowed limited groundfish harvest in a previously closed area (Closed Area II), the American lobster offshore pot fleet developed an agreement with the groundfish sector to prevent gear conflicts and give equal access to the area by both fisheries. As a result, through Addendum XX, it is prohibitive to set or store lobster traps in Closed Area II from November 1 to June 15 annually.

As the second phase of management action to scale the SNE fishery to the size of the SNE resource, the Board approved Addendum XXI, which modified the previous trap transferability rules for LCMAs 2 and 3. Modifications to the single and aggregate ownership caps for LCMA 3 were approved under Addendum XXII.

In August 2014, the Board approved Addendum XXIII, which updated the habitat section of Amendment 3. The Board also reviewed findings that LCMA 4 was not achieving its 10% reduction in exploitation as required by Addendum XVII. In response, the Board changed the seasonal closure in LCMA 4 from February 1-March 31 to April 30-May 31.

In 2015, the Board aligned state and federal measures for trap transfer programs in LCMA's 2, 3,

and the Outer Cape Cod through Addendum XXIV. The Board also approved the 2015 Lobster Stock Assessment and Peer Review Report for management use and, in response to the poor condition of the SNE stock, agreed to convene a working group of Commissioners and Technical Committee members to identify objectives for the stock.

### **3.0 Status of Assessment Advice**

The 2015 peer-reviewed stock assessment report indicated the American lobster resource presents a mixed picture, with record high stock abundance and recruitment throughout most of the Gulf of Maine (GOM) and Georges Bank (GBK) and record low abundance and recruitment in SNE.

The Assessment found that the GOM/GBK stock is not overfished and not experiencing overfishing. GOM and GBK were previously assessed as separate stock units; however, due to evidence of seasonal migrations by egg-bearing females between the two units, the areas were combined into one stock. While model results show a dramatic overall increase in stock abundance in the GOM/GBK, population indicators did show that young-of-year estimates are trending downward, indicating a potential decline in recruitment in the coming years.

Conversely, the Assessment found that the SNE stock is severely depleted with poor prospects of recovery, necessitating protection. Recruitment indices show that the stock is not rebuilding and is in recruitment failure. The inshore portion of the SNE stock is in particularly poor condition with surveys showing a contraction of the population. This is expected to impact the offshore portion of the stock since it is dependent on recruitment from the inshore population. Landings in the SNE are expected to decline since the extremely poor year classes which have settled since 2008 have yet to recruit to the fishery.

Both the Technical Committee and the Peer Review Panel highlighted the need for management action in SNE. Specifically, the Panel recommended close monitoring of the stock status along with implementing measures to protect the remaining lobster resource in order to promote stock rebuilding.

### **4.0. Status of Research and Monitoring**

#### **4.1 Research Needs**

The following were identified as research needs following the 2015 Lobster Assessment.

1. ***Ventless Trap Survey***- Calibration work is needed to determine how catch in ventless trap surveys relates to catch in the bottom trawl surveys. It is likely that at low densities, when trawl survey indices have dropped to near zero, ventless trap surveys will still catch lobsters due to the attractive nature of the gear and the ability to fish the gear over all habitat types. Conversely, it is possible that trawl surveys may be able to detect very high levels of lobster abundance, if trap saturation limits the capacity of the ventless traps. Ventless traps may be limited in their ability to differentiate between moderately high and extremely high abundance, and calibration with bottom trawl surveys may help to clarify how catchability might change with changes in lobster density.
2. ***Maturation and Growth*** - Increases in water temperatures over the past several decades have likely resulted in changes to size at maturity and growth patterns. Maturity data currently used are more than 20 years old. Changes in size at maturity will subsequently affect growth, since

female molting frequency decreases after reaching sexual maturity. It is critical to collect updated information on maturity and growth in order to appropriately assign molt probabilities to lobsters.

3. **Stock Connectivity** - There is need for a comprehensive large scale tagging study to examine stock connectivity between the GOM and GBK. Historical tagging studies demonstrate movement from the inshore GOM to locations east of Cape Cod in the inshore portions of GBK, and from inshore areas east of Cape Cod to inshore GOM. What is lacking is a tagging study of lobsters in the fall/winter on GBK proper, prior to seasonal migrations which occur in the spring. This information would be extremely valuable to help complement other data used to justify the combination of the GOM and GBK stock and to confirm the connectivity of the GOM and GBK.
4. **Temperature** – Given the importance of temperature in the life history of lobster, techniques should be developed to incorporate environmental data into population modeling.
5. **Post-Larval Settlement** – There is a need to examine post-larval settlement dynamics in relation to the movement and re-distribution of spawning stock. Habitat suitability models for spawning stock and settling post-larvae should be developed.
6. **Natural Mortality** – Methods should be explored to determine age or length-varying natural mortality, as well as looking at more rigorous ways of determining time-varying natural mortality for lobster. These may be driven by climactic shifts and changing predator fields.
7. **Shell Disease** - With the high prevalence of shell disease in the SNE stock, particularly in ovigerous females, some exploration of the potential sub-lethal effects of disease should be examined. These effects could include negative impacts to larval quality, fecundity issues in females who need to re-direct physiological resources to dealing with the disease, and male sperm quality
8. **Mating** - In order to understand the potential the SNE stock has to rebuild, it is important to know whether current stock conditions have disrupted the mating system. Low population abundance may be causing a mate-finding Allee effect in SNE. Furthermore, due to the continuation of female-skewed sex ratios observed in the GBK stock, questions regarding the reproductive capacity of these large females should be considered.
9. **Fishery-Dependent Information** - Accurate and comparable landings are the principal data needed to assess the impact of fishing on lobster populations. The quality of landings data has not been consistent spatially or temporally. It is imperative that funding for critical monitoring programs continues, and increased monitoring efforts for offshore areas, particularly those from which a large portion of landings originate, are necessary. Furthermore, there are some indications that lobster harvest may be under-reported and this under-reporting may be significant during some periods in the time series examined for this assessment. It is recommended that future research examine this potential under-reporting, and this examination should include simulation testing of these potential periods of under-reporting

## 4.2 Monitoring

Addendum X requires that states conduct sufficient biological sampling to characterize the commercial catch. Specifically it requires that states weight sampling intensity by areas and season to match 3-year average of area's seasonal commercial catch. This volume of sampling well exceeds current state budgets for lobster biological sampling. Addendum X also requires states to conduct 100% mandatory dealer reporting and at least 10% reporting of active harvesters. Table 3 describes the level of reporting and sampling by the states.



**Table 3.** 2014 sampling requirements and state implementation.

State	100% Dealer reporting	10% Harvester Reporting	Sea Sampling	Port Sampling	Ventless Trap Survey	Settlement Survey	Trawl Survey
ME	✓	✓	✓		✓	✓	✓
NH	✓	✓ (100%)	✓	✓	✓	✓	✓ (ME )
MA	✓	✓ (100%)	✓		✓	✓	✓
RI	✓	✓ (100%)	✓	✓	✓	✓	✓
CT	✓	✓ (100%)	✓			✓	✓
NY	✓	✓ (100%)	✓(none conducted 2013-2014)	✓			✓ (CT)
NJ	✓	✓	✓				✓
DE	✓	✓		✓			✓ (no lobsters encountered)
MD	✓	✓	✓				✓ (no lobsters encountered)
VA	✓	✓					

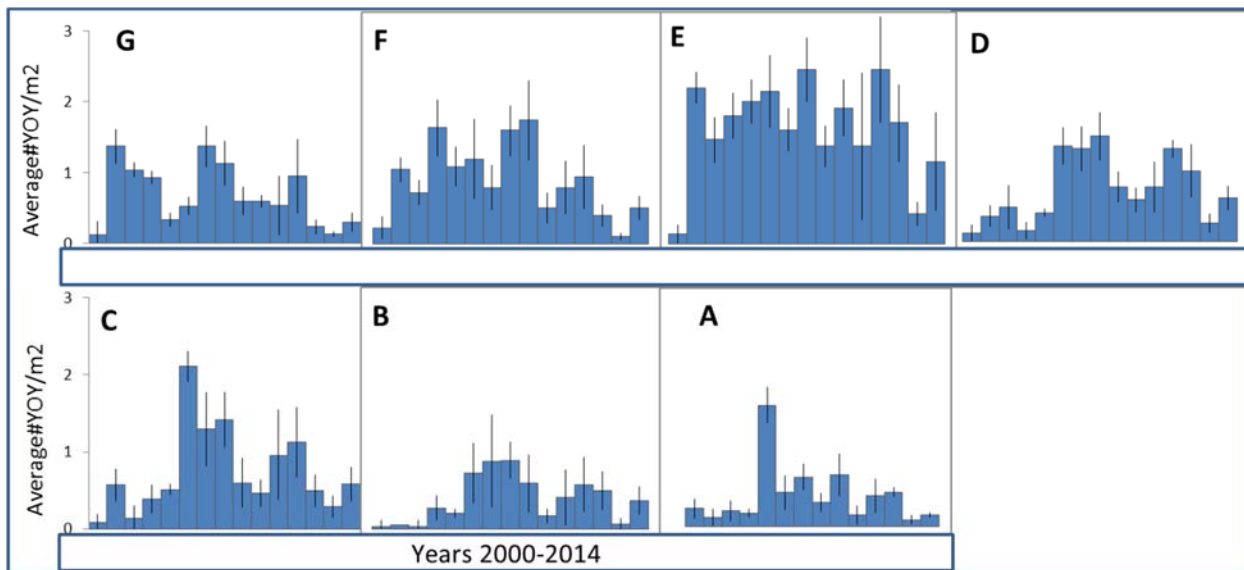
Overviews of the states' port and sea sampling and surveys is as follows:

- Maine: Completed 152 sea sampling trips aboard 144 boats in 2014; suspended its port sampling program following the 2011 sampling year; spring trawl survey stretches from Portsmouth, NH to Lubec, ME and completed 114 tows.
- New Hampshire: Sampled 15,529 lobsters through sea sampling and 1,200 lobsters through port sampling.
- Massachusetts: Sampled a total of 87 trips in LCMA's 1, 2, and OCC through sea sampling; no port sampling conducted; spring and autumn bottom trawl surveys show GOM abundance indices have increased while SNE abundance remains low.
- Rhode Island: Conducted a total of 14 sea sampling trips with data collected on 8,166 lobsters; conducted 3 port samples; for 2013 and 2014, conducted 87 seasonal survey tows.
- Connecticut: 7 sea-sampling trips were conducted during 2014; no port sampling completed; 2014 spring abundance index from trawl survey similar to 2012 but lower than 2009-2011 indices; 2014 fall index ranked lowest in time series.
- New York: Staff unable to arrange any sea sampling trips during 2013 and 2014 and have found it difficult to obtain cooperators; 16 port sampling trips were conducted in 2014.
- New Jersey: Conducted 13 sea sampling trips in 2014 Ocean Trawl survey shows a decrease in the number of lobsters in 2013 and 2014.
- Delaware: Sampled the commercial harvest of 1 trip in 2014; no lobsters taken in the 2014 Delaware Bay trawl surveys.
- Maryland: Conducted sea sampling for the first time in 2014 with a total of 476 lobsters examined; no lobsters taken in Coastal Bay survey.
- Virginia: No port or sea sampling conducted.

### 4.2.1 Young of the Year Settlement

Several states conduct young-of-year (YOY) surveys to detect trends in abundance of newly-settled and juvenile lobster populations. These surveys attempt to provide an accurate picture of the spatial pattern of lobster settlement. States hope to track juvenile populations and generate predictive models of future landings.

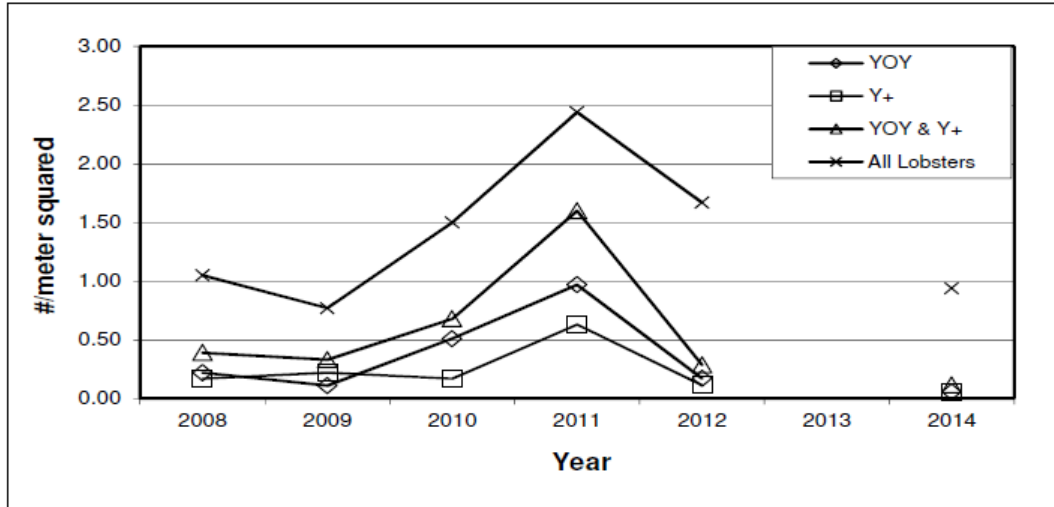
**Maine:** In 2000, settlement surveys were expanded to cover all seven of Maine’s lobster management zones (LMZ) in order to create a statewide index of settlement to further this goal. While the 2013 settlement survey showed a third year of decline in all zones, 2014 showed an increase in numbers (Figure 1). When considering the 15 year average, all zones were at or below the 15 year average.



**Figure 1.** Lobster settlement in Maine’s seven lobster management zones from 2000-2014. Zones run from east (Zone A) to west (Zone G).

**New Hampshire:** New Hampshire Fish and Game (NHF&G) conducted a portion of the coastwide American Lobster Settlement Index (ALSI). In 2014, a total of 17 juvenile lobsters were sampled from three sites, 1 was YOY, 1 was one year old (Y+), and 15 were older juveniles.

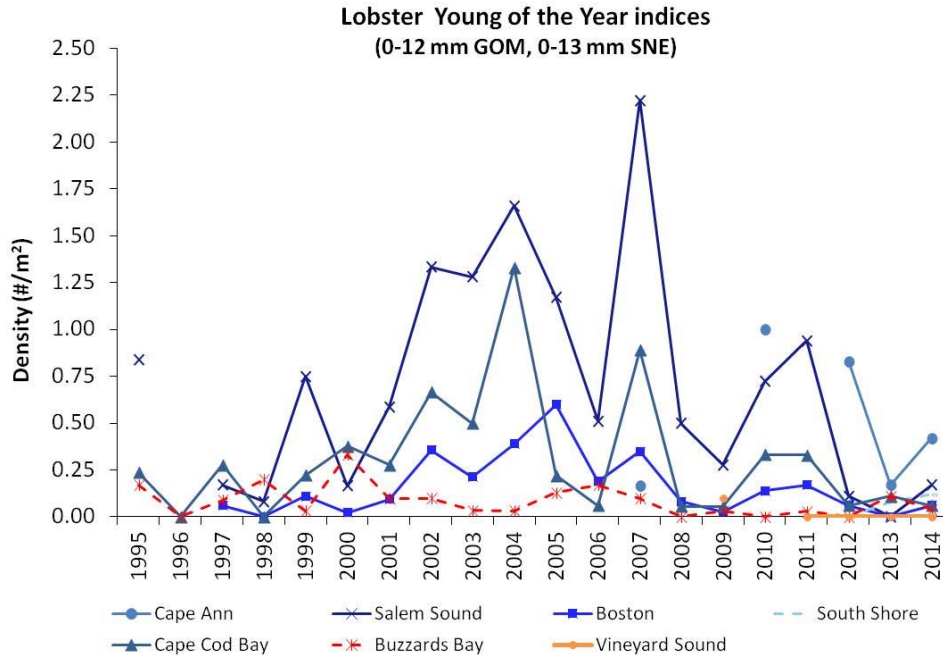
Figure 2 depicts the CPUE of YOY, Y+, YOY/Y+ and “all lobsters” for all NH sites combined, from 2008 through 2014. For each of these three data sets, CPUE in 2011 was the highest on record. All four indices show a general upward trend from the survey’s inception to 2011, with strong declines in 2012 which continued through 2014. The indices for YOY, Y+ and YOY/Y+ were all at a time series low in 2014.



**Figure 2.** Catch per unit effort (#/meter<sup>2</sup>) of both YOY and one year old (Y+) lobsters captured during the American Lobster Settlement Index in New Hampshire state waters from 2008 through 2014. No samples were collected in 2013.

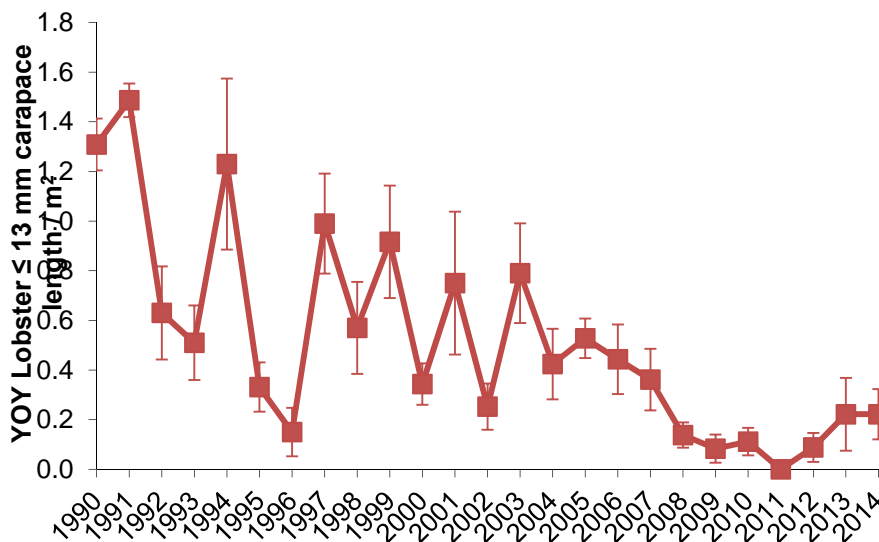
**Massachusetts:** Annual sampling for early benthic phase/juvenile (EBP) lobsters was conducted using SCUBA and airlift suction sampling equipment from August to September in 2014. Density indices of newly settled post-larval lobsters were calculated (20-year time series) and coastal habitat important to the settlement of these juveniles continues to be defined. Sampling was completed at 21 sites spanning 7 regions in Massachusetts coastal waters (6 Buzzards Bay sites, 2 Vineyard Sound sites, 3 Cape Cod Bay sites, 2 South Shore sites, 3 Boston Harbor sites, 3 Salem Sound sites, and 2 Cape Ann sites). Data for all sites were used to generate annual density estimates of EBP lobster and other decapod crustaceans. Densities of YOY lobsters from 1995 to 2014 are presented in Figure 3. Cape Ann, Salem Sound, Boston, South Shore, and Cape Cod Bay are all within LCMA 1, while Buzzards Bay and Vineyard Sound are within LCMA 2.

In 2014 densities of YOY lobsters in LCMA 1 were below time series mean values in the three regions with long time series (Salem Sound, Boston Harbor, and Cape Cod Bay). The 2014 YOY lobster density in Buzzards Bay was 0.04, slightly below the time series mean for that region.



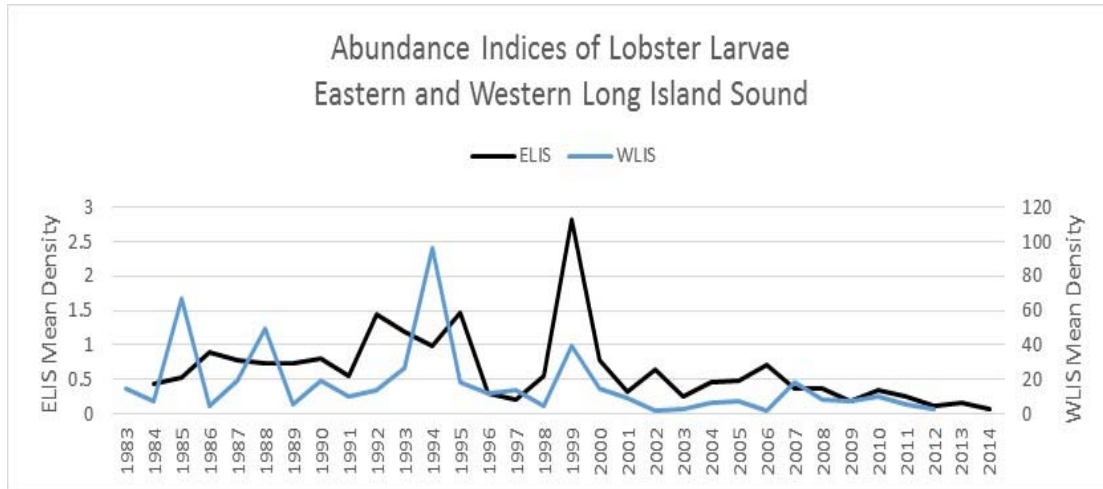
**Figure 3.** YOY lobster density in seven Massachusetts regions; *LCMA 1* – Cape Ann, Salem Sound, Boston, South Shore, Cape Cod Bay, *LCMA 2* - Buzzards Bay, Vineyard Sound.

**Rhode Island:** For 2013-2014, the YOY Settlement Survey (Suction Sampling) was conducted at a total of six fixed stations with twelve randomly selected 0.5-meter quadrats sampled at each survey station, for a total of 72 samples each year. The survey stations are located outside of Narragansett Bay along the southern Rhode Island coast, from Sachuest Point (east) to Point Judith (west). The 2013 and 2014 YOY Settlement Survey index were both 0.22 YOY lobster/m<sup>2</sup> (Figure 4).



**Figure 4:** RI YOY settlement index (+/- SE) for 1990-2014.

**Connecticut:** The CT DEEP Larval Lobster Survey in western Long Island Sound (WLIS) was discontinued in 2013. Alternative monitoring data are available for the eastern Sound (ELIS) from the Millstone Power Station entrainment estimates of all stages of lobster larvae. Abundance indices in both programs are delta mean density of larvae per 1000 cubic meters of water. Both programs show a decline in abundance following the 1999 die-off (correlation between programs:  $R=0.35$ ,  $p=0.066$ ). (Figure 5)



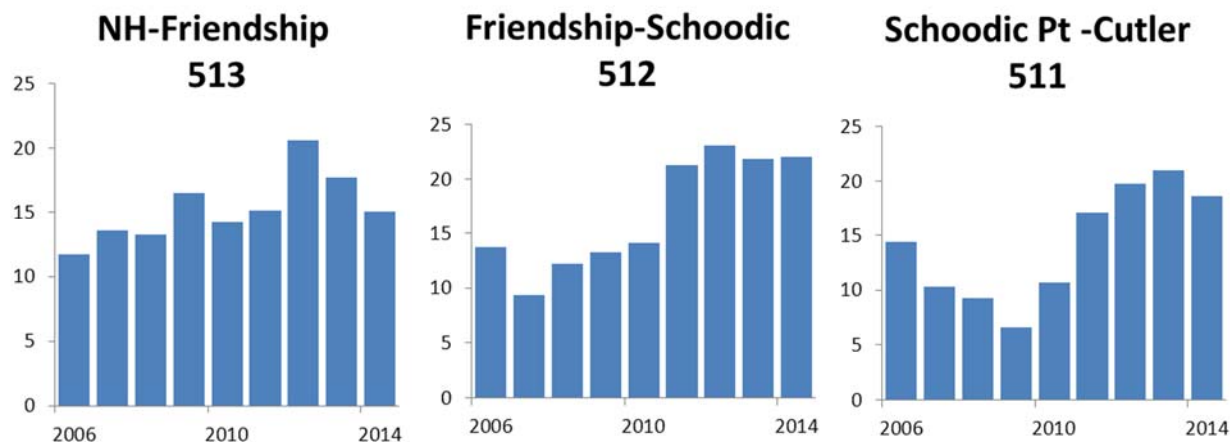
**Figure 5:** Larvae Abundances in Long Island Sound, 1983-2014.

#### 4.2.2. Ventless Trap Survey

To address a need for a reliable index of lobster recruitment, a cooperative random stratified ventless trap survey was designed to generate accurate estimates of the spatial distribution of lobster length frequency and relative abundance while attempting to limit the biases identified in conventional fishery dependent surveys. In the past, fishery-dependent trap sampling data have not been included in generating relative abundance indices for the American lobster due to associated bias with the data collection method. In order to collect unbiased data, a fishery-independent survey (wherein scientists and contracted fishermen cooperatively collect the data) provides greater control over the sampling design and data quality and quantity necessary to maintain a stratified sampling approach.

A random-stratified sampling design was applied to nearshore statistical areas from Maine to New York. The survey was a cooperative effort between state fisheries agencies and commercial lobstermen, who were contracted to fish at pre-determined sampling locations along the New England coast from Maine to New York. Each statistical area was assigned three depth strata (1-20 m, 21-40 m and 41-60 m).

**Maine:** 2014 marked the ninth year of the ventless trap survey. The stratified mean was calculated for each area using depth and statistical area. The survey catches 90% sublegal lobsters. Traps were set during the months of June, July and August. 2014 catch rates have decreased from the 2012 peak in statistical area 513. In 512, the catch rates stayed about the same while 511 has experienced a slight decrease from the 2013 peak. (Figure 6)



**Figure 6.** Maine’s stratified ventless trap catch rates by Statistical Area for 2006-2014 (all sizes).

**New Hampshire:** Since 2009, NHF&G has been conducting the coastwide Random Stratified Ventless Trap Survey in state waters (statistical area 513). New Hampshire follows the standardized coastwide procedures for this survey. A total of three sites were surveyed twice a month from June through September in 2014. Catch per unit effort (stratified mean catch per trap haul) from 2009 through 2014 is presented in Table 4. The relative abundance indices associated with this survey shows a general upward trend from 2009 through 2012, followed by decreasing catch rates in 2013 and 2014.

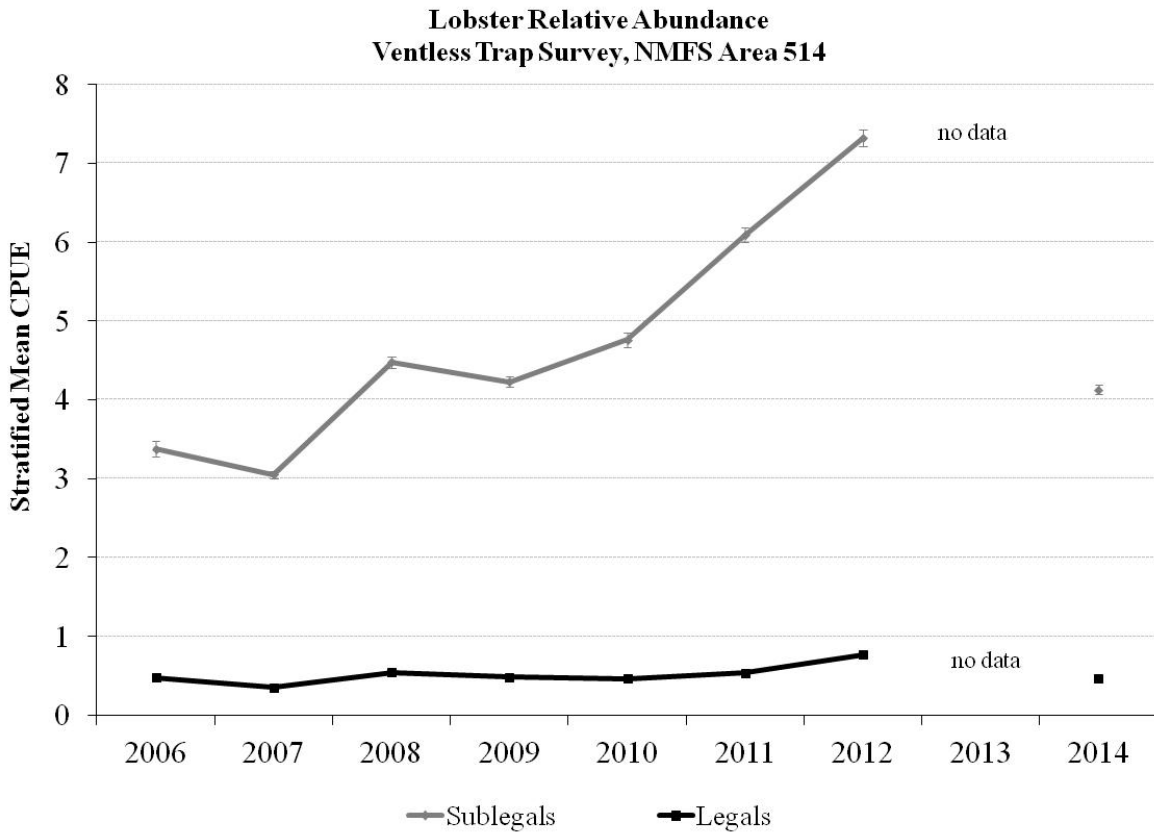
**Table 4.** Stratified mean catch/trap haul, for all lobsters captured during the coastwide Random Stratified Ventless Trap Survey in New Hampshire state waters from 2009-2014.

Year	Stratified mean catch per trap
2009	6.9
2010	9.2
2011	13.9
2012	13.8
2013	10.5
2014	6.5

**Massachusetts:** The coast-wide ventless trap survey was initiated in 2006 and expanded in 2007. Each station was sampled with a six pot trawl in which vented and ventless lobster traps were alternated (3 of each per trawl). The survey took place from June through September in statistical areas 514 and 538, and stations were sampled twice monthly. Starting in 2011, the Southern New England portion of the survey was expanded into Federal waters of Area 538, and into the northernmost section of Area 537. The survey was not conducted in 2013 due to a lack of funding. However, MADMF has been able to secure long-term funding for the survey using lobster license revenues, and the survey took place in 2014 and will continue in the future.

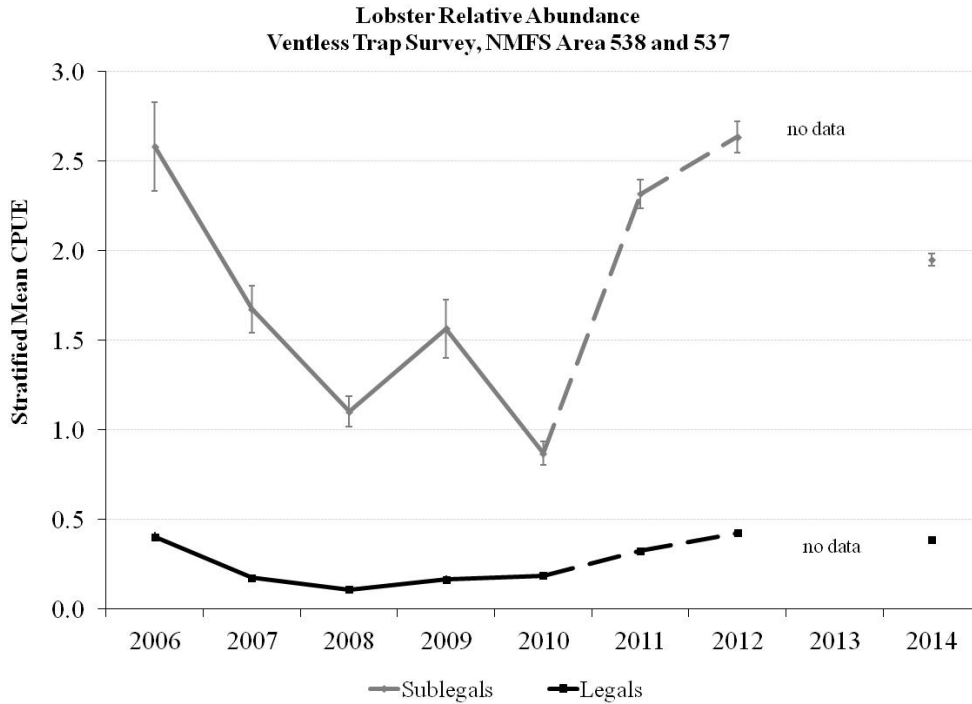
Relative abundance of sublegal (< 83 mm CL) and legal-sized (≥ 83 mm CL) lobsters for Area 514 (part of LMA 1) is shown in Figure 7 as the stratified mean CPUE. The average catch of

sublegal lobsters is much higher than the catch of legal-sized lobsters, and has shown an increasing trend since 2007, particularly since 2010. However, the mean CPUE in 2014 was much lower than previous years, but slightly higher than the time series average of 4.13. It remains to be seen if this was an outlier or is indicative of declines from a peak in abundance. The catch of legal-sized lobsters in 2014 was similar to previous years and near the time series average of 0.51. Legal-sized lobsters comprised about 10% of the catch over the survey's time series, and most (86%) of the lobsters caught were > 60 mm CL (including legal-sized lobsters).



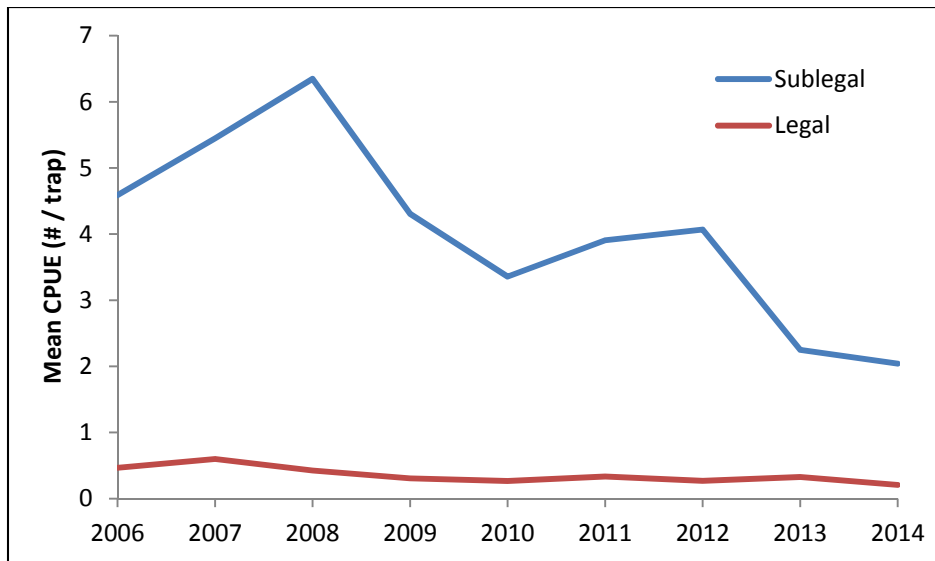
**Figure 7.** Stratified mean catch per trap haul ( $\pm$ S.E.) of sublegal (< 83 mm, light colored line) and legal ( $\geq$  83 mm, dark line) lobsters in Area 514 in Massachusetts.

Figure 8 shows the time series of relative abundance for sublegal (<86 mm CL) and legal-sized ( $\geq$  86 mm CL) lobsters in Area 538 (part of CLMA 2) as the stratified mean CPUE. The average catch of sublegal lobsters is again higher than the catch of legal-sized lobsters, and has generally declined through 2010. After 2011, sublegal CPUE increased, although this is likely related to the expanded spatial extent of the survey area to include deeper waters outside Buzzards Bay, where thermal conditions are more tolerable. The legal-size CPUE has also slightly increased since 2010, but has remained below 0.5 throughout the time series, with the lowest value observed in 2008 (0.11). Legal-sized lobsters comprised about 13% of the catch over the survey's time series, and most (88%) of the lobsters caught were above 60 mm CL (including legal-sized lobsters).



**Figure 8.** Stratified mean catch per trap haul ( $\pm$ S.E.) of sublegal (< 86 mm, light colored line) and legal ( $\geq$  86 mm, dark line) lobsters in LCMA 538 in Massachusetts. Dashed lines represent the time period when the survey was expanded.

**Rhode Island:** For 2013 and 2014, the Ventless Trap Survey was conducted during the months of June-August and completed a total of 18 survey sampling trips each year and sampled a total of 4,042 lobsters from 1669 trap-hauls. All sampling was conducted in LCMA 2, NMFS Statistical Area 539. (Figure 9)



**Figure 9.** Stratified mean catch (#) per trap-haul ( $\pm$  SE) for sublegal ( $\leq$ 85mm CL) and legal-sized ( $\geq$ 86mm CL) lobsters in Rhode Island's VTS.



## Regional Trends

Overall, the YOY indices show a declining trend. In the GOM/GBK, Maine and Massachusetts' LCMA 1 indices show an up-tick in 2014, while the New Hampshire's YOY indices are the lowest in the time series. In the SNE stock, both the Massachusetts and Connecticut surveys trend downward through 2014 while there is pronounced increase in the Rhode Island YOY indices in 2013 and 2014. The GOM/GBK YOY indices are not consistently higher than those in SNE.

Data from the ventless trap surveys shows that CPUE peaked around 2012 in the GOM/GBK, followed by declines in 2013 and 2014. Contrastingly, data from the SNE ventless trap surveys shows a decline in 2008 followed by an increase in 2012. In 2014, both the Massachusetts' ventless trap survey for NOAA statistical areas 538 and 537 and the Rhode Island ventless trap survey show a marked decline. Comparing the two biological stocks, CPUE is generally higher in GOM/GBK than in SNE.

## 5.0 Status of Management Measures and Issues

Amendment 3 established management measures that require coastwide and area specific measures applicable to commercial fishing. The coastwide requirements are summarized in Table 5.

**Table 5.** 2015 coastwide requirements and prohibited actions

- Prohibition on possession of berried or scrubbed lobsters
- Prohibition on possession of lobster meats, detached tails, claws, or other parts of lobsters by fishermen
- Prohibition on spearing lobsters
- Prohibition on possession of v-notched female lobsters
- Requirement for biodegradable "ghost" panel for traps
- Minimum gauge size of 3-1/4"
- Limits on landings by fishermen using gear or methods other than traps to 100 lobsters per day or 500 lobsters per trip for trips 5 days or longer
- Requirements for permits and licensing
- All lobster traps must contain at least one escape vent with a minimum size of 1-15/16" by 5-3/4"
- Maximum trap size of 22,950 cubic inches in all areas except area 3, where traps may not exceed a volume of 30,100 cubic inches.

### Amendment 3 to the Interstate Fishery Management Plan for American Lobster (December 1997)

American lobster is managed under Amendment 3 to the Interstate FMP for American Lobster. Amendment 3 establishes seven lobster management areas. These areas include the: Inshore Gulf of Maine (Area 1), Inshore Southern New England (Area 2), Offshore Waters (Area 3), Inshore Northern Mid-Atlantic (Area 4), Inshore Southern Mid-Atlantic (Area 5), New York and Connecticut State Waters (Area 6), and Outer Cape Cod. Lobster Conservation Management Teams (LCMTs), composed of industry representatives, were formed for each management area. The LCMTs are charged with advising the Lobster Board and recommending changes to the management plan within their areas.

Amendment 3 also provides the flexibility to respond to current conditions of the resource and fishery by making changes to the management program through addenda. The commercial fishery is primarily controlled through minimum/maximum size limits, trap limits, and v-notching of egg-bearing females.

Addendum I (August 1999)

Establishes trap limits in the seven lobster conservation management areas (LMCAs).

Addendum II (February 2001)

Establishes regulations for increasing egg production through a variety of LCMT proposed management measures including, but not limited to, increased minimum gauge sizes in Areas 2, 3, 4, 5, and the Outer Cape.

Addendum III (February 2002)

Revises management measures for all seven LCMAs in order to meet the revised egg-rebuilding schedule.

Technical Addendum 1 (August 2002)

Eradicates the vessel upgrade provision for Area 5.

Addendum IV (January 2004)

Changes vent size requirements; applies the most restrictive rule on an area trap cap basis without regard to the individual's allocation; establishes Area 3 sliding scale trap reduction plan and transferable trap program to increase active trap reductions by 10%; and establishes an effort control program and gauge increases for Area 2; and a desire to change the interpretation of the most restrictive rule.

Addendum V (March 2004)

Amends Addendum IV transferability program for LCMA 3. It establishes a trap cap of 2200 with a conservation tax of 50% when the purchaser owns 1800 to 2200 traps and 10% for all others.

Addendum VI (February 2005)

Replaces two effort control measures for Area 2 – permits an eligibility period.

Addendum VII (November 2005)

Revises Area 2 effort control plan to include capping traps fished at recent levels and maintaining 3 3/8" minimum size limit.

Addendum VIII (May 2006)

Establishes new biological reference points to determine the stock status of the American lobster resource (fishing mortality and abundance targets and thresholds for the three stock assessment areas) and enhances data collection requirements.

Addendum IX (October 2006)

Establishes a 10% conservation tax under the Area 2 trap transfer program.

#### Addendum X (February 2007)

Establishes a coastwide reporting and data collection program that includes dealer and harvester reporting, at-sea sampling, port sampling, and fishery-independent data collection replacing the requirements in Addendum VIII.

#### Addendum XI (May 2007)

Establishes measures to rebuild SNE stock, including a 15-year rebuilding timeline (ending in 2022) with a provision to end overfishing immediately. The Addendum also establishes measures to discourage delayed implementation of required management measures.

#### Amendment 4

In 2000, the Lobster Board considered and failed to approve Amendment 4 to the FMP. The Amendment proposed allowing conservation equivalency be applied to two provision of Amendment 3- limits on non-trap gear and a prohibition on the possession of v-notched lobsters. The v-notch proposal, in particular, arose out of an effort to resolve ongoing litigation brought by fishermen challenging the validity of the Commission's fishery management plan.

#### Addendum XII (February 2009)

This addendum addresses issues that arise when fishing privileges are transferred, either when whole businesses are transferred, when dual state/federal permits are split, or when individual trap allocations are transferred as part of a trap transferability program. In order to ensure that the various LCMA-specific effort control plans remain cohesive and viable this addendum does three things. First, it clarifies certain foundational principles present in the Commission's overall history-based trap allocation effort control plan. Second, it redefines the most restrictive rule. Third, it establishes management measures to ensure that history-based trap allocation effort control plans in the various LCMAs are implemented without undermining resource conservation efforts of neighboring jurisdictions or LCMAs.

#### Addendum XIII (May 2008)

Solidifies the transfer program for OCC and stops the current trap reductions.

#### Addendum XIV (May 2009)

This addendum alters 2 aspects of the LCMA 3 trap transfer program. It lowers the maximum trap cap to 2000 for an individual that transfers traps. It changes the conservation tax on full business sales to 10% and for partial trap transfers to 20%.

#### Addendum XV (November 2009)

This addendum establishes a limited entry program and criteria for Federal waters of LCMA 1.

#### Addendum XVI: Reference Points (May 2010)

This addendum establishes new biological reference points to determine the stock status of the American lobster resource (fishing mortality and abundance targets and thresholds for the three stock assessment areas). The addendum also modifies the procedures for adopting reference points to allow the Board to take action on advice follow a peer reviewed assessment.

#### Addendum XVII (February 2012)

This addendum establishes a 10% reduction in exploitation for LCMA within Southern New England (2, 3, 4, 5, and 6). Regulations are LCMA specific but include v notch programs, closed seasons, and size limit changes. While approved, the addendum is not final until the inclusion of LCMA 6 plan.

Addendum XVIII (August 2012)

This addendum reduced traps allocated by 50% for LCMA 2 and 25% for LCMA 3.

Addendum XIX (February 2013)

This addendum modifies the conservation tax for LCMA 3 to a single transfer tax of 10% for full or partial business sales.

Addendum XX (May 2013)

This addendum prohibits lobstermen from setting or storing lobster traps in Closed Area II from November 1 to June 15 annually. Any gear set in this area during this time will be considered derelict gear. This addendum represents an agreement between the lobster industry and the groundfish sector.

Addendum XXI (August 2013)

This addendum addresses changes in the transferability program for Areas 2 and 3. Specific measures include the transfer of multi-LCMA trap allocations and trap caps.

Addendum XXII (November 2013)

This addendum implements Single Ownership and Aggregate Ownership caps in LCMA 3. Specifically, it allows LCMA 3 permit holders to purchase lobster traps above the cap of 2000 traps; however, these traps cannot be fished until approved by the permit holder's regulating agency or once trap reductions commence. The Aggregate Ownership Cap limits LCMA fishermen or companies from owning more traps than five times the Single Ownership Cap.

Addendum XXIII (August 2014)

This addendum updates Amendment 3's habitat section to include information on the habitat requirements and tolerances of American lobster by life stage.

Addendum XXIV (May 2015)

This addendum aligns state and federal measure for trap transfer in LCMA's 2, 3, and the Outer Cape Cod regarding the conservation tax when whole businesses are transferred, trap transfer increments, and restrictions on trap transfers among dual permit holders.

**Table 6.** 2012 LCMA specific management measures

Mgmt Measure	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	OCC
Min Gauge Size	3 1/4"	3 3/8"	3 17/32"	3 3/8"	3 3/8"	3 3/8"	3 3/8"
Vent Rect.	1 <sup>15</sup> / <sub>16</sub> x 5 <sup>3</sup> / <sub>4</sub> "	2 x 5 <sup>3</sup> / <sub>4</sub> "	2 1/16 x 5 <sup>3</sup> / <sub>4</sub> "	2 x 5 <sup>3</sup> / <sub>4</sub> "	2 x 5 <sup>3</sup> / <sub>4</sub> "	2 x 5 <sup>3</sup> / <sub>4</sub> "	2 x 5 <sup>3</sup> / <sub>4</sub> "
Vent Cir.	2 7/16"	2 5/8"	2 11/16"	2 5/8"	2 5/8"	2 5/8"	2 5/8"
V-notch requirement	Mandatory for all eggers	Mandatory for all legal size eggers	Mandatory for all eggers above 42°30'	Mandatory for all eggers	Mandatory for all eggers	None	None
V-Notch Definition <sup>1</sup> (possession)	Zero Tolerance	1/8" with or w/out setal hairs <sup>1</sup>	1/8" with or w/out setal hairs <sup>1</sup>	1/8" with or w/out setal hairs <sup>1</sup>	1/8" with or w/out setal hairs <sup>1</sup>	1/8" with or w/out setal hairs <sup>1</sup>	State Permitted fisherman in state waters 1/4" without setal hairs Federal Permit holders 1/8" with or w/out setal hairs <sup>1</sup>
Max. Gauge (male & female)	5"	5 1/4"	6 3/4"	5 1/4"	5 1/4"	5 1/4"	State Waters none Federal Waters 6 3/4"
Season Closure				April 30- May 31 <sup>2</sup> ----- Federal: Feb 1-Mar 31	February 1- March 31 <sup>3</sup>	Sept 8- Nov 28 <sup>4</sup>	Feb 1-April 30

<sup>1</sup> A v-notched lobster is defined as any female lobster that bears a notch or indentation in the base of the flipper that is at least as deep as 1/8", with or without setal hairs. It also means any female which is mutilated in a manner that could hide, obscure, or obliterate such a mark.

<sup>2</sup> Pots must be removed from the water by April 30 and un-baited lobster traps may be set one week prior to the season reopening.

<sup>3</sup> During the February 1 – March 31 closure, trap fishermen will have a two week period to remove lobster traps from the water and may set lobster traps one week prior to the end of the closed season.

<sup>4</sup> Two week gear removal and a 2 week grace period for gear removal at beginning of closure. No lobster traps may be baited more than 1 week prior to season reopening.

## 6.0 Current State-by-State Implementation per Compliance Requirements

All states are currently in compliance with all required measures under Amendment 3 and Addendum I-XXIV.

### 7.0 De Minimis Requests.

The states of Virginia, Maryland, and Delaware have requested *de minimis* status. According to Addendum I, states may qualify for *de minimis* status if their commercial landings in the two most recent years for which data are available do not exceed an average of 40,000 pounds. Virginia and Delaware meet the *de minimis* requirement. The current two year average of lobster harvest for Maryland exceeds the *de minimis* threshold. Therefore, Maryland does not qualify for *de minimis*.

## 8.0 Regulatory Changes in 2015

Maine: Planned regulatory changes for 2015 include:

- The removal of the requirement that a trap tag be attached to the trap only by the means for which the tag was designed. Without that specification, fishermen will be able to securely attach the tag by other means (for example, hog rings) which would enable them to change gear over and reuse tags already in their possession.
- Modification of the lobster trawl limit in Hancock County, in order to facilitate changes to minimum trawl lengths required by NOAA Fisheries vertical line regulations effective June 2015.
- Adding the island of Frenchboro to the state's island limited entry program, allowing up to 14 commercial island resident lobster licenses be issued annually.
- Adoption of the federal vertical line regulations for consistency and compliance with the Atlantic Large Whale Take Reduction Plan Final Rule. This includes: a minimum number of lobster traps per trawl based on the different lobster zones and distance from shore to reduce the number of buoy lines in the water column; additional gear marking; a new 6-mile line, and island buffers.

In 2015, the 1<sup>st</sup> session of the 127<sup>th</sup> Maine Legislature considered laws making the following changes to Marine Resources statutes pertaining to lobster:

- An increase in the trap limit for the Swans Island Lobster Conservation Area from 550 to 600.
- A change in the penalty for scrubbing egged lobsters from a one year license suspension to permanent revocation of the license.

New Hampshire: Planned change to Fis. 602.09.

- These changes require anyone fishing pots/traps to haul their gear at least once every thirty days. Additionally, there are changes in Fis 602.09 that require person fishing pots/traps to permanently mark vertical lines at least three times (top, middle, bottom) with the color red.

Massachusetts:

- In 2015, MADMF promulgated a February 1 – April 30 MA Seasonal Trap/Pot Gear Haul-Out Period (Seasonal Closure), effective in areas of Massachusetts Bay, Cape Cod Bay and throughout the entire OCC LMA to complement federal rules adopted pursuant to the

ALWTRP. In making this rule change, MADMF also adjusted the timing of the OCC LMA haul-out period. The OCC LMA haul-out period, which previously occurred from January 15 – March 15, now occurs from February 1 – April 30, so that it corresponds with the Seasonal Closure. This extended the OCC LMA haul-out period by one-month, while moving the start date 15-days later.

- For 2016, MADMF intends to enact trap allocation reductions for Lobster Management Area 2 to conform to the Interstate Fishery Management Plan, adjust trap transfer rules to better accommodate permit and trap transfers occurring as a result of these pending trap reductions and to establish state regulations that complement aspects of the Atlantic Large Whale Take Reduction Plan relative to gear marking and configuration.

#### Rhode Island:

- Adopted 4/6/2015; 15.13.2  
Regarding removal of the escape vent placement requirement. This regulatory change is intended to allow for more flexibility between lobster and crab fisheries. The minimum escape vent size did not change.
- Adopted 6/22/2015; 8.1.4(A)  
Commercial landings possession limit of lobsters taken by gillnet or otter trawl will be limited to not more than maximum of one hundred (100) lobsters per day (based on a 24-hour period), or up to a maximum of five hundred (500) lobsters per trip for trips of five (5) days or longer. This regulatory change clarifies wording that allowed a bycatch of lobsters from traps other than lobster traps.
- Adopted 7/12/2015  
This regulatory change is to repeal the current regulation “Part XV - Lobsters, Other Crustaceans, and Horseshoe Crabs” to be replaced with a new regulation in order to effectuate a re-organization of the structure of the regulation to improve its readability; and to remove unnecessary duplicative, administrative, and/or non-regulatory statutory language. There are no regulatory changes created by this action.

#### New York

- Due to the fact that the Addendum XVII management measures adopted for LMA 4 did not meet the required ten percent reduction, New York adopted rules which revised the closed season dates for LMA 4. The revised dates are April 30 through May 31. The rule was adopted through Emergency Regulations on 1/30/2015 and final adoption was 5/6/2015.

### **9.0 Recommendations and Issues**

The following are issues the Plan Review Team would like to raise to the Board as well as general recommendations:

1. The PRT recommends that the Board approve the *de minimis* requests of DE and VA.
2. The PRT encourages the full implementation of data collection programs specified in the lobster Plan. Addendum X (2007) requires “100% mandatory dealer reporting and at least 10% of active harvesters reporting (with the expectation of 100% of license holders reporting in time)”. Currently, not all states require 100% harvester reporting and the PRT recommends state regulations are changed to meet this expectation. Furthermore, the PRT

recommends 100% VTR reporting from federal lobster fishermen in order to fill gaps in current harvester data.

3. The PRT recommends that research is conducted to investigate stock connectivity between inshore and offshore areas, especially in SNE. Specific concerns include larval transport in SNE between state and federal waters and the effectiveness of inshore surveys to document low population levels.
4. There are significant inconsistencies in the OCC regulations (ie: v-notch and maximum gauge size) between state and federal waters. The PRT recommends that these discrepancies are addressed by the Board. Additionally, the PRT recommends that inconsistent regulations between the GOM and GBK be addressed now that the areas are a single stock.
5. The PRT recommends that areas which rely on trap limits as the primary form of conservation prioritize marine patrol enforcement, particularly as trap reductions take place. The PRT also suggests that states submit data on law enforcement activity as part of the annual plan review.
6. The PRT suggests that the costs of complying with mandated FMP requirements be estimated for the purpose of determining the relationship between the value of the lobster fishery in a particular state and the cost of mandated FMP requirements.









# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

October 9, 2015

**To: American Lobster Management Board**  
**From: Tina Berger, Director of Communications**  
**RE: Advisory Panel Nomination**

Please find attached a nomination to the American Lobster Advisory Panel – Grant Moore, a commercial offshore trap fisherman from Massachusetts. He replaces Bro Cote on the panel. Please review this nomination for action at the next Board meeting.

If you have any questions, please feel free to contact me at (703) 842-0749 or [tberger@asmfc.org](mailto:tberger@asmfc.org).

Enc.

cc: Megan Ware

M15-83

## American Lobster Advisory Panel

Bolded names await Board review and approval

October 9, 2015

### **Maine (4)**

Jon Carter (comm/pot)  
333 Main Street  
Bar Harbor, ME 04609  
Phone: (207)288-4528  
Appt. Confirmed: 5/30/96  
Appt. Reconfirmed 7/26/00  
Appt. Reconfirmed 1/2/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 9/4/15 but cannot make meeting in October**

Robert Baines (comm/pot)  
Waterman's Beach Road  
South Thomaston, ME 04858  
Phone: (207)596-0177  
Appt. Confirmed: 5/30/96  
Appt. Reconfirmed 7/26/00  
Appt. Reconfirmed 1/2/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 8/28/15**

David Cousens (comm/pot)  
Waterman's Beach Road  
South Thomaston, ME 04858  
Phone: (207)594-7518  
Email: LPC6850@aol.com  
Appt. Confirmed 8/28/03  
Appt. Confirmed 8/07

Vacancy (comm/pot)

### **New Hampshire (2)**

Robert Nudd (comm/inshore pot)  
531 Exeter Road  
P.O. Box 219  
Hampton, NH 03842  
Phone (eve): (603)926-7573  
Appt. Confirmed: 10/30/95  
Appt. Reconfirmed 9/15/99  
Appt. Reconfirmed 1/2/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 8/31/15**

James A. Willwerth (comm./trap)  
10 Mill  
Hampton Falls, NH 03844  
Phone (day): (603) 765-5008  
Phone (eve): (603) 926-3139  
[JAW080257@comcast.net](mailto:JAW080257@comcast.net)  
Appt Confirmed 10/22/12  
**Confirmed Interest but is fully committed: 9/3/15**

### **Massachusetts (4)**

Angelo Correnti (rec/diver)  
156 Spring Street  
Medford, MA 02155  
Phone: (617)391-1034  
Appt. Confirmed: 5/30/96  
Appt. Reconfirmed 9/15/00  
Appt. Reconfirmed 1/2/06  
Appt Reconfirmed 5/10  
Appt. Reconfirmed 9/15

Arthur Sawyer Jr. (comm pots)  
368 Concord Street  
Gloucester, MA 01930  
Phone: (978)281-4736  
FAX: (978)281-4736  
Email: [sooky55@aol.com](mailto:sooky55@aol.com)  
Appt. Confirmed: 1/29/01  
Appt. Reconfirmed 1/2/06  
Appt Reconfirmed 5/10  
Appt. Reconfirmed 9/15

John Carver  
PO Box 36  
Green Harbor, MA 02041  
Phone (day): (781)500-9763  
Phone (eve): (781)837-7523  
[FAX: \(781\)837-1707](tel:(781)837-1707)  
Email: [KAZDVM@aol.com](mailto:KAZDVM@aol.com)  
Appt. Confirmed: 5/9/05  
Appt Reconfirmed 5/10  
Appt. Reconfirmed 9/15

**Grant Moore (comm/offshore pot)**  
**4 Gooseberry Farms Lane**  
**Westport, MA 02790**  
**Phone (day): 508.971.2190**

## American Lobster Advisory Panel

Bolded names await Board review and approval

October 9, 2015

**Phone (eve): 508.636.6248**  
**FAX: 508.636.5789**  
**Email: [grantmoore55@gmail.com](mailto:grantmoore55@gmail.com)**

Appt. Reconfirmed 1/23/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 8/31/15**

### **Rhode Island (2)**

David Spencer (comm/offshore pot)  
20 Friendship Street  
Jamestown, RI 02835  
Phone: (401)423-2120  
Appt. Confirmed: 10/30/95  
Appt. Reconfirmed 9/15/99  
Appt. Reconfirmed 2/7/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 8/27/15**

James Fox (comm/pot)  
160 Highland Drive  
Kings Park, NY 11754  
Phone: (631)361-7995  
Email: [jcfox@erols.com](mailto:jcfox@erols.com)  
Appt. Confirmed: 10/16/01  
Appt. Reconfirmed 1/23/06  
Appt Reconfirmed 5/10  
**No response to inquiry on remaining on panel**

Lanny Dellinger (comm./pot)  
160 Snuffmill Road  
Saunderstown, RI 02874  
Phone (day): (401)932-5826  
Phone (eve): (401)294-7352  
Email: [lad0626@aol.com](mailto:lad0626@aol.com)  
Appt Confirmed 2/21/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 8/27/15**

### **New Jersey (2)**

Jack Fullmer (rec)  
443 Chesterfield-Arneytown Road  
Allentown, NJ 08501  
Phone: (609) 298 - 3182  
Appt Confirmed 2/21/06  
Appt Reconfirmed 5/17/10  
**Confirmed Interest: 8/28/15**

### **Connecticut (2)**

John Whittaker (comm./pot)  
37 Spring Street  
Noank, CT 06340  
Phone (day): (860)287-4384  
Phone (eve): (860)536-7668  
FAX: (860)536-7668  
Email: [whittboat@copmcast.net](mailto:whittboat@copmcast.net)  
Appt Confirmed 2/21/06  
Appt Reconfirmed 5/10  
**Confirmed Interest: 9/3/15**

Vacancy (comm.)

Vacancy (comm pot)

### **New York (2)**

George Doll (comm/inshore pot)  
70 Seaview Avenue  
Northport, New York 11768  
Phone: (631)261-1407  
FAX: (631)261-1407  
Appt. Confirmed: 11/29/00



ATLANTIC STATES MARINE FISHERIES COMMISSION

Advisory Panel Nomination Form

This form is designed to help nominate Advisors to the Commission's Species Advisory Panels. The information on the returned form will be provided to the Commission's relevant species management board or section. Please answer the questions in the categories (All Nominees, Commercial Fisherman, Charter/Headboat Captain, Recreational Fisherman, Dealer/Processor, or Other Interested Parties) that pertain to the nominee's experience. If the nominee fits into more than one category, answer the questions for all categories that fit the situation. Also, please fill in the sections which pertain to All Nominees (pages 1 and 2). In addition, nominee signatures are required to verify the provided information (page 4), and Commissioner signatures are requested to verify Commissioner consensus (page 4). Please print and use a black pen.

Form submitted by: Daniel J. McKiernan State: MA (your name)

Name of Nominee: Grant Moore

Address: 4 Gooseberry Farms Lane

City, State, Zip: Westport, MA 02790

Please provide the appropriate numbers where the nominee can be reached:

Phone (day): 508-971-2190

Phone (evening): 508-636-6248

FAX: 508-636-5789

Email: grantmoore55@gmail.com

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.

- 1. American Lobster
2.
3.
4.

2. Has the nominee been found in violation of criminal or civil federal fishery law or regulation or convicted of any felony or crime over the last three years?

yes no [checked]

3. Is the nominee a member of any fishermen's organizations or clubs?

yes [checked] no

If "yes," please list them below by name.

Atlantic Offshore Lobstermen's Association  
Mass Lobstermen's Association

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

Lobster

CRAB

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

Lobster

Swordfish

Scallop

Tuna

Cod, Haddock, Cusk, Hake

**FOR COMMERCIAL FISHERMEN:**

- How many years has the nominee been the commercial fishing business? 40 years
- Is the nominee employed only in commercial fishing? yes  no
- What is the predominant gear type used by the nominee? TRAPS
- What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)? offshore

**FOR CHARTER/HEADBOAT CAPTAINS:**

- How long has the nominee been employed in the charter/headboat business? \_\_\_\_\_ years
- Is the nominee employed only in the charter/headboat industry? yes \_\_\_\_\_ no \_\_\_\_\_  
 If "no," please list other type(s) of business(es) and/occupation(s): \_\_\_\_\_  
 \_\_\_\_\_
- How many years has the nominee lived in the home port community? \_\_\_\_\_ years  
 If less than five years, please indicate the nominee's previous home port community.  
 \_\_\_\_\_

**FOR RECREATIONAL FISHERMEN:**

1. How long has the nominee engaged in recreational fishing? \_\_\_\_\_ years
2. Is the nominee working, or has the nominee ever worked in any area related to the fishing industry? yes \_\_\_\_\_ no \_\_\_\_\_

If "yes," please explain.

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**FOR SEAFOOD PROCESSORS & DEALERS:**

1. How long has the nominee been employed in the business of seafood processing/dealing? \_\_\_\_\_ years
2. Is the nominee employed only in the business of seafood processing/dealing?  
yes \_\_\_\_\_ no \_\_\_\_\_ If "no," please list other type(s) of business(es) and/or occupation(s):

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3. How many years has the nominee lived in the home port community? \_\_\_\_\_ years  
If less than five years, please indicate the nominee's previous home port community.

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**FOR OTHER INTERESTED PARTIES:**

1. How long has the nominee been interested in fishing and/or fisheries management? \_\_\_\_\_ years
2. Is the nominee employed in the fishing business or the field of fisheries management?  
yes \_\_\_\_\_ no \_\_\_\_\_  
If "no," please list other type(s) of business(es) and/or occupation(s):

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**FOR ALL NOMINEES:**



In the space provided below, please provide the Commission with any additional information which you feel would assist us in making choosing new Advisors. You may use as many pages as needed.

I feel that I can bring experience to the AP when dealing with the offshore lobster fishing

Nominee Signature: J. Grant Moore

Date: 9/15/15

Name: GRANT Moore  
(please print)

**COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)**

David McQuinn for David Peirce  
State Director State Legislator

\_\_\_\_\_  
Governor's Appointee