Atlantic States Marine Fisheries Commission

American Lobster Management Board

February 2, 2021
8:30 a.m. – 12:15 p.m.
Webinar

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*)	8:30 a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from October 2020	8:30 a.m.
3.	Public Comment	8:35 a.m.
4.	Review and Discuss Proposed Rule and Draft Environmental Impact Statement for Atlantic Large Whale Take Reduction Plan Proposed Modifications for 2021 (*C. Coogan*)	8:45 a.m.
5.	Consider Management Response to the 2020 American Lobster Benchmark Stock Assessment and Peer Review (*D. McKiernan*) **Possible Action** • Review Stock Status, Reference Points and Assessment Recommendations (*C. Starks*) • Discuss Development of Draft Addendum XXVII on Gulf of Maine Resiliency (*C. Starks*)	10:15 a.m.
6.	Discuss Potential for Conducting a Management Strategy Evaluation for the American Lobster Fishery (*B. Shank/J. Kipp*)	11:15 a.m.
7.	Review and Populate Jonah Crab Advisory Panel Membership *(T. Berger)* **Action**	12:05 p.m.
8.	Elect Vice-Chair (*D. McKiernan*) **Action**	12:10 p.m.
9.	Other Business/Adjourn	12:15 p.m.

The meeting will be held via webinar, click here for details.
Sustainable and Cooperative Management of Atlantic Coastal Fisheries

MEETING OVERVIEW

American Lobster Management Board
February 2, 2021
8:30 a.m. – 12:15 p.m.
Webinar

Chair: Daniel McKiernan (MA) Assumed Chairmanship: 02/20	Technical Committee Chair: Kathleen Reardon (ME)	Law Enforcement Committee Representative: Rob Beal
Vice Chair: VACANT	Advisory Panel Chair: Grant Moore (MA)	Previous Board Meeting: October 19, 2020
Voting Members: ME, NH, MA, RI, CT, NY, NJ, DE, MD, VA, NMFS, NEFMC (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 19, 2020

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

4. Review and Discuss Proposed Rule and Draft Environmental Impact Statement for Atlantic Large Whale Take Reduction Plan Proposed Modifications for 2021 (8:45-10:15 a.m.)

Background

- NOAA Fisheries has published a proposed rule to amend the regulations implementing the Atlantic Large Whale Take Reduction Plan to reduce the incidental mortality and serious injury to North Atlantic right whales, fin whales, and humpback whales in northeast commercial lobster and Jonah crab trap/pot fisheries to meet the goals of the Marine Mammal Protection Act and the Endangered Species Act (**Briefing Materials**). A summary overview of the proposed rule is also available (**Briefing Materials**).
- The proposed modifications are intended to achieve at least a 60 percent reduction in mortalities or serious injuries of right whales in the Northeast crab and lobster trap/pot fisheries. The Proposed Rule would:
    - Modify gear marking to introduce state-specific marking colors
    - Increase the number of and area of marked lines
    - Modify gear configurations to reduce the number of vertical buoy lines by requiring more traps between buoy lines and by introducing weak insertions or weak rope into buoy lines

- Modify existing seasonal restricted areas to restrict buoy lines (but allow ropeless fishing)
- Add up to two new seasonal buoy line closures

- Eight or more remote public meetings will be held during the public comment period. Comments must be submitted on or before March 1, 2021.

Presentations

- Proposed Rule and Draft Environmental Impact Statement for Atlantic Large Whale Take Reduction Plan Proposed Modifications for 2021 by C. Coogan

Board Actions for Consideration at the Meeting

- Consider preferred avenues for providing public comment

5. Consider Management Response to the 2020 American Lobster Benchmark Stock Assessment and Peer Review (10:15 a.m.-11:25 a.m.) Possible Action

Background

- The lobster 2020 benchmark stock assessment was completed in July 2020 which evaluated the status of lobster for the Gulf of Maine/Georges Bank and Southern New England stocks. The assessment was peer-reviewed virtually by a panel of independent experts in August 2020. In October 2020, the Board accepted the assessment and peer review for management use, which found that the GOM/GBK lobster stock is not depleted and overfishing is not occurring, and the SNE stock is significantly depleted. In addition, the Board adopted the new reference points recommended in the assessment. (**Briefing Materials**)
  - The American Lobster 2020 Benchmark Assessment and Peer Review Report can be found here.
- The Board agreed to postpone a decision on management responses to the assessment results until the 2021 Winter Meeting. (**Briefing Materials**)

Presentations

- Review of Stock Status, Reference Points and Assessment/Peer Review Recommendations by C. Starks

Board Actions for Consideration at the Meeting

- Consider management response to 2020 stock assessment and peer review

6. Discuss Potential for Conducting a Management Strategy Evaluation for the American Lobster Fishery (11:25 a.m.-12:05 p.m.)

Background

- The ASMFC Management and Science Committee (MSC) formed a subgroup during the ASMFC 2019 Annual Meeting to develop a proposal for Management Strategy Evaluation (MSE) work on ASMFC-managed species. American lobster was among four priority species identified by the MSC that were considered the best candidate species for a MSE in the immediate future **(Briefing Materials)**.
- The MSC subgroup has developed a prospective work plan to outline potential focal areas, resource needs for a lobster MSE and associated workload tradeoffs for competing Lobster Board needs, and next steps if a MSE is identified as a priority by the Lobster Management Board **(Briefing Materials)**.

- The next steps are for the Board to identify the priority level and preferred focal area of a lobster MSE, identify roles and responsibilities for all personnel and potential funding sources for contracted personnel, and identify the timeline for MSE milestones and completion depending on focal area.

Presentations

- American Lobster Management Strategy Evaluation Prioritization by J. Kipp

Board Actions for Consideration at the Meeting

- Provide guidance on the priority level and preferred focal area of a lobster MSE

7. Review and Populate Jonah Crab Advisory Panel Membership (12:05-12:10 p.m.) Action

Background

- Jon Williams, and offshore commercial trap fisherman representing RI, has been nominated to the Jonah Crab Advisory Panel (**Briefing Materials**).

Presentations

- AP Nominations by T. Berger

Board Actions for Consideration at the Meeting

- Approve Advisory Panel nomination

8. Elect Vice-Chair (12:10-12:15 p.m.)

9. Other Business/Adjourn

American Lobster and Jonah Crab TC Task List

Activity level: Low

Committee Overlap Score: Low

Committee Task List
Lobster TC • Annual state compliance reports are due August 1 *Jonah Crab TC* • November 2020: Pre-assessment data workshop • Spring-Summer 2021: Develop recommendations on initiating Jonah crab stock assessment • Annual state compliance reports are due August 1

TC Members
American Lobster: Kathleen Reardon (ME, TC Chair), Colleen Bouffard (CT), Joshua Carloni (NH), Jeff Kipp (ASMFC), Kim McKown (NY), Conor McManus (RI), Chad Power (NJ), Tracy Pugh (MA), Burton Shank (NOAA), Craig Weedon (MD), Somers Smott (VA)
Jonah Crab: Derek Perry (MA, TC Chair), Joshua Carloni (NH), Chad Power (NJ), Jeff Kipp (ASMFC), Conor McManus (RI), Allison Murphy (NOAA), Kathleen Reardon (ME), Chris Scott (NY), Burton Shank (NOAA), Somers Smott (VA), Corinne Truesdale (RI), Craig Weedon (MD)

SAS Members
American Lobster: Kim McKown (NY, SAS Chair), Joshua Carloni (NH), Jeff Kipp (ASMFC), Conor McManus (RI), Tracy Pugh (MA), Kathleen Reardon (ME), Burton Shank (NOAA)
Jonah Crab: None

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

AMERICAN LOBSTER MANAGEMENT BOARD

Webinar
October 19, 2020

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

TABLE OF CONTENTS

INDEX OF MOTIONS

ATTENDANCE

Board Members

Pat Keliher, ME (AA)
Sen. David Miramant, ME (LA)
Cherie Patterson, NH (AA)
Ritchie White, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Dan McKiernan, MA (AA)
Raymond Kane, MA (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)
Jason McNamee, RI (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Colleen Bouffard, CT, proxy for J. Davis (AA)
Bill Hyatt, CT (GA)
Maureen Davidson, NY, proxy for J. Gilmore (AA)
Emerson Hasbrouck, NY (GA)
John McMurray, NY, proxy for Sen. Kaminsky (LA)
Joe Cimino, NJ (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Sen. Houghtaling (LA)
John Clark, DE, proxy for D. Saveikis (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Mike Luisi, MD, proxy for B. Anderson (AA)
Robert Brown, MD, proxy for R. Dize (GA)
Phil Langley, MD, proxy for Del. Stein (LA)
Pat Geer, VA, proxy for S. Bowman (LA)
Allison Murphy, NMFS

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

Ex-Officio Members

Kathleen Reardon, Technical Committee Chair
Delayne Brown, Law Enforcement Rep.
Kim McKown, Stock Assmt. Subcommittee Chair
Sonny Gwin, Jonah Crab Advisory Panel Chair

Staff

Robert Beal
Toni Kerns
Maya Drzewicki
Kristen Anstead
Max Appelman
Lindsey Aubart
Pat Campfield
Dustin Colson Leaning
Chris Jacobs
Jeff Kipp
Laura Leach
Savannah Lewis
Sarah Murray
Mike Rinaldi
Julie Defilippi Simpson
Caitlin Starks
Deke Tompkins
Geoff White

Guests

Pat Augustine, Coram, NY
Michael Auriemma, NJ DEP
Russ Babb, NJ DFW
Richard Balouskus, RI DEM
Peter Benoit, Ofc. of Sen. King, ME
Dave Bethoney, CFR Foundation
Alan Bianchi, NC DENR
Jason Boucher, DE DFW
Jeff Brust, NJ DEP
Bruce Carlisle, MA Coastal Program
Matt Cieri, ME DMR
Barry Clifford, NOAA
Colleen Coogan, NOAA
Jessica Daher, NJ DEP

Guests (Continued)

Bill DeVoe, Esq. Bangor, ME
Lisa Engler, MA DMF
Catherine Fede, NYS DEC
Marianne Ferguson, NOAA
Allison Ferreira, NOAA
Cynthia Ferrio, NOAA
Rick Frenzel, Black Tree Inc
Zachary Fyke, NOAA
David Gouveia, NOAA
Marin Hawk, MSC
Heidi Henninger, Offshore Lobster
Jay Hermsen, NOAA
Matthew Heyl, NJ DEP
Carl Lemire, NOAA
Charles Lynch, NOAA
Don Lyons, Audubon Soc.
John Maniscalco, NYS DEC
Gregory Mataronas, Compton, RI
Patrice McCarron, Maine Lobstermen
Conor McManus, RI DEM
Nichola Meserve, MA DMF
Brandon Muffley, MAFMC
Gerry O'Neil, Cape Seafoods
Noah Oppenheim, Homarus Strategies
Derek Orner, NOAA
Penelope Overton, *Portland Press Herald*
Rep. Sarah Peake, MA (LA)
Derek Perry, MA DMF
Nick Popoff, FL FWS
Chad Power, NJ DEP
Tracy Pugh, MA DMF
Brandon Raguz, NOAA
Story Reed, MA DMF
Bill Samrau, NOAA
Burton Shank, NOAA
Melissa Smith, ME DMR
Somers Smott, VMRC
Stephanie Sykes, Cape Cod Fishermen
Helen Takade-Heumacher, FL FWS
Corinne Truesdale, RI DEM
Beth Versak, MD DNR
Megan Ware, ME DMR
Anna Webb, MA DMF
Craig Weedon MD DNR
Angel Wiley, MD DNR
Carl Wilson, ME DMR
Chris Wright, NMFS
Renee Zobel, NH F&G

The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened via webinar; Monday, October 19, 2020, and was called to order at 1:15 p.m. by Chair Daniel McKiernan.

CALL TO ORDER

CHAIR DANIEL McKIERNAN: My name is Dan McKiernan from the state of Massachusetts; and I'm the Chair of the American Lobster Board for today. Welcome everyone to this virtual annual meeting. I, like a lot of you, wished we were in New Jersey, and not under house arrest as a lot of us are.

Toni has agreed to monitor the speakers for me today, so that if we have multiple hands up Toni will give me your names and in batch, so I don't have to be staring at that as I try to manage the meeting. Thank you for that, Toni. It's been a full year since this Board has met. Last was October of 2019.

APPROVAL OF AGENDA

CHAIR McKIERNAN: We have a lot of business to attend to. The first is the approval of the agenda. Are there any additions or amendments to the agenda that a member of the Board would like to propose?

MS. TONI KERNS: I don't see any hands.

CHAIR McKIERNAN: Seeing none, it is approved by unanimous consent.

APPROVAL OF PROCEEDINGS

CHAIR McKIERNAN: Next the approval of the proceedings from October, 2019. Are there any requested amendments to the minutes of that meeting?

MS. KERNS: I don't see any hands.

CHAIR McKIERNAN: Having seen none and heard none, it is approved by unanimous consent.

PUBLIC COMMENT

CHAIR McKIERNAN: Third on the agenda is Public Comment, and at this time we would welcome anyone who would like to speak on items that are not on today's agenda to come forward at this time.

MS. KERNS: I just want to make sure. Aubrey, your hand was just up, Aubrey Ellertson, and I don't know if you got confused on how to raise your hand or not, so I unmuted your line. If you wanted to make a comment, you just have to unmute yourself by turning your microphone green. Aubrey, I see your microphone is now green, I just don't hear you yet. Aubrey, we still can't hear you. Maybe if you could ask your question in the questions box. She hit it by accident, Dan, so we're good.

CHAIR McKIERNAN: Toni, should we come back to this maybe under other business?

MS. KERNS: Aubrey said that she hit her hand up by accident.

BENCHMARK STOCK ASSESSMENT FOR AMERICAN LOBSTER

CHAIR McKIERNAN: Oh, I'm sorry, all right thank you. Next on the agenda would be the Benchmark Stock Assessment for American Lobster, and I'll turn it over to Caitlin at this time.

MS. CAITLIN STARKS: Thank you, Dan. Actually, Kim McKown the SAS Chair is going to be giving the presentation.

CHAIR McKIERNAN: Brilliant.

MS. KIM McKOWN: Thank you, Kim McKown here, can you hear me?

MS. STARKS: Yes.

PRESENTATION OF STOCK ASSESSMENT REPORT

MS. McKOWN: Okay, great. This afternoon I'm going to give an overview of the 2020 Lobster Assessment. The Lobster Management unit ranges from Maine to Virginia. There are seven management areas.

Historically three stocks were defined, Gulf of Maine, Georges Bank, and Southern New England.

In the 2015 assessment there was information indicating connectivity between the Gulf of Maine and Georges Bank stock, so those two are combined. We're continued with these combined stocks for this assessment. There is a variety of management measures that are used for lobsters, including min and max sizes, egg-bearing protections, and also in some areas closed seasons.

Since 1997 there have been 25 addendums to Amendment 3. Lobsters have a very complex life history. They need to molt to grow. Molting and maturity is linked, particularly for females. They have a pelagic larval stage. They go through four stages before they settle to the bottom. They generally prefer cobble or complex habitat.

Habitat is very vital for many life history parameters, and particularly temperature, salinity, dissolved oxygen and pH. Temperature is a real key environmental driver for lobsters. Temperatures in the northwest Atlantic are increasing, and are predicted to continue to increase. The optimal range for lobster is 12-18 degrees centigrade, and temperatures at 20 degree centigrade is considered a stress threshold.

Research has shown that the optimal temperatures in the optimal range a number of days has been increasing in both the Gulf of Maine/Georges Bank, and offshore southern New England. While the number of days above the stress threshold has increased in inshore southern New England. The graph over on the right show's temperature anomalies, so the days above are equal to 20 degrees centigrade.

What this shows is a deviation from the long-term mean, which is from the early 1970s to present. What you find in the early part of the time series the number of days above this stress threshold was much lower than the long-term mean, while since the late 90s there has been increasing number of days above the stress threshold, which really indicates that the thermal habitat for lobsters in southern New England in the inshore area is increasing. Temperature impacts a lot of parts of lobster's life history. It affects growth, and we've found some changes in growth, and we updated the growth transition matrix in the model in the 2015 assessment. It affects the size of maturation. New research determined some changes, so we updated the maturation in the new lobster stock assessment.

We found that for Gulf of Maine and Georges Bank there has been a decrease in the size of maturity, and there is research that shows that increased temperature and also increased exploitation can cause a decrease in the size of maturity. For southern New England, on the other hand, we found an increase in the size of maturity, and that is due to the shift of the population to more offshore areas.

We find that temperature drives lobster behaviors from metabolism activity level. That has some implications for survey catchability, and we've explored that through catchability covariates in this assessment. Temperature affects recruitment, so there is a threshold of 5 degrees for egg development, threshold of 10-12 degrees for hatching and larval development.

We found, as I mentioned earlier that temperatures above 20 degrees certainly can cause increased stress and disease. We did some analysis looking at the prevalence of moderate and severe shell disease from the Ventless Trap Survey, and output from this data indicates that there has been an increasing trend in the prevalence of moderate to severe shell disease in the Gulf of Maine.

In the 2015 assessment we incorporated the effects of increased stress in southern New England in the model, with increasing natural mortality after the late 1990s. We've continued to utilize that in this assessment. We use a variety of pieces of information to assess lobster stock, this includes empirical data, such as fishery dependent landings and biological samples, fishery independent survey data from trawl

and ventless trap survey, biological data, parameters such as mortality and growth, and environmental data such as temperature.

In 2006 we introduced model-free indicators, to help assess the stocks. These include mortality, abundance, and fishery performance indicators. For the 2020 assessment we included new indicators of physiological stress, and these include the number of days greater or equal to 20 degrees centigrade, and also the prevalence of moderate to severe shell disease.

Then of course we'll utilize the model results, such as reference abundance, reference exploitation, and the reference points. We utilized the University of Maine models. This was a primary model used in 2009, and the sole assessment model used in 2015 and this assessment. It's a statistical length-at-age model, and it has a variety of inputs, including life history characteristics, commercial information including trends, length and sex ratio.

Survey information, the trends and the lengths, we have information on legal size, escape vent sizes, also discard of ovigerous and v-notched lobsters. This comes from our sea samples. We want to really thank the Atlantic Offshore Lobster Association, and the Commercial Fisheries Research Federation for collecting samples for us in the offshore areas. This is really critical data that we need for the model, and we really thank you. We introduced recruitment covariates in 2015, and we have survey catchability covariates. We have a variety of outputs to the model, including goodness of fits, recruitment into the model, abundance in spawning biomass, population size composition, and reference abundance and effective exploitation. The model can also produce per-recruit reference points, but previous peer reviews have found that these reference points were not really realistic, and so these were not included in this assessment.

As I mentioned, we have utilizing survey catchability covariates, and the catchability just relates the survey relative abundance to actual abundance out in the lobster population. Information from multiple surveys have indicated that we're maybe experiencing changing catchabilities in these survey catchabilities.

We addressed this in the 2015 assessment by using nonlinear catchabilities. This was focused on looking at the fact that we've got limited geographic scales with some of our surveys, particularly our inshore surveys. That might be relating to changes in this catchability. For 2020 we did a further modification, where we developed environmental covariates.

This was to try to quantify specific processes that is causing these changes in catchability. We developed some temperature-based covariates. During the development we utilized information on lobster density to weight the temperature, so that we were trying to get our mean temperature for those thermal habitats where lobsters were inhabiting.

If you look at the graph at the top right, that is the information that is used to develop the catchability covariate, so the dots are the actual weighted temperatures. The green line is the annual mean temperature, and the blue line is the smooth trend over time. That is what information is used as our temperature covariate.

If you look at the graph on the bottom right, this shows how these covariates are used in the model. You can see the black dots are the actual data from the surveys of population abundance. The dark black line is the estimate from the model, survey abundance, including the catchability. While that lighter gray line is the estimated survey abundance with that catchability removed.

That thin line is what we believe is the true survey abundance. The University of Maine definitely developed, you have uncertainty estimates from the model. But we believe that they are underestimated, and that is because parameters such as growth, natural mortality and fishing selectivity are not estimated in the model, but input from outside.

Trends in the model are more certain than the absolute scale. That is important, because we utilize a trends-based reference point. We're using several methods to address model uncertainty, they include sensitivity analysis, and this is used to understand different assumptions, and also a data inputs into the model.

We have 11 sensitivities that are similar for both stocks, and then we have a number of sensitivities that were different for the two different stocks. In general, we found that the trends were much less uncertain than the actual value. We found for the Gulf of Maine/Georges Bank the biggest difference was found in sensitivities where we changed the growth, and used what we felt was slower growth using southern New England growth rate, and utilizing changes in gear selectivity. For southern New England the biggest change was increasing and decreasing natural mortality. We also did historic retrospective analysis, and this is where we compared the base case of the 2015 assessment to the base case of this 2020 assessment. This is to look at historic stability of the analyses. We found for Georges Bank/Gulf of Maine stock that it was very stable, and not much difference between the two stocks.

The trends for southern New England were very similar, except for after the 2000s we found that abundance was declining more rapidly in the 2015 assessment compared to the 2020 assessment. The last year in the 2015 assessment the estimated abundance was approximately 7 million lobsters, while for the 2020 assessment that same year the estimate was 11 million lobsters.

This new assessment, the decline is not quite a shock as the older one. We also did traditional retrospective analyses, where you remove a year and rerun the model, and then remove another year. We did a number of peels, and then you look at how different is that last year compared to what the base case is.

For the Georges Bank/Gulf of Maine stock, we only had a very mild retrospective analysis and estimated trends, and the scales were pretty stable. There was a little bit of an overestimate of abundance found in the retrospective. For southern New England there were similarities in the trajectories. Abundance is more comparable than the exploitation.

We did find there was more variability in the 2020 assessment retrospective analysis in 2015 for southern New England, and some of that might be due to the fact that some of the surveys, especially inshore were in very low level, particularly Connecticut. For several years we collected no females in that survey, and Massachusetts for one year.

Also, there has been a decrease in the size of lobsters, seeing smaller lobsters from the Northeast Fisheries Science Center offshore than we have in the past. Some of these recruitment trends may be affecting the retrospective analysis. This shows the result for the Gulf of Maine/Georges Bank model.

The abundance estimates are on the top left graph. The recruitment is in the bottom left, and spawning stock biomass is in the bottom right. Sex is combined on this dark black line. Females are the dark gray, and males are the light gray. If you look at abundance, recruitment, and spawning stock biomass it's increased pretty much over time, and current levels are the top of the time period.

We did see for recruitment a real striking increase in the last year, and we think that might just be due to some instability of the terminal couple of years of the assessment. For the top right graph is exploitation rate. In early years we saw higher, stable exploitation, and then it declined in the late 80s, and we've seen a lower, stable exploitation rate after that.

As I mentioned before, we utilized a number of different indicators to also look at the stock status. These are model-free indicators if utilizing for abundance we're looking at the survey data. For these graphs we're looking at the annual level to see whether or not it's above the 75th percentile or below the 25th percentile. Values that are below 25th percentile are considered negative, and we've coded

those in black. Values above the 75th percentile are considered positive, and they're coded in white. Anything in between is considered neutral, and that is in gray. The different surveys are the Northeast Fisheries Science Center, over on the left two columns, fall and spring, in the middle is Maine/New Hampshire survey, and on the right is Massachusetts.

We're seeing four different indicators here, the left table is spawning stock abundance, the next one to the right is full recruit abundance, the further one is recruit abundance and the last one on the right is the survey and encounter rate. If you look on the last line of the table that is the 2014 to 2018 mean, and as you can see for all of the abundance indicators, we're seeing positive indicators, which shows the stock is in good condition.

As you look at the survey encounter rate, all but one is positive, and the Maine survey in the spring is neutral. I would like to point out, Northeast Fisheries Science Center, which is the first two columns on the left, there are a number of positive indictors in the last decade indicating that the numbers of lobsters being caught in that survey has been increasing over time.

Now while we saw a lot of positive indicators for the adults and recruits, these are showing the young of the year abundance indicators. This is from settlement surveys in Maine and Massachusetts, and it's going from the northernmost statistical area 511 on the left to the southernmost 514 on the right.

If we look at the 2014-2018 average, we're seeing neutral to negative indicators. The negative, particularly in the southwest area in 513 west and 514. This points out some concerns that we may be seeing declines in the settling lobsters. There has been some research that does indicate there may be some increased thermally suitable habitat for settlement that isn't being monitored by these settlement surveys. This is particularly true in more northeast Gulf of Maine.

We also examined abundance indicators for the Georges Bank sub-stocks, just to make sure that it wasn't masked by being combined with a larger stock area. For these indicators we're looking at information from the Northeast Fisheries Science Center Survey, and over on the left is spawning stock biomass.

Next one is full recruit, then recruit abundance, and the last table on the right is the survey encounter rate. If we look at the 2014-2018 means, it's positive for spawning stock biomass, full recruit abundance, and for the lobster encounter rate. But we are seeing neutral levels for the recruit abundance.

We also looked at stock productivity. The graph over on the top left shows the spawning stock biomass on the X axis, and the recruitment on the Y axis. The straight line is the long-term estimate, and the actual data points are plotted on that line. Over on the bottom left are the early years of the assessment, and over on the top right are the later, current years of the assessment.

You can see that there has been an increasing trend in both spawning stock biomass and recruitment over time. The graph on the lower right is looking at productivity to the steepness in the stock recruitment curve, and we see that early in the time period there was increase in this steepness value. Starting in the 90s there seems to be a leveling off, and then in the mid-2000s we saw an increase again. This graph suggests that reproductive success is sufficiently high, to allow increase to the population. One thing I want to point out in this graph is that spawning stock biomass has been lagged to match up with recruitment, so the last year of recruits in this class, 2018, corresponds to 2013 spawning stock biomass. Therefore, the recruitment of current spawning stock biomass is not in this graph.

Now, I would like to go to the southern New England model results. Again, we have the abundance on the top left, recruitment bottom left, and spawning stock biomass bottom right. You can see for all three of

these there has been an increase into the mid to late 90s, and then a consistent decline after that period.

Currently all values are at the lowest in their time series. If we look at the top right that is the exploitation rate. Early in the time series we had a higher, stable exploitation rate. We saw a decline around 2003, and now we're in a lower, again stable exploitation. That year of decline is right about the time that we changed to increase the gauge size to 3 and 3/8, over several years during that time period.

Again, we would like to look at the abundance indicators. On this graph we have the spawning stock biomass, full recruit abundance, and recruit abundance. We're looking at Northeast Fisheries Science Center on the left, Massachusetts the next one, Rhode Island, and then Connecticut surveys.

As you can see for all of these indicators, the majority of them in recent years are negative, neutral to negative. The 2014-2018 average in all of them, six out of the eight surveys are negative. This shows the lobster encounter rate on the left, and the young of the year indices on the right. For lobster encounter rate, all but one survey is negative.

We look at the young of the year abundance, this shows the young of the year settlement surveys, for Massachusetts on the right, Rhode Island, and then larval surveys of Connecticut, eastern Long Island, and then western Long Island on the right. The western Long Island larval survey that ended in 2013, so we don't have recent data.

If you look at the other data, the Rhode Island young of the year settlement and eastern Long Island larval survey is showing us negative abundance. If you look at the Massachusetts, it's neutral, but in fact the last four years of that survey were actually zeros, so that neutral is rather misleading.

Looking at the abundance indicators, it collaborates what we saw with the model results that this stock seems to be at low levels. Looking at productivity for southern New England, we look at the top left graph, again at spawning stock biomass on the X axis, recruitment on the Y, and the straight line is a long-term average.

The data is plotted, the data on the top left are the early years, and the data on the bottom left are the current years. There has been a clear shift in recruitment over time. We found that in early years there was sufficient recruitment to allow the population to increase. That occurred until about the mid-90s. Then we started to see a period of time where recruitment was decreasing, but spawning stock was increasing. Starting about 2000, we saw a real shift in recruitment, where recruitment levels were declining enough that the stock was not productive enough to continue to produce FSC, and that started to decline, and that has continued into the current day. If you look over at the productivity graph on the right, you could see that steepness was pretty flat in the early part of the time series.

It declined in the early 90s, and then sort of flattened off in the early 2000s, and then we've seen a decline again since 2007. This indicates that recruitment is not sufficient enough to sustain a stable population at current exploitation rates. There are some issues with the current reference points, which is looking at the time period from the mid to late 1980s to 2003.

We've seen some regime shifts that indicate some changes in drivers to lobster survival. Current conditions are not comparable to that reference period, and we've certainly seen a large change in abundance in both stocks since that time. The environmental conditions we've seen have changed, and will continue to change in the future.

We are going to recommend new reference points. These have been developed with a regime shift analysis. The analysis determines two breakpoints for Gulf of Maine and Georges Bank that indicate three different regimes, one occurring in 1996, and the other in 2008. For southern New England the analysis

noted one breakpoint. This occurred in 2002, indicating two reference periods.

We also examined a number of different environmental datasets, to see if there was any consistent time period of regimes for what we thought might be drivers for lobster abundance. For Gulf of Maine/Georges Bank, a number of the datasets indicated strong support for a regime shift starting in 2010, and this showed a couple of pieces of data up on the top right is Gulf of Maine/Georges Bank area wide, basin wide temperature, and this indicated a real strong regime shift both spring and fall in 2010.

The bottom left graph shows the abundance of the copepod Calanus finmarchicus. This too indicated very strong regime shifts in 2010 indicated much lower levels of Calanus in recent years. For southern New England over on the right, we looked at the annual degree days over 20 degrees from the Millstone Power Plant, and that showed strong regime changes in 1998 and 2012.

Some of the other data we saw did indicate some regime shifts, but the data generally showed an increasing trend in time such as the temperature data, temperature anomaly data from the Mid-Atlantic which is shown on the bottom right.

We are recommending three new reference points based on these regimes. The first is the fishery industry target, and that is recommended for Gulf of Maine/Georges Bank only. Calculated as the 25th percentile of the high abundance regime. The feeling is if current levels go below that it's probably not biological concern, it potentially could be just occurring capacity correction, since we're at such high levels at this point. But it certainly could be an economic concern, and we strongly recommend a post-assessment economic analysis to determine if and what sort of management should be implemented if we went below this level.

The next reference point is called the abundance limit, and again this is for the Gulf of Maine/Georges Bank stock. Calculated as the median of moderate abundance regime, the stock would be considered depleted if the three-year current average reference abundance was below this limit, and recommended action to halt this decline.

The final recommended reference point is the abundance threshold, and that is recommended for both stocks. This is the average of the three highest years during the low abundance regime. The stock would be considered significantly depleted if the current average was below this threshold, and significant management action to halt the decline of abundance and increase reproductive capacity, such as a moratorium.

We're recommending an exploitation target, which would be the 25th percentile of the exploitation estimates during the current regime, and exploitation threshold, which is the 75th percentile of exploitation during the current abundance regime. If current levels went below this, we would recommend to initiate additional research to better understand the cause of this increasing exploitation.

The next few slides I'm just going to show these reference points, and they will be set up very similarly. The shaded areas, the dark gray on the left is the low abundance regime. The light gray in the middle is the moderate abundance, and the white on the right is a high abundance. The dotted black line on the top is the proposed fishery target.

The dashed line in the middle, the black one is the proposed abundance limit, and the solid black line on the bottom is the proposed abundance threshold. Just for comparison, we've also plotted the old target, which is the red dotted line, and the old threshold, which is the solid red line. You can see the dot over in the top right-hand corner is the average of the last three years. That is our current estimate of abundance. That is above both the limit and the fishery targets.

This slide has the exploitation rates. The dotted black line is the proposed target, and the solid black line is

the proposed threshold, with the red line being the old target threshold. We realize that there is a much narrower window for exploitation in these new proposed targets, but we have found that exploitation is pretty stable over time.

The management measure, our recommendation if we go below, or actually go above this target is for further research, and not taking management action. For Gulf of Maine/Georges Bank, the current level is below both the threshold and the target. This has the abundance reference points for southern New England.

Only two regimes were indicated for southern New England. On the left in the dark gray is the high abundance regime, and on the right in the white is the low abundance regime. Only one reference point is proposed for southern New England, and that is the abundance threshold. As you can see, the new proposed threshold is below the old threshold, but our current estimate, the black dot on the lower right-hand corner, is below all of the reference points.

These are the exploitation reference points. You can see that the newest reference points been developed from the new regime period, the black being the threshold and the dotted being the target, and the current level is above the target but below the threshold. The old reference points, due to the time period that they were developed, certainly coincide with the, looks like the older regime for exploitation rate. This slide shows the stock status for the Gulf of Maine/Georges Bank. On the X is the reference abundance, and on the Y-axis is effective exploitation.

The vertical black solid line is the proposed from the threshold, and the vertical dashed line is the proposed limit. The horizontal line is the reference exploitation. If we look in the right-hand bottom box, the dark circle there is our current estimate of where the population is. That dot is to the left at higher abundance levels than the threshold and abundance limit. Therefore, the stock is not depleted, and it's also below the exploitation threshold, so overfishing is not occurring. No management action is recommended for the Gulf of Maine/Georges Bank stock. We have some considerations for Georges Bank/Gulf of Maine. Stock wide a recruits and abundance is at an all-time high, so these trends differ at a smaller spatial scale.

Encounter rates indicate the distribution is expanding in offshore waters, so it remains important to determine catchability, and be able to estimate true abundance through overall trends. Fishery efficiency of exploiting legal abundance without clear respect to abundance and catchability changes, makes interpretation of exploitation time series difficult.

Young of the year trends, particularly in the southwest portion of the stock is concerning, and we need to monitor that subsequent to the assessment. We have seen concerning trends in shifts of effort, particularly southern New England effort may be shifting to the Georges Bank, and we'll need improved effort data that will track this trend. The new stress indicators remain relatively low for this stock, but they are trending upward, particularly in the southwest portion of the stock.

This shows the status of the southern New England stock. We have the abundance threshold is the vertical solid line, and exploitation is horizontal. The current estimate is the black dot in the lower-left corner. The abundance is below the abundance threshold. Therefore, the stock is significantly depleted. Exploitation is below the threshold, so overfishing is not occurring. Due to the depleted condition of the stock, significant management action is necessary to provide the best chance of stabilizing or improving abundance and reproductive capacity.

Considerations for southern New England, stock abundance is at all-time-low levels, and the stock is in recruitment failure. Encounter rates indicate distribution is contracting both inshore and offshore. Landings have continued to decline to its time series low in 2018. Stress indicators indicate stressful environments that may be having lethal and sub-lethal effects, and mechanisms have resulted in decreased

recruitment rate that will pose significant challenges to stock rebuilding.

We have recommended that the assessment be updated in five years, but in between we feel that we should have an annual update process. Due to this changing environment, we think it's really important to be able to track recruitment for future abundance. What we're recommending is annual reviews of trawl survey recruit abundance and encounter rates, ventless trap survey abundance indices, and young of the year settlement indictors.

New for this assessment, we developed simulation-based projections. We developed three sets of projections; one projects the base-case model ten years in advance. The next we're projecting all the different sensitivity runs ten years in advance. That is to get an idea on the uncertainty of these projections. We also did a prior projection, where we projected the base case from the last assessment and compared it to the 2020 assessment. For these projections we have three sets of recruitment, based on the assessment model recruitment from the current regime.

For both southern New England, 2003-2017, and Gulf of Maine/Georges Bank, 2009-2017. We didn't include the 2018 or '19 data because of concerns that they were unstable, and weren't well estimated. The three sets of recruitment were no trend, current trend, and the covariate trend. I'm just going to show you the base-case projections.

This one is for Gulf of Maine and Georges Bank, and the top graph shows the recruitment with no trends. Middle is the projection with the recruitment with continuing trends, and the bottom is recruitment with the covariate trend. We can see for the no trend and the current trend that it's got a little bump in abundance, but then it levels off.

For the bottom one, the covariate trend abundance continues to increase all through the projections, which may be overly optimistic. This is the southern New England base case. Again, no trend on the top for recruitment, current trend in the middle, and covariate trend on the bottom.

For southern New England the current trend and covariate trend shows similar projections with a decline in abundance through time, while the no trend shows a potential increase in abundance. I don't know if we're going to take questions now, or if we're going to have Mike do his presentation first, and do questions for everyone after that.

CHAIR McKIERNAN: Kim, I think the plan was to have Mike give his presentation next, and then both of you could take questions, especially if many of the questions that people may have about your presentation may be addressed in Mike's presentation.

MS. McKOWN: Yes, that's wonderful, thank you.

CHAIR McKIERNAN: Mike Celestino, take it away.

PRESENTATION OF PEER REVIEW PANEL REPORT

MR. MIKE CELESTINO: I'll give a brief bit of background information. I'll get to the substance of our review. The peer review of the lobster assessment was conducted via webinar from August 10-13. The Review Panel met on the 14th to do some (feedback). The review focused on data inputs, model results, the overall quality of the assessment, and the outcomes were assessment and review reports that will be available at the link on the slide.

The Peer Review Panel was comprised of myself and three additional technical reviewers with expertise such as lobster biology, population dynamics, stock assessment modeling, and climate change effects on marine populations. I want to extend a note of gratitude to the other reviewers, Dr. Adam Cook with Fisheries and Oceans Canada, Dr. Bill Hartford with Nature Analytics, and Dr. Rebecca Selden at Wellesley College.

It was a terrific group of colleagues to work with, very engaged. I'll also take a second to thank the

Assessment Team, who were all very responsive to our questions and additional tasks. The Review Panel was very complementary of the work that the TC and others had done on this assessment. I'll also take a second to thank Pat Campfield, who was also very helpful as we worked our way through this review.

I'll touch quickly on the overall findings. The Panel thought that the Assessment Team thoughtfully completed all their terms of reference, and that the assessment was suitable for management. The overall major finding was that the University of Maine model should be used as the basis of stock status, and Kim just covered actual status determinations, so I won't recover those.

This concludes kind of big picture background items. I'll move on to some of the particulars, but I'll just note quickly though that we covered a lot of ground during the review, and in the interest of time I'm going to paint with pretty broad strokes, and really just discuss some of the larger takeaways.

But at the end of the presentation and questions, I'm happy to go into more detail on the event. To review our first term of reference was to evaluate the thoroughness and treatment of data used in the assessment. We thought that the breadth and range of data examined for the assessment was extensive, and commended the Assessment Team for their efforts.

Regarding the various surveys, inshore and offshore trawl surveys, the ventless trap survey, for example. The Panel thought that having those multiple lines of evidence to describe trends in biomass was the overall strength of the assessment. We did recommend a couple of avenues of further exploration for the ventless trap survey, how the effort regarding that survey is treated, for example, and the potential for substrate to effect catchability.

The Panel thought that inclusion of the environmental catchability covariate was a really strong addition to the assessment, and helped resolve some of the uncertainty in the relationship between survey index and true population abundance. We noted there was room for some further refinement that could be done in future assessments as well.

In terms of data considerations and decisions, the Panel thought that the Assessment Team's judgments were all generally appropriate. For example, where sufficient biological samples weren't available to characterize the length composition data, the gap-filling protocol was followed, and that gap-filling protocol was an improvement over the previous assessment.

That protocol also highlighted to the Panel the importance of adequate sampling to minimize the need for gap filling. Pooling data for example, might mask changes in fishing mortality, and could be contributing to some of the stability that we see in exploitation rates from the model. The Growth Transition Matrix, a key component of the model hasn't been updated in a number of years. The Panel considered the Growth Transition Matrix a weakness, and needed an update. Our next term of reference was to evaluate the methods and models used to estimate the population parameters and reference points.

We found the use of available life history information all to be appropriate. We did recommend that an important additional feature for future assessments would be to allow for time-varying life history parameters directly in the model. For example, allowing for time-varying growth, was identified as a high research priority for future assessments.

The current model is to no discard mortality, or mortality rate at 0 percent. But we noted that given that shell disease exists on the shell, it's possible that shell disease may be increasing discard mortality, and that might warrant some additional investigation as part of future updates and assessments.

We discussed natural mortality in southern New England with the Assessment Team a reasonable bit

during the review. We found that the approaches to estimate natural mortality where reasonable, but noted that the value of natural mortality in the second time stanza in the late nineties to the present, was based on an analysis from the 2015 assessment.

We felt that natural mortality should be based on the current assessment. The Assessment Team did explore an additional time-varying natural mortality scenario during the review. But the Panel thought that this exercise merited a concerted effort to see how M is changing over time, particularly as it might relate to inferences to a level of exploitation.

Survey CVs are not directly incorporated into the model, and the Panel recommended evaluating the effects of that on model performance, model preference. Ultimately, one of the large Panel conclusions was that we agreed with the Assessment Team's choice of the University of Maine model as the preferred model for stock status.

The broad, thoughtful range of sensitivity runs were generally insensitive to various inputs, though we acknowledged that as Kim just did, there is less uncertainty in trends than the absolute scale. Our next term of reference was to evaluate identification and characterization of environmental or climactic drivers.

Here again, the Panel thought the breadth of potential environmental and climactic drivers was thoughtfully considered by the Assessment Team. We thought the variables considered likely captured the full set of environmental variables thought to be important for lobster population dynamics.

The Assessment Team used a particular analysis to determine when there were substantive breaks in the time series. Kim showed some of those slides earlier. We recommended that support for those breakpoints could be bolstered with some complimentary analyses that provide the probability of change across those various breakpoints, and we made some recommendations in that regard. We saw during the review that specific years in which regime shifts were considered, or have occurred was sometimes variable. We recommended that perhaps an improvement to the analysis would be to formally assess the correspondence in time across those different environmental variables. Here again we provided a technical analysis in that regard. The Assessment Team examined changes to productivity through the use of dynamic linear modeling, so this was the productivity plots that Kim showed earlier.

Those were designed to examine changes to the steepness or productivity parameter over time. The Panel thought those analyses were a real positive advancement for the assessment, and will likely lead to very useful hypotheses to further exploring and understanding the drivers to changes in productivity that as an example could inform the recruitment covariates in the future.

The assessment document summarizes the strong evidence for ocean warming, leading to the idea again that suitable settlement habitat might be increasing in the Gulf of Maine, and the Panel recommended interpreting the young of year indices in concert with an index of predicted settlement habitat.

In other words, sort of expanding the young of year index with an appropriate extended habitat. We were also asked to evaluate estimates of stock abundance and exploitation. One of the main themes that the Review Panel and the Assessment Team commented on were the trends in abundance and exploitation for lobsters are less uncertain than their scale.

The two plots at the bottom sort of show the range of sensitivity runs that were explored, all sort of resulting in the same trends. But since reference points are based on percentile, sort of putting everything on a relative scale, the Panel thought that the reference points compared to the corresponding model outputs were appropriate for management.

The Panel concluded that the suite of model diagnostics suggested reasonable fits to the data. There were some exceptions that might be related to

the growth transition matrix, so here again the Panel supported the Assessment Team's recommendation that updating and appropriating time-varying growth matrices is a high research priority.

Then finally, the Panel thought the projection methodology used in the assessment was sound and helpful advancement with the assessment. We were asked to evaluate the methods used to characterize uncertainty. Kim touched on this. The Panel agreed with the Assessment Team that standard errors coming out of the model are underestimates of uncertainty, but that the suite of sensitivity runs is an appropriate approach for characterizing uncertainty.

One of our terms of reference was to evaluate the diagnostic analyses that were performed. We felt that the sensitivity analyses included a thorough set of alternative model configurations that were appropriately contrasted against the base-case model. The main Panel recommendation coming out of this term of reference was for the Assessment Team to formally evaluate the sensitivity of model results to starting values.

In other words, we're ensuring that the model always converges to the same solution independent of the model's starting values. We were asked to evaluate the indicator-base analyses. The Panel was very excited with the model-free indicators and consider its inclusion in the review a strength to the assessment. We found the system very useful. In terms of deriving percentiles from the full time series, the Panel commented about a potential for shifting baselines. For example, as additional years are added on to a time series, the absolute values associated with a percentile break where that 25th of 75th percentile fall, as an example, can potentially lead to blocks being labeled at neutral in some years, and then positive or negative in another. So we just recommended further consideration as to how that time series would be updated. In terms of the subset of indicators, the Assessment Team proposed to update on an annual basis. We recommended providing some additional details on a justification for the selected subset.

The Panel asked during the review for a preliminary analysis of the relationship between some of the indicators and some of the model outputs. Those early results were really promising. We recommended further exploration for potential development of either indicator-based management, or a science-based rule that would trigger an earlier than scheduled stock assessments, so for example, if three of four indicators change from positive to neutral that might trigger the earlier than scheduled assessment.

In terms of communication, the Panel was very supportive of the stress indicator that was new for this assessment, but recommended reconsideration of some of the terminology. For example, the Panel questioned whether a moderate stress time period of shell disease, where shell disease might be between 25 and 75 percent.

We questioned whether that was sort of appropriately characterized at neutral, it might be more appropriate to relabel some indicators as low, medium and high versus good, neutral or bad. A similar logic carried over to the effort indicator. We sort of discussed whether a low effort indicator should be considered positive if that low effort is a result of fishery collapse, for example.

Then finally, without wandering into the weeds, I'll just note that the Panel offered some suggestions for some additional indicators that might be explored in the future to help communicate stress, stock distribution, and even some survey catch rates. We also suggested re-categorizing some of the fishery performance indicators as economic indicators. We were asked to evaluate the current and recommended reference points, and recommend stock status.

The Panel concluded that the development of regime-based reference points and use of multiyear averages to determine stock status was a commendable advancement and appropriate. We agreed with the

Assessment Team's position that the reference points from 2015 assessment were no longer appropriate, given environmental and abundance changes that had occurred during that previous time periods, the '80s through the early 2000s.

In terms of stock status determinations and related to comparing the three-year average abundance exploitation to the relevant reference points. We recommended the Assessment Team investigate alternate averaging or smoothing techniques that are robust to trends. It pointed out that for example, a running average results in values that are systematically higher than the terminal year estimates from decreasing trends and vice versa over increasing trends. We also supported the Assessment Team's recommendation for an economic analysis to provide advice to stabilize the fishery when or if the Gulf of Maine abundance falls below its target, and again Kim has already described the stock status and the Review Panel concurred with those determinations. We were asked to review the research recommendations. We thought again that the Assessment Team developed a really well thought out list to prioritize research items.

We did identify what we view as the three highest priority items, which we grouped into all aspects of growth, time-varying natural mortality in southern New England, and issues related to the stock structure. Then in terms of the final term of reference, review recommended timing of the next benchmark. There again, the Panel agreed with the Assessment Team's recommendation of a benchmark in five years.

This would allow the Assessment Team to address some important research recommendations. The Panel also supported the SAS proposal to initiate annual data updates. We supported updating all indicators on an annual basis. Again, as I commented on earlier, supportive of the idea of investigating further the potential development of a science-based rule that would trigger an earlier than scheduled stock assessment. With that I am happy to take any questions.

CONSIDER ACCEPTANCE OF BENCHMARK STOCK ASSESSMENT AND PEER REVIEW REPORT FOR MANAGEMENT USE

CHAIR McKIERNAN: I think at this time we could take questions to Kim, and to you Mike as well. For the Board, we are going to try to get a motion today to accept the assessment and the peer review, so I hope folks have questions, so that you can vote with confidence. Toni, do we have anyone who has questions?

MS. KERNS: Yes, to questions. There are some people that got muted over the course of the presentation, because we weren't sure what some background noise was, and I just want to unmute their lines. In case their lines come open, I want them to see that so that they can unmute themselves. All right, now we have a question from Jason McNamee.

CHAIR McKIERNAN: Jason. Toni, do I need to unmute him, or do you do that?

MS. KERNS: He is muted by himself, and David we hear you, so you can mute yourself now. Your sound does work, and now Jason needs to also.

DR. JASON McNAMEE: Sorry, Mr. Chair. I think I was momentarily muted by the organizer as well, but it seems to be fixed. Thanks for the time to ask a question. Kim and Mike, awesome job. That was a ton of material, and my complements. The lobster assessment is a beast of an assessment, so that was a nice job presenting all the information, and good job to the team of pulling the assessment together. It's an enormous amount of work.

I have a question for you, Kim, and it has to do with the reference points, so I'll start by saying I love what you guys did with the reference points. I think it's a big leap forward from what was in place for using that change-point analysis. I just wanted to note that up front, so you don't think I'm being critical of that at all.

But what I was curious about kind of will help inform some of what happens, at least for me later on in this meeting is. I know that, I'll call them biological-based reference points, have been tested previously, and I'm talking about things like MSY, but more likely things like SPR approaches, like F40 percent and things like that. I'm wondering, it wasn't clear to me if those were tried during this assessment process, or if not, if you could give us a little bit about the history there of why when we tried these last time, we weren't giving you reasonable management advice, or whatever it was. I would just like to know a little bit more about whether those were tested and reviewed this time, and if not a little bit of information as to why.

MS. McKOWN: They were not reviewed in this assessment, but they were reviewed in the 2015 assessment, and what we found there is we looked at F-10 percent, I believe. Using that as the reference point, it indicated that the Gulf of Maine stock, which was at that time at peak abundance and low exploitation that overfishing was occurring.

Meanwhile, for southern New England, because of the low size at maturity, so the majority of lobsters are mature before they hit legal size, but the increase in the legal size since the early to mid-2000s, it found that no matter how hard you fish the stock it wouldn't be overfished. Overfishing would not be occurring.

It just continued to be unrealistic, the information we were getting from the biological reference points. One of the concerns was that part of the problem might have been the growth transition matrix. It certainly, as things changed it's probably becoming more problematic that we have one static growth transition matrix, because growth has been different in the early part of the assessment than it is now. That may be causing some of that change.

DR. McNAMEE: Thank you very much, Kim. That was my hunch, but I appreciate you just clarifying that for me.

CHAIR McKIERNAN: Toni, any other Board members with questions?

MS. KERNS: Bill Hyatt, Dan.

CHAIR McKIERNAN: Okay, Bill.

MR. WILLIAM HYATT: A question for Kim. I think this has to do with either your next to the last or third from the last slide, it was projection scenarios for southern New England. In that slide you had the top three graphs. The top graph was a projection assuming no trend, and it was markedly different from the one dealing with current trends and the bottom one, which I believe was covariate trends. If you could just explain why, I mean it's a marked difference, just I might have missed something. But what was behind that difference?

MS. McKOWN: The difference, the one that has no trend, it took the information for recruitment from the current regime, and that is from 2003 to 2017, and it just randomly selected any of those recruitments. It could be selecting them from 2003, where recruitment was much higher, as you saw from the model output than it was in 2017.

By just randomly selecting it was saying, recruitment might not be as bad as it is now, so the population might start increasing. Meanwhile, the other two graphs were using the actual linear trend and projecting that trend into the future, so it's been going down, so it would continue to go down. It worked, and that's why you're seeing such a difference in those graphs. Does that make sense?

MR. HYATT: Yes, thank you.

CHAIR McKIERNAN: Toni, any other questions coming from the group?

MS. KERNS: David Borden, followed by Colleen, followed by Roy Miller.

CHAIR McKIERNAN: Thank you. Okay, David Borden.

MR. DAVID V. BORDEN: I guess this is a point for Kim. First of all, Kim, I think you guys collectively and the Peer Reviewers did an excellent job. This is one of the best pieces of work that I've seen in my career on the issue. I think it's really comprehensive and useful. Having said that, could you just go back to the southern New England abundance reference points figure, please? Could you put that up? Not the exploitation, the abundance, next one. Okay.

I just want to make a quick point. I think as most people on the call know, I was working for the state of Rhode Island in 1998, and still actively engaged in, well lobster management. I just want to use this as an example, and express a concern about it. In 1998 we had a number of discussions, the department did at that time with the industry, about the need to what we now call resiliency, add resiliency to the stock.

The reaction at that point basically was, everything is going great. We don't need to change anything. I'm sure that Commissioner Keliher occasionally hears the same points from his constituents. But if you look at that at that one figure. That one figure is a really powerful figure, because in a period of basically five years we went from being on top of the world, where people were buying new boats and investing heavily in new traps and so forth, to the point where people thought it was the end of the world.

I just want to say that for the reason that at some point we're going to accept this, and then we'll get into a discussion of how to react to it. What we need is a mechanism that starts to work on some of the issues in advance of there being a crisis. Once you go over that edge, and the fishery starts to decline.

Then if the industry is losing 10 percent due to stock decline, you want to impose management measures that adds another 10 percent to that. It's a big burden on the industry. One of the ways that we can address this is try to get ahead of it, instead of waiting until it's in place. Keep that in mind, and I would also add, Mr. Chair, at the appropriate time I'm happy to make a motion to accept the assessment and the peer review, so thank you.

CHAIR McKIERNAN: Next on the list is Colleen Bouffard, Justin Davis's proxy.

MS. COLLEEN BOUFFARD: Thank you, Mr. Chair. Kim and Mike again, I would like to just reiterate the sentiment with what a great job this assessment was. I think looking at the regime shift is a huge step forward for assessing the lobster stock. The question that I had kind of goes back to the slide that Bill Hyatt alluded to earlier, with the projections for southern New England. There was a bullet on there that said an additional projection was done, where fishing mortality was removed. I'm just wondering, was that included in those graphs that we saw, or was that another analysis that wasn't in that slide?

MS. McKOWN: I'll be honest, Colleen, I don't know. I would have to get back to you on that.

MS. BOUFFARD: Okay, thanks, Kim.

CHAIR McKIERNAN: Roy Miller, you're up next.

MR. ROY W. MILLER: Kim and Mike, nice job, very impressive. I have a question concerning something Kim said. Specifically, she said that significant management action would be necessary to stabilize the southern New England stocks. My question is, did the Assessment Team formulate what those specific significant management actions would be, or is that something else we're going to get to this afternoon?

MS. McKOWN: The only thing we threw out there as an idea is possibly a moratorium, but we felt that management measures really isn't what the Technical Committee should be doing.

CHAIR McKIERNAN: All right, thank you, Kim. Is there anyone else?

MS. KERNS: We've got Emerson Hasbrouck, and now Jason McNamee.

CHAIR McKIERNAN: All right, Emerson.

MR. EMERSON C. HASBROUCK: Thank you Kim and Mike for your presentations. For the slide that is on the screen right now that shows that precipitous drop off. How much of that was caused by the collapse of the Long Island Sound fishery? That is the first part of my question, then I have a follow up.

MS. McKOWN: We actually ran sensitivity runs where we excluded, first off one just excluded the Connecticut Trawl Survey, and then another one we excluded everything from 611, the Connecticut Trawl Survey plus all of the landings. It gave similar trends. I have to actually look at my notes. I think the abundance was a little bit lower in the terminal year in the run without southern New England, but it shows the same trajectory, so it's not Connecticut and Long Island Sound driving this.

MR. HASBROUCK: Okay thank you, and my follow up then is in terms of possible management measures. If we're seeing this decline in abundance that you're showing right now, and in terms of changing ecological conditions. You mentioned a few minutes ago a possible moratorium. Is there any indication that reducing fishing effort by some amount, even including a moratorium, is going to change that trend in abundance? You know are the environmental conditions such that no matter what we do we may not gain anything?

CHAIR McKIERNAN: Kim, do you want to take that or call it a rhetorical question?

MS. McKOWN: I can say I was just thinking this assessment. I don't remember if we did this, but I know we looked from the last assessment. We feel natural mortality has increased in southern New England, but fishing mortality was still higher than natural mortality, and that's something I guess we should look again at this assessment. But I know from the last one. Yes, it would help to reduce fishing mortality.

CHAIR McKIERNAN: Jason McNamee.

DR. McNAMEE: I'm going to send this one to Mike, to give Kim a break. I think either of them could probably answer. The statement was made a couple of times during the presentations, it's also in the peer review that the trends are less uncertain than the scale. I agree, certainly with the sentiment.

What I was wondering is what I didn't see, my review is evidence that there is a scale issue with the assessment. My first question is, have you found a scaling issue, like when you rerun the model you get a change in the scale of the population that you can't quite explain, and if the answer to that is yes, my follow up is, are the reference points that are proposed robust to that scaling issue?

MR. CELESTINO: Thanks for that question, Jay. I don't know if, Maya are you able to put up Slide 8 from my presentation? Yes, that's the one. Perfect, thank you. Those two plots at the bottom are the trajectories and trends of all the model runs. The darkest line is the base case scenario, and all the sort of thin gray lines are the variety of different sensitivity runs.

The Gulf of Maine on the left and southern New England on the right. I think the thing that jumped out, at least from the Review Panel's perspective is that reassuring that with respect to the Gulf of Maine, all the transfers start at low abundance and trend upwards. Ditto with the southern New England there is this sort of parabolically unimodal shape.

But there does seem to be enough wiggle room amongst the different runs that it gives a bit of caution, in terms of relying on any one individual run. But the reassuring thing also on the Review Panel perspective, with respect to determining stock status and utilization of reference points is that the percentile system puts everything on a relative scale. Even if the absolute values change, we had a good bit of confidence that the ultimate conclusions regarding stock status would not, because we start using this percentile system. Does that help?

DR. McNAMEE: That's perfect, Mike, thank you very much.

CHAIR McKIERNAN: Toni, are there any others?

MS. KERNS: No other hands, Dan.

CHAIR McKIERNAN: All right, thank you. Well, why don't we take a motion? I think David Borden had proposed a motion to accept the stock assessment and the peer review. David, do you have a motion?

MR. BORDEN: Yes, sir. Move to accept the American Lobster 2020 Benchmark Stock Assessment and Peer Review for management use.

MS. KERNS: You have Pat Keliher as your seconder. Dan, did we lose you?

CHAIR McKIERNAN: Okay, yes. At this time. I'm sorry, I must have muted. We got the Peer Review and the Assessment approved, right? Did that record?

MS. KERNS: We didn't hear you, if you were asking.

CHAIR McKIERNAN: Yes, all right. I was muted. If there are no objections to that motion, and I assume there is not. **Then, the motion by David Borden to accept the peer review and the assessment is passed by unanimous consent**. Thank you.

MS. KERNS: No hands.

CONSIDER MANAGEMENT RESPONSE TO THE ASSESSMENT AND PEER REVIEW

CHAIR McKIERNAN: Now at this time on the agenda is a possible discussion about management response. As one of the states with southern New England fisheries, I would like to recommend we postpone that until February. Personally, I would like to take a fresh look at fishery performance, you know take stock of the actions that this Board and each of our states have taken, in terms of regulating the fishery before we tackle that. Is there any objection to not taking this discussion up at this time, but taking it up in February?

MS. KERNS: You have Pat Keliher, then Jason McNamee and Tom Fote.

CHAIR McKIERNAN: Okay, you said Pat Keliher first? Okay, Pat.

MR. PATRICK C. KELIHER: I don't have any objections to that at all. I do want to bring attention to a recommendation within the assessment as well as by the PRT around engaging the Economic and Social Science Committee, in regards to some possible reviews of different types of triggers associated with the lobster fishery. I should be better prepared to have something a little more specific than that.

But if you all are thinking around reengaging on this issue this winter on southern New England, maybe I could do some additional work on what that might look like, and bring something forward at the next meeting. I think this kind of fits right in to the resiliency addendum that we have continued to delay, because of right whales. I think that Addendum needs to start moving forward, and I think we need to include some additional thinking around economics and social science side of that work.

CHAIR McKIERNAN: Yes, I did not mean to dismiss the items that were brought up in the recommendations of the assessment or the peer review about the Gulf of Maine/Georges Bank stock, so I appreciate that. We can take both up at the February meeting. Next is Jason.

DR. McNAMEE: I also am in general agreement of deferring the majority of this discussion until the next Board meeting, with one exception, and that is at least. What I would like to do is make a motion about the reference points, and the reason I think that is important is that we get at least, even if we defer our action on it, if we get a motion on the table for reference points, I think it will help with some of that subsequent discussion to kind of know what we're

aiming at. If you feel it's appropriate, I have a motion ready to go.

MS. KERNS: Dan, we're not hearing you.

CHAIR McKIERNAN: I have one more hand up, Jason that would be Tom Fote. Can I come back to you after Tom?

DR. McNAMEE: Absolutely.

CHAIR McKIERNAN: Okay. Tom, go ahead.

MR. THOMAS P. FOTE: Yes, I'm thinking about so far today we did winter flounder and now we're doing lobster. Winter flounder; we basically in the southern New England part of that stock we basically did extreme measures. We basically put almost a moratorium in place, as far as the recreational one fish, and we put a short season in.

Then we also put a small in-state catch in. I'm sitting here 10 years later and it really has had no results, because there are only certain things you can effect on that. I look at the same thing we've done on our weakfish, and I look at what we basically say we could basically rebuild. The question when we did bluefish last week, actually and I asked the same question.

You're giving me tables that project that this is what will happen if we do such and such. How confident are you in the tables when you basically admit that it doesn't depend on this, it depends on things that we don't control? I'm happy to postpone it to February, because we've been down this road many times before in the last 10 years.

But my concern is, we can't change the weather. We can't change climate. I also thought in the discussion today as we were going through this, that the presentation we had at the Maine annual meeting, which I found very enlightening, which I had never thought about before, is that when we basically lose a fishery in an area that the whole ecology of that area changes.

It might not support, it might take years to bring this back, because of the prey/predator relationship, or what replaced that when those species were no longer there. I don't know if anybody is looking at that. But that is my concerns when we start doing things like this. I've watched this. I also have surf clams that have moved offshore and further north. How important was the surf clam fishery for in-state waters in New Jersey? It is no longer in existence. I don't care what we're going to do about it, we're not bringing it back until the water cools off. I've just got my concerns there, I just wanted to express it. I didn't want to comment, and I thought there was no plan to winter flounder to bring this whole discussion up, because I just shake my head and cry over the facts. Sorry about that.

CHAIR McKIERNAN: Yes, I agree, Tom. It is pretty depressing when you look at the number of stocks at the southern end of the range that appear to be failing. Jason, I think your motion is ready to be brought up at this time.

DR. McNAMEE: I'll read the motion in, and then if I get a second, I have a little bit of rationale. The motion is to move to adopt the following reference points as recommended in the 2020 Benchmark Assessment for the Gulf of Maine/Georges Bank stock, abundance reference points for the fishery industry target, the abundance limit and the abundance threshold to be 212 million lobsters, 125 million lobsters, and 89 million lobsters respectively.

Then exploitation reference points for the same area, the exploitation threshold, and exploitation target to be the 75th and 25th percentiles annual exploitation estimates during the current abundance regime.

Then for the southern New England stock, an abundance threshold for the southern New England stock, which is set at 20 million lobsters and exploitation reference points to be the exploitation threshold, and exploitation target set at the 75th and 25th percentiles of annual exploitation estimates during the current abundance regime. These are

consistent with the recommendation from the Stock Assessment Subcommittee and approved by the Peer Review Panel.

CHAIR McKIERNAN: Jay, do you feel that you need to make this motion because the acceptance of the stock assessment doesn't accomplish that?

MS. KERNS: Dan, acceptance of the stock assessment does not accept the new reference points. The Board needs to do that explicitly through.

CHAIR McKIERNAN: All right, well then thank you, Jason. Can we get a second on Jason's motion?

MS. KERNS: You have Ray Kane.

CHAIRAMN McKIERNAN: Thank you, Raymond. Any discussion on the motion?

MS. KERNS: Dan, you had Colleen, and then Cheri, then Pat Keliher and David Borden.

CHAIR McKIERNAN: Colleen, you're up.

MS. BOUFFARD: My hand was raised from before Jay made the motion. I don't have any issue with the reference points. I think they make good sense moving forward. Do you want me to hold off on my comment until after this is discussed?

CHAIR McKIERNAN: You're in favor of the motion as written?

MS. BOUFFARD: Sure, I just had discussion about postponing the management talks until February. I don't know if you want me to hold off on that.

CHAIR McKIERNAN: Yes, why don't you hold off on that and we'll try to get this motion approved. Cheri Patterson.

MS. CHERI PATTERSON: I am fine with this motion. My hand was raised to second it, thanks.

CHAIR McKIERNAN: Pat Keliher.

MR. KELIHER: I think I'm fine with this motion. I just wanted to make sure, and Jay can just verify this for me. These are all the points that were consistent within the document, correct? There are no changes.

DR. McNAMEE: Yes, thanks, Pat and that is correct.

MR. KELIHER: Great, thank you.

CHAIR McKIERNAN: David Borden.

MR. BORDEN: Yes, thank you, Mr. Chair. Would somebody on the staff remind me? We have a fishery industry target abundance limit developed for Maine, but we don't have one or any kind of recommendation for southern New England. Is there a reason for that?

MS. STARKS: This is Caitlin. I can take a first stab, and then if Kim has anything to add she can. But my understanding is that the SAS only put forward the one abundance reference point for southern New England, because of where the stock is in comparison to that. They didn't feel it was really appropriate to put forward any other targets at this time. Kim, if you have anything to add to that.

MS. McKOWN: No, that's correct.

CHAIR McKIERNAN: Toni, any other hands up?

MS. KERNS: Jason's hand is still up. I'm not sure if that was on purpose or not.

DR. McNAMEE: It's on purpose.

CHAIR McKIERNAN: Okay, go ahead, Jason.

DR. McNAMEE: I was just going to offer a little bit of rationale, and I'll try to be quick. First, thanks to Ray for the second, I appreciate that. Just a little bit of rationale. As Toni noted, it seemed appropriate to get the reference point discussion explicitly on the table. I wanted to make sure we did that. Also, I had asked a

couple of questions during these presentations, and so I understand that SPR and MSY reference points have been tried in the past, but they basically don't seem to produce defensible management targets or thresholds. I think we should continue to look, to try to link these reference points back with the biology specifically. But in the meantime, I really appreciated the change point analysis and the work done by the Stock Assessment Subcommittee, as well as the points made by the Peer Review Panel.

Bringing in this change point analysis or the regime analysis, as it's talked about in the presentation. Having that done to get at the notion that the productivity has changed in each of these stock areas, I think is really important. I think it is much more reflective of the productivity. They seem like much more reasonable targets. Therefore, I support the reference points created by the Stock Assessment Committee, and supported by the Peer Review Panel. I hope that there is support for this motion.

CHAIR McKIERNAN: All right, thank you, Jason. We've had four comments in favor. Is there anyone on the Board who would like to speak against this motion, as a way to telegraph that there might be some opposition?

MS. KERNS: I don't see any hands, Dan.

CHAIR McKIERNAN: All right, is there anyone opposed then? Is there anyone opposed on the Board to this motion? Seeing none, it is adopted by unanimous consent. Toni, before we start the next section of the meeting, shall we take a five-minute break?

MS. KERNS: Dan, I didn't know if you had deferred Colleen to after this was discussed. I didn't know if you needed to go back to Colleen or not.

CHAIR McKIERNAN: Certainly. Colleen, why don't we come back to you at this time? Thank you, Toni.

MS. BOUFFARD: I just wanted to get back to the discussion about postponing management talks until February. I'm certainly for that. I'm just kind of hung up on that bullet that I saw where there were projections done that removed fishing mortality for southern New England, and I think it would help to inform the discussions that we're going to have in February, and get back to the point that Tom and Emerson made.

When we start throwing words like moratorium into the arena, it would be great to have some kind of information that there would be some assurances that reducing fishing mortality further would be successful in helping the southern New England stock. I know Kim had mentioned that fishing mortality rate is currently higher than natural mortality.

I'm not sure if there can be projections or runs done to help again inform that discussion about what happens to stock abundance if fishing levels are reduced to the levels that natural mortality is at. I'm not sure if it is appropriate to task the Technical Committee to do those projections, if they haven't already been done.

CHAIR McKIERNAN: Kim, can you help us with that?

MS. McKOWN: We did one run, and I was going to find it, probably in this break, and e-mail it to Colleen so that she can see it.

CHAIR McKIERNAN: All right. Okay, well thank you Colleen. At this time, I would like to propose a five-minute break, and that would allow us to resume at 3:15, and get a report on data collection requirements.

MS. STARKS: Dan, this is Caitlin. I'm totally fine with taking a break now. I just have one question for the Board or clarification on that last bullet on this slide. We can take it up when we come back, if you prefer.

CHAIR McKIERNAN: Certainly, why don't we come back? We'll take that up first, and then we'll go to

Data Collection Requirements. We will resume at 3:15.

(Whereupon a recess was taken)

CHAIR McKIERNAN: All right Lobster Board. Caitlin, I think we can resume.

MS. STARKS: I just wanted to get some clarification or guidance from the Board on the last bullet on this slide about Addendum XXVII, which was related to resilience in the Gulf of Maine and Georges Bank. If discussions on management response are going to be held off until February, I would like to just clarify whether I should work on this Addendum at all before then, or wait until after those discussions occur in February.

CHAIR McKIERNAN: Yes, that is a good question. Board members, would you like to weigh in?

MS. KERNS: I don't have any hands raised, Dan.

CHAIR McKIERNAN: Okay, in my recommendation to postpone the discussion until February, I was extra focused on the recommendation coming out of the stock assessment that Gulf of Maine/Georges Bank, they weren't recommending management actions. In southern New England they were. But Caitlin, you bring up a valid point that we do have the postponed resiliency addendum, and certainly that can slide forward on its own. I think we've heard some rational reasons today why that should. Is there anyone who would like to weigh in on that?

MS. KERNS: Pat Keliher.

CHAIR McKIERNAN: Pat.

MR. KELIHER: Yes, as the maker of that resiliency motion to initiate an addendum, I certainly don't want to lose sight of that. You know I think Dave Borden kind of teed it up for me a little bit here this morning, talking about the timeframe of which the collapse in southern New England happened, before the Board even finalized any management actions. I certainly don't want to be delaying too long here, but again just to danger repeating myself, but I want to make sure that we are thinking about other potential economic triggers, and that is why I brought up the issue of engagement of the Economic and Social Science Committee.

CHAIR McKIERNAN: David Borden.

MR. BORDEN: I am supportive, as Pat just indicated, moving forward with the resiliency addendum. In support of that I would just simply note, state the obvious, that if we start an addendum today and it takes us two or three years to finish that addendum, which it usually does. Then we adopt it, and then it takes another two or three years for NOAA to do about federal waters. It's a long period of time.

If you factor in the point that I made about southern New England, I think there is some urgency here to deal with some of the issues that the Board attempted to deal with before. In terms of the southern New England issue, I think there is going to be a whole discussion that is going to kind of focus on the points that Emerson raised about what you can do, what's effective, and that Tom Fote also raised about what you can do for southern New England.

It doesn't mean you don't take any action in southern New England, but there may be quite a range of management measures we need to look at and examine. All of that is going to take time. I ask people to kind of factor that into their (word garbled) between now and February, and then come prepared to deal with those process delays that we know are going to invariably take place.

Make suggestions so that we can kind of coalesce around some kind of position for the Gulf of Maine and also a position for southern New England. The other big advantage is this will give the industry in southern New England an opportunity to get their own dialogue going on the issue.

CHAIR McKIERNAN: Can I ask a point of clarification from Caitlin or Toni? Addendum XXVII, was it officially

tabled? I remember that we had the meetings to deal with some of the specifics, but at that point the Large Whale Take Reduction Plan became quite an occupying issue for many of our staff, so we put it on the shelf. Can you remind the Board where that Addendum is, and if we need to resume progress on it with a vote?

MS. STARKS: I don't think we need a vote. You're correct that it was basically just stalled or postponed. There was a draft document that the PDT had drafted, but it did not get presented to the Board, and the focus at the time was really on standardizing measures between the different LCMAs in Gulf of Maine and Georges Bank, and addressing some different issues related to those.

Based on what's coming out of the stock assessment and this discussion, I think there might be an interest in expanding the things that this Addendum could address. I think we would need just agreement from the Board to move forward, have the PDT kind of discuss what has already been drafted, and potential areas for adding some other considerations like socioeconomic analysis and things like that.

CHAIR McKIERNAN: To David Borden and Pat Keliher, is that what you had in mind at this point, just getting consensus that Addendum XXVII should be resumed, and the PDT reconvened?

MR. KELIHER: Yes, I was still thinking, based on your earlier comments around southern New England that we would kind of reengage this conversation. But David Borden's comments on urgency is certainly not lost on me. I'm reluctant to say we should have a formal subcommittee maybe start working on this.

Looking at these issues, maybe both of the issues, both the resiliency addendum as well as southern New England. But at the very least, maybe informally Commissioners can interact between now and the February meeting, so we're coming to the table ready for a full discussion on both of these issues.

CHAIR McKIERNAN: That's well put, Pat.

MR. KELIHER: Then we can reengage the PDT.

CHAIR McKIERNAN: Okay. Is there any objection to that as a strategy?

MS. KERNS: Dan, you have Tom Fote and Cheri Patterson with their hands up. They were up before you asked.

CHAIR McKIERNAN: Tom, go ahead.

MR. FOTE: I was just thinking about what the implications are a moratorium. When you shut it down in a state like New Jersey that only have, we've lost a lot of the permits that we had in the '90s, and we're down to a small number. When you put a moratorium, when we start losing the areas where we can even come back, even if the stocks ever came back. That is my concern when I'm looking at that. I think we do need the economics of it, and the impacts that it will have on the total community. Yes, I'm willing to go along with what you guys are proposing.

CHAIR McKIERNAN: Cheri.

MS. PATTERSON: Yes, I am definitely in favor of this. I also just wanted to mention that once we get to the approving the fishery management plan review and such. It's actually the PRT is recommending that the Board engage CESS to consider socioeconomic data and such, so he's coming at it from two different directions.

CHAIR McKIERNAN: Consistent with Pat Keliher's comments, I would ask all the Board members to be prepared to come to the February meeting, having discussed with their staff and their industry and with one another, strategies for getting traction on Addendum XXVII, and dealing with the southern New England challenge as well. I think I would like to move on at this point, unless someone has a burning desire to keep discussing this. All right, let's move on to the report on data collection requirements.

MS. KERNS: Dan, Jason's hand went up.

CHAIR McKIERNAN: Sorry Jason, go ahead.

DR. McNAMEE: No, I'm sorry, Mr. Chair. It's not related to Addendum XXVII; it's going back to the comments that Colleen made earlier. I like the comment that she made, but I started thinking about there was, so we're going to look at the results of some projections that look at a moratorium.

I just wonder what the context is for those. I'm wondering if we need to provide a little more guidance. For instance, you know look at a moratorium versus a v-notching program or a moratorium versus a change to minimum size. I think if this work is going to occur between now and February, the team is going to need a little bit more guidance. I'll just offer those two off the top of my head. But they may wish to come up with some other potential management strategies with which to compare the moratorium to.

CHAIR McKIERNAN: Certainly. Caitlin. I need a lifeline on this one, so what is the preferred strategy here, something more formal, in terms of convening, or formally meeting with either the Stock Assessment Committee? How do we fast track this, Jay, if that is what you're suggesting?

MS. KERNS: Can I ask a question about this, Dan?

CHAIR McKIERNAN: Yes, go ahead.

MS. KERNS: Sorry to butt in on Caitlin, but I thought Colleen was just asking for the projection of southern New England with 611 in, and with 611 out, and that Kim, I thought they had run that and she was looking for it to send it to Colleen. If they hadn't done that then, I said over the break that I could work with the Assessment Team to provide the answer to the question she was looking for. I'm not sure we would want to start without specific instructions to the TC to run different management measures yet. Now you have Colleen and David Borden.

CHAIR McKIERNAN: Colleen.

MS. BOUFFARD: Toni, just to clarify. I wasn't looking for projections with Long Island Sound removed. I was looking for projections with fishing mortality removed. Then I had made the suggestion based off a comment Kim had, to request the runs that could be done if F was reduced to the level of M. Again, I was just looking for some kind of information that we could review prior to the February meeting, to have some reassurances that any management measures would have positive results on stock size.

MS. KERNS: You have Kim to respond and then David.

CHAIR McKIERNAN: Go ahead, Kim.

MS. McKOWN: I just wanted to let you know, I did send Colleen those runs that show the response of the population if you remove F, and abundance does increase even in those runs that are trends and recruitment trends runs.

CHAIR McKIERNAN: Could the whole Board get copied on those as well? That would be useful.

MS. McKOWN: Sure, I'll send it to Caitlin and she can send that out.

CHAIR McKIERNAN: All right David Borden, you're going to be the last one on this issue.

MR. BORDEN: I'll make it quick. I just encourage everybody to discuss southern New England in the context of the prior discussions we've had, when some of the scientific members recommended a moratorium. You had a fairly extensive discussions about how you enforce this, particularly in areas like Massachusetts, it has borders on four, I think, LMAs.

Then you've got the whole issue of, it's really a mixed crustacean fishery at this point, where a lot of the participants, they are earning the bulk of their income from Jonah crab fishing, not lobster fishing. Now we

have to have the other consideration of, how do you enforce?

Lobsters are very easy to transport, and the enforcement community is concerned about at-sea enforcement, which we all know is not terribly elaborate. We need a broader discussion on this whole issue of what we can do, what's going to have a positive impact. But it shouldn't all focus on a moratorium. I'll predict if we do that, we'll waste a lot of time on the subject.

CHAIR McKIERNAN: I think it's a good idea to dust off some of that old script that we did struggle with five and ten years ago. Thank you everyone.

REPORT ON THE DATA COLLECTION REQUIREMENTS FOR 2021

CHAIR McKIERNAN: I'm going to move on to the next item on the agenda, which is the Report on the Data Collection Requirements. Is Anna Webb presenting?

MS. KERNS: I'm actually going to do it, Dan.

CHAIR McKIERNAN: Okay Toni, thank you.

MS. KERNS: Anna and Renee as my backup for when I need help. We're going to move on to the next slide, Maya, please. As everyone knows, Addendum XXVI put in place new requirements for lobster and Jonah crab reporting. Not only did it add new data elements, but it also moved the fishery to 100 percent harvester reporting by 2024.

There were some new data elements that were added that were supposed to be implemented two years ago, but we determined that some of those measures were not able to be collected, either through the paper or more notably the electronic reporting systems. While reporting systems were advanced, we delayed the implementation of those elements.

All of those data elements are going to be ready for collection from both state and federal only lobster permit holders in January of 2021. The federal lobster permit holders, some of those data elements are not collected directly, they may be calculated or estimated. It is important to understand that there is a distinction in how data elements are gathered, and a data element can be either collected directly, so a specific question looking for an answer. You can also calculate a data element by using the responses from two directly collected data elements, to come up with the value, or it can be estimated.

An element is estimated when you use an element that is collected with an assumption around that element, in order to come up with the value. We have found, through a group of wonderful folks from all the states and GARFO and ACCSP that have been working very diligently over the last year and a half, to make sure that everything is ready for 2021.

That there are some inconsistencies between the states as well as NOAA fisheries, and there are five specific data elements that we are requesting consistency from NOAA Fisheries for the VTR, in how they are gathering the data for these five elements. I'm going to go through each one and the specifics around it.

For the first data element, it's the number of trap hauls in an effort. An effort is a statistical reporting area. This piece of information is really important for the stock assessment, it is an effort metric in the assessment. We want to make sure that this element is being collected by all of the partners in the same way, so when it's put into the assessment, we don't have any additional uncertainties around specific indexes from one jurisdiction versus another.

Currently GARFO calculates this value from two different data elements, the first being the number of strings hauled by SRA, and then the average number of pots per string hauled by SRA. The average number of pots per string is the same as traps per trawl hauled in an effort, which is Number 3.

As I said before, we directly collect this value, and we really would like NOAA to directly collect this value as

well. We are not telling them that they can't ask those other, you know the two questions that they are currently using to calculate the value, but we're just wanting them to ask an additional question, in order to get this value directly.

The second element is the number of traps in the water for the statistical reporting area. This value is important for knowing information for Atlantic Large Whale discussions. We're asking GARFO to directly collect this value. In particular the Large Whale discussions, it is important to determine the number of end lines.

It is very important for those fishermen that are fishing in multiple areas. GARFO currently estimates this value, and the states ask for the total number of traps in an effort at the beginning of each trip, so we are asking GARFO to do the same for the state share. As I said earlier, GARFO currently already asks for traps per trawl hauled in an effort.

If they decide to change the questions, because we've asked them to directly calculate Number 1, and they no longer ask this question anymore, then they would need to just calculate it just like the states. It looks like somebody is not muted, if staff could mute them, great. Number 4, the number of buoy lines in an effort. We're asking GARFO to directly collect this. They currently estimate it, and the states directly collect it. It's also very important in the determination of the number of end lines in the fishery. The last element is the number of buoy lines in the water. We're asking GARFO to directly collect this data element. Right now, it's partially estimated, partially calculated from the average number of pots per string hauled, and total gear in the water.

NOAA assumes that the average number of pots and strings hauled per effort is the same for all kinds of gear, so they take an average across the year across all areas. We know that when you fish in multiple areas that that average is not always the same across the board for all fishermen, sometimes they move their pots, and move the number of pots that are being hauled.

It's really important to have this value for determining the end lines in the fishery for Atlantic Large Whale discussion. We are making a recommendation to the Board that a letter is sent to GARFO to request changes for how the data is gathered from these five data sources. I will take any questions.

CHAIR McKIERNAN: I was remiss in not doing a better job introducing this topic, but you know we've worked very hard at the state level, trying to interface with NMFS and their data collection. I want to say that the working group that has been meeting on this weekly has done a great job.

Especially Julie, who is the model of patience and diplomacy, to try to get this done. This is so important for issues of Right Whale conservation, and also for offshore wind development. The lobster fishery really needs to do what it can to better define the footprint and the times and places that fishing is occurring, more than ever.

Toni, we're looking for Board feedback on a letter being drafted to GARFO, with request for these five parameters to be collected in a way that is consistent with the traditional way the states have done it, or in a compatible way, so that we can all collect it together in a more uniform manner. Are there any questions on this issue to Toni from the Board?

MS. KERNS: You've got David Borden.

CHAIR McKIERNAN: David Borden.

MR. BORDEN: Thank you, Mr. Chair, are you ready for a motion?

CHAIR McKIERNAN: Well, are there any questions before we take the motion? Then sure, I'll take the motion.

MS. KERNS: Dan, really quick, Ali Murphy has her hand up.

CHAIR McKIERNAN: Okay, go ahead.

MS. ALISON MURPHY: I too wanted to thank the participants of the weekly data calls. As you said, there is a lot of value in this work, and there is a lot of value in having all of the jurisdictions kind of gain a better understanding of what's being collected and how, and by the different groups. The timing of this discussion before the Board is good. We are working on including the additional data elements that were included in Addendum XXVI in our ongoing rulemaking that will also propose mandatory harvester reporting, as well as the Area 2 and 3 ownership caps and the Area 3 active trap cap reduction. I wanted to see, Mr. Chairman, if you would be okay with perhaps kicking this over to some of my colleagues in our data group, to see if they have any additional comments or perspective that they can offer.

CHAIR McKIERNAN: Certainly. Are they a part of the call today?

MS. MURPHY: Yes, I believe Dave Gouveia and Barry Clifford and Jay Hermsen are all on. I don't know if any of them want to take a minute to respond to some of these (broken up)…requests.

CHAIR McKIERNAN: Why don't I recognize David first? David Gouveia.

MS. KERNS: David, if you could raise your hand it would make it much easier for me.

MS. TINA L. BERGER: He's unmuted now.

CHAIR McKIERNAN: David Gouveia, go ahead.

MR. DAVID GOUVEIA: I just wanted to echo the comments Ali had made. We're not opposed to any of the changes that are suggested or additions, I should say, that are suggested that Toni had provided. We would definitely consider those. It would be under the auspices of eVTRs, we certainly could make any changes to the paper collections that we do.

If we were to consider adding those additional questions that were outlined by Toni, we wouldn't be replacing existing questions we would ask, it would just be to complement the questions that we already ask. Short of that, I think that whatever folks decide they want to send forward to us formally in a letter, we'll definitely put that forward and try and do the best we can with that.

CHAIR McKIERNAN: Thank you, David. David, Ali mentioned two of your colleagues. Would you like them to speak on this issue, or do you think you've got it covered?

MR. GOUVEIA: I think we've pretty much got it covered, but if there are some questions that are posed to us, we would be happy to help answer those.

CHAIR McKIERNAN: Okay, are there any questions from the Board on this issue? I guess not, all right. Toni, that letter will be drafted for Bob's signature?

MS. KERNS: It needs to be a recommendation to the Policy Board to send the letter, Dan, this is just for clarification purposes. As long as there are no objections from the Board, then we can have that letter discussed at the Policy Board, and it could be either under your signature or Bob's.

CHAIR McKIERNAN: All right, so that letter would be drafted in time for this week's Policy Board meeting?

MS. KERNS: Probably not in time for the Policy Board meeting, but just the concept. The Policy Board can decide whether or not Pat and Bob and you can use your discretion to send it to NOAA pending any edits.

CHAIR McKIERNAN: I'm not hearing any objection to us drafting that letter in concept, so we'll move forward with that. Thank you, Toni, thank you Dave Gouveia.

REPORT ON ELECTRONIC TRACKING PILOT PROGRAM

CHAIR McKIERNAN: And we'll move on to the next item, which is a Report on Electronic Tracking Pilot Program. I'll kick it back to you, Caitlin.

MS. STARKS: Bill DeVoe is going to be giving the presentation on this, and Maya, could you pull that up, please? Bill, you are free to take it away.

MR. BILL DeVOE: Good afternoon, this is Bill DeVoe, Marine Resource Scientist to the Maine Department of Marine Resources, and Story Reed and I were the primary investigators on this Electronic Pilot Program just over the last year or so. I think Story is on the line as well for questions after. Proper save of the presentation.

The Pilot Project was initiated under the adoption of Addendum XXVI. It established a one-year pilot electronic tracking program. The beginning of this was established under the Lobster Electronic Tracking Subcommittee. The Subcommittee determined that we should test multiple tracking devices, and a variety of geographical environments from southern New England all the way up to the Gulf of Maine, specifically targeting federal lobster vessels.

When this Subcommittee was first convened, we invited various tracker companies to present their product to the Subcommittee, then identified four trackers to test out. Then after we had procured some of these trackers, we identified volunteer industry participants. We ended up testing three different devices.

We tested out trackers from Succorfish, Rock7, and Pelagic Data Systems. We tried eight of each of these devices in both Maine and then Massachusetts, so four devices per state. The trackers used both cellular and satellite networks. All of them used cellular, the Rock7s also had satellite. The Succorfish offered a satellite option, but we did not test that.

The goal was to have a one-minute ping rate. We didn't specifically attempt to get the one-minute ping rate only while the vessel was hauling. For most of these we just had them go at once a minute through the entire time the tracker was powered on. The first Rock7 devices were deployed in Maine in June of 2019, and the last devices were pulled around May, 2020. There are still a few Succorfishes that are going in May.

For results, you know the point of this project was to simply test out different tracking devices and see how they perform. Then we found that pretty much all the ones that we tested performed satisfactorily. They delivered the vessel position as expected. You know the exception to this, the Pelagic Data Systems tracking devices were solar powered, which seemed like a really great option. Massachusetts had some better results with theirs, but in Maine we had a really hard time in the winter getting enough sun to even hit the trackers it found did not turn on. Maine Marine Patrol had also done some experiments with that device in the past with similar results. The cellular-based systems are definitely considerably cheaper than satellite and permit faster ping rates, because the data is so much cheaper.

Most of the devices that were on cellular networks, they uploaded as soon as the vessel returned within cell coverage, which depended on where in the Gulf of Maine you are. I was anywhere from three to as much as ten miles out. The greatest cause of failure for the devices was loss of power from the vessel to the device, so literally they have to be plugged in to work. No surprise there.

There are various methods for using the power tracking devices, some of them were hardwired right into the vessels, such that there was pretty much always power being applied from the vessel battery. Some of them were plugged into auxiliary outlets, with just a 12-volt adapter. In actual use there would probably need to be some legal requirements on how the device were powered. The method of power seemed to be the biggest predictor of device failure.

Some of the devices did have some better features, in terms of integration interface. Add-on hardware, we tested out some Bluetooth outlying beacons in Maine with the Succorfish devices. But at the end of the day, they all pretty much did what they were supposed to do, which was report a position every minute for the vessel.

I started to mention we were shooting for a one-minute ping rate. The reason for that one-minute ping rate is that typically between a one and two-minute ping rate, you can programmatically detect trawls as small as triples. In these two examples here, you know, this shows the map on the left is ten-trap trawls, the map on the right is triples.

In both cases these red polygons are the location of individual efforts, as detected by a hierarchal cluster algorithm. The orange dots over these are the actual GPS positions from a DMR observer on board. This has been really important to be able to automatically detect these trawl positions for quantifying the effort of the finer spatial scale, as well as potentially reducing harvester reporting requirements.

There are more details on this in the ASMFCs final report on this project. Recommendations and future work. As I mentioned, the one-minute ping rate was found to be essential. Faster ping rates than this are not really necessary. Multiple vendors could meet the requirements for higher ping rate VMS in the lobster fishery.

The minimum data that you get out of these devices, the vessel identifier, the timestamp, and the latitude and the longitude. A lot of these devices offer additional data elements, and they're mostly plots that you can calculate. It's conceivable that multiple vendors could feed these same four data elements into a common system.

Installation of these devices on many vessels will definitely require a significant amount of staff technicians. There are times when they stop working, you need to follow up with the fishermen. Additionally, if you're talking about putting 1200 of these devices on federal lobster vessels, that is a significant amount of work, just for the initial deployment. Significant data integration work remains. You know the tracking data on its own is not nearly as useful unless it is linked to a harvester report that has information about how much is caught, about how many trawls were hauled, data elements that are then being discussed.

It's possible further hardware testing, hauler sensors, environmental sensors. There are also some efforts at DMR to develop their harvester at vessel for length with some of these vessel tracking provider systems. DMR has recently received funding for an extended pilot project with up to 20 trackers integrating with harvester reporting. I also have results of a second project that was funded by ASMFC between Mass DMF and Rhode Island Innovative Trackers eTRIPS Mobile. I'll open up for questions.

CHAIR McKIERNAN: Toni, any hands up?

MS. KERNS: Not yet, Dan.

CHAIR McKIERNAN: I have one question, and it had to do with data storage. Is this going to be a challenge, kind of an unmet burden to maintain large amounts of data on some systems?

MR. DeVOE: Yes, that is a great question. When DMR is having conversations with odd looking data that provides our harvester app, we had done some back of the envelope calculations, and said you know okay, if we had every federal vessel producing one-minute pings with those elements I described. How much would that actually produce?

The lowest number that we came up with, if you were just storing, you know the device ID, the timestamp or the position was 3 gigabytes a year, which is nothing. We rounded it up. In conversations with the software developers at Bluefin. We said let's just call it 50 gigs, and I think that they had thrown out a figure that was, it was absurd. It was something like $5.00 a month for storage. It was nothing at all. That was using what

the sort of maximum possible, if you had all sorts of other data elements you know, things like calculated vessel speed, effort number, et cetera.

CHAIR McKIERNAN: Thanks, are there any other questions Toni, from the Board?

MS. KERNS: Tim Donovan has his hand up, Dan.

CHAIR McKIERNAN: Tim Donovan? Okay.

MR. TIM DONOVAN: Good afternoon folks, Tim Donovan, NOAA Office of Law Enforcement. Nice report, Bill. One of the things, as far as enforcement is concerned is the tamper proofing of these types of units to be used for any type of litigation. Did the vendors give you any information on something that we probably want General Counsel to review at one point, if this goes any further?

MR. DeVOE: Yes, that is a great question, thank you. I think I only talked about this once in the presentation, but we worked with Maine Marine Patrol on some of these tracking devices, and got some of their feedback. I would definitely welcome and encourage any feedback from OLE. Yes, so a few of the devices do have some antitamper type hardware. The Succorfish device that we tested had a wire loop that ran through the wiring harness, so that if anybody unplugged or cut the cable to the tracker, it would trigger an event.

Additionally, as far as security, all the ones that we tested out were fully encrypted. This is something that has definitely been considered by the companies that are producing these. Something I would throw out too, for the consideration of the Board, you know from the Office of Law Enforcement. You know there would be further discussion on how important real-time data is.

In my personal discussions with our Marine Patrol Officers that were involved in this, they seemed to think that the lower cost of cellular data more than made up for any loss in real-time capability. Similar to the scientific end of this were more interested in viewing vessel tracks after the fact instead of real time. That is something to consider during discussions regarding real-time satellite VMS versus cellular.

CHAIR McKIERNAN: Toni, are there any other questions from the Board?

MISS KERNS: I don't see any hands up, Dan.

CHAIR McKIERNAN: My question is, what are the next milestones? You had mentioned that there is a southern New England version of this that is trying to link up to eTRIPS. Do you want to speak to what is going to come in the next chapter of the development of this technology?

MR. DeVOE: I can't speak to the southern New England project, although Story might know something about that if he's on the line. But as far as DMR, we're working on integrating the harvester app that is being developed called VESL. We had some of the data interfaces to these tracking providers, starting out with Succorfish, but possibly including other tracking providers.

In the expanded pilot project that we're hoping to do, we would test anywhere between 20 and 25 tracking devices. But in addition to just deploying these on federal lobster vessels, it would also have the captains of the vessels reporting via vessel to fulfill their harvester reporting requirements with tracking data linked up.

CHAIR McKIERNAN: Yes great, and I think that was one of the original visions that Pat Keliher of Maine brought forward a few years ago, when we were talking about requiring 100 percent harvester reporting. Pat's vision of the model he was trying to develop was, with trackers it would become easier to generate the record and that particular part of the report wouldn't have to be entered, it would be captured by the device.

I look forward to more developments in this, especially as it relates to the potential and ongoing offshore wind development. The offshore wind

development that could very well take place in the Gulf of Maine is going to desperately need good data on where and when lobstermen fish, and it is so critical to shore up that missing information, when so many other gear types have VMS and have a much stronger position, in terms of defining where they fish. The lobster fishery, which is the most valuable fishery in the Gulf of Maine, the data is so lacking. Nice job on this, and I really look forward to more progress. Thanks for this report.

MS. KERNS: Dan, David Borden has his hand up.

MR. BORDEN: I'll make it quick. We've gone through Lobster Board, and I would point out both Councils and NOAA. We've gone through a whole series of issues, and I would just kind of summarize them. We've talked about the need for better enforcement offshore. The New England Council just went through a Deep-Sea Coral Amendment.

You have a New England Council Habitat Amendment, a Mid-Atlantic Council Habitat Amendment. A number of us on this Coral have been pretty much preoccupied with the issue of Right Whales and the co-occurrence of lobster gear and Right Whales. Now, as the Board Chairman correctly notes, we've got the issue of Gulf of Maine wind power.

In my own case, I've received a couple of very preliminary briefings about where wind power may go in the Gulf of Maine, and on Georges Bank. It is pretty horrifying, to be blunt, how little information you have on the location of where the lobster gear is set. Now, I am not deluding myself at all, and I'll be blunt and just say that putting trackers on lobster boats is bound to be extremely controversial, and I totally understand why it would be controversial.

We've had about five or six issues that have come up before the Lobster Board, where we need better spatial and temporal information on the lobster fishery, as a means of protecting that industry from some of the large-scale activities that are now competing with it. At some point I think the Board needs to have a discussion of whether or not they want to write down all those reasons.

You know like a white paper or whatever, summarize those reasons, and then consider including some part of the puzzle for tracking devices either in all of federal waters, or a subset of the federal waters, as a means of protecting the industry. Well, what you really need on a wind power issue is at least two or three years on a really accurate information on where the fishery is taking place.

Otherwise, you're going to run the real possibility of having another situation like southern New England, where the wind companies are basically pushing the industry out of 1500 square miles of area, which is going to have huge impacts on an industry that was managed. I guess my question to you, Mr. Chair, in terms of process.

How do we do this? Do we do a white paper? Do we schedule or put it on a formal agenda, and give the industry notice of what we're going to discuss? What is the best way to move forward? Because I think there is a need for at least a discussion on this, and clearly fleshing out the logic behind it.

CHAIR McKIERNAN: David, I would like to take you up on your offer, and assist you, and pledge not only my support, my agency's support to maybe developing a position paper on this. I think you've just eloquently described the litany of management actions that the lobster industry has faced that if there had been better delineation of fishing locations, it might have turned out differently, or have been less controversial. I would like to see us put together a paper like that, maybe in a draft form for the Board's reading for the next meeting.

Does anyone object to that? Does anyone on the Board object to, David if you're willing to take the lead on that. Again, I would offer you my support as coauthor, and even some of my staff's support. We feel this is a critical issue. Can we get some discussion on that? It would be a draft white paper for the Commission to review, about the need for better

delineation of fishing location through some kind of tracking technology. Toni, are there any comments, any hands up?

MS. KERNS: You have one hand up, Pat Keliher, and then I have a follow up question when Pat is done, Dan.

CHAIR McKIERNAN: Okay, Pat Keliher.

MR. KELIHER: I don't object to the development of a draft white paper. I just remind the Board that there were conversations with the Agency around trackers, as it pertains to whales. We still have not seen any proposed rules come out of the Agency to date. Based on the timeline that they have set with the Courts; I'm assuming that it will be sometime this fall. We may or may not see something there, but I just bring that up as a reminder.

CHAIR McKIERNAN: Toni.

MS. KERNS: One, I was going to remind the Board that we did make the request, I believe, in a letter almost two years ago now, for trackers to be on federal vessels to GARFO or to NOAA. Then, is this white paper focusing on federal vessels or all lobster vessels? Then after that, Tim had his hand up. I don't think it was directly related to the white paper though.

CHAIR McKIERNAN: Well, my response to that is I think that is the issue that can be raised in the white paper, is that there seems to be a much more urgent need for data in the federal zone than in the state waters, but I think we should describe that.

MS. KERNS: Thank you for that clarification, and then Tim has his hand up.

CHAIR McKIERNAN: Tim.

MR. DONOVAN: I just wanted to add along the enforcement line. Currently OLE is conducting a pilot program with an ROV, Remote Operating Vehicle, to do some gear inspections offshore. Hopefully some time in November, I'll have data to be shared with both the Lobster Board and the Law Enforcement Committee regarding the results of that activity. I just wanted to give you all a heads up.

CHAIR McKIERNAN: All right, thank you. Is there any other discussion on this topic? If not, we'll move on to.

MR. KELIHER: Mr. Chairman, I am not sure if I had my hand up. Just as far as the white paper. I think it's going to be critical that the draft include some comments on who the lead is going to be. Is it going to be the Commission, or is it going to be the Agency? Are we recommending that the Agency take that lead?

CHAIR McKIERNAN: I'm sorry, Pat, when you say the Agency taking the lead, in terms of regulating something like that or bringing it to the attention?

MR. KELIHER: As far as actually the regulatory side of it, yes.

CHAIR McKIERNAN: Well, that is a good question, because I fear that given NOAAs longer rulemaking process, and I'm being kind, I wonder if the states could require it sooner, if that was the decision to move forward. I worry that you know with offshore wind development coming in the next handful of years.

In my view we need this data within just a couple years to get in that conversation. I'm not sure if NOAAs rulemaking process, if they would be up to the task of being that nimble. Anyway, I think that's what this white paper should try to flesh out. I think it is important to be open and discuss some of these points. All right, let's move on. Thank you, Pat.

MS. KERNS: Dan, I'm sorry. I was trying to tell you that David Borden also had his hand up.

CHAIR McKIERNAN: David Borden, go ahead.

MR. BORDEN: I'm happy to work on that per your request with you, and my suggestion is there are probably a few of our state agencies on this call that

would want to have a member of their staff involved in that. I think we should broaden it if we have volunteers.

CHAIR McKIERNAN: Certainly. Are there any volunteers at this time from any of the other states?

MS. KERNS: I don't see any other hands, but folks that want to volunteer, or maybe we might ask for additional help, can e-mail Caitlin.

CONSIDER FISHERY MANAGEMENT PLAN REVIEW AND STATE COMPLIANCE REPORTS

CHAIR McKIERNAN: Okay, thank you. All right let's move on. We're pretty much on schedule to move on to the Fishery Management Plan Review and State Compliance Reports**.** Caitlin.

MS. STARKS: Can everyone see my slide? All right, great. We'll be going over the FMP reviews for lobster for the 2019 fishing year, and then Jonah crab for 2018 and 2019 fishing years, starting off with lobster.

FMP REVIEW FOR AMERICAN LOBSTER FOR THE 2019 FISHING YEAR

MS. STARKS: As you can see in this figure, the lobster fishery has grown quite substantially in landings over the last 40 years, and the all-time high occurred in 2015. In 2019 coastwide commercial landings were 125.8 million pounds, which is a 15 percent decrease for 2018 landings. The largest contributors to the 2019 fishery were Maine, which is shown as the orange line on the graph, and Massachusetts, which is shown as the gray line, and those contributed 80 percent and 13 percent of landings respectively, and the ex-vessel value for lobster landings in 2019 was 630 million.

Moving on to the monitoring information, starting with trawl surveys for 2019. These are the Maine and Long Island Sound Surveys, but there is other state information in the FMP Review. But for the Maine and New Hampshire Trawl Survey, the spring Survey Abundance Indices, which are shown as the top figure on the left, increased in 2019 from 2018, and they are above the time series mean.

Fall survey abundance indices, which is on the bottom, decreased in 2019, but they are also above the time series mean. Then for Long Island Sound there has been considerable declines in the spring and fall indices over time. The spring 2019 Lobster Abundance Index was the third lowest in the time series, but it's similar to 2017 and 2018.

Then sadly, the fall 2019 survey was the first time since the survey began in 1984 that no lobsters were caught in September and October. These are the VTS survey results for 2019. For Maine VTS there were slight decreases in the number of sublegal and legal lobsters caught in 2019, compared to 2018.

In the Gulf of Maine portion of Massachusetts, the mean CPUE of sublegal lobsters, which is the top line, was quite a bit lower in 2019 than 2017 and 2018, and the mean catch-per trap of legal sized lobsters also decreased from 2018 and was below the time series average. Then these graphs show the young of year surveys for Maine and Massachusetts.

In Maine settlement indices in 2019 increased from 2018 in all areas, and they are near the time series average in Areas 511 and 512, but they continue to be below the series average for Area 513 east and west. Then in Massachusetts, densities of young of year lobsters were low, compared to the time series average in all of the sampling locations, except for the south shore.

Then in Gulf of Maine there were no young of year lobsters found in the Boston sampling regions, and in southern New England there were no young of year lobsters found in the Buzzards Bay sampling locations. We've already discussed this a bit today, so I'll make it quick.

But just to note that most of the Addendum XXVI requirements were implemented by January, 2020, but that spatial resolution component has been

delayed to January 1, 2021, along with the other data elements that Toni went over earlier, and that was to allow for the necessary changes to be made to the data collection platforms.

The Plan Review Team noted a few issues in the state compliance reports. First, New Jersey completed three fisheries sampling trips in 2019, although the minimum requirement under Addendum XXVI is ten total trips. New Jersey noted that in recent years it has been increasingly difficult to get compliance and willingness from vessel captains to accommodate their observers onboard, and then Connecticut also did not complete any sea or port sampling in 2019, due to continued staff and budget limitations. Lastly, the PRT noted that Massachusetts and Connecticut weren't able to provide their compliance reports by the August 1st deadline. As for *de minimis* requests, Delaware, Maryland, and Virginia have requested continued *de minimis* status, and all three states meet the requirement that their most recent two-year average commercial landings are under 40,000 pounds.

The PRT Recommends approving those requests. The additional PRT recommendations are summarized on this slide, first being approving the *de minimis* requests, and they also recommended that the Board review the monitoring requirements for southern New England, given that the stock status is unfavorable, and that it has been difficult to obtain sea sampling.

Then the PRT also recommended coastwide consideration be given to the transfer of tags between traps, in order to remove the need for exchange tags. Then also, that continued efforts to improve effort quantification in the lobster fishery are recommended, as well as research on lobster growth, maturity, connectivity, settlement and larval dynamics.
Lastly, the PRT recommends engaging the Committee on Economic and Social Sciences or CESS, to consider or develop socioeconomic metrics that can be used to characterize changes in the fishery.

FMP REVIEW FOR JONAH CRAB FOR 2018 AND 2019 FISHING YEARS

MS STARKS: Next, I'll go over the Jonah crab FMP reviews, and if it's okay, I'll just hold questions until the end.

In 2019, approximately 16 million pounds of Jonah crab were landed along the Atlantic coast, and that is a 21 percent decrease from the 2018 total of 19.8 million pounds. The states of Massachusetts and Rhode Island were the largest contributors to landings in the fishery in both of those years, landing 61 percent and 21 percent of the total in 2019, respectively.

Addendum III asks the states to expand their fishery independent surveys to collect more information on Jonah crab, though no surveys are required. This is the Massachusetts Trawl Survey results, but again the other states survey results are included in the FMP Review. Trends across the time series for this trawl survey are generally positive, though the 2019 data points for all seasons and regions in the Massachusetts Trawl Survey were below their time series medians, except for the spring survey in Gulf of Maine.

The status of the Jonah crab stock is generally unknown, and a coastwide stock assessment has not yet been conducted. In the FMP Review there is information on a number of studies that were completed in recent years. Then next month we do have a pre-assessment data workshop scheduled for Jonah crab, to evaluate all available data sources, and to determine whether enough data are available to conduct a stock assessment.

This is just a summary of the current management program for Jonah crab. The FMP was approved in 2015, establishing the permit requirements, minimum size, prohibition on the retention of egg-bearing females, and recreational possession limit. Then Addendum I established the bycatch limit for non-trap gear and non-lobster trap gear.

Addendum II established coastwide claw harvest provisions, and the bycatch definition, and then lastly Addendum III improved the harvester reporting and data collection. Only one issue was noted by the PRT with regard to state compliance with the FMP requirements, and this has been noted for the past several years. New York has implemented all of the management measures, except for the regulations to limit the directed pot fishery to lobster permit holders only, and the 1,000-crab bycatch limit.

New York has noted that it's unclear how long it will take to get this legislation revised to implement these provisions, but that in practice the fishery is operating under these conditions already. The report also notes that New York had been seeing a decline in Jonah crab landings over time, and that in 2019 New York only contributed 0.8 percent of the coastwide Jonah crab landings.

New York also notes that they do currently have limited entry for crab licenses, and a moratorium on the lobster license. The PRT also noted that Massachusetts and Connecticut have been unable to meet the compliance report deadline for the last two years. Delaware, Maryland, and Virginia have requested continued *de minimis* status for Jonah crab, and they all meet the requirement that the average commercial landings constitute less than 1 percent of the average coastwide commercial catch for the last three years.

The PRT recommends approving all three of these requests, and with *de minimis* status these states would be exempt from fishery independent sampling and for sea sampling requirements. Then these are the PRTs recommendations for this year, and for last year's FMP reviews. First, they noted the concern about the lack of Jonah crab regulations in New York, which was first raised as a concern in 2017. They also recommended that jurisdictions with crab-only harvesters should report on the number and collective effort of these participants.

That research of the Jonah crab species should continue, in order to complete a coastwide stock assessment, and also that the LEC should review compliance in the Jonah crab fishery, given it's a relatively new FMP, and there may be a learning opportunity there. These are the actions that the Board can consider today, both consider approval of the lobster FMP review, and state compliance reports, as well as the two Jonah crab FMP reviews. With that I can take any questions.

CHAIR McKIERNAN: Are there any questions from the Board?

MS. KERNS: Cheri Patterson.

CHAIR McKIERNAN: Cheri.

MS. PATTERSON: Caitlin, I have a question in regards to the first bullet in the lobster fishery management plan memo from the PRT. Has the TC talked about reducing required sampling trips if there is actually a reduction in effort for a particular state?

MS. STARKS: Short answer is I don't think we've discussed that recently. But it is something that we can have the TC discuss.

MS. PATTERSON: It just seems a little counterintuitive to keep making a state do sea sample trips, if they just don't have the effort involvement. Maybe that should be something that is looked at on a more regular basis to adjust sampling trips appropriately to effort. To that, Mr. Chair, after all the questions for the lobster I can move forward with a motion.

CHAIRAMN McKIERNAN: Thank you, Cheri, is there anyone else who would like to ask any questions about the two compliance reports?

MS. KERNS: I see Pat Keliher and Ritchie White.

CHAIR McKIERNAN: Go ahead, Pat.

MR. KELIHER: Considering the time that has passed with New York on this issue, even though it is relatively small from a compliance standpoint. I think I would recommend that the Board send a letter to New York, asking them to come into compliance for the next year. At least they'll have something to give to their legislature. We all know that when we're trying to make changes, and the legislature is involved, it adds a level of complexity sometimes, and maybe a letter like that would garner some assistance for them.

CHAIR McKIERNAN: Pat, as Chair, maybe you can help me. Would that action have to go to the Policy Board before a letter went out?

MR. KELIHER: Yes, I believe it would, and I would look to Toni and Bob, and I'm quite sure it would have to be approved by the Policy Board.

CHAIR McKIERNAN: Do you want to put that in the form of a motion to propose that the Board submits to the Policy Board that New York be communicated to about the lack of compliance on those items within the Jonah crab management plan.

MR. KELIHER: Happy to call that a motion, Mr. Chair.

CHAIR McKIERNAN: Pat has made that motion, is there a second?

MS. KERNS: David Borden has his hand up. Mr. Chair, I guess you've already made it, so let's go ahead and help Maya get the motion up on the screen, since it's already been made, really quick here. Maya, we move to recommend to the ISFMP Policy Board a letter be sent to New York regarding the implementation of Jonah crab measures. Does that work, Pat?

MR. KELIHER: Yes, that is perfect.

CHAIR McKIERNAN: We don't have a second yet. David Borden, are you seconding that?

MR. BORDEN: Yes.

CHAIR McKIERNAN: Any discussion on the motion?

MR. G. RITCHIE WHITE: Mr. Chairman, Ritchie, I had my hand up.

CHAIR McKIERNAN: Go ahead, Ritchie.

MR. WHITE: I was going to raise the same issue, and I think the letter needs to have the word about you know stricter measures at the end of the year if there isn't action taken, so whether it's implemented within a year or the legislature is passing it, or the bill is before the legislature. You know we need to see some action or we'll find New York out of compliance. That would be my suggestion.

CHAIR McKIERNAN: This will be taken up at the Policy Board, and maybe you can weigh in at that time as well. Is there any objection to this motion?

MS. KERNS: Ritchie, do you need to have your hand up? Emerson Hasbrouck, you now have your hand up.

MR. HASBROUCK: Yes, can you hear me? I'm having some technical difficulties on this end.

CHAIR McKIERNAN: I can hear you, yes.

MR. HASBROUCK: Not opposed, but I just want you to know that New York is going to abstain.

CHAIR McKIERNAN: Thank you, Emerson. Because it won't be unanimous, do we need to do a roll call?

MS. KERNS: It doesn't have to be a roll call, Dan, it could just be a regular. I guess you could ask if there is any objection, noting that New York has abstained.

CHAIR McKIERNAN: Outside of New York's abstention, is there any other dissent on this motion? None, Toni?

MS. KERNS: I don't see any hands.

CHAIR McKIERNAN: All right, then it passes by unanimous consent, with the exception of one

abstention, which is by the state of New York. Now we need a motion to approve the Plan Reviews.

MS. KERNS: I believe Cheri Patterson said she would be ready to make a motion for that.

CHAIR McKIERNAN: Cheri.

MS. PATTERSON: I would like to move to approve the Lobster Fishery Management Plan Review for the 2019 fishing year, state compliance reports and *de minimis* status for Delaware, Maryland, and Virginia.

CHAIR McKIERNAN: Is there a second?

MS. KERNS: Ray Kane.

CHAIR McKIERNAN: Thank you, Raymond Kane second, any discussion on the motion?

MS. KERNS: We have David Borden with his hand up, Emerson, and Ray. I'm not sure if they want to speak, or if they were offering a second.

CHAIR McKIERNAN: David Borden, you're first.

MR. BORDEN: I mistakenly had my hand up, Mr. Chairman, I support the motion.

CHAIR McKIERNAN: Emerson, you have anything you would like to add?

MR. HASBROUCK: No, thank you, Mr. Chairman. My hand was up to second the motion.

CHAIR McKIERNAN: Raymond, I'm assuming you don't have any comments, or do you, Raymond Kane?

MR. KANE: I believe we have consensus, Dan, let's move this along.

CHAIR McKIERNAN: All right, hearing no objections, it is passed by unanimous consent. Is there any other business to come before the Board?

MS. KERNS: Dan, we just have one more motion from Cheri for the Jonah crab FMP Reviews.

CHAIR McKIERNAN: Oh, I'm sorry, yes, Cheri.

MS. PATTERSON: I would like to move to approve the Jonah crab FMP Reviews for the 2018 and 2019 fishing years, state compliance reports, and *de minimis* status for Delaware, Maryland, and Virginia.

CHAIR McKIERNAN: Is there a second?

MS. KERNS: You have a second from David Borden.

CHAIR McKIERNAN: Thank you, David. Are there any objections to the motion?

MS. KERNS: I see no hands raised, Dan.

CHAIR McKIERNAN: It's adopted by consent, and finally other business.

ADJOURNMENT

CHAIR McKIERNAN: Is there any other business to come before the Board?

MS. KERNS: I do not see any hands raised for other business.

CHAIR McKIERNAN: All right, well thank you everyone, it was a productive meeting. Thank you, Toni, for assisting me in identifying the speakers, and thanks to all the presenters today. This meeting is adjourned.

(Whereupon the meeting adjourned at 4:32 p.m. on October 19, 2020.)

captive rail shippers to utility customers, favoring an approach that conforms to Generally Accepted Accounting Principles (GAAP), and determining that removing the effect of deferred taxes led to a more accurate representation of railroad profitability. *See id.* at 272–75; *Consol. Rail Corp.* v. *United States,* 855 F.2d 78, 93 (3rd Cir. 1988) (affirming the ICC's decision and finding that the ''adjustment of its formula in the interests of accuracy is rational''). Does the ICC's reasoning for adopting the utility method remain valid, specifically with respect to analogizing captive shippers to utility customers, determining whether the utility method continues to conform with GAAP today, and finding that the utility method led to a more accurate representation of railroad profitability?

Additionally, the Joint Carriers will be requested to file workpapers sufficient to replicate the analysis underlying their proposals and to make those workpapers available, upon request, to other participants in this proceeding, under an appropriate protective order.

Interested persons may file comments by March 1, 2021. If any comments are filed, replies will be due by March 31, 2021.

It is ordered:

1. A rulemaking proceeding is initiated, as discussed above.

2. Comments are due March 1, 2021; replies are due March 31, 2021.

3. The Joint Carriers are requested to file workpapers sufficient to replicate the analysis underlying their proposals and to make those workpapers available, upon request, to other participants in this proceeding, under an appropriate protective order.

4. Notice of this decision will be published in the **Federal Register**.

5. This decision is effective on its service date.

Decided Date: December 22, 2020.

By the Board, Board Members Begeman, Fuchs, and Oberman.

Andrea Pope-Matheson,

Clearance Clerk.

[FR Doc. 2020–28864 Filed 12–30–20; 8:45 am]

BILLING CODE 4915–01–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 229 and 697

[Docket No. 201221–0351]

RIN 0648–BJ09

Taking of Marine Mammals Incidental to Commercial Fishing Operations; Atlantic Large Whale Take Reduction Plan Regulations; Atlantic Coastal Fisheries Cooperative Management Act Provisions; American Lobster Fishery

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

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes to amend the regulations implementing the Atlantic Large Whale Take Reduction Plan to reduce the incidental mortality and serious injury to North Atlantic right whales (*Eubalaena glacialis*), fin whales (*Balaenoptera physalus*), and humpback whales (*Megaptera novaeangliae*) in northeast commercial lobster and crab trap/pot fisheries to meet the goals of the Marine Mammal Protection Act and the Endangered Species Act. In addition, this action also proposes a small revision to Federal regulations implemented under the Atlantic State Marine Fisheries Commissions' Interstate Fishery Management Plan for Lobster to increase the maximum length of a lobster trap trawl groundline. This action is necessary to reduce the risks to North Atlantic right whales and other large whales associated with the presence of fishing gear in waters used by these animals.

DATES: Submit comments on or before March 1, 2021.

Public Hearings: Eight or more remote public meetings will be held during the public comment period. See **ADDRESSES** to obtain public hearing notification details.

ADDRESSES: You may submit comments, identified by NOAA–NMFS–2020–0031, by either of the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal eRulemaking Portal. Go to *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2020-0031,* click the ''Comment Now!'' icon and complete the required fields, and enter or attach your comments.

Instructions: All comments received that are timely and properly submitted are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. We will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous). Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by us.

Oral Comments: Remote public meeting access information will be posted on the Plan website *fisheries.noaa.gov/ALWTRP* or contact Colleen Coogan for information on locations and dates. Contact information below.

Copies of this action, including the Draft Environmental Impact Statement (DEIS) and the Regulatory Impact Review/Initial Regulatory Flexibility Analysis (DEIS/RIR/IRFA) prepared in support of this action, are available via the internet at *https://www.regulations.gov/* or by contacting Colleen Coogan at the contact information below.

Several of the background documents for the Plan and the take reduction planning process can be downloaded from the Plan website. Copies of the DEIS/RIR/IRFA for this action can also be obtained from the Plan website. Information on the Decision Support Tool and Co-Occurrence model used to support the development and analysis of the proposed regulations can be found in appendices to the DEIS. The complete text of current regulations implementing the Plan can be found in 50 CFR 229.32 or downloaded from the Plan's website, along with outreach compliance guides to current regulations. The complete text of current regulations implementing the Lobster Plan can be found at 50 CFR part 697.

FOR FURTHER INFORMATION CONTACT: Colleen Coogan, NMFS, Greater Atlantic Regional Fisheries Office, 978–281–9181, *Colleen.Coogan@noaa.gov.*

SUPPLEMENTARY INFORMATION:

Table of Contents

Background

The Atlantic Large Whale Take Reduction Plan (ALWTRP, or Plan) was originally developed pursuant to section 118 of the Marine Mammal Protection Act (MMPA, 16 U.S.C. 1387 to reduce the level of mortality and serious injury of three stocks of large whales (fin, humpback, and North Atlantic right) interacting with Category I and II fisheries. Under the MMPA a strategic stock of marine mammals is defined as a stock: (1) For which the level of direct human-caused mortality exceeds the Potential Biological Removal (PBR) level; (2) which, based on the best available scientific information, is declining and is likely to be listed as a threatened species under the Endangered Species Act of 1973 (ESA) within the foreseeable future; or (3) which is listed as a threatened or endangered species under the ESA or is designated as depleted under the MMPA (16 U.S.C. 1362(19)). When incidental mortality or serious injury of marine mammals from commercial fishing is over the PBR level, NMFS convenes a take reduction team made up of stakeholders from the fishing industry, fishery management councils and commissions, state and Federal resource management agencies, the scientific community and conservation organizations.

The Atlantic Large Whale Take Reduction Team (ALWTRT or Team) was established in 1996 and is made up of 60 members, including about 22 trap/pot and gillnet fishermen or fishery representatives. Because both right whales and fin whales are listed as endangered, they are considered strategic stocks under the MMPA. Due to population growth, in 2016 certain stocks of humpback whales, which are taken in the Atlantic Category I and II fisheries regulated under the ALWTRP, are no longer listed as endangered or threatened under the Endangered Species Act (81 FR 62259). However, although they are not currently a strategic stock, they continue to be included in the Plan because they are taken in Category I fisheries and will continue to benefit from Plan requirements and proposed revisions.

Specific Category I and II fisheries addressed by the Plan include the Northeast sink gillnet, Northeast drift gillnet, Northeast anchored float gillnet, Southeast Atlantic gillnet, Mid-Atlantic gillnet, Southeastern U.S. Atlantic shark gillnet, Atlantic mixed species trap/pot, Atlantic blue crab trap/pot, and Northeast/Mid-Atlantic American lobster trap/pot. Proposed modifications for this rulemaking are limited in scope to the crab and trap/pot fisheries in the Northeast Region Trap/Pot Management Area (Northeast Region). The Northeast Region encompasses those waters where year-round trap/pot measures are required as described in 50 CFR 229.32. This area includes the Northern Inshore State Trap/Pot Waters, the Northern Nearshore Trap/Pot Waters Areas, the Massachusetts Restricted Area, the Great South Channel Restricted Trap/Pot Area, the Jordan Basin, Jeffreys Ledge, and Stellwagen Bank Restricted Areas and the northeast Offshore Trap/Pot Waters Area that are within the area bounded on the west by a straight line running south from the coast at 41°18.2′ N latitude, 71°51.5′ W longitude to 40°00′ N latitude, and then bounded on the south by a line running east along 40°00′ N latitude to the eastern edge of the Exclusive Economic Zone (EEZ) (Figure 1).

The background for the take reduction planning process and initial development of the Plan is provided in the preambles to the proposed (62 FR 16519, April 7, 1997), interim final (62 FR 39157, July 22, 1997), and final (64 FR 7529, February 16, 1999) rules that implemented the original plan.

Since its 1997 implementation, the Plan has been modified several times to reduce the risk of mortality and serious injury of large whales incidentally taken in commercial sink gillnet and trap/pot gear. The most recent final rule was published in May 2015 (80 FR 30367, May 28, 2015). Because of the declining population and the persistent incidental entanglement mortalities and serious injuries above the stock's PBR, Plan modifications have, and continue to be, directed primarily at reducing the risk of commercial fisheries on the North Atlantic right whale.

Right Whale Population Decline

In a peer-reviewed scientific paper published in 2017, Pace *et al.* (see References section at end of this preamble), confirmed that due to decreased calving rates and increased mortality, much of it unseen, the North Atlantic right whale population had been in decline since 2010 (Pace *et al.* 2017). Seventeen right whale mortalities were documented in 2017, causing NMFS to declare an Unusual Mortality Event, which continues through 2020. Although most right whale mortalities in 2017 occurred in Canadian waters and not all were confirmed to be entanglement related, three mortalities first seen in U.S. waters exhibited signs of entanglement. The evidence of a declining population exacerbated by high mortalities caused NMFS to convene subgroups of the ALWTRT in early 2018 to investigate the feasibility of risk reduction measures. A meeting of the full Team was held in October 2018 to develop recommendations for modifying the Take Reduction Plan.

As described in detail in Chapter 3 of the DEIS prepared in support of this action and very briefly below, the location and exact fishery in which each entanglement incident occurs can rarely be determined. However, over 95 percent of vertical buoy lines fished along the U.S. East Coast in waters not currently exempt from Plan requirements are fished by the lobster and Jonah crab trap/pot fishery—93 percent within the Northeast Region. For this reason and given the magnitude of the issue, NMFS is addressing this issue in phases to expedite rulemaking. The initial phase focused the scope of the Team meetings on developing recommendations for the Northeast Region lobster and Jonah crab trap/pot fisheries. In 2021, the ALWTRT will be asked to recommend modifications to the Take Reduction Plan to address risk in the remaining fixed gear fisheries that use buoy lines, including other trap/pot fisheries and gillnet fisheries coastwide. Table 2.3 in the DEIS provides additional information supporting prioritizing the lobster and Jonah crab trap/pot fisheries in the Northeast Region first.

Team members submitted risk reduction proposals for the October 2018 in-person ALWTRT meeting. The lack of agreement on whether or how much risk reduction was necessary, or metrics to compare the wide range of proposal elements, challenged the Team's ability to develop recommendations. In anticipation of a spring 2019 meeting, the Team created workplans for NMFS identifying data needs to support decision making on Plan modification recommendations.

While the MMPA establishes PBR as a goal for take reduction, the Team identified the need for a risk reduction target that better described what their recommendations should achieve. NMFS estimated that to reduce serious injury and mortality below PBR, entanglement risk across U.S. fisheries needs to be reduced by 60 to 80 percent. There is much uncertainty regarding the source of entanglement mortality to the North Atlantic right whale population. There is no gear present or retrieved from most documented incidents of dead or seriously injured right whales. When gear is retrieved, it can rarely be identified to a fishery or to a location.

For the years 2009 through 2018, an average of five entanglement-related serious injuries and mortalities a year were observed. Only 0.2 a year could be attributed with certainty to U.S. fisheries and only 0.7 a year to Canadian fisheries. An annual average of four documented incidental entanglement mortalities and serious injuries could not be attributed to a country.

NMFS' has produced *Guidelines for Assessing Marine Mammal Stocks* to address how to consider PBR for transboundary stocks if certain information is available. Those Guidelines specify that in transboundary situations where a stock's range spans international boundaries or the boundary of the U.S. Exclusive Economic Zone (EEZ), the best approach is to establish an international management agreement for the species and to evaluate all sources of human-caused mortality and serious injury (U.S. and non-U.S.) relative to the PBR for the entire stock range. In the interim, if a transboundary stock is migratory and it is reasonable to do so, the fraction of time the stock spends in U.S. waters should be noted, and the PBR for U.S. fisheries should be apportioned from the total PBR based on this fraction. For non-migratory transboundary stocks (*e.g.,* stocks with broad pelagic distributions that extend into international waters), if there are estimates of mortality and serious injury from U.S. and other sources throughout the stock's range, then PBR calculations should be based upon a range-wide abundance estimate for the stock whenever possible.

Therefore, if a stock spends half its time in U.S. waters, PBR would be divided by two, resulting in a U.S. PBR for right whales of 0.5. Thus, the U.S. fishery related mortality would need to be reduced to below 0.5 (instead of 0.9 as is currently the goal). The Atlantic Scientific Review Group (established under MMPA sec. 117) that advises NMFS on Stock Assessment Reports, including PBR calculations, does not support this approach yet because we do not have sufficient information to apportion time spent in U.S. versus Canadian waters. Therefore, the U.S. target goal remains 0.9; however, NMFS did consider the relative threat including the time right whales spend in U.S. and Canadian waters when apportioning the unattributed entanglement incidents to create the risk reduction target, as described below.

For the purposes of creating a risk reduction target, NMFS assigned half of these right whale entanglement incidents of unknown origin to U.S. fisheries. Under this assumption, a 60 percent reduction in serious injury or mortality would be needed to reduce right whale serious injury and mortality in U.S. commercial fisheries, from an annual average of 2.2 to a PBR of 0.9 per year.

The upper bound of the risk reduction target (80 percent) considered estimated but unseen right whale mortalities, generated by a new population model (described in Hayes *et al.* 2019). Because all observed mortalities that can be attributed to a source have been caused by either entanglements or vessel strikes (except for some natural neonate mortalities), estimated non-observed mortalities are likely caused primarily by entanglements and vessels strikes. However, there is no way to definitively apportion unseen but estimated mortality across causes or country of origin (United States or Canada). For the purposes of developing a conservative target, NMFS assumed that half of the unseen mortalities occurred in U.S. waters and were caused primarily by incidental entanglements.

However, given the additional sources of uncertainty in the 80 percent target, as well as the challenges achieving such a target without large economic impacts to the fishery, the Take Reduction Team focused on recommendations to achieve the lower 60 percent target.

Additionally, to support the April 2019 Team meeting, the NMFS Northeast Fisheries Science Center created a preliminary decision support tool (DST): A model for analyzing and comparing how various proposal elements contributed toward the target risk reduction.

Both the target risk reduction and the DST generated a common understanding of the scope of measures that NMFS determined were necessary to reduce mortality and serious injury to below the PBR level for right whales. After some discussion, there was general agreement that risk reduction should be shared across jurisdictions so that no one state or fishing area would bear the bulk of the restrictions. This encouraged adoption of measures across the Northeast Region that would be resilient to changes in North Atlantic right whale distribution within the region. All but one Team member agreed that NMFS should move forward on a framework of recommended modifications to achieve 60 percent risk reduction. The dissenting Team member did not believe that the recommended modifications were sufficient to achieve PBR. The Team's recommendations was essentially a framework, largely dependent on extensive buoy line reduction goals and expansive requirements to use weak rope or weak insertions with breaking strengths of 1,700 lbs. (771 kgs.) or less that would allow large whales to break free of gear before a serious injury or mortality can occur (Knowlton *et al.* 2016).

In acknowledgement of the regional diversity of the fisheries, New England states sought and were given the lead in developing measures and implementation details related to the Team's near-consensus recommendation. Maine, New Hampshire, Massachusetts, and Rhode Island conducted public meetings before and after drafting measures. NMFS also worked closely with the Team members that represent the Atlantic Offshore Lobster Association on measures for the northeast Offshore Trap/Pot Waters Area, widely referred to as Lobster Management Area (LMA) 3. NMFS conducted its own scoping in August 2019 (84 FR 37822, August 2, 2019), receiving over 130 unique written comments as well as over 89,000 form emails generated by about a dozen campaigns. Oral comments were also collected during eight public meetings attended by over 800 stakeholders. The measures proposed in this rule are drawn largely from proposals received from New England states. Those proposals can be found in Appendix 3.2 of the DEIS. As described in the DEIS associated with this action, some Plan modifications in state waters will be implemented by Maine and Massachusetts under state laws and so are not included in the proposed Federal measures. Additionally, some measures proposed by the states for this rulemaking were not adopted in the regulations proposed here because they were inconsistent between adjacent states. Public comments received during scoping were considered throughout the development of the DEIS and proposed rule (Appendix 3.3 of the DEIS).

It should be noted that a draft population estimate developed by the North Atlantic Right Whale Consortium for their October 2020 meeting indicates that the right whale population has declined further, to about 366 right whales as of January 2019. Further peer review of this preliminary estimate is anticipated during Scientific Review Group meetings in early 2021 in preparation for an updated stock assessment. The updated stock assessment information along with other updates and analyses will be considered in drafting the final rule and environmental impact statement.

Summary of Proposed Changes

NMFS proposes changes for lobster and crab trap/pot gear in the Northeast

Region. The proposed measures detailed below seek to reduce large whale entanglement largely through risk reduction measures consistent with the April 2019 Team recommendations, which can be found in Table 3.1 in the DEIS. The proposed changes fall into four primary categories: (1) Gear modifications to reduce the number of vertical lines; (2) seasonal restricted areas that allow ropeless fishing but would be seasonally closed to fishing with persistent buoy lines; (3) gear modifications to include replacement of buoy lines with weak rope or weak insertions placed in intervals in buoy lines; and (4) additional gear marking and expansion of gear marking requirements throughout the Northeast Region.

Gear configuration changes to reduce line numbers include increases to the minimum number of traps per trawl (trawling up) in varying degrees related to distance from shore and area fished. In LMA 3, an extension of the maximum trawl length (distance between endlines) is also proposed to accommodate the increase in traps per trawl proposed for that area. Modified gear configuration to require weak rope in buoy lines or weak insertion at prescribed intervals in buoy lines are proposed across the Northeast Region crab/lobster fisheries. An alternative to allow fishermen the option of moving the weak link at the buoy connection to the surface system connect below the buoy is also proposed.

We are co-proposing three alternatives, as described in more detail below, for consideration concerning seasonal restricted areas. Under the first alternative, analyzed in the DEIS, we propose two new seasonal restricted areas that would be open to harvest of lobster and Jonah crab using ropeless fishing technology that does not require the use of persistent buoy lines, as well as changes to existing Northeast Region seasonal restricted areas to allow fishing in those areas with ropeless technology. Northeast state-specific gear marking modifications are also proposed. Under the second alternative, there would be only one new seasonal restricted area south of Cape Cod and Nantucket Island. Under the third alternative, NMFS is co-proposing provisions under which the imposition of seasonal restrictions on fishing in an area proposed for seasonal restrictions in LMA1 offshore of Maine would be triggered only if certain determinations are made in the future. We are soliciting comment on the relative merits of the three co-proposed approaches, including comment concerning the factual justifications for each approach, the legal adequacy of each approach, and the impacts of each approach on fishermen and other affected stakeholders.

In addition to the proposed Federal regulatory measures reflected in the proposed rule, modifications to the Plan to achieve at least a 60 percent risk reduction includes some risk reduction measures that will be implemented by the states of Maine and Massachusetts in exempted or state waters. Specifically, in waters currently exempted from regulations under the ALWTRP, the Maine Department of Marine Resources (MEDMR) will require the use of a weak insertion that breaks at 1,700 lbs. (771 kgs.) or less halfway down the buoy line. Maine has already implemented gear marking requirements consistent with gear marking modifications proposed here. The gear marking changes in Maine become effective September 1, 2020 for all Maine lobster fishermen, including those in Maine exempted waters. The Massachusetts Department of Marine Fisheries (MADMF) will continue their recent practice of extending the state waters closure of the Massachusetts Restricted Area into May until surveys demonstrate right whales have left the area. The DEIS includes an analysis of the risk reduction of the Maine weak insertions and the Massachusetts closure of the state waters of the Massachusetts Restricted Area because they contribute to the required risk reduction. The economic impacts of state measures are not included in the economic analysis of the Federal rulemaking, however. Massachusetts will also restrict buoy line diameters to no greater than ⅜ inch (0.95 cm) within state waters to restrain the introduction of larger diameter line into the fishery. Even ⅜ inch (0.95 cm) diameter rope can break at strengths much greater than 1,700 lbs; therefore, while this measure may contribute to future risk reduction by constraining line diameter, that cannot be assumed, and it is difficult to estimate a quantitative risk reduction.

As described fully in Chapter 3 of the DEIS, there are three categories of measures that contribute toward the target 60 percent risk reduction relative to the 2017 baseline:

- The proposed measures in this rulemaking
- the risk reduction measures that will be implemented by Massachusetts and Maine, and
- the lobster fishery management measures in LMA2 and LMA3 that have been implemented or are on a parallel regulatory track with ALWTRP modifications

The measures in this proposed rule were selected because they include those developed by Maine, Massachusetts, and to a lesser extent Rhode Island after extensive stakeholder outreach, supplemented by additional proposed measures and estimated by the DST to, together with the state and existing and anticipated Federal fishery management measures, achieve the 60-percent risk reduction target. Additional analyses using a co-occurrence model developed by IEC Inc. for NMFS demonstrated that proposed plan modifications should reduce the co-occurrence of North Atlantic right whales with lobster and crab buoy lines in the Northeast Region by about 69 percent.

Estimating the risk reduction of the weak insertion measures is more difficult. Nearly all Northeast lobster and crab trap/pot buoy lines would be modified with weak insertion. However, following the state proposals, the proposed rule would not require the insertions at intervals of every 40 feet (12.2 m), which was discussed by the Team as the interval needed to ensure it is equivalent to weak rope. The depth of the lowest weak insertion is also significant, as a whale that encounters a line above the lowest weak insertion can break away from the trawl, reducing the burden of gear on the whale. The risk reduction analysis takes an average of a lower bound of risk reduction estimate that compares the number of insertions to the number that would be required to be equivalent to weak rope and an upper bound estimate that considers the amount of rope above the lowest weak insertion to be weak. By this estimate, the proposed weak rope measures would modify nearly 26 percent of the rope in buoy lines to break at 1,700 lbs. (771 kgs.) or less.

The economic analysis does not estimate the number of vessels affected under the Maine measures within Maine exempted waters. Beyond the Maine exemption area, 3,970 vessels would be impacted, with first year compliance costs estimated at $6.9 million to $15.4 million (DEIS Table 6.22). Over the first six years (selected as the average span of time between amendments and consistent with buoy line replacement timing), there will continue to be costs associated with catch losses due to trawl up and closure requirements. The average annual cost in those out years is estimated to be $5.7 million to $12.3 million at a three percent discount rate. If Maine and Massachusetts do not implement the state measures identified in their proposals, and upcoming LMA3 aggregated trap measures are not finalized, further modifications to the

Plan would be required to achieve at least the 60 percent target risk reduction in the Northeast Region lobster and Jonah crab trap/pot fisheries to reduce mortality and serious injury to below PBR for North Atlantic right whales. Compliance costs would increase if states did not take these actions and NMFS were to include in Federal regulation the Maine exemption area measures and the extension of the Massachusetts Restricted Area in state waters. As noted above, we are co-proposing three alternatives for consideration concerning seasonal restricted areas. As the first alternative, NMFS proposes two new seasonal restricted areas that would restrict buoy lines but would be open to ropeless fishing; that is, harvesting lobster and Jonah crabs would be allowed using trap/pot trawls that would be retrieved without the use of persistent buoy lines. The purpose of these restricted areas would be to achieve risk reduction and reduce mortalities and serious injuries to below PBR for right whales when combined with the other proposed measures described in this rulemaking. The addition of restricted areas open to ropeless fishing was not included in the ALWTRT framework recommendations, but a seasonal closure south of Cape Cod and Nantucket was proposed by the Commonwealth of Massachusetts to increase risk reduction in southern New England. A restricted area open to ropeless fishing in LMA1 was not included in any state proposal but is proposed here at § 229.32(c)(6)(ii) to achieve sufficient risk reduction in the northern Gulf of Maine.

While NMFS has included both seasonal restricted areas in the proposed regulatory text below, and analyzed them in the DEIS, NMFS has not yet made a final determination as to whether the LMA1 closure is necessary to meet the goal of a 60 percent risk reduction. Accordingly, NMFS is co-proposing two additional alternative options regarding this issue, and is seeking public comment as set forth below:

Alternative 1–A (second co-proposed alternative): Not Including the LMA1 Seasonal Restricted Area.

NMFS is seeking comment on the option to not include the LMA1 seasonal restricted area in the final rule. Commenters that believe this additional restricted area is not warranted to achieve PBR are encouraged to provide specific information or analysis in support of not including the restricted area in the final rule. If NOAA receives information indicating that we can achieve the 60 percent risk reduction without the restricted area, we would consider not including the restricted area in the final rule. Additionally, if commenters believe that information will be available after issuance of the final rule on this topic, commenters should articulate the nature of that information, describe how the information might affect the decision, and propose a mechanism for evaluating that information in determining whether or not to continue with the restricted area.

Alternative 1–B (third co-proposed alternative): Implementing the LMA1 Seasonal Restricted Areas Only If Certain Triggers are Met.

NMFS is seeking comment on a proposal to provide that the Regional Administrator may implement the LMA1 closure only if certain triggers are met in the future. This option would require the Regional Administrator to examine the available information in advance of October in any given year and determine whether the closure is necessary. Specifically, the Regional Administrator would implement the closure if he or she determines that the frequency of entanglements has not been reduced below 60 percent from the effective date of the final rule. NMFS is considering the following specific language to implement this provision and is interested in any comments on this textual change (see § 229.32(c)(6)(ii) Alternative 1–B).

The Regional Administrator may determine whether the frequency of entanglements from the trap/pot gear in the Northeast region has been reduced by 60 percent from [the effective date of this rule] within a time period that allows meaningful analysis. If the Regional Administrator determines that the frequency of such entanglements has not been reduced by 60 percent, then from October 1 to January 31, it shall be prohibited to fish with, set, or possess trap/pot gear in this area unless it is fished without buoy lines or with buoy lines that are stored on the bottom until they can be remotely released for hauling, or the trap/pot gear is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84.

As relevant to the first and third co-proposed alternatives, the proposed rule would also modify two existing restricted areas to allow fishing without buoy lines. This modification was also not in the Team recommendations or state proposals, but is proposed here to accelerate research and development of ropeless (buoyless) fishing methods so that in the future, commercial fishing using ropeless technology can be used instead of seasonal closures to allow trap pot fishing while protecting right whales. NOAA has invested a substantial amount of funding in the industry's development of ropeless gear, in specific geographic areas and in general. We anticipate that these efforts to facilitate and support the industry's development of ropeless gear will continue, pending appropriations.

Finally, a number of housekeeping edits were made in the existing regulatory text. The initiation point was added as the final endpoint to the table describing the Great South Channel Area (see table 11 at 50 CFR 229.32(c)(5)(i) in amended text) to fully enclose the restricted area. In a number of places, revisions were made describing the availability of guidance created to aid in compliance with gear configuration and marking measures. In a number of places, state abbreviations were replaced with the complete state names.

See **ADDRESSES** for information on access to the DEIS for a detailed analysis of the impacts of the proposed measures and other measures considered.

Changes Proposed To Reduce the Number of Vertical Buoy Lines

The proposed rule would reduce the number of vertical buoy lines fished outside of areas exempted under the Plan by increasing the minimum number of traps required per trawl (known as trawling-up), based on area fished and distance from shore as indicated in Table 1. Concerns have been raised that the trawling-up requirement of 45 traps per trawl in LMA3 may present a safety concern to a handful of LMA3 vessels that have insufficient deck space or rope storage capacity. NMFS requests LMA3 fishery participants and other reviewers' comments on the feasibility of permit-specific conditions that would result in an average of 45 traps per trawl in LMA3, to achieve the same buoy line reduction.

The trawling-up measures included in this proposed rule were proposed by the states or by LMA3 ALWTRT fishing industry participants. Outside of waters exempted from trawling up requirements under the ALWTRP, an estimated 19 percent reduction in buoy line numbers would be achieved by the proposed trawling-up measures described on Table 1. Note that MEDMR proposed an option for lobstermen to use fewer traps per trawl using one buoy line in a manner resulting in the same line proportion of buoy lines to pots (four traps on a single buoy between three and six miles, eight trap per single

buoy between 6 and 12 miles). NMFS is not proposing this at this time because past gear modifications allowing more than three pots per buoy were rescinded due to comments that those gear configurations resulted in gear conflicts and safety concerns. Outside of three miles, this option would also require modifications to regulations on lobster gear configuration found at 50 CFR 697.21(b)(2) requiring trawls of more than three traps to mark both ends of the trawl with buoys and radar reflectors. Although not proposed here, comments on this option are requested. Additionally, the proposed rule would require 45 traps per trawl in the Northeast LMA3 management area. This trawl configuration may pose logistic and safety concerns for a few smaller vessels permitted to fish in LMA3. Offshore lobster fishermen have suggested that they would consider individual permit conditions requiring some vessels to fish more traps/trawl to ensure that the average traps/trawl fished in the area, and therefore, the buoy line numbers will be the same as that analyzed for the proposed rule. Reviewers are asked to provide comments on whether equivalencies implemented through fishing permit conditions should be considered.

TABLE 1—PROPOSED REGULATORY CRAB/LOBSTER NORTHEAST REGION BUOY LINE REDUCTION MODIFICATIONS TO THE ATLANTIC LARGE WHALE TAKE REDUCTION PLAN

Component	Area	Distance from shore if applicable	Proposed measure
Modify minimum traps per trawl requirements.	Maine state waters	Maine Exemption line to 3 nmi (5.56 km).	3 traps/trawl.
	Offshore Maine	3 nmi (5.56 km) to the 6 mi line	8 traps/trawl.
	All LMA1	6 mi line to 12 nmi (22.22 km)	15 traps/trawl.
	LMA2 and Outer Cape Cod	3–12 nmi (5.56–22.22 km)	15 traps/trawl.
	LMA1 and LMA2	>12 nmi (22.22 km)	25 traps/trawl.
	Northeast LMA3		45 traps/trawl.
Increase maximum trawl length to accommodate traps/trawl.	Northeast LMA3		Extend maximum trawl length to 1.75 nm (3.24 km).

Note: See 50 CFR 229.32 for delineations of regulated waters and associated terms, such as exempted waters. The ''6-mile line'' refers to an approximation, described in 50 CFR 229.32(a)(2)(ii).

Changes to Restricted Areas

The proposed measures, summarized in Table 2, would modify current Northeast Region restricted areas to allow commercial trap/pot fisheries to harvest lobster and crabs if they fish with ropeless gear, without persistent buoy lines. The proposed modifications would affect two existing seasonal restricted areas currently closed to fishing: the Massachusetts Restricted Area (50 CFR 229.32(c)(3)) and the Great South Channel Restricted Trap/Pot Area (50 CFR 229.32(c)(4)). However, no changes are proposed to the surface system requirements (buoys and radar reflectors required at either end of lobster trawls or bottom tending fixed gear) under the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA), 16 U.S.C. 5101 *et seq. See* 50 CFR 697.21. Therefore, fishermen harvesting lobster in these areas would need to get authorization from the appropriate state or Federal agency to be exempted from these surface marking requirements.

This measure is not expected to introduce substantial fishing effort into the currently restricted areas, and any exempted fishing authorization would require methods, monitoring, and reporting that minimize the possibility of impacts on large whales. The purpose of this measure is to encourage fishermen to participate in the development of ropeless fishing, to improve operational feasibility and accelerate the timeline for adoption within commercial fishery operations. NMFS continues to prioritize ropeless fishing development and has initiated a pilot program to support ropeless experimentation and develop other innovative fishing gear technologies to reduce North Atlantic right whale entanglements in U.S. commercial fisheries as supported by fiscal year 2020 appropriations described in Senate Report 116–127. We anticipate that these efforts to facilitate and support the industry's development of ropeless gear will continue, pending appropriation. Reviewers are asked to comment on this proposed measure.

Two new seasonal restricted areas that would allow harvest of lobster and Jonah crab using bottom trap/pot trawl gear but without the use of persistent buoy lines are also proposed and summarized in Table 2 and illustrated in Figure 1: (1) Offshore of Maine along the LMA1 and LMA3 border and (2) south of Cape Cod and Nantucket. The first proposed new seasonal lobster and crab trap/pot buoy line restricted area from October through January about 30 miles (48 km) offshore of Maine along the LMA1 and LMA3 border was discussed with MEDMR but was not included in their proposal to NMFS. This buoy line restricted area is proposed at 229.32(c)(6)(ii) to ensure that the risk reduction measures in LMA1 approach the regional target risk reduction of 60 percent. The amount of risk reduction relative to the economic impact of the restricted area may vary in unpredictable ways during the restricted season. NMFS seeks comment as to whether restricted areas during certain months may have a disproportionately higher amount of economic impact. NMFS also seeks comment as to whether the proposed closure is necessary to achieve a sufficient level of risk reduction across the region or whether the buoy line closures should be excluded from the final rule. Additionally, as noted above and analyzed in the DEIS, while NMFS has included both proposed seasonal restricted areas in the proposed regulatory text below, NMFS has not yet made a final determination as to whether the LMA1 closure is necessary to meet the goal of a 60 percent risk reduction. As such, NMFS is also considering two alternative options regarding this requirement, and is seeking public comment on these two options as well as the proposed restricted area as set forth below:

Alternative Option 1–A. Invite Comment on not including the LMA1 Seasonal Restricted Area.

As an alternative to the proposed seasonal restricted areas, NMFS is also seeking comment on the option to not include the LMA1 seasonal restricted area. Commenters that believe this additional restricted area is not warranted to achieve PBR are encouraged to provide specific information or analysis in support of recommended removal of the restricted area from the proposed rule. If NOAA

receives information indicating that we can achieve the 60 percent risk reduction without the restricted area, we would consider not including the restricted area in the final rule. Additionally, if commenters believe that information will be available after issuance of the final rule on this topic, commenters should articulate the nature of that information, how the information might affect the decision, and propose a mechanism for evaluating that information in determining whether or not to continue with the restricted area.

Alternative Option 1–B: Invite Comment on not including the LMA1 Seasonal Restricted Areas Unless Certain Triggers are Met.

As an alternative to the proposed seasonal restricted areas, NMFS is also seeking comment on the option to modify the regulatory structure such that the Regional Administrator may implement the LMA1 closure if certain triggers are met in the future. This proposal would require the Regional Administrator to examine the available information in advance of October in any given year and determine whether the closure is necessary. Specifically, the Regional Administrator would implement the closure if he or she determines that the frequency of entanglements has not been reduced below 60 percent from the effective date of the final rule. NMFS is considering the following specific language to implement this provision and is interested in any comments on this textual change at § 229.32(c)(6)(ii) Alternative 1–B.

The Regional Administrator may determine whether the frequency of entanglements from the trap/pot gear in the Northeast region has been reduced by 60 percent from [the effective date of this rule] within a time period that allows meaningful analysis. If the Regional Administrator determines that the frequency of such entanglements has not been reduced by 60 percent, then from October 1 to January 31, it shall be prohibited to fish with, set, or possess trap/pot gear in this area unless it is fished without buoy lines or with buoy lines that are stored on the bottom until they can be remotely released for hauling, or the trap/pot gear is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84.

The second proposed new seasonal lobster and crab trap/pot buoy line closure area was proposed by MADMF south of Cape Cod and Nantucket from February through April. These seasonal restricted areas closures are proposed as closures to buoy lines so that ropeless fishing for lobster and crab could occur with appropriate exemptions, as described above in discussion of changes to closure current restricted areas.

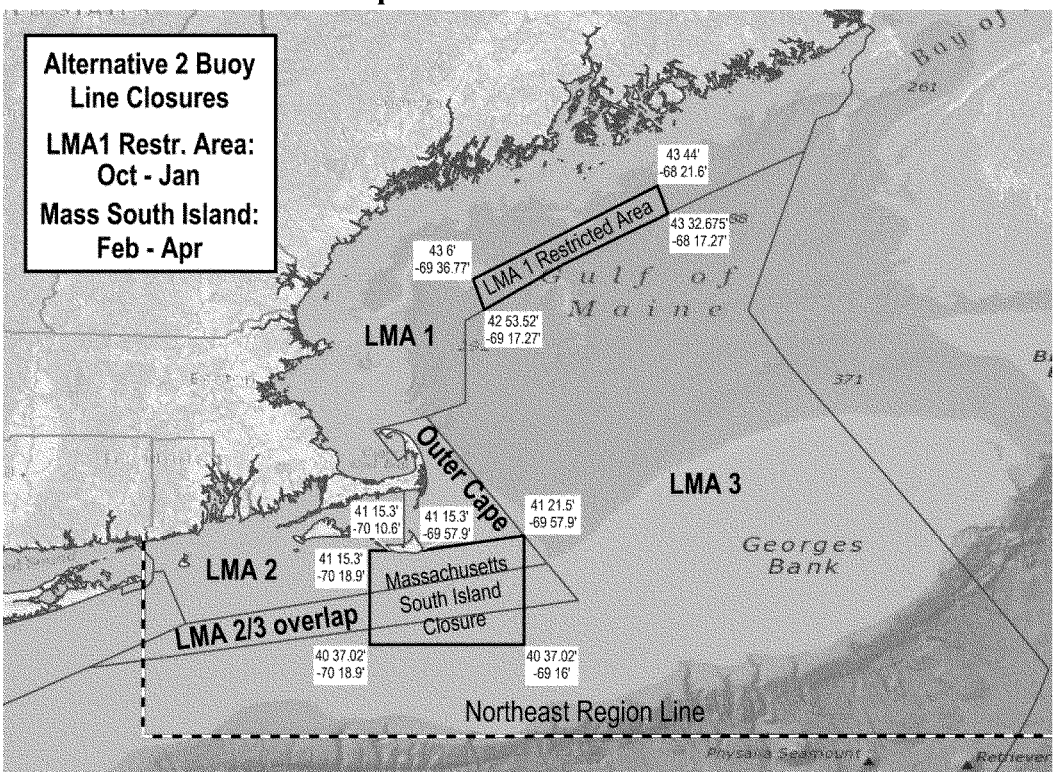
Rhode Island fishermen may also be affected by the Massachusetts South Island Restricted Area in LMA2, and a restriction of buoy lines was not included in the Rhode Island Division of Marine Fisheries (RIDMF) proposal. RIDMF instead proposed that LMA2 fishermen fish with two weak buoy lines (considered to be top 75 percent of the buoy line, allowing 25 percent chafing line where the line makes contact with the ocean floor) to achieve 60 percent risk reduction. Although weak buoy lines are analyzed within Alternative 3 in the DEIS, the Massachusetts South of Island closure was selected for proposed rulemaking due to the demonstrated value of the Massachusetts Restricted Area to North Atlantic right whale protection and recent use by right whales in the area south of Nantucket.

Through flexible state rulemaking, Massachusetts extends the current closure of state waters within the Massachusetts Restricted Area in May if whales remain. Taken together with line reduction measures and the two proposed buoy line closures, co-occurrence of trap/pot buoy lines with North Atlantic right whales would be reduced by an estimated 69 percent (Table 5.4, DEIS).

TABLE 2—PROPOSED REGULATORY CHANGES TO EXISTING NORTHEAST REGION RESTRICTED AREAS AND ADDITION OF TWO NEW AREAS PROHIBITING PERSISTENT BUOY LINES

Component	Proposed area	Measure
Northeast Region Lobster and Crab Trap/Pot Fishery seasonal closures to persistent buoy lines, open to harvest of lobster and Jonah crab using ropeless technology; Ropeless fishing would be allowed with appropriate state and Federal authorizations for exemption from Atlantic Coastal Fisheries Cooperative Management Act and the Magnuson-Stevens Fishery Conservation and Management Act surface marking requirements.	Massachusetts Restricted Area (50 CFR 229.32(c)(3)) and Great South Channel Restricted Trap/Pot Area (50 CFR 229.32(c)(4)).	Would change the trap/pot fishery restricted areas from complete fishing closures to closures to buoy lines. Would allow ropeless fishing for crab and lobster with appropriate state and Federal authorization for exemption from the remaining surface system marking requirements under the Atlantic Coastal Fisheries Cooperative Management Act and the Magnuson-Stevens Fishery Conservation and Management Act.
	New LMA1 Restricted Areas, across Maine Lobster Zones C/D/E.	October–January proposed restricted area; open to fishing with ropeless technology but closed to trap/pot fishing with persistent buoy lines. See Figure 1. Alternative 1–A No Closure. Alternative 1–B Open unless a determination is made by the Regional Administrator that the frequency of entanglements has not been reduced by 60 percent, in which case the area shall be open from October–January to fishing with ropeless technology but closed to trap/pot fishing with persistent buoy lines.
	New Massachusetts South Island Restricted Area.	February–April proposed restricted area; open to fishing with ropeless technology but closed to trap/pot fishing with persistent buoy lines. See Figure 1.

Figure 1 -- Northeast Region Trap/Pot Management Area, showing lobster management area boundaries and proposed LMA1 and Massachusetts South Island Seasonal Crab/Lobster Trap/Pot Restricted Areas



Gear Modifications To Include Weak Line or Weak Insertions in Buoy Lines

The proposed rule also identifies area-specific modifications to buoy lines to introduce weak rope or weak insertions breaking at 1,700 lbs. (771 kgs.) or less at various depths on the buoy line to increase the likelihood that a large whale would break the line prior to becoming entangled in a manner that causes a serious injury or mortality (Table 3). NMFS has confirmed with gear manufacturers that they can include one alternate color in three-strand buoy lines that are manufactured to break at less than 1,700 lbs. (771 kgs.) to distinguish them from strong line of the same diameter. Publication of this proposed rule would be an indicator of future market demand that may spur the production of weak line that can be visibly differentiated.

Weak insertions create places along the rope that have a breaking strength of 1,700 lbs. (771 kgs.) or less. The proposed regulations require a stipulation regarding the depths of weak insertions. Large whales including right whales appear to use the entire water column; therefore, encounters at depth can happen. We assume no risk reduction below the insertion. A large right whale encountering the rope above the weak insertion should be able to break free of the gear below the insertion with a lesser chance of serious injury. The closer the distance between weak insertions, the greater the benefit to right whales, with an ideal interval proposed by some Team members of 40 ft. (12.19 m), the average length of a right whale.

The proposed weak rope and weak insertion measures included in the proposed rule are taken directly from state proposals. MEDMR is evaluating the breaking strength of weak insertion devices, and some that have effectively broken at or below 1,700 lbs (771 kgs) include: Use of an engineered rope designed to have a tensile strength of up to 1,700 lbs. (771 kgs.); spliced insertion into a buoy line of a 3 to 6 ft. (0.91 to 1.83 m) long length of rope engineered to break at 1,700 lbs. (771 kgs.); and insertion of a 3 to 6 ft. (0.91 to 1.83 m) length of South Shore Lobster Fishermen's Association sleeve, a hollow braided sleeve that can be quickly integrated into typical three strand 5/16 and 3/8 inch (0.79 and 0.95 cm) diameter buoy line. Preliminary results of MEDMRs evaluations can be found in their proposal in Appendix 3.2 of the DEIS. Fishermen continue to test additional weak insertion configurations; therefore, additional options that demonstrate appropriate breaking strengths may be identified by the time of final rulemaking. The proposed rule requires inserts or weak line that has been demonstrated to break under forces greater than 1,700 lbs. (771 kgs.), but allows the Regional Administrator to approve new weak insertion devices as they are developed and proven effective to respond to the diversity in fishing practices and available materials across the Northeast Region.

The proposed requirements do not require weak insertions in the Maine exemption area because MEDMR will be requiring one insertion halfway down the buoy line in the exemption area through state regulations. The elements within the Preferred Alternative (Alternative 2) were selected because the DST estimated together they would achieve a greater than 60-percent risk reduction. The analysis includes Maine's intention to require a weak insertion in their exemption waters. The weak line and weak insertion modifications proposed below estimates that outside of the Maine exemption area, all buoy lines in the Northeast Region would be modified under the proposed rule and more than 26 percent

of the rope in crab and lobster buoy lines would be weakened to 1,700 lbs. (771 kgs.) or less. Planned state regulations would modify all buoy lines in Maine exempted waters so that an additional 31.7 percent of line would be equivalent to weak rope. If MEDMR does not implement weak insertion requirements in the exemption area, further modifications to the Plan may be needed to reduce risk of serious injury and mortality of North Atlantic right whales due to entanglement in the commercial Northeast Region lobster and crab trap/pot fisheries by 60 percent.

In addition to weak rope and weak insertions along the length of the buoy lines, the proposed rule would also modify the current weak link requirement at the buoy. The rule would allow fishermen the option of inserting the weak links (at current area-specific strengths) where the surface system connects to the buoy line rather than requiring it at the buoy itself. This modification was requested by fishermen for operational reasons rather than risk reduction reasons. The change would not increase risk, and may allow a whale to break away from entire surface system, which can include multiple lines, buoys, and radar reflectors, rather than just releasing the buoys. This may have a positive benefits due to a reduction in entanglement complexity. Comments from fishermen and the public on this measure specifically are encouraged.

We propose modifying the buoy weak link to provide fishermen with two options, the current connection close to the buoy or a weak link connecting the base of the surface system to the single buoy line. Moving the weak link to the base of the surface system could be required if there is information demonstrating this is a large risk reduction improvement. Finally, the non-preferred alternative in the DEIS (Alternative 3) considers removing the buoy weak link requirement for all buoy lines that would be required to have weak line or weak insertions farther down the buoy line. Under this configuration, a retained buoy could provide resistance that helps the buoy line to part lower down, or the buoy could pull the line away from the whale, increasing the possibility that it will fall from the whale. A retained buoy could also be helpful to large whale disentanglement responders, and buoys from commercial fisheries are usually required to be marked with vessel specific information that would provide information on the original location of entanglement. NMFS invites comments on all of these options.

TABLE 3—PROPOSED REGULATORY CHANGES TO REQUIRE WEAK ROPE, WEAK INSERTIONS ON BUOY LINES AND CHANGE TO WEAK LINK REQUIREMENT ON NORTHEAST REGION CRAB AND LOBSTER TRAP/POT BUOY LINES

Component	Area including distance from shore	Proposed measure
Weak line/Weak Insertion	From Maine exemption line to 3 nmi (5.56 km)	2 weak insertions, at 25 percent and 50 percent down buoy line.
	New Hampshire/Massachusetts/Rhode Island. From coast to 3 nmi (5.56 km).	1 weak insertion, at 50 percent down the buoy line.
	All Northeast Region. 3–12 nmi (5.56 km–22.22 km).	2 weak insertions, at 25 percent and 50 percent down line.
	LMA1, LMA2, and Outer Cape Cod. >12 nmi (22.22 km).	1 weak insertion, at 35 percent down the line.
	Northeast LMA 3	The top 75 percent of one buoy line weak.
Weak link placement option	Entire Northeast Region (Figure 1)	Allow option to place weak link as a connection between the surface system and the single buoy line.

Gear Marking Changes

Finally, the proposed rule would modify current gear marking requirements, introducing colored marks that identify state of permit issuance, as well as a 6-inch (15.24 cm) mark that distinguishes Northeast Region lobster and crab trap trawls in Federal waters from state waters. The rule would also add a 3 ft. (0.91 m) long mark within 2 fathoms of the buoys to increase the possibility of detection and identification to state fishery from vessels and aerial survey aircraft. Proposed modifications are summarized in Table 4. The gear markings are based on proposals received from or discussed with New England States. Maine has already published gear marking requirements analogous to these measures, requiring gear marking on every Maine permitted lobster buoy line, effective in September 2020. Maine's gear marks for Federal waters are mirrored in these regulations. Multiple marking methods would be allowed including paint, tape, or colored rope insertions.

While existing gear marking requirements have increased the amount of retrieved gear with marks, they do not provide sufficient entanglement location information. The proposed gear marking scheme would increase the number of marks present by approximately 56 percent (not including Maine exempt waters, which are regulated under state requirements and will substantially increase the number of marked lobster buoy lines there), increasing the chances that gear will be recovered with visible marks. The proposed gear marking would not impact the probability of whales becoming entangled in commercial fishing gear nor would they affect the severity of an entanglement should one occur. However, the markings would increase the information available regarding the fishery and state of origin of large whale entanglements to aid the efforts of NMFS and the ALWTRT in assessing, and if needed reducing, entanglements in U.S. commercial fisheries that cause mortalities and serious injuries of North Atlantic right whales and other large whales.

TABLE 4—PROPOSED REGULATORY CHANGES TO GEAR MARKING ON NORTHEAST CRAB AND LOBSTER TRAP/POT BUOY LINES

Area	Proposed gear marking measure
Entire Northeast Management Area (see figure 1) except Maine exemption area.	3-ft long state-specific mark (see color below) within 2 fathoms of the buoy. In Federal waters, an additional 6-inch green mark within 1 ft. of 3-ft mark.
Maine Exemption Area	3-ft long mark within 2 fathoms of the buoy. One or two additional 1-ft marks (depth dependent) through state regulation only.
Maine Non-Exempt	Purple. Three 1-ft marks: At top, middle and bottom of line. In Federal waters, an additional 6-inch green buoy line mark within 2 fathoms of buoy.
New Hampshire	Yellow. In state waters: Two 1-ft marks in the top half and bottom half of buoy line. Beyond state waters, three 1-ft marks: At top, middle and bottom of line. In Federal waters, an additional 6-inch green mark within 1 ft. of 3-ft mark within 2 fathoms of buoy.
Massachusetts	Red. In state waters: Two 1-ft marks in the top half and bottom half of buoy line. Beyond state waters three 1-ft marks: At top, middle and bottom of line. In Federal waters, an additional 6-inch green mark within 1 ft. of 3-ft mark within 2 fathoms of buoy.
Rhode Island	Silver/Gray. In state waters: Two 1-ft marks in the top half and bottom half of buoy line. Beyond state waters three 1-ft marks at top, middle and bottom of line. In Federal waters, an additional 6-inch green mark within 1 ft. of 3-ft mark within 2 fathoms of buoy.
LMA 3	Retain Black. In Federal waters add a 3-ft long mark within 2 fathoms of the buoy, and an additional 6-inch green mark within 1 ft. of 3-ft mark within 2 fathoms of buoy.

Addition to Definitions

To ensure clarity related to the management areas that are referenced but were developed for the American lobster fishery, a definition for ''Lobster Management Area'' is provided, citing the Atlantic Coastal Fisheries Cooperative Management Act regulations at 50 CFR 697.18.

For clarity related to proposed changes in weak link and gear marking requirements, the proposed rule would add a definition for ''surface system'' to the definitions in § 229.2.

Change in the Maximum Length of a Lobster Trap Trawl

In addition to changes to 50 CFR part 229, the proposed rule would revise Federal regulations implemented under the Atlantic State Marine Fisheries Commission's Interstate Fishery Management Plan for Lobster at 50 CFR 697.21. The proposed modification would increase the maximum length of a lobster trap trawl from 1.5 nm (2.78 km) to 1.75 nm (3.24 km) in LMA3 as measured from radar reflector to radar reflector, to accommodate a proposed increase in the minimum number of traps per trawl in LMA3.

Risk Reduction Target of 60 Percent

The proposed changes are intended to achieve a regional risk reduction target of at least 60 percent within the Northeast Region lobster and Jonah crab trap/pot fisheries. The Team will be convened to develop recommendations to modify the Plan to reduce risk in other U.S. Atlantic fisheries in meetings in 2021. A 60 percent risk reduction across U.S. commercial fisheries is the minimum that NMFS believes is necessary to reduce the incidental mortalities and serious injuries to below the potential biological removal level for right whales (0.9 potential biological removal level to 0.9 right whales (see Section 2.1.5 of the DEIS) based on documented serious injuries and mortalities. This rulemaking is intended to reduce the risk of entanglement within the Northeast Region lobster and Jonah crab fisheries by 60 percent, which fish about 93 percent of the buoy lines that occur in areas in the United States where right whales occur. NMFS will develop measures to reduce the risk within other fisheries by a similar amount so that the risk reduction target of 60 percent across U.S. commercial fisheries is achieved. NMFS seeks comment as to whether the allocation of risk reduction in the proposed rule is appropriate relative to other fixed gear fisheries (*e.g.,* gillnets) in the region that contribute to the risk of entanglement. Commenters that believe a lower target for risk reduction is warranted should provide specific information or analysis in support of any recommended level.

Classification

The NMFS Assistant Administrator has determined that this proposed rule is consistent with the Plan and the provisions of the Marine Mammal Protection Act, the Atlantic Coastal Fisheries Cooperative Management Act, and other applicable law, subject to further consideration after public comment.

National Environmental Policy Act

NMFS prepared a DEIS for this proposed rule that discusses the potential impacts of proposed changes to the ALWTRP on the environment. In addition to the status quo (Alternative 1), two alternatives are analyzed, Alternative 2 (preferred and the basis of this proposed rule) and Alternative 3. Alternatives 2 and 3 would both modify existing seasonal restricted areas from closure areas to areas closed to persistent buoy lines rather than closed to harvesting lobster and crab, reduce the number of vertical buoy lines fished in northeast lobster and crab trap/pot fisheries, deploy weak rope to allow whales to break free before being killed or seriously injured, seasonally close some areas to crab and lobster trap/pot fishing with persistent buoy lines, and increase gear marking requirements across the Northeast Region lobster and crab trap/pot fisheries. Alternative 2 would reduce buoy lines through an increase in minimum traps/trawl based on area fished. Alternative 3 would reduce lines by providing a line allocation in Federal waters capped at half the lines fished in 2017. While Alternative 2 weak buoy line provisions allow the use of a small number of weak insertions, under Alternative 3 those insertions would be required every 40 ft. along the buoy line or engineered weak rope would be required. Alternative 3 has more and larger seasonal restricted areas closed to buoy lines. An analysis of the impacts of the Federal portion of the two action alternatives estimates that Alternative 2 would reduce the co-occurrence of North Atlantic right whales and buoy lines in these fisheries by 69 percent and would modify 26 percent of the rope in vertical buoy lines to be weakened lines. Co-occurrence of humpback and fin whales with vertical lines would also be reduced by 19 and 27 percent, respectively. Alternative 3 would reduce the co-occurrence of North Atlantic right whales by 86

percent or greater and would modify 75 percent of rope in remaining vertical buoy lines to be weakened lines. Co-occurrence of fin and humpback whales with buoy lines would also be reduced by over 56 percent and 58 percent, respectively, in Alternative 3. Because of the extensive gear marking and weak rope provisions under both alternatives, 3,970 vessels would be affected. The estimated annualized compliance costs of each action alternative are $5.7 to $12.3 million for Alternative 2 and $16.3 to $31.8 million for Alternative 3. A copy of the DEIS is available in the docket or from NMFS (see **ADDRESSES**). Reviewers are asked to comment on and identify support for Alternative 1, 2 or 3.

Executive Order 12866, Regulatory Planning and Review, and Executive Order 13771, Reducing Regulation and Controlling Regulatory Costs

This proposed rule has been determined significant for the purposes of Executive Order 12866. This proposed rule is expected to be an Executive Order 13771 regulatory action. Depending on the assumptions used, the estimated total cost of this rule over the first six years of implementation, in 2020 dollars, is between $24.5 and $53.5 million.

Regulatory Flexibility Act

NMFS prepared an IRFA as required by section 603 of the Regulatory Flexibility Act (RFA). The IRFA describes the economic impact this proposed rule, if adopted, would have on small entities. A description of the action, why it is being considered, and the legal basis for this action are contained at the beginning of this section in the preamble and in the **SUMMARY** section of the preamble. A copy of this analysis is available in the docket or from NMFS (see **ADDRESSES**), and a summary follows.

Description and Estimate of Number of Small Entities To Which This Proposed Rule Would Apply

For RFA purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (see 50 CFR 200.2). A business primarily engaged in commercial fishing (North American Industry Classification System (NAICS) code 11411) is classified by NMFS as including those businesses, including their affiliates, whose primary industry is commercial fishing and who have $11 million or less in annual gross receipts. This standard applies to all businesses classified under NAICS code 11411 for commercial fishing, including all businesses classified as commercial finfish fishing (NAICS 114111), commercial shellfish fishing (NAICS 114112), and other commercial marine fishing (NAICS 114119) businesses. Data are not available to ascertain non-ownership interests needed to confirm the Small Business Act definition of ''affiliations;'' therefore, the Social Sciences Branch (SSB) of the NMFS Northeast Fisheries Science Center created an affiliated database. There are three major components of this dataset: Vessel affiliation information, landing values by species, and vessel permits. All federally permitted vessels in the Northeast Region from 2016 to 2018 are included in this dataset. Vessels are affiliated into entities according to common owners. The entity definition used by the SSB uses only unique combinations of owners.

Since this proposed regulation applies only to the crab and lobster pot/trap vessels in the Northeast Region, entities that possess one or more of these permits are evaluated. For each affiliation, the revenues from all member vessels of the entity are summed into affiliation revenue in each year. On December 29, 2015, NMFS issued a final rule establishing a small business size standard of $11 million in annual gross receipts for all businesses primarily engaged in the commercial fishing industry (NAICS 11411) for RFA compliance purposes only. The $11 million standard became effective on July 1, 2016. Thus, the RFA defines a small business in the lobster fishery as a firm that is independently owned and operated with receipts of $11 million or less annually. Based on this size standard, if the three-year average (2016–2018) affiliation revenue is greater than $11 million, the fishing business is considered to be a large entity, otherwise it is a small entity.

Within the Northeast Fisheries Science Center (NEFSC) SSB database, 1,591 distinct entities were identified as regulated entities. Using landings data, four of these entities are considered large entities. Because the regulations will also affect fishermen holding only state permits, the vertical buoy line estimates within the NMFS/IEC Co-Occurrence model were used to identify an addition estimate of 1,913 active vessels fishing in state waters that would be regulated by the proposed rule. In total, therefore, there are 3,504 regulated entities.

While we do not have data to determine the dependence of state permitted vessels on lobster landings, if they are analogous to the small entities fishing under Federal permits, they are likely to be dependent on lobster landings, as further described below. To determine the number of impacted entities within the NEFSC data, we identified whether one or more members of an affiliation landed lobster in 2018. These are entities likely to be impacted by the proposed regulations. The determination of whether an entity is a large or small entity is based on three-year average affiliation revenue from 2016 to 2018. Based on these characteristics, we identified 1,591 distinct entities as regulated entities, including 259 entities with no fishing revenue in 2018, and 111 entities (one large, 110 small) with no 2018 lobster landings. That is, there are 1,221 federally permitted vessels that would be impacted by the proposed rule because at least one vessel in the entity landed lobster in the past year (Table 5). Only three of the affected entities would be considered large entities; 1,218 are Federally-permitted small entities. We assume that in addition to those, the 1,912 vessels in state waters would also be impacted, for a total of 3,130 impacted small entities.

As estimated in Chapter 9 of the DEIS, Table 5 displays the average profit for all large and small entities, compared to their mean total revenue. Results indicate the profitability for large entities is 1.77 percent and for small entities is 18.48 percent. As such, we could conclude that the action would not create more significant economic impact on small entities compared to large entities.

TABLE 5—PROFITABILITY OF LARGE AND SMALL ENTITIES

	Mean profit	Mean total revenue	Profitability (%)
Large Entity	$469,784	$26,485,600	1.77
Small Entity	52,235	282,586	18.48

Under Alternative Two, a few measures are proposed to reduce the probability of serious injury and mortality of North Atlantic right whales including weak ropes, minimum trawl length requirement, and restricted areas. A gear marking requirement is also proposed to increase the chance of threat identification. All these measures generate a series of compliance costs for small entities.

As discussed in Chapter 6 of the DEIS, we assume the rulemaking cycle is six years, considered the approximate replacement time for buoy lines. Table 6 displays the compliance costs for all affected entities from Year 1 to Year 6. Year 0 is the status quo, so the compliance cost is zero, and we do not include it in the table. The discount rate of three percent and seven percent are used for the annualized value calculation. Weak rope only generate costs in Year 1, while gear marking needs to be replaced every year. Trawling up and restricted area measures have costs in the subsequent years due to the catch reduction impacts. At seven percent discount rate, the trawling up measures have the highest annual cost of $2.8 to $9.4 million. Gear marking would cost $2.5 million each year. Weak rope and restricted areas (seasonal buoy line closures) cost less than half a million dollars annually. The total annual cost of all measures ranges from $5.9 million to $12.8 million. If applied to roughly 3,100 affected small entities, each entity would have to bear a compliance cost of $1,900 to $4,100 per year for six years. If we are applying a three percent discount rate, the final cost for each vessel would be around $1,700 to $3,600 per year. In terms of realized Year 1 costs, compliance costs would range between $2,200 and $5,000 but would be lower in Years 2–6. The Year 1 costs would result in an estimated reduction in profit ranging from 4.3 percent to 9.5 percent.

TABLE 6—YEARLY COMPLIANCE COST OF PREFERRED ALTERNATIVE

Year	Gear marking	Weak rope	Trawling up lower	Trawling up upper	Restricted area lower	Restricted area upper	Total lower	Total upper
1	$2,017,283	$2,152,497	$2,660,792	$10,957,354	$106,259	$315,300	$6,936,831	$15,442,434
2	2,017,283	0	4,239,722	12,236,593	106,259	315,300	6,363,264	14,569,176
3	2,017,283	0	3,179,791	9,517,350	106,259	315,300	5,303,333	11,849,933
4	2,017,283	0	2,119,861	6,798,107	106,259	315,300	4,243,403	9,130,690
5	2,017,283	0	1,059,930	4,078,864	106,259	315,300	3,183,472	6,411,447
6	2,017,283	0	0	1,359,621	106,259	315,300	2,123,542	3,692,204
PV	12,103,698	2,152,497	13,260,096	44,947,889	637,554	1,891,800	28,153,845	61,095,884
AV (3%)	2,234,312	397,346	2,447,781	8,297,268	117,691	349,222	5,197,129	11,278,147
AV (7%)	2,539,305	451,585	2,781,912	9,429,878	133,756	396,892	5,906,558	12,817,660

Notes: 1. Year 1 to year 6 values are in 2017 dollars.
2. PV represents net present value of year 1 to year 6, also in 2017 dollars.
3. AV represents annualized value of the net present value. It is an equalized yearly cost during the 6-year time period with 3% and 7% discount rate.

Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

Paperwork Reduction Act

The gear marking requirements in this proposed rule constitute a revision to the information collection burden estimates, subject to review and approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA), OMB Control Number 0648–0364. The DEIS includes two alternatives which both include gear marking modifications and on which NMFS is soliciting comment here.

Comments are requested on assumptions made in estimating the public reporting burden associated with gear marking, including proposed revisions. In addition to new marks that would be required under this proposed rulemaking, we have revised past assumptions that fishermen replace about 20 percent of their buoy lines each year and therefore replace 20 percent of the gear marks annually. Based on new information from a NMFS gear specialist, burden estimates now include an assumption that fishermen will recreate every mark each year. The estimated time required to mark buoy lines has also increased to account for the new marks required and based on new information that the estimated time to make each mark is about 8.4 minutes for each mark. We estimate an average of 334.4 marks for each vessel, for a total reporting burden of an average of 47 hours per year for each of the 1,670 vessels, including the time and costs in acquiring gear marking materials. The total labor cost is estimated to be $1,963,949. Previous burden estimates assumed that 3,672 fishermen (including Maine fishermen outside of the Maine exempted waters) would replace an average of about 47 marks per vessel each year, with each mark taking 5 minutes, and a total burden cost estimate of $199,540 per year.

Reviewers are asked to comment and provide data on whether this proposed revision to the collection of information is necessary for the proper performance and function of the agency, including: The practical utility of the information; the accuracy of the burden estimate; the opportunities to enhance the quality, utility, and clarity of the information to be collected; and the ways to minimize the burden of the collection of information, including the use of automated collection techniques or other forms of information technology. Send comments on these or any other aspects of the collection of information to the NMFS Greater Atlantic Region at the **ADDRESSES** above. Notwithstanding any other provision of the law, no person is required to respond to, and no person shall be subject to penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information is conducted under OMB Control Number 0648–0364.

Federal Rules Which May Duplicate, Overlap, or Conflict With the Proposed Rule

This action does not duplicate, overlap, or conflict with any other Federal rules.

Description of Significant Alternatives to the Proposed Action Which Accomplish the Stated Objectives of Applicable Statutes and Which Minimize Any Significant Economic Impact on Small Entities

This rule proposes to amend the ALWTRP to reduce the incidental mortality and serious injury to North Atlantic right whales (*Eubalaena glacialis*), humpback (*Megaptera Novaeangliae*) and fin whales (*Balaenoptera physalus*) in the northeast commercial lobster and crab trap/pot fisheries to meet the goals of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). In addition, this action also proposes a small revision to Federal regulations

implemented under the Atlantic State Marine Fisheries Commissions' Interstate Fishery Management Plan for Lobster to increase the maximum length of a lobster trap trawl groundline to accommodate a gear configuration modification proposed in the Plan amendment.

Because incidental entanglement-related serious injury and mortality of North Atlantic right whales is above PBR, and the population is declining, the primary purpose of the proposed modifications is to reduce mortality and serious injury of right whales incidental to northeast U.S. crab and lobster trap/pot gear to below by greater than 60 percent. A reduction in entanglement incidents and serious injuries would also reduce sub-lethal impacts to right whales. NMFS estimated that to reduce mortality and serious injury to below PBR, entanglement risk across U.S. fisheries needs to be reduced by 60 to 80 percent. Non-preferred alternatives would likely not accomplish these objectives for this action or would be less cost effective.

Alternative 1 (status quo) would not modify the Plan or reduce the risk of mortality or serious injury of right whales to below its PBR level as required by the MMPA.

Alternative 3 would reduce the amount of line in the water via a line cap allocation to 50 percent of the lines fished in 2017, implemented in Federal and non-exempt waters except in LMA3. An increase in the minimum traps per trawl requirement would be implemented in LMA3. Under this alternative, existing closures to fishing would be modified to be closed to fishing with persistent buoy lines. The Massachusetts Bay Restricted area would also be extended with a soft closure through May, opening if surveys demonstrate that whales have left the restriction area. Three new seasonal restricted areas would allow ropeless fishing but be closed to buoy lines, including a longer restricted period for the LMA1 Restricted Area and a summer buoy line restriction in an area north of George's Bank at Georges Basin. Two alternative buoy line restricted area options are analyzed south of Cape Cod. Additional measures in Alternative 3 include conversion of a portion of the top 75 percent of all lobster and crab trap/pot vertical buoy lines to weaker rope with a maximum breaking strength of 1, 700 lbs. (771.1 kgs.). The Alternative also includes a more robust gear marking requirement that differentiates buoy lines by state and fishery and expands into areas previously exempt from gear marking.

Alternative 3 demonstrated better risk reduction than Alternative 2, but at a much greater cost. The DST estimated the preferred alternative proposed in this rulemaking would achieve over 60 percent risk reduction for lobster and crab trap/pot buoys in the Northeast Region, within the target established for reaching right whale PBR. The Co-Occurrence model suggested that co-occurrence would be reduced by over 69 percent and that more than 26 percent of the buoy lines in the regulated area would be modified to weak lines. The estimated cost of bringing gear into compliance and lost landings in the first year ranges from $6.04 to $14.5 million.

The DST estimated that Alternative 3 achieved a risk reduction score of nearly 70 percent, and the Co-occurrence Model estimated a co-occurrence reduction of greater than 86 percent. This alternative would increase the likelihood of reducing mortality and serious injury to below PBR for right whales even when taking into account cryptic mortality (estimated but unseen). However, the estimated costs associated with Alternative Three are substantially higher; ranging from $35.0 million to $53.6 million in first year implementation costs.

Alternative 2 was selected as the preferred alternative and is proposed for rule making because it addresses the Purpose and Need for Action stated in this DEIS, is made up primarily of measures proposed by New England states with extensive input from fishing industry stakeholders who will be directly affected by the measures, and includes measures that will help to conserve large whales by reducing the potential for and severity of interactions with commercial fishing gear that may lead to mortalities and serious injuries. In addition, NMFS believes that its preferred alternative achieves these goals while reducing, to the extent possible, the adverse socioeconomic impacts of the rule. On this basis, NMFS believes that Alternative 2 (Preferred) offers the best option for achieving compliance with MMPA requirements.

Coastal Zone Management

NMFS has determined that this action is consistent to the maximum extent practicable with the approved coastal management programs of the U.S. Atlantic coastal states. This determination has been submitted for review by the responsible state agencies under section 307 of the Coastal Zone Management Act.

Federalism

This proposed rule contains policies with federalism implications as that term is defined in Executive Order 13132. Accordingly, the Assistant Secretary for Legislative and Intergovernmental Affairs will provide notice and invite for appropriate participation in the proceedings for the proposed action to the appropriate official(s) of affected state, local, and/or tribal governments.

Endangered Species Act

An Endangered Species Act Section 7 consultation has been initiated and will be completed prior to publication of a final rule. Previously, NMFS completed an ESA Section 7 consultation on the implementation of the Plan on July 15, 1997, and concluded that the action was not likely to adversely affect any ESA-listed species under NMFS jurisdiction. Three subsequent consultations were concluded in 2004, 2008, 2014, and 2015, when NMFS amended the Plan. NMFS, as both the action agency and the consulting agency, reviewed the changes and determined that the measures as revised through rulemaking would not affect ESA-listed species under NMFS jurisdiction in a manner that had not been previously considered.

References

Knowlton, A.R., J. Robbins, S. Landry, H.A. McKenna, S.D. Kraus, and T.B. Werner. 2016. Effects of fishing rope strength on the severity of large whale entanglements. Conserv Biol 30:318–328.

Pace, R.M., 3rd, P.J. Corkeron, and S.D. Kraus. 2017. State-space mark-recapture estimates reveal a recent decline in abundance of North Atlantic right whales. Ecology and Evolution 7:8730–8741.

List of Subjects

50 CFR Part 229

Administrative practice and procedure, Confidential business information, Endangered species, Fisheries, Marine mammals, Reporting and recordkeeping requirements.

50 CFR Part 697

Fisheries, Fishing.

Dated: December 22, 2020.

Samuel D. Rauch, III,

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

For the reasons set out in the preamble, 50 CFR parts 229 and 697 are proposed to be amended as follows:

PART 229—AUTHORIZATION FOR COMMERCIAL FISHERIES UNDER THE MARINE MAMMAL PROTECTION ACT OF 1972

■ 1. The authority citation for 50 CFR part 229 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.;* § 229.32(f) also issued under 16 U.S.C. 1531 *et seq.*

■ 2. In § 229.2, add definitions for ''Lobster Management Area'' and ''Surface system'' in alphabetical order to read as follows:

§ 229.2 Definitions.

* * * * *

Lobster Management Area as used in this part means the management areas defined in the American Lobster Fishery regulations found at § 697.18 of this title.

* * * * *

Surface system, with reference to trap/pot and fixed gillnet gear, includes the components at the sea surface to identify the presence of stationary bottom fishing gear, and includes buoys, radar reflectors, and high flyers as well as the rope that connect these components to the vertical buoy line that connects to the bottom gear.

* * * * *

■ 3. Revise § 229.32 to read as follows:

§ 229.32 Atlantic large whale take reduction plan regulations.

(a) *Purpose and scope*—(1) *Whales and fixed gear fisheries.* The purpose of this section is to implement the Atlantic Large Whale Take Reduction Plan to reduce incidental mortality and serious injury of fin, humpback, and right whales in specific Category I and Category II commercial fisheries from Maine through Florida. Specific Category I and II commercial fisheries within the scope of the Plan are identified and updated in the annual List of Fisheries. The measures identified in the Atlantic Large Whale Take Reduction Plan are also intended to benefit minke whales, which are not designated as a strategic stock, but are known to be taken incidentally in gillnet and trap/pot fisheries. The gear types affected by this plan include gillnets (*e.g.,* anchored, drift, and shark) and traps/pots. The Assistant Administrator may revise the requirements set forth in this section in accordance with paragraph (i) of this section.

(2) *Regulated waters*—(i) *U.S. Atlantic waters.* The regulations in this section apply to all U.S. waters in the Atlantic except for the areas exempted in paragraph (a)(3) of this section.

(ii) *Six-mile line.* The six-mile line referred to in paragraph (c)(2)(iv) of this section is a line connecting the following points (Machias Seal to Provincetown):

TABLE 1 TO PARAGRAPH (a)(2)(ii)

44°31.98′ N lat., 67°9.72′ W long (Machias Seal)
44°3.42′ N lat., 68°10.26′ W long (Mount Desert Island)
43°40.98′ N lat., 68°48.84′ W long (Matinicus)
43°39.24′ N lat., 69°18.54′ W long (Monhegan)
43°29.4′ N lat., 70°5.88′ W long (Casco Bay)
42°55.38′ N lat., 70°28.68′ W long (Isle of Shoals)
42°49.53′ N lat., 70°32.84′ W long
42°46.74′ N lat., 70°27.70′ W long
42°44.18′ N lat., 70°24.91′ W long
42°41.61′ N lat., 70°23.84′ W long
42°38.18′ N lat., 70°24.06′ W long
42°35.39′ N lat., 70°25.77′ W long
42°32.61′ N lat., 70°27.91′ W long
42°30.00′ N lat., 70°30.60′ W long
42°17.19′ N lat., 70°34.80′ W long
42°12.48′ N lat., 70°32.20′ W long
42°12.27′ N lat., 70°25.98′ W long
42°11.62′ N lat., 70°16.78′ W long
42°12.27′ N lat., 70°10.14′ W long
42°12.05′ N lat., 70°54.26′ W long
42°11.20′ N lat., 70°17.86′ W long
42°09.55′ N lat., 69°58.80′ W long (Provincetown)

(iii) *Maine pocket waters.* The pocket waters referred to in paragraph (c)(2)(iv) of this section are defined as follows:

TABLE 2 TO PARAGRAPH (a)(2)(iii)

West of Monhegan Island in the area north of the line 43°42.17′ N lat., 69°34.27′ W long and 43°42.25′ N lat., 69°19.3′ W long
East of Monhegan Island in the area located north of the line 43°44′ N lat., 69°15.08′ W long and 43°48.17′ N lat., 69°8.02′ W long
South of Vinalhaven Island in the area located west of the line 43°52.31′ N lat., 68°40′ W long and 43°58.12′ N lat., 68°32.95′ W long
South of Bois Bubert Island in the area located northwest of the line 44°19.27′ N lat., 67°49.5′ W long and 44°23.67′ N lat., 67°40.5′ W long

(3) *Exempted waters*—(i) *COLREGS demarcation line.* The regulations in this section do not apply to waters landward of the 72 COLREGS demarcation lines (International Regulations for Preventing Collisions at Sea, 1972), as depicted or noted on nautical charts published by the National Oceanic and Atmospheric Administration (Coast Charts 1:80,000 scale), and as described in 33 CFR part 80 with the exception of the COLREGS lines for Casco Bay (Maine), Portsmouth Harbor (New Hampshire), Gardiners Bay and Long Island Sound (New York), and the State of Massachusetts.

(ii) *Other exempted waters*—(A) *Maine.* The regulations in this section

do not apply to waters landward of a line connecting the following points (Quoddy Narrows/U.S.-Canada border to Odiornes Pt., Portsmouth, New Hampshire):

TABLE 3 TO PARAGRAPH (a)(3)(ii)(A)

44°49.67′ N lat., 66°57.77′ W long. (R N ''2'', Quoddy Narrows)
44°48.64′ N lat., 66°56.43′ W long. (G ''1'' Whistle, West Quoddy Head)
44°47.36′ N lat., 66°59.25′ W long. (R N ''2'', Morton Ledge)
44°45.51′ N lat., 67°02.87′ W long. (R ''28M'' Whistle, Baileys Mistake)
44°37.70′ N lat., 67°09.75′ W long. (Obstruction, Southeast of Cutler)
44°27.77′ N lat., 67°32.86′ W long. (Freeman Rock, East of Great Wass Island)
44°25.74′ N lat., 67°38.39′ W long. (R ''2SR'' Bell, Seahorse Rock, West of Great Wass Island)
44°21.66′ N lat., 67°51.78′ W long. (R N ''2'', Petit Manan Island)
44°19.08′ N lat., 68°02.05′ W long. (R ''2S'' Bell, Schoodic Island)
44°13.55′ N lat., 68°10.71′ W long. (R ''8BI'' Whistle, Baker Island)
44°08.36′ N lat., 68°14.75′ W long. (Southern Point, Great Duck Island)
43°59.36′ N lat., 68°37.95′ W long. (R ''2'' Bell, Roaring Bull Ledge, Isle Au Haut)
43°59.83′ N lat., 68°50.06′ W long. (R ''2A'' Bell, Old Horse Ledge)
43°56.72′ N lat., 69°04.89′ W long. (G ''5TB'' Bell, Two Bush Channel)
43°50.28′ N lat., 69°18.86′ W long. (R ''2 OM'' Whistle, Old Man Ledge)
43°48.96′ N lat., 69°31.15′ W long. (GR C ''PL'', Pemaquid Ledge)
43°43.64′ N lat., 69°37.58′ W long. (R ''2BR'' Bell, Bantam Rock)
43°41.44′ N lat., 69°45.27′ W long. (R ''20ML'' Bell, Mile Ledge)
43°36.04′ N lat., 70°03.98′ W long. (RG N ''BS'', Bulwark Shoal)
43°31.94′ N lat., 70°08.68′ W long. (G ''1'', East Hue and Cry)
43°27.63′ N lat., 70°17.48′ W long. (RW ''WI'' Whistle, Wood Island)
43°20.23′ N lat., 70°23.64′ W long. (RW ''CP'' Whistle, Cape Porpoise)
43°04.06′ N lat., 70°36.70′ W long. (R N ''2MR'', Murray Rock)
43°02.93′ N lat., 70°41.47′ W long. (R ''2KR'' Whistle, Kittery Point)
43°02.55′ N lat., 70°43.33′ W long. (Odiornes Pt., Portsmouth, New Hampshire)

(B) *New Hampshire.* New Hampshire State waters are exempt from the minimum number of traps per trawl requirement in paragraph (c)(2)(iv) of this section. Harbor waters landward of the following lines are exempt from all the regulations in this section.

TABLE 4 TO PARAGRAPH (a)(3)(ii)(B)

A line from 42°53.691′ N lat., 70°48.516′ W long. to 42°53.516′ N lat., 70°48.748′ W long. (Hampton Harbor)
A line from 42°59.986′ N lat., 70°44.654′ W long. to 42°59.956′ N, 70°44.737′ W long. (Rye Harbor)

(C) *Rhode Island.* Rhode Island State waters are exempt from the minimum number of traps per trawl requirement in paragraph (c)(2)(iv) of this section. Harbor waters landward of the following lines are exempt from all the regulations in this section.

TABLE 4 TO PARAGRAPH (a)(3)(ii)(C)

A line from 41°22.441′ N lat., 71°30.781′ W long. to 41°22.447′ N lat., 71°30.893′ W long. (Pt. Judith Pond Inlet)
A line from 41°21.310′ N lat., 71°38.300′ W long. to 41°21.300′ N lat., 71°38.330′ W long. (Ninigret Pond Inlet)
A line from 41°19.875′ N lat., 71°43.061′ W long. to 41°19.879′ N lat., 71°43.115′ W long. (Quonochontaug Pond Inlet)
A line from 41°19.660′ N lat., 71°45.750′ W long. to 41°19.660′ N lat., 71°45.780′ W long. (Weekapaug Pond Inlet)
A line from 41°26.550′ N lat., 71°26.400′ W long. to 41°26.500′ N lat., 71°26.505′ W long. (Pettaquamscutt Inlet)

(D) *New York.* The regulations in this section do not apply to waters landward of a line that follows the territorial sea baseline through Block Island Sound (Watch Hill Point, RI, to Montauk Point, NY).

(E) *Massachusetts.* The regulations in this section do not apply to waters landward of the first bridge over any embayment, harbor, or inlet in Massachusetts. The following Massachusetts State waters are exempt from the minimum number of traps per trawl requirement in paragraph (c)(2)(iv) of this section:

(*1*) *Exempt waters of Massachusetts Bay and Outer Cape.* Heading From the New Hampshire border to 70° W longitude south of Cape Cod, waters in EEZ Nearshore Management Area 1 and the Outer Cape Lobster Management Area (as defined in the American Lobster Fishery regulations under § 697.18 of this title), from the shoreline to 3 nautical miles from shore, and including waters of Cape Cod Bay southeast of a straight line connecting 41°55.8′ N lat., 70°8.4′ W long. and 41°47.2′ N lat., 70°19.5′ W long.

(*2*) *Exempt waters of southern Massachusetts.* Heading From 70° W longitude south of Cape Cod to the Rhode Island border, all Massachusetts State waters in EEZ Nearshore Management Area 2 and the Outer Cape Lobster Management Area (as defined in the American Lobster Fishery regulations under § 697.18 of this title), including Federal waters of Nantucket Sound west of 70° W longitude.

(F) *South Carolina.* The regulations in this section do not apply to waters landward of a line connecting the following points from 32°34.717′ N lat.,

80°08.565′ W long. to 32°34.686′ N lat., 80°08.642′ W long. (Captain Sams Inlet).

(4) *Sinking groundline exemption.* The fisheries regulated under this section are exempt from the requirement to have groundlines composed of sinking line if their groundline is at a depth equal to or greater than 280 fathoms (1,680 ft or 512.1 m).

(5) *Net panel weak link and anchoring exemption.* The anchored gillnet fisheries regulated under this section are exempt from the requirement to install weak links in the net panel and anchor each end of the net string if the float-line is at a depth equal to or greater than 280 fathoms (1,680 ft or 512.1 m).

(6) *Island buffer.* Those fishing in waters within ¼ nautical miles of the following Maine islands are exempt from the minimum number of traps per trawl requirement in paragraph (c)(2)(iv) of this section: Monhegan Island, Matinicus Island Group (Metinic Island, Small Green Island, Large Green Island, Seal Island, Wooden Ball Island, Matinicus Island, Ragged Island), and Isles of Shoals Island Group (Duck Island, Appledore Island, Cedar Island, Smuttynose Island).

(b) *Gear marking requirements*—(1) *Specified area*s. Except for when fishing in LMA3 and Maine exempted waters, Maine, New Hampshire, Massachusetts, and Rhode Island lobster and crab trap/pot fishermen will follow the color code scheme assigned to the state that permits their vessel, indicated in paragraph (b)(3) of this section. For all other trap/pot and gillnet gear, excluding shark gillnet, the following areas are specified for gear marking purposes: Northern Inshore State Trap/Pot Waters, Cape Cod Bay Restricted Area, Massachusetts Restricted Area, Stellwagen Bank/Jeffreys Ledge Restricted Area, Northern Nearshore Trap/Pot Waters Area, Great South Channel Restricted Trap/Pot Area, Great South Channel Restricted Gillnet Area, Great South Channel Sliver Restricted Area, Southern Nearshore Trap/Pot Waters Area, Offshore Trap/Pot Waters Area, Other Northeast Gillnet Waters Area, Mid/South Atlantic Gillnet Waters Area, Other Southeast Gillnet Waters Area, Southeast U.S. Restricted Areas, and Southeast U.S. Monitoring Area.

(i) *Jordan Basin.* The Jordan Basin Restricted Area is bounded by the following points connected by straight lines in the order listed:

TABLE 5 TO PARAGRAPH (b)(1)(i)

Point	N lat.	W long.
JBRA1	43°15′	68°50′
JBRA2	43°35′	68°20′
JBRA3	43°25′	68°05′
JBRA4	43°05′	68°20′
JBRA5	43°05′	68°35′
JBRA1	43°15′	68°50′

(ii) *Jeffreys Ledge Restricted Area.* The Jeffreys Ledge Restricted Area is bounded by the following points connected by a straight line in the order listed:

TABLE 6 TO PARAGRAPH (b)(1)(ii)

Point	N lat.	W long.
JLRA1	43°15′	70°25′
JLRA2	43°15′	70°00′
JLRA3	42°50′	70°00′
JLRA4	42°50′	70°25′
JLRA1	43°15′	70°25

(2) *Markings.* All specified gear in specified areas must be marked with the color code shown in paragraph (b)(3) of this section. The color must be permanently marked on or along the line or lines specified under paragraphs (b)(2)(i) through (iii) of this section. Each colored mark must be clearly visible when the gear is hauled or removed from the water, including if the color of the rope is the same as or similar to the respective color code.

(i) *Northeast crab and lobster buoy line markings.* For all Northeast Region crab and lobster trap/pot gear regulated under this section, the surface system ropes must be marked with a solid 36-inch mark (91.4 cm) within two-fathoms (3.7 m) of the buoy. When fishing in Federal waters, all Northeast Region crab and lobster trap/pot surface system lines must have an additional 6-inch (15.24 cm) green mark one-foot (30.05 cm) below the 36-inch (91.4 cm) mark. These surface system marks must be solid marks that may be dyed, painted, or heat-shrink tubing, insertion of a colored rope or braided sleeve, or the line may be marked as approved in writing by the Assistant Administrator. When fishing in state waters, the buoy line must be marked at least two additional times (top half, bottom half) and each mark must total 12-inches (30.5 cm) for a total of four marks in state waters. When in Federal waters, the buoy line must be marked at least three additional times (top, middle, and bottom) and each mark must total 12-inches (30.5 cm) for a total of five marks in Federal waters. In marking or affixing the color code for buoy line below the surface system for gear regulated under this paragraph (b)(2)(i), the line may be: Dyed; painted, marked with thin colored whipping line, thin colored plastic, or heat-shrink tubing; spliced in insertion of a colored rope or braided sleeve or other material, or a thin line may be woven into or through the line; or the line may be marked as approved in writing by the Assistant Administrator.

(ii) *Other buoy line markings.* For all other trap/pot and gillnet gear regulated under this section, the buoy line must be marked at least three times (top, middle, bottom) and each mark must total 12 inches (30.5 cm) in length. If the mark consists of two colors then each color mark may be 6 inches (15.25 cm) for a total mark of 12 inches (30.5 cm). In marking or affixing the color code for gear regulated under this paragraph (b)(2)(ii), the line may be: Dyed, painted, marked with thin colored whipping line, thin colored plastic, or heat-shrink tubing, spliced in insertion of a colored rope or braided sleeve or other material, or a thin line may be woven into or through the line, or the line may be marked as approved in writing by the Assistant Administrator. An outreach guide illustrating the techniques for marking gear is available from the Regional Administrator, NMFS, Greater Atlantic Region upon request and posted on the NMFS, Greater Atlantic Region Atlantic Large Whale Take Reduction Plan website *https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/atlantic-large-whale-take-reduction-plan#outreach.*

(iii) *Net panel markings.* Shark gillnet gear net panels in the Southeast U.S. Restricted Area S, Southeast U.S. Monitoring Area and Other Southeast Gillnet Waters is required to be marked. The net panel must be marked along both the floatline and the leadline at least once every 100 yards (91.4 m).

(iv) *Surface buoy markings.* Trap/pot and gillnet gear regulated under this section must mark all surface buoys to identify the vessel or fishery with one of the following: The owner's motorboat registration number, the owner's U.S. vessel documentation number, the Federal commercial fishing permit number, or whatever positive identification marking is required by the vessel's home-port state. When marking of surface buoys is not already required by state or Federal regulations, the letters and numbers used to mark the gear to identify the vessel or fishery must be at least 1 inch (2.5 cm) in height in block letters or Arabic numbers in a color that contrasts with the background color of the buoy. An outreach guide illustrating the techniques for marking gear is available from the Regional

Administrator, NMFS, Greater Atlantic Region upon request and posted on the NMFS, Greater Atlantic Region Atlantic Large Whale Take Reduction Plan website *https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/atlantic-large-whale-take-reduction-plan#outreach.*

(3) *Color code.* Gear must be marked with the appropriate colors to designate gear types and areas as follows.

TABLE 7 TO PARAGRAPH (b)(3)

Color code scheme	
Plan management area	Color
Northeast Region, Lobster and Crab Trap/Pot Gear	
Trawls fished by vessels permitted by the state of Maine when fished in state waters	Purple.
Trawls fished by vessels permitted by the state of Maine when fished in Federal LMA 1 waters	Purple, Green (Surface System).
Trawls fished by vessels permitted by the state of New Hampshire when fished in state waters	Yellow.
Trawls fished by vessels permitted by the state of New Hampshire when fished in Federal LMA 1 waters.	Yellow, Green (Surface System).
Trawls fished by vessels permitted by the state of Massachusetts when fished in state waters	Red.
Trawls fished by vessels permitted by the state of Massachusetts in Federal waters of LMA 1, OC, LMA 2 (including ⅔ overlap).	Red, Green (Surface System).
Trawls fished by vessels permitted by the state of Rhode Island in state waters	Silver/Gray.
Trawls fished by vessels permitted by the state of Rhode Island in Federal waters of LMA 2 (including ⅔ overlap).	Silver/Gray Green (Surface System).
Trawls fished in the Northeast EEZ Offshore Management Area 3 (LMA3) excluding the ⅔ overlap	Black, Green (Surface system).
Northeast Region, Other Trap/Pot Gear	
Massachusetts Restricted Area	Red.
Northern Nearshore	Red.
Northern Inshore State	Red.
Stellwagen Bank/Jeffreys Ledge Restricted Area	Red.
Great South Channel Restricted Area overlapping with LMA 2 and/or Outer Cape	Red.
Exempt Rhode Island state waters (single traps)	Red and Blue.
Exempt Massachusetts state waters in LMA 1 (single traps)	Red and White.
Exempt Massachusetts state waters in LMA 2 (single traps)	Red and Black.
Exempt Massachusetts state waters in Outer Cape (single traps)	Red and Yellow.
Isles of Shoals, ME (single traps)	Red and Orange.
Great South Channel Restricted Area overlapping with LMA 2/3 and/or LMA 3	Black.
Jordan Basin	Black and Purple (LMA 3), Red and Purple (LMA 1).
Jeffreys Ledge	Red and Green.
Trap/Pot Gear	
Southern Nearshore	Orange.
Southeast Restricted Area North (State Waters)	Blue and Orange.
Southeast Restricted Area North (Federal Waters)	Green and Orange.
Offshore	Black.
Gillnet Excluding Shark Gillnet	
Cape Cod Bay Restricted Area	Green.
Stellwagen Bank/Jeffreys Ledge Restricted Area	Green.
Great South Channel Restricted Area	Green.
Great South Channel Restricted Sliver Area	Green.
Other Northeast Gillnet Waters	Green.
Jordan Basin	Green and Yellow.
Jeffreys Ledge	Green and Black.
Mid/South Atlantic Gillnet Waters	Blue.
Southeast U.S. Restricted Area South	Yellow.
Other Southeast Gillnet Waters	Yellow.
Shark Gillnet (With Webbing of 5″ or Greater)	
Southeast U.S. Restricted Area South	Green and Blue.
Southeast Monitoring Area	Green and Blue.
Other Southeast Waters	Green and Blue.

(c) *Restrictions applicable to trap/pot gear in regulated waters*—(1) *Universal trap/pot gear requirements.* In addition to the gear marking requirements listed in paragraph (b) of this section and the area-specific measures listed in paragraphs (c)(2) through (12) of this section, all trap/pot gear in regulated waters, including the Northern Inshore State Trap/Pot Waters Area, must comply with the universal gear

requirements listed in paragraphs (c)(1)(i) through (iii) of this section.[1]

(i) *No buoy line floating at the surface.* No person or vessel may fish with trap/pot gear that has any portion of the buoy line floating at the surface at any time when the buoy line is directly connected to the gear at the ocean bottom. If more than one buoy is attached to a single buoy line or if a high flyer and a buoy are used together on a single buoy line, floating line may be used between these objects.

(ii) *No wet storage of gear.* Trap/pot gear must be hauled out of the water at least once every 30 days.

(iii) *Groundlines.* All groundlines must be composed entirely of sinking line. The attachment of buoys, toggles, or other floatation devices to groundlines is prohibited.

(2) *Area specific gear requirements.* Trap/pot gear must be set according to the requirements outlined in paragraphs (c)(2)(i) through (iii) of this section and in Table 8 to paragraph (c)(2)(iv) of this section.

(i) *Single traps and multiple-trap trawls.* All traps must be set according to the configuration outlined in Table 8 to paragraph (c)(2)(iv) of this section. Trawls up to and including five traps must only have one buoy line unless specified otherwise in Table 8 to paragraph (c)(2)(iv) of this section.

(ii) *Buoy line weak links.* All buoys, flotation devices and/or weights (except traps/pots, anchors, and leadline woven into the buoy line), such as surface buoys, high flyers, radar reflectors, subsurface buoys, toggles, window weights, etc., must be attached to the buoy line with a weak link placed either as close to each individual buoy, flotation device and/or weight as operationally feasible, or at the base of the surface system where the surface system attaches to the single buoy line, and that meets the following specifications:

(A) *Weak link breaking strengths.* The breaking strength of the weak links must not exceed the breaking strength listed in paragraph (c)(2)(iv) of this section for a specified management area.

(B) *Approved weak links.* The weak link must be chosen from the following list approved by NMFS: Swivels, plastic weak links, rope of appropriate breaking strength, hog rings, rope stapled to a buoy stick, or other materials or devices approved in writing by the Assistant Administrator. An outreach guide illustrating the techniques for making weak links is available from the Regional Administrator, NMFS, Greater Atlantic Region upon request and posted on the NMFS, Greater Atlantic Region Atlantic Large Whale Take Reduction Plan website *https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/atlantic-large-whale-take-reduction-plan#outreach.*

(C) *Clean breaks.* Weak links must break cleanly leaving behind the bitter end of the line. The bitter end of the line must be free of any knots when the weak link breaks. Splices are not considered to be knots for the purposes of this paragraph (c)(2)(ii)(C).

(iii) *Weak buoy lines and weak insertion devices.* All crab and lobster trap buoy lines in the management areas and configurations outlined in Table 8 to paragraph (c)(2)(iv) of this section must use weak line or must insert weak devices along the buoy line as described in Table 8 to paragraph (c)(2)(iv). The weak line and weak insert devices must meet the following specifications:

(A) *Breaking strength.* The breaking strength of the weak buoy lines and weak insert devices must not exceed 1,700 lbs. (771 kgs.).

(B) *Distance between weak insertions.* Weak insertion devices must be inserted in the specified intervals from the surface system and must be devices chosen from the following list approved by NMFS: Three-foot long hollow braided sleeves such as those known as the South Shore Sleeve, spliced insert of three-foot long weak buoy line that is no thinner than five sixteenths inches (8mm) in diameter, three-foot (.91 m) long ''lazy splice'' loop and double tuck of three eighths inch (9.5 mm) diameter line with three eighths inch (9.5 mm) diameter line, or a loop and double tuck (lazy splice) of three eighths inch (9.5mm) diameter line with five sixteenths inch (8 mm) diameter line, or other materials or devices approved in writing by the Assistant Administrator. An outreach guide illustrating the techniques for making weak insert devices is available from the Regional Administrator, NMFS, Greater Atlantic Region upon request and posted on the NMFS, Greater Atlantic Region Atlantic Large Whale Take Reduction Plan website *https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/atlantic-large-whale-take-reduction-plan#outreach.*

(C) *Clean breaks.* Weak line and weak inserts must break cleanly leaving behind the bitter end of the line. The bitter end of the line must be free of any knots when the weak insert breaks. Splices are not considered to be knots for the purposes of this paragraph (c)(2)(iii)(C).

(iv) *Table of area specific trap/pot gear requirements.*

TABLE 8 TO PARAGRAPH (c)(2)(iv)

Mgmt area; location	Minimum number traps/trawl	Weak link strength	Weak rope or weak insertion configuration
Northeast Lobster/Crab Trap/Pot			
Northern Inshore State; Maine State and Pocket Waters [1].	3 (1 buoy line)	≤600 lbs	Weak line for the top 50 percent of the buoy line or two weak insertion devices, one at 25 percent and one at 50 percent buoy line length from top.
Northern Nearshore; Maine Zones A–G (3–6 miles).	8	≤600 lbs	Weak line for the top 50 percent of the buoy line or two weak insertion devices, one at 25 percent and one at 50 percent buoy line length from top.
Northern Inshore State and Massachusetts Restricted Area; Massachusetts State Waters [2].	No minimum number of traps per trawl. Trawls up to and including 3 or fewer traps must only have one buoy line.	≤600 lbs	Weak line for the top 50 percent of the buoy line or one weak insertion device at 50 percent buoy line length from top.

[1] Fishermen are also encouraged to maintain their buoy lines to be as knot-free as possible. Splices are considered to be less of an entanglement threat and are thus preferable to knots.

TABLE 8 TO PARAGRAPH (c)(2)(iv)—Continued

Mgmt area; location	Minimum number traps/trawl	Weak link strength	Weak rope or weak insertion configuration
Northern Inshore State and Massachusetts Restricted Area; Other Massachusetts State Waters.	2 (1 buoy line) Trawls up to and including 3 or fewer traps must only have one buoy line.	≤600 lbs	Weak line for the top 50 percent of the buoy line or one weak insertion device at 50 percent buoy line length from top.
Northern Inshore State; New Hampshire State Waters.	No minimum trap/trawl	≤600 lbs	Weak line for the top 50 percent of the buoy line or one weak insertion device at 50 percent buoy line length from top.
Northern Nearshore; New Hampshire and Massachusetts (3–6 miles).	10	≤600 lbs	Weak line for the top 50 percent of the buoy line or two weak insertion devices, one at 25 percent and one at 50 percent buoy line length from top.
Northern Nearshore, Massachusetts Restricted Area, and Stellwagen Bank/Jeffreys Ledge Restricted Area; LMA 1 (6–12 miles).	15	≤600 lbs	Weak line for the top 50 percent of the buoy line or two weak insertion devices, one at 25 percent and one at 50 percent buoy line length from top.
Northern Nearshore and LMA1 Restricted Area; LMA1 (12 + miles).	25	≤600 lbs	Weak line for the top 35 percent of the buoy line or one weak insertion device at 35 percent buoy line length from top.
Northern Inshore State and Massachusetts Restricted Area; LMA1/OC Overlap (0–3 miles).	No minimum number of traps per trawl	≤600 lbs	Weak line for the top 50 percent of the buoy line or one weak insertion device at 50 percent buoy line length from top.
Northern Inshore State, Massachusetts Restricted Area, and Massachusetts South Island Restricted Area; OC (0–3 miles).	No minimum number of traps per trawl	≤600 lbs	Weak line for the top 50 percent of the buoy line or one weak insertion device at 50 percent buoy line length from top.
Northern Nearshore and Massachusetts Restricted Area; OC (3–12 miles).	15	≤600 lbs	Weak line for the top 50 percent of the buoy line or two weak insertion devices, one at 25 percent and one at 50 percent buoy line length from top.
Northern Nearshore and Great South Channel Restricted Area; OC (12 + miles).	20	≤600 lbs	Weak line for the top 35 percent of the buoy line or one weak insertion device at 35 percent buoy line length from top.
Northern Inshore State; RI State Waters	No minimum number of traps per trawl	≤600 lbs	Weak line for the top 50 percent of the buoy line or one weak insertion device at 50 percent buoy line length from top.
Northern Nearshore; LMA 2 (3–12 miles).	15	≤600 lbs	Weak line for the top 50 percent of the buoy line or two weak insertion devices, one at 25 percent and one at 50 percent buoy line length from top.
Northern Nearshore, Great South Channel Restricted Area, and Massachusetts South of Island Restricted Area; LMA 2 (12 + miles).	25	≤600 lbs	Weak line for the top 35 percent of the buoy line or one weak insertion device at 35 percent buoy line length from top.
Offshore, Great South Channel Restricted Area, and Massachusetts South Island Restricted Area; LMA 2/3 Overlap (12 + miles).	25	≤1500 lbs (2,000 lbs if red crab trap/pot).	Weak line for the top 35 percent portion of the buoy line or one weak insertion device at 35 percent buoy line length from top.
Northeast Offshore waters North of 40°, Great South Channel Restricted Area, and Massachusetts South Island Restricted Area; LMA 3 (12 + miles).	45	≤1500 lbs (2,000 lbs if red crab trap/pot).	Weak line for the top 75 percent of the buoy line.
Other Trap/Pot			
Northern Inshore State; Maine State and Pocket Waters [1].	2 (1 buoy line)	≤600 lbs.	
Northern Nearshore; Maine Zones A–G (3–6 miles) [1].	3 (1 buoy line)	≤600 lbs.	
Northern Nearshore; Maine Zones A–C (6–12 miles) [1].	5 (1 buoy line)	≤600 lbs.	
Northern Nearshore; Maine Zones D–G (6–12 miles) [1].	10	≤600 lbs.	
Northern Nearshore, Offshore, and LMA1 Restricted Area; Maine Zones A–E (12 + miles).	15	≤600 lbs (≤1500 lbs in offshore, 2,000 lbs if red crab trap/pot).	

TABLE 8 TO PARAGRAPH (c)(2)(iv)—Continued

Mgmt area; location	Minimum number traps/trawl	Weak link strength	Weak rope or weak insertion configuration
Northern Nearshore, Offshore, and LMA1 Restricted Area; Maine Zones F–G (12 + miles).	15 (Mar 1–Oct 31) 20 (Nov 1–Feb 28/29).	≤600 lbs (≤1500 lbs in offshore, 2,000 lbs if red crab trap/pot).	
Northern Inshore State and Massachusetts Restricted Area; Massachusetts State Waters [2].	No minimum number of traps per trawl. Trawls up to and including 3 or fewer traps must only have one buoy line.	≤600 lbs.	
Northern Inshore State, Massachusetts Restricted Area, and Massachusetts South Island Restricted Area; Other Massachusetts State Waters.	2 (1 buoy line) Trawls up to and including 3 or fewer traps must only have one buoy line.	≤600 lbs.	
Northern Inshore State; New Hampshire State Waters.	No minimum trap/trawl	≤600 lbs.	
Northern Nearshore and Massachusetts Restricted Area and Stellwagen Bank/Jeffreys Ledge Restricted Area; LMA 1 (3–12 miles).	10	≤600 lbs.	
Northern Nearshore and LMA1 Restricted Area; LMA 1 (12 + miles).	20	≤600 lbs.	
Northern Inshore State and Massachusetts Restricted Area; LMA1/OC Overlap (0–3 miles).	No minimum number of traps per trawl	≤600 lbs.	
Northern Inshore State and Massachusetts Restricted Area; OC (0–3 miles).	No minimum number of traps per trawl	≤600 lbs.	
Northern Nearshore and Massachusetts Restricted Area; OC (3–12 miles).	10	≤600 lbs.	
Northern Nearshore and Great South Channel Restricted Area; OC (12 + miles).	20	≤600 lbs.	
Northern Inshore State; Rhode Island State Waters.	No minimum number of traps per trawl	≤600 lbs.	
Northern Nearshore, and Massachusetts South Island Restricted Area; LMA 2 (3–12 miles).	10	≤600 lbs.	
Northern Nearshore, Great South Channel Restricted Area; LMA 2 (12 + miles).	20	≤600 lbs.	
Northeast Offshore and Great South Channel Restricted Area, and Massachusetts South Island Restricted Area; LMA ⅔ Overlap (12 + miles).	20	≤1500 lbs (2,000 lbs if red crab trap/pot).	
Northeast Offshore waters, Great South Channel Restricted Area, and Massachusetts South Island Restricted Area; LMA 3 (12 + miles).	20	≤1500 lbs (2,000 lbs if red crab trap/pot).	
Southern Nearshore; LMA 4,5,6		≤600 lbs.	
Southeast U.S. Restricted Area North; [3] Florida State Waters.	1	≤200 lbs.	
Southeast U.S. Restricted Area North; [3] Georgia State Waters.	1	≤600 lbs.	
Southeast U.S. Restricted Area North; [3] South Carolina State Waters.	1	≤600 lbs.	
Southeast U.S. Restricted Area North; [3] Federal Waters off Florida, Georgia, South Carolina.	1	≤600 lbs.	

[1] The pocket waters and 6-mile line are defined in paragraphs (a)(2)(ii) and (iii) of this section.
[2] Massachusetts State waters as defined as paragraph (a)(3)(ii) of this section.
[3] See paragraph (f)(1) of this section for description of area.

(3) *Massachusetts Restricted Area*—(i) *Area.* The Massachusetts Restricted Area is bounded by the following points connected by straight lines in the order listed, and bounded on the west by the shoreline of Cape Cod, Massachusetts.

TABLE 9 TO PARAGRAPH (c)(3)(i)

Point	N lat.	W long.
MRA1	42°12′	70°44′
MRA2	42°12′	70°30′
MRA3	42°30′	70°30′
MRA4	42°30′	69°45′
MRA5	41°56.5′	69°45′

TABLE 9 TO PARAGRAPH (c)(3)(i)—Continued

Point	N lat.	W long.
MRA6	41°21.5′	69°16′
MRA7	41°15.3′	69°57.9′
MRA8	41°20.3′	70°00′

TABLE 9 TO PARAGRAPH (c)(3)(i)—Continued

Point	N lat.	W long.
MRA9	41°40.2′	70°00′
MRA1	42°12′	70°44′

(ii) *Closure to fishing with buoy lines.* From February 1 to April 30, it is prohibited to fish with, set, or possess trap/pot gear in the area in paragraph (c)(3)(i) unless it is fished without buoy lines or with buoy lines that are stored on the bottom until it can be remotely released for hauling, or it is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84 of this chapter.

(iii) *Area-specific gear or vessel requirements.* From May 1 through January 31, no person or vessel may fish with or possess trap/pot gear in the Massachusetts Restricted Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and the area-specific requirements listed in paragraph (c)(2) of this section, or unless the gear is stowed as specified in § 229.2.

(4) *Massachusetts South Island Restricted Area*—(i) *Area.* The Massachusetts South Island Restricted Area is bounded by the following points connected by straight lines in the order listed, and bounded on the north by the shoreline of Nantucket, Massachusetts.

TABLE 10 TO PARAGRAPH (c)(4)(i)

Point	N lat.	W long.
MSI1	41°15.3′	70°18.9′
MSI2	41°15.3′	70°10.6′
MSI3	41°15.3′	69°57.9′
MSI4	41°21.5′	69°16′
MSI5	40°37.02′	69°16′
MSI6	40°37.02′	70°18.9′
MSI1	41°15.3′	70°18.9′

(ii) *Closure to fishing with buoy lines.* From February 1 to April 30, it is prohibited to fish with, set, or possess trap/pot gear in the area in paragraph (c)(4)(i) unless it is fished without buoy lines or with buoy lines that are stored on the bottom until they can be remotely released for hauling, or the trap/pot gear is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84 of this chapter.

(iii) *Area-specific gear or vessel requirements.* From May 1 through January 31, no person or vessel may fish with or possess trap/pot gear in the Massachusetts South Island Restricted Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and the area-specific requirements listed in paragraph (c)(2) of this section, or unless the gear is stowed as specified in § 229.2.

(5) *Great South Channel Restricted Trap/Pot Area*—(i) *Area.* The Great South Channel Restricted Trap/Pot Area consists of the area bounded by the following points.

TABLE 11 TO PARAGRAPH (c)(5)(i)

Point	N Lat.	W Long.
GSC1	41°40′	69°45′
GSC2	41°0′	69°05′
GSC3	41°38′	68°13′
GSC4	42°10′	68°31′
GSC1	41°40′	69°45′

(ii) *Closure to fishing with buoy lines.* From April 1 through June 30, it is prohibited to fish with, set, or possess trap/pot gear in the area in paragraph (c)(5)(i) unless it is fished without buoy lines or with buoy lines that are stored on the bottom until they can be remotely released for hauling, or the trap/pot gear is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84 of this chapter.

(iii) *Area-specific gear or vessel requirements.* From July 1 through March 31, no person or vessel may fish with or possess trap/pot gear in the Great South Channel Restricted Trap/Pot Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and the area-specific requirements listed in paragraph (c)(2) of this section, or unless the gear is stowed as specified in § 229.2.

(6) *Lobster Management Area One Restricted Area*—(i) *Area.* The Lobster Management Area One Restricted Area (LMRA1) is bounded by the following points connected by straight lines in the order listed.

TABLE 12 TO PARAGRAPH (c)(6)(i)

Point	N lat.	W long.
LMRA1 1	43°06′	69°36.77′

TABLE 12 TO PARAGRAPH (c)(6)(i)—Continued

Point	N lat.	W long.
LMRA1 2	43°44′	68°21.6′
LMRA1 3	43°32.68′	68°17.27′
LMRA1 4	42°53.52′	69°32.16′
LMRA1 1	43°06′	69°36.77′

(ii) *Restrictions to fishing with buoy lines.* From October 1 to January 31, it is prohibited to fish with, set, or possess trap/pot gear in the area in paragraph (c)(6)(i) unless it is fished without buoy lines or with buoy lines that are stored on the bottom until they can be remotely released for hauling, or the trap/pot gear is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84 of this chapter.

Alternative 1–A (for Paragraph (c)(6)(ii))

(ii) *Restrictions to fishing with buoy lines.* There are no seasonal restrictions to fishing with buoy lines.

Alternative 1–B (for Paragraph (c)(6)(ii))

(ii) *Restrictions to fishing with buoy lines.* The Regional Administrator may determine whether the frequency of entanglements from trap/pot gear in the Northeast region has been reduced by 60 percent from [effective date of the final rule] within a time period that allows for meaningful analysis. If the Regional Administrator determines that the frequency of such entanglements has not been reduced by 60 percent, then from October 1 to January 31, it shall be prohibited to fish with, set, or possess trap/pot gear in the area in paragraph (c)(6)(i) unless it is fished without buoy lines or with buoy lines that are stored on the bottom until they can be remotely released for hauling, or the trap/pot gear is stowed in accordance with § 229.2. Authorizations for fishing without buoy lines must be obtained if such fishing would not be in accordance with surface marking requirements of §§ 697.21 and 648.84 of this chapter.

(iii) *Area-specific gear or vessel requirements.* From February 1 through September 30, no person or vessel may fish with or possess trap/pot gear in the Lobster Management Area One Restricted Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and the area-specific requirements listed in paragraph (c)(2) of this section, or

unless the gear is stowed as specified in § 229.2.

(7) *Stellwagen Bank/Jeffreys Ledge Restricted Area*—(i) *Area.* The Stellwagen Bank/Jeffreys Ledge Restricted Area includes all Federal waters of the Gulf of Maine, except those designated as the Massachusetts Restricted Area in paragraph (c)(3) of this section, that lie south of 43°15′ N lat. and west of 70°00′ W long.

(ii) *Year round area-specific gear or vessel requirements.* No person or vessel may fish with or possess trap/pot gear in the Stellwagen Bank/Jeffreys Ledge Restricted Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and the area-specific requirements listed in paragraph (c)(2) of this section, or unless the gear is stowed as specified in § 229.2.

(8) *Offshore Trap/Pot*[2] *Waters Area*—(i) *Area.* The Offshore Trap/Pot Waters Area includes all Federal waters of the EEZ Offshore Management Area known as Lobster Management Area 3, including the area known as the Area 2/3 Overlap and Area 3/5 Overlap as defined in the American Lobster Fishery regulations at § 697.18 of this title, with the exception of the Great South Channel Restricted Trap/Pot Area and Southeast Restricted Area, and extending south along the 100-fathom (600-ft or 182.9-m) depth contour from 35°14′ N lat. South to 27°51′ N lat., and east to the eastern edge of the EEZ.

(ii) *Year-round area-specific gear or vessel requirements.* No person or vessel may fish with or possess trap/pot gear in the northeast portion of Offshore Trap/Pot Waters Area that overlaps an area from the U.S./Canada border south to a straight line from 41°18.2′ N lat., 71°51.5′ W long. (Watch Hill Point, RI) south to 40°00′ N lat., and then east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and the area-specific requirements listed in paragraph (c)(2) of this section, or unless the gear is stowed as specified in § 229.2.

(iii) *Seasonal area-specific gear or vessel requirements.* From September 1 to May 31, no person or vessel may fish with or possess trap/pot gear in the Offshore Trap/Pot Waters Area that overlaps an area bounded on the north by a straight line from 41°18.2′ N lat., 71°51.5′ W long. (Watch Hill Point, RI) south to 40°00′ N lat. and then east to the eastern edge of the EEZ, and bounded on the south by a line at 32°00′ N lat., and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, and area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(iv) *Seasonal area-specific gear or vessel requirements.* From November 15 to April 15, no person or vessel may fish with or possess trap/pot gear in the Offshore Trap/Pot Waters Area that overlaps an area from 32°00′ N lat. south to 29°00′ N lat. and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(v) *Seasonal area-specific gear or vessel requirements.* From December 1 to March 31, no person or vessel may fish with or possess trap/pot gear in the Offshore Trap/Pot Waters Area that overlaps an area from 29°00′ N lat. south to 27°51′ N lat. and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) in this section, or unless the gear is stowed as specified in § 229.2.

(vi) [Reserved]

(9) *Northern Inshore State Trap/Pot Waters Area*—(i) *Area.* The Northern Inshore State Trap/Pot Waters Area includes the State waters of Rhode Island, Massachusetts, New Hampshire, and Maine, with the exception of Massachusetts Restricted Area and those waters exempted under paragraph (a)(3) of this section. Federal waters west of 70°00′ N lat. in Nantucket Sound are also included in the Northern Inshore State Trap/Pot Waters Area.

(ii) *Year-round area-specific gear or vessel requirements.* No person or vessel may fish with or possess trap/pot gear in the Northern Inshore State Trap/Pot Waters Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(10) *Northern Nearshore Trap/Pot Waters Area*—(i) *Area.* The Northern Nearshore Trap/Pot Waters Area includes all Federal waters of EEZ Nearshore Management Area 1, Area 2, and the Outer Cape Lobster Management Area (as defined in the American Lobster Fishery regulations at § 697.18 of this title), with the exception of the Great South Channel Restricted Trap/Pot Area, Massachusetts Restricted Area, Stellwagen Bank/Jeffreys Ledge Restricted Area, and Federal waters west of 70°00′ N lat. in Nantucket Sound (included in the Northern Inshore State Trap/Pot Waters Area) and those waters exempted under paragraph (a)(3) of this section.

(ii) *Year-round area-specific gear or vessel requirements.* No person or vessel may fish with or possess trap/pot gear in the Northern Nearshore Trap/Pot Waters Area unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section, or unless the gear is stowed as specified in § 229.2.

(11) *Southern Nearshore*[3] *Trap/Pot Waters Area*—(i) *Area.* The Southern Nearshore Trap/Pot Waters Area includes all State and Federal waters that fall within EEZ Nearshore Management Area 4, EEZ Nearshore Management Area 5, and EEZ Nearshore Management Area 6 (as defined in the American Lobster Fishery regulations in § 697.18 of this title, and excluding the Area 3/5 Overlap), and inside the 100-fathom (600-ft or 182.9-m) depth contour line from 35°30′ N lat. south to 27°51′ N lat. and extending inshore to the shoreline or exemption line, with the exception of those waters exempted under paragraph (a)(3) of this section and those waters in the Southeast Restricted Area defined in paragraph (f)(1) of this section.

(ii) *Year-round area-specific gear or vessel requirements.* No person or vessel may fish with or possess trap/pot gear in the Southern Nearshore Trap/Pot Waters Area that is east of a straight line from 41°18.2′ N lat., 71°51.5′ W long. (Watch Hill Point, RI) south to 40°00′ N

[2] Fishermen using red crab trap/pot gear should refer to paragraph (c)(12) of this section for the restrictions applicable to the red crab trap/pot fishery.

[3] Fishermen using red crab trap/pot gear should refer to paragraph (c)(12) of this section for the restrictions applicable to the red crab trap/pot fishery.

lat., unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(iii) *Seasonal area-specific gear or vessel requirements.* From September 1 to May 31, no person or vessel may fish with or possess trap/pot gear in the Southern Nearshore Trap/Pot Waters Area that overlaps an area bounded on the north by a straight line from 41°18.2′ N lat., 71°51.5′ W long. (Watch Hill Point, RI) south to 40°00′ N lat. and then east to the eastern edge of the EEZ, and bounded on the south by 32°00′ N lat., and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(iv) *Seasonal area-specific gear or vessel requirements.* From November 15 to April 15, no person or vessel may fish with or possess trap/pot gear in the Southern Nearshore Trap/Pot Waters Area that overlaps an area from 32°00′ N lat. south to 29°00′ N lat. and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(v) *Seasonal area-specific gear or vessel requirements.* From December 1 to March 31, no person or vessel may fish with or possess trap/pot gear in the Southern Nearshore Trap/Pot Waters Area that overlaps an area from 29°00′ N lat. south to 27°51′ N lat. and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(vi) [Reserved]

(12) *Restrictions applicable to the red crab trap/pot fishery*—(i) *Area.* The red crab trap/pot fishery is regulated in the waters identified in paragraphs (c)(6)(i) and (c)(9)(i) of this section.

(ii) *Year-round area-specific gear or vessel requirements.* No person or vessel may fish with or possess red crab trap/pot gear in the area identified in paragraph (c)(12)(i) of this section that overlaps an area from the U.S./Canada border south to a straight line from 41° 18.2′ N lat., 71°51.5′ W long. (Watch Hill Point, RI) south to 40°00′ N lat., and then east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(iii) *Seasonal area-specific gear or vessel requirements.* From September 1 to May 31, no person or vessel may fish with or possess red crab trap/pot gear in the area identified in paragraph (c)(12)(i) of this section that overlaps an area bounded on the north by a straight line from 41°18.2′ N lat., 71°51.5′ W long. (Watch Hill Point, RI) south to 40°00′ N lat. and then east to the eastern edge of the EEZ, and bounded on the south by a line at 32°00′ N lat., and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(iv) *Seasonal area-specific gear or vessel requirements.* From November 15 to April 15, no person or vessel may fish with or possess red crab trap/pot gear in the area identified in paragraph (c)(12)(i) of this section that overlaps an area from 32°00′ N lat. south to 29°00′ N lat. and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(v) *Seasonal area-specific gear or vessel requirements.* From December 1 to March 31, no person or vessel may fish with or possess red crab trap/pot gear in the area identified in paragraph (c)(12)(i) of this section that overlaps an area from 29°00′ N lat. south to 27°51′ N lat. and east to the eastern edge of the EEZ, unless that gear complies with the gear marking requirements specified in paragraph (b) of this section, the universal trap/pot gear requirements specified in paragraph (c)(1) of this section, the area-specific requirements in paragraph (c)(2) of this section or unless the gear is stowed as specified in § 229.2.

(vi) [Reserved]

PART 697—ATLANTIC COASTAL FISHERIES COOPERATIVE MANAGEMENT

■ 4. The authority citation for 50 CFR part 697 continues to read as follows:

Authority: 16 U.S.C. 5101 *et seq.*

■ 5. In § 697.21, revise paragraph (b)(3) to read as follows:

§ 697.21 Gear identification and marking, escape vent, maximum trap size, and ghost panel requirements.

* * * * *

(b) * * *

(3) No American lobster trap trawl shall exceed 1.5 nautical miles (2.78 km) in length, as measured from radar reflector to radar reflector, except in the EEZ Offshore Management Area 3 where the maximum length of a lobster trap trawl shall not exceed 1.75 nautical miles (3.24 km).

* * * * *

[FR Doc. 2020–28775 Filed 12–30–20; 8:45 am]

BILLING CODE 3510–22–P

December 31, 2020

NOAA FISHERIES

Greater Atlantic Regional Fisheries Office

Proposed "Risk Reduction Rule" to Modify the Atlantic Large Whale Take Reduction Plan

SUMMARY FOR PUBLIC COMMENTS

To reduce the impacts of entanglement in commercial fishing gear on right whales, we are requesting comments on proposed changes to the Atlantic Large Whale Take Reduction Plan (ALWTRP). These modifications are intended to achieve at least a 60 percent reduction in mortalities or serious injuries of right whales in the Northeast crab and lobster trap/pot fisheries, which deploy about 93 percent of the buoy lines fished in areas where right whales occur. In 2021, the Atlantic Large Whale Take Reduction Team will be asked to recommend risk reduction measures for other Atlantic trap/pot and gillnet fisheries.

The proposed rule and the Draft Environmental Impact Statement, as well as details on how to provide comments, can be found on the Plan website: **fisheries.noaa.gov/ALWTRP.**

The Proposed Rule would:

- Modify gear marking to introduce state-specific marking colors
- Increase the number of and area of marked lines
- Modify gear configurations to reduce the number of vertical buoy lines by requiring more traps between buoy lines and by introducing weak insertions or weak rope into buoy lines
- Modify existing seasonal restricted areas to restrict buoy lines (but allow ropeless fishing)
- Add up to two new seasonal buoy line closures

The tables on the following pages list the regulatory elements of the risk reduction alternatives in the proposed rule and considered in the preferred alternative within the Draft Environmental Impact Statement. Measures shaded in blue are those that will be managed under other state or fishery management rulemaking.

Comments are due by March 1, 2021.

For information on **public hearings** on the DEIS and proposed rule, as well as copies of the documents and background information, visit our website: **fisheries.noaa.gov/ALWTRP**.

Attendance at a public hearing is not necessary for commenting.

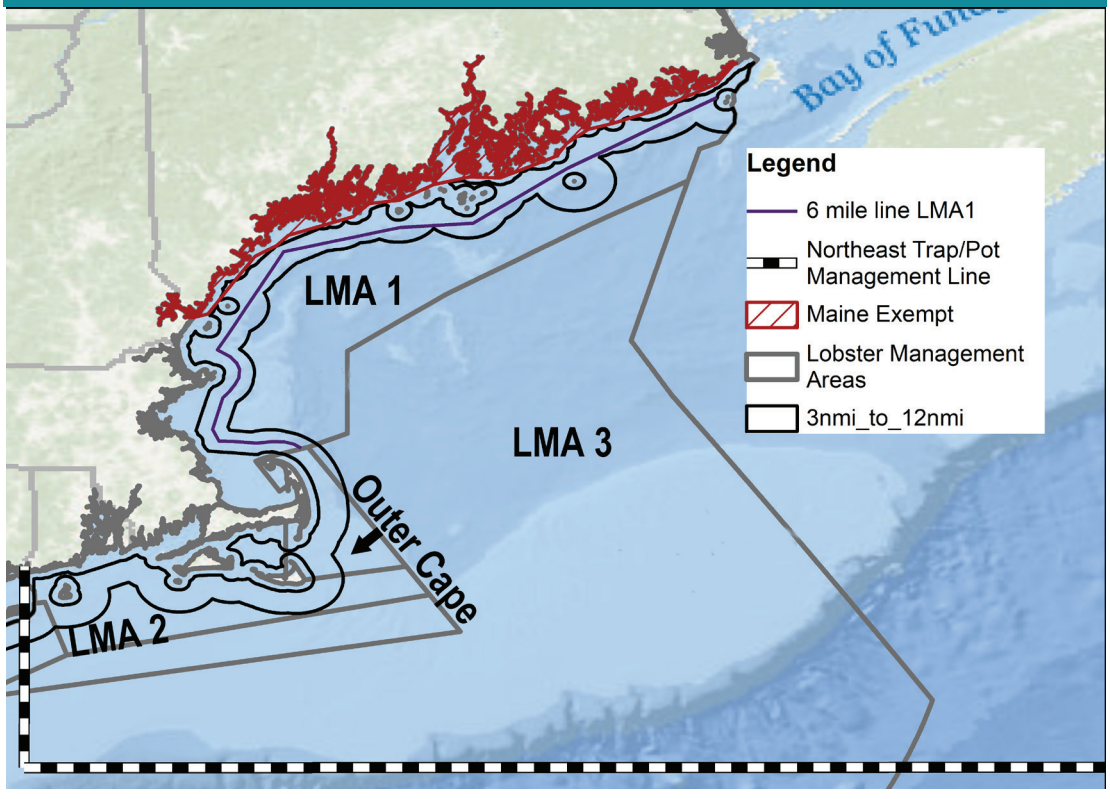
Comments may also be submitted in writing **through the online comment portal**.

To comment, go to: **regulations.gov.** Search for NOAA-NMFS-2020-0031.

Choose "Comment Now" to submit your comments.

Questions? Contact Colleen.Coogan@noaa.gov, Marisa.Trego@noaa.gov or call (978) 281-9181.

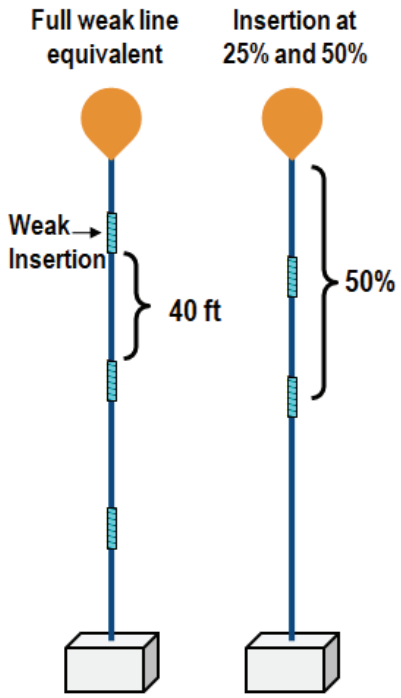
Lobster Management Areas and Regulatory Lines



Traps Per Trawl

Area	Current	Proposed
ME exempt area–3 nm	2 traps/trawl	3 traps/trawl
ME 3–6 nm*	3 traps/trawl	8 traps/trawl
LMA 1, 6*–12 nm	10 traps/trawl	15 traps/trawl
LMA1, beyond 12 nm	15-20 traps/trawl	25 traps/trawl
LMA 2, OCC 3–12 nm	10 traps/trawl	15 traps/trawl
LMA 2 beyond 12 nm	20 traps/trawl	25 traps/trawl
MA state waters	1 or 2 traps/trawl	No singles on vessels longer than 29' (8.84 m); permits after 1/1/2020
LMA3	20 traps/trawl	Year-round: 45 traps/trawl, extend trawl length to 1.75 nm

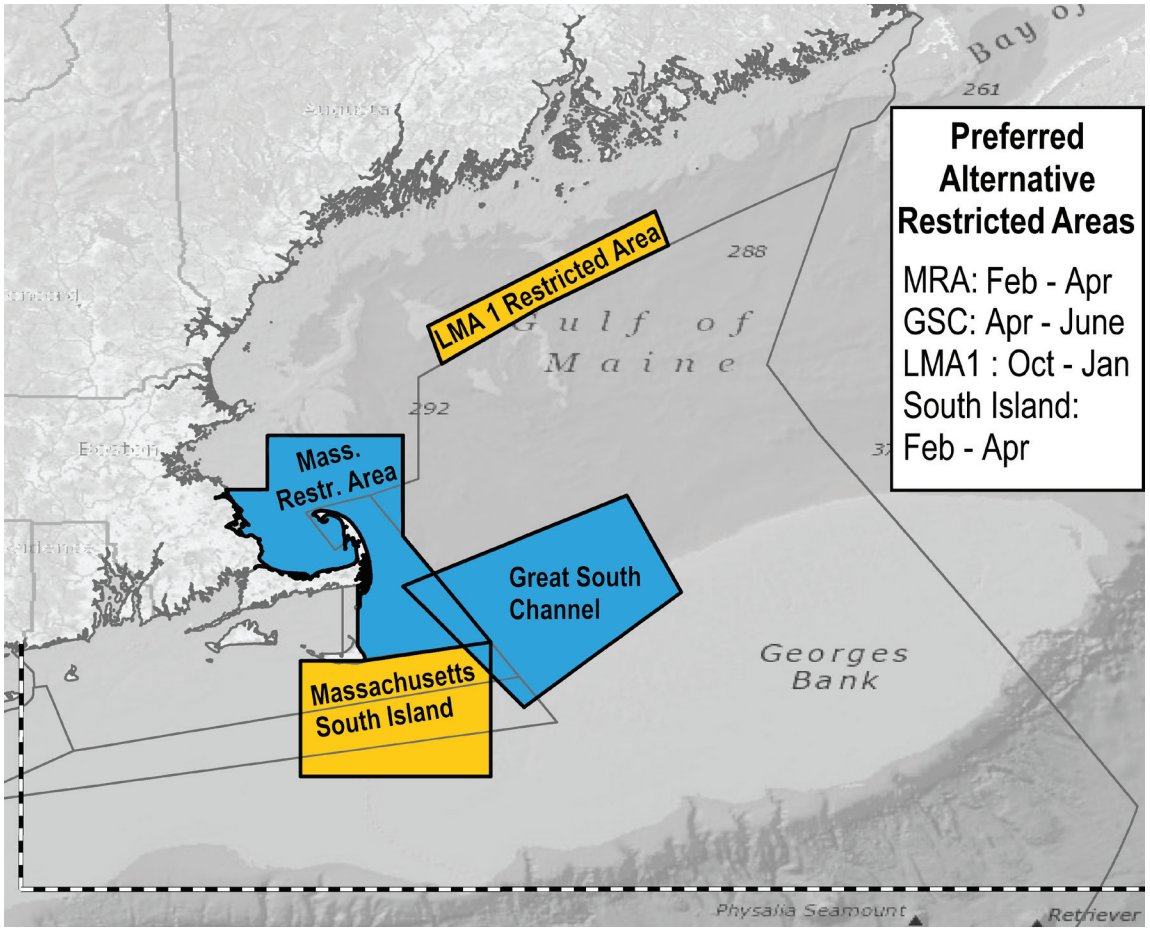
Weak Link and Weak Line Regulations



Component	Area	Current	Proposed
Weak Link Modification	Northeast Region	Weak link required attaching buoy to buoy line	Allow it to be at base of the surface system or, as currently required, at buoy
Weak Line	ME exempt area	None	1 weak insertion 50% down the line
	NH/MA/RI Coast–3 nm	None	1 weak insertion 50% down the line
	ME exempt area–3 nm, All areas 3–12 nm	None	2 weak insertions at 25% and 50% down line
	LMA 1, 2, OCC beyond 12 nm	None	1 weak insertion 35% down the line
	LMA 3	None	1 buoy line weak year-round to 75%

Blue shading indicates state regulations, including Maine gear marking, Massachusetts Restricted Area closure extension into May, and Massachusetts banning of single pots on vessels greater than 29 feet after permit transfers.

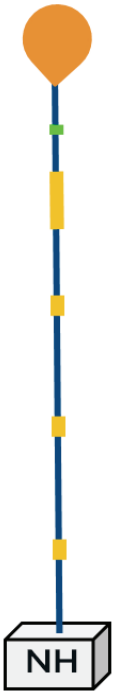
Restricted Areas



Area	Current	Proposed
All Restricted Areas	Closed to Fishing	Allow trap/pot fishing without buoy lines in existing and proposed restricted areas with an exempted fishing permit (EFP). EFP authorizations would likely include conditions to protect right whales (e.g. area restrictions, low vessel speed, observer monitoring, and reporting requirements.)
LMA1 Restricted Area	None	Restricted Oct-Jan Or 1-A No restriction Or 1-B Restricted Oct-Jan based on future determinations
Massachusetts South Island Restricted Area	None	Restricted Feb-April
Massachusetts Restricted Area (MRA)	Closed Feb-Apr	Restricted Feb-Apr
	State waters closed through May until < than 3 whales remain (confirmed by surveys)	State waters closed through May until less than 3 whales remain (confirmed by surveys)
Great South Channel Restricted Area	Closed Apr-June	Restricted Apr-June

Gear Marking

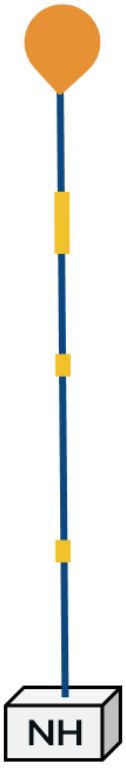
Federal Water Marks



Gear Marking in Federal Waters

Area	Current	Proposed
Marks		
Entire Northeast Region	Three 12-inch marks, one at the top, middle, and bottom in the color below	One 3-foot long state-specific mark within two fathoms of the buoy (within the surface system) and three 12-inch marks at the top, middle and bottom of the buoy line (color below)
	No federal specific mark	6-inch green mark within the surface system within 12 inches of the 3-foot mark
Colors		
Maine	Red	Purple with 6-inch green mirroring state regulations effective 09/2020
New Hampshire	Red	Yellow with 6-inch green
Massachusetts	Red	Red with 6-inch green
Rhode Island	Red	Silver/Gray with 6-inch green

State Water Marks



Gear Marking in State Waters

Area	Current	Proposed
Marks		
Maine	None in TRP regs, state regulations as of 09/2020	One 3-foot long and one or two additional 1-foot marks (by depth) through state regulation
Massachusetts, Rhode Island, & New Hampshire	Three 12-inch marks, one at the top, middle, and bottom in the color below	One 3-foot long state-specific mark within two fathoms of the buoy (within the surface system) and two 12-inch marks in the top and bottom half of the buoy line in (color below)
Colors		
Maine	Purple (as of 09/2020)	Purple
New Hampshire	Red	Yellow
Massachusetts	Red & White (LMA1) Red & Black (LMA2) Red & Yellow (Outer Cape)	Red
Rhode Island	Red & Blue	Silver/Gray

Atlantic States Marine Fisheries Commission

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703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Caitlin Starks, FMP Coordinator**

DATE: **January 15, 2021**

SUBJECT: **NOAA Fisheries Releases Draft Biological Opinion on 10 Fishery Management Plans**

The Sustainable Fisheries Division of NOAA Fisheries Greater Atlantic Regional Fisheries Office has reinitiated formal Endangered Species Act Section 7 consultation with the Protected Resources Division on the authorization of fisheries under the authority of the Magnuson-Stevens Fishery Conservation and Management Act and the Atlantic Coastal Fisheries Cooperative Management Act and on the implementation of the New England Fisheries Management Council's Omnibus Essential Fish Habitat Amendment 2. The following fisheries included in the consultation:

1. American Lobster
2. Atlantic Bluefish
3. Atlantic Deep-Sea Red Crab
4. Mackerel/Squid/Butterfish
5. Monkfish
6. Northeast Multispecies
7. Northeast Skate Complex
8. Spiny Dogfish
9. Summer Flounder/Scup/Black Sea Bass
10. Jonah Crab

Due to its length, the document has not been included in the materials, but instead, the Draft Biological Opinion on these 10 Fishery Management Plans can be found at this link:

https://www.fisheries.noaa.gov/bulletin/draft-biological-opinion-10-fishery-management-plans-released.

This draft Biological Opinion on 10 Fishery Management Plans in the Greater Atlantic Region and the New England Fishery Management Council's Omnibus Habitat Amendment 2 is released for feedback; comments are due February 21, 2021. In accordance with section 7 of the ESA, as amended, this document represents NMFS' biological opinion (Opinion) on the authorization of these fisheries and their effects on ESA-listed species under NMFS jurisdiction.

Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Caitlin Starks, FMP Coordinator**

DATE: **January 15, 2021**

SUBJECT: **REVISED - Review of American Lobster Stock Status, Reference Points, and Recommendations from 2020 Benchmark Assessment and Peer Review**

At its October 2020 meeting, the American Lobster Board (Board) reviewed the 2020 Benchmark Stock Assessment and Peer Review Report, and accepted it for management use. The Board also adopted the new reference points as recommended by the assessment, and committed to considering management responses to the assessment findings at its next meeting in February 2021. This memo provides a summary of new reference points, stock status determinations, and recommendations from the assessment and peer review for each lobster stock, which the Board should consider in its discussion on appropriate management responses to the assessment findings.

Abundance and Exploitation Reference Points

New abundance and exploitation reference points were adopted based on the recommendations of the 2020 stock assessment, with the rationale that the former reference points were not appropriate given changes in environmental conditions. The updated reference points were derived from a new methodology that accounts for changing environmental conditions and new baselines for stock productivity. Regime shift analysis indicated that the GOM/GBK stock shifted from a low abundance regime during the early 1980s through 1995 to a moderate abundance regime during 1996-2008, and shifted once again to a high abundance regime during 2009-2018 (Figure 1). Conversely, the SNE stock shifted from a high abundance regime during the early 1980s through 2002 to a low abundance regime during 2003-2018 (Figure 3).

Three reference points are used to characterize stock abundance. The abundance threshold is calculated as the average of the three highest abundance years during the low abundance regime. A stock abundance level below this threshold is considered significantly depleted and in danger of stock collapse. This was the only abundance reference point recommended for the SNE stock due to its record low abundance and low likelihood of reaching this threshold in the near future. The abundance limit is calculated as the median abundance during the moderate abundance regime. Stock abundance that falls below this limit is considered depleted because the stock's ability to replenish itself is diminished. The fishery/industry target is calculated as the 25th percentile of the abundance during the high abundance regime. In this case, when abundance falls below this target, the stock's ability to replenish itself is not jeopardized, but it may indicate a degrading of economic conditions for the lobster fishery.

Two reference points are used to evaluate the fishing mortality condition of the stocks. The exploitation threshold is calculated as the 75th percentile of exploitation (annual catch in numbers divided by abundance) during the current abundance regime. The stock is considered to be experiencing overfishing if exploitation exceeds the exploitation threshold. The exploitation target is calculated as the 25th percentile of exploitation during the current abundance regime.

Gulf of Maine/Georges Bank Stock Status

Based on the updated reference points, the GOM/GBK stock is not depleted and overfishing is not occurring (Figures 1 and 2, respectively). The average abundance from 2016-2018 was 256 million lobster, which is greater than the fishery/industry target of 212 million lobster. The average exploitation from 2016-2018 was 0.459, below the exploitation target of 0.461. Stock projections conducted as part of the assessment suggested a low probability of abundance declining below the abundance target over the next 10 years.

Southern New England Stock Status

Based on the updated reference points, the SNE stock is significantly depleted and overfishing is not occurring (Figures 3 and 4, respectively). The average abundance from 2016-2018 was 7 million lobster, well below the abundance threshold of 20 million lobster. The average exploitation from 2016-2018 was 0.274, falling between the exploitation threshold of 0.290 and the exploitation target of 0.257. Exploitation is not considered favorable as it exceeds the target.

Stock projections conducted as part of the assessment show a low probability of the stock condition changing among the most credible scenarios. In the absence of mortality, reference abundance would be projected to increase with recruit abundance exceeding the maximum abundance for the current regime (Figure 5). However, increases in abundance are likely to be limited due to the projected continuing decline in recruitment.

The assessment's model estimates and non-model based stock indicators results suggest careful consideration of key issues for the SNE stock:

1. Recruitment indices indicate that the stock is not rebuilding and is in recruitment failure.
2. The contraction of the stock distribution has continued and is becoming apparent in the offshore portion as well as the inshore.
3. The total SNE landings have continued to decline, and the 2018 landings were a time series low.
4. Disease remains high in Rhode Island and Massachusetts, and all four temperature indicators are negative. The stressful environment may be having both lethal and sublethal effects.
5. There is evidence that environmental influences have resulted in a decreasing recruitment rate. Substantive measures are needed to increase adult abundance in order to improve recruitment success.

Assessment and Peer Review Recommendations

GOM/GBK

Based on the favorable condition of the GOM/GBK stock, the 2020 Stock Assessment and Peer Review Reports did not recommend any management action for the stock at this time. Both reports did recommend an economic analysis be performed to provide advice on appropriate action to stabilize the fishery when abundance falls below the target.

SNE

For the SNE stock, the Assessment and Peer Review Reports did not recommend specific management measures to address the overfished stock status determination. However, in the definition of the abundance threshold reference point, the report states "significant management action to halt the decline of abundance and increase reproductive capacity and recruitment to the stock, such as a moratorium, is recommended if abundance falls below this threshold."

Both Stocks

The Peer Review Panel agreed with the Stock Assessment Subcommittee recommendation to initiate an annual data update to monitor changes to stock abundance. The Panel supported annual updates of all indicators to provide insights into lobster and fishery dynamics, and the development of a science-based rule to specify conditions that would trigger an earlier than scheduled assessment. For example, if three of four indicators change from positive to neutral, the timing of the next benchmark assessment would be advanced.

The Panel also recommends continued use and exploration of the indicators to understand the relative merits of indicator-based management for various types of management controls. For example, preliminary analyses conducted during the review suggested relatively strong correlations between model outputs and select indicators that may be useful for management, with continued exploration.

Lastly, the Panel suggested a management strategy evaluation could inform appropriate management targets or measures to meet defined objectives.

Figure 1. Abundance for GOM/GBK Relative to Reference Points

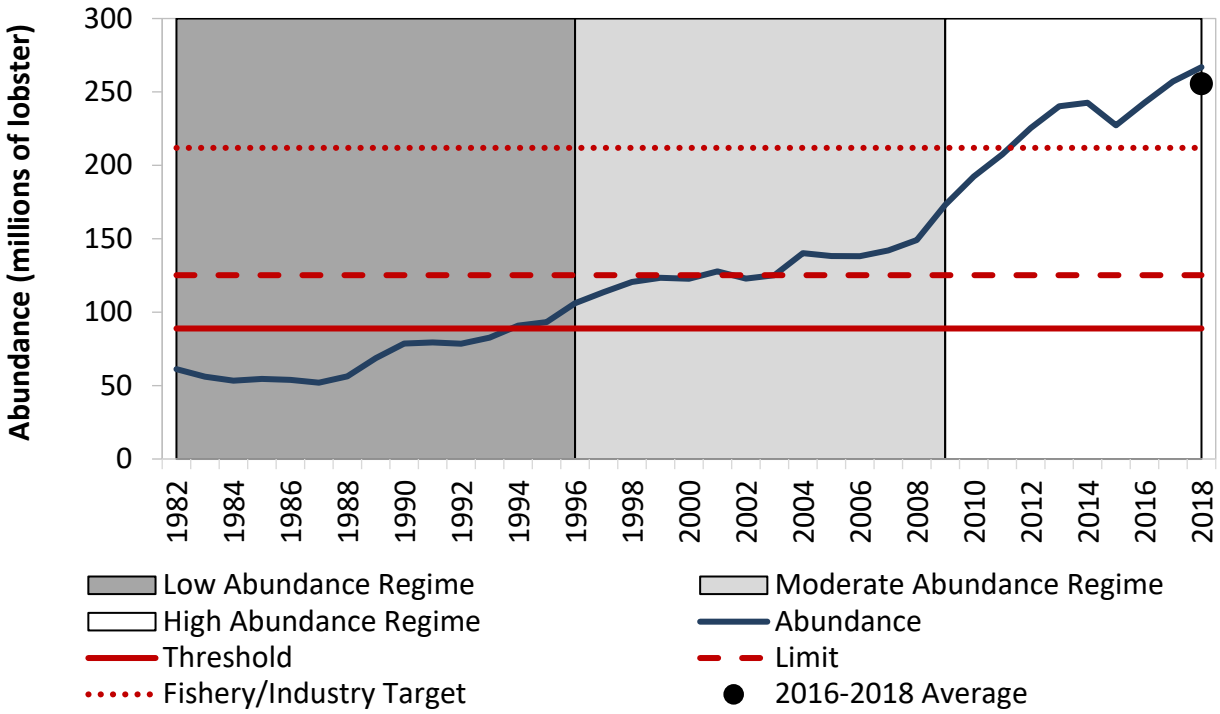


Figure 2. Exploitation for GOM/GBK Relative to Reference Points

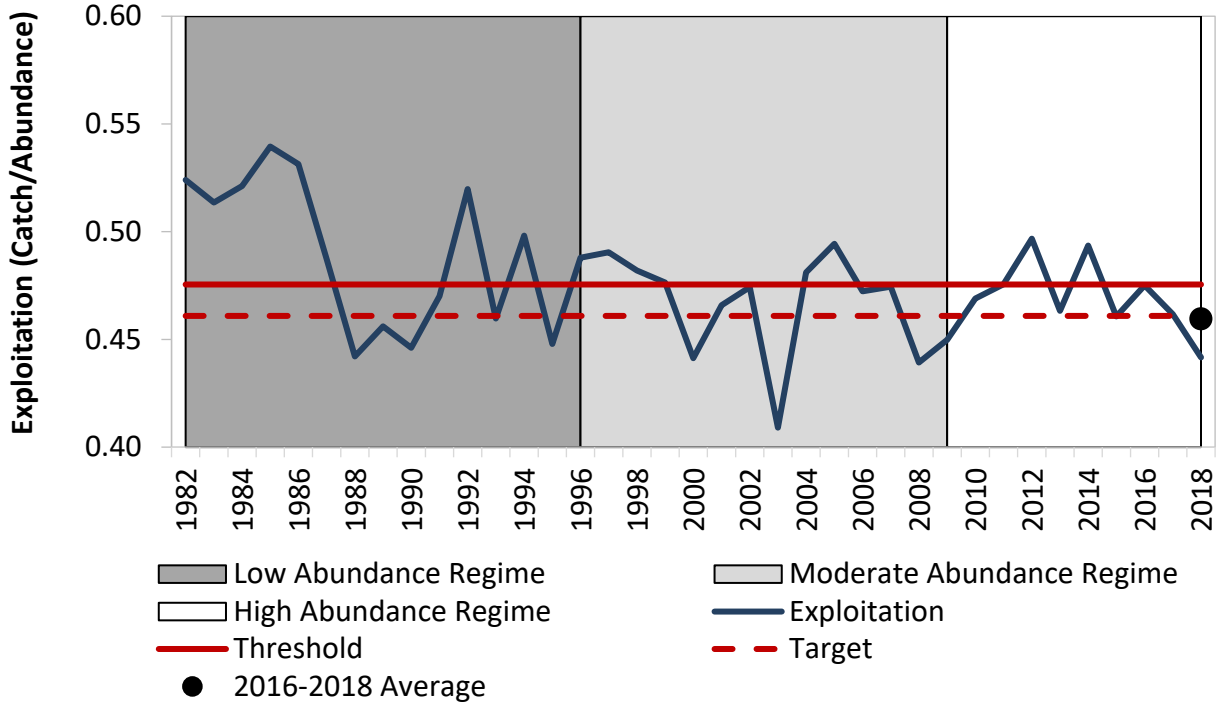


Figure 3. Abundance for SNE Relative to Reference Points - REVISED

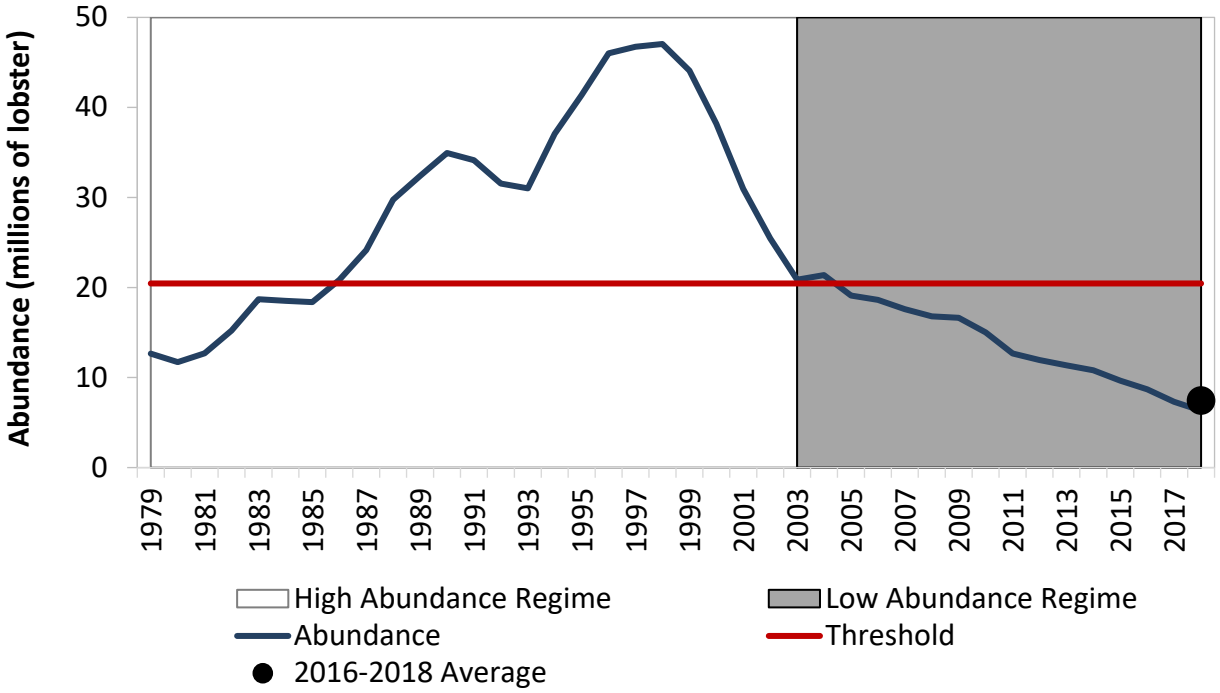
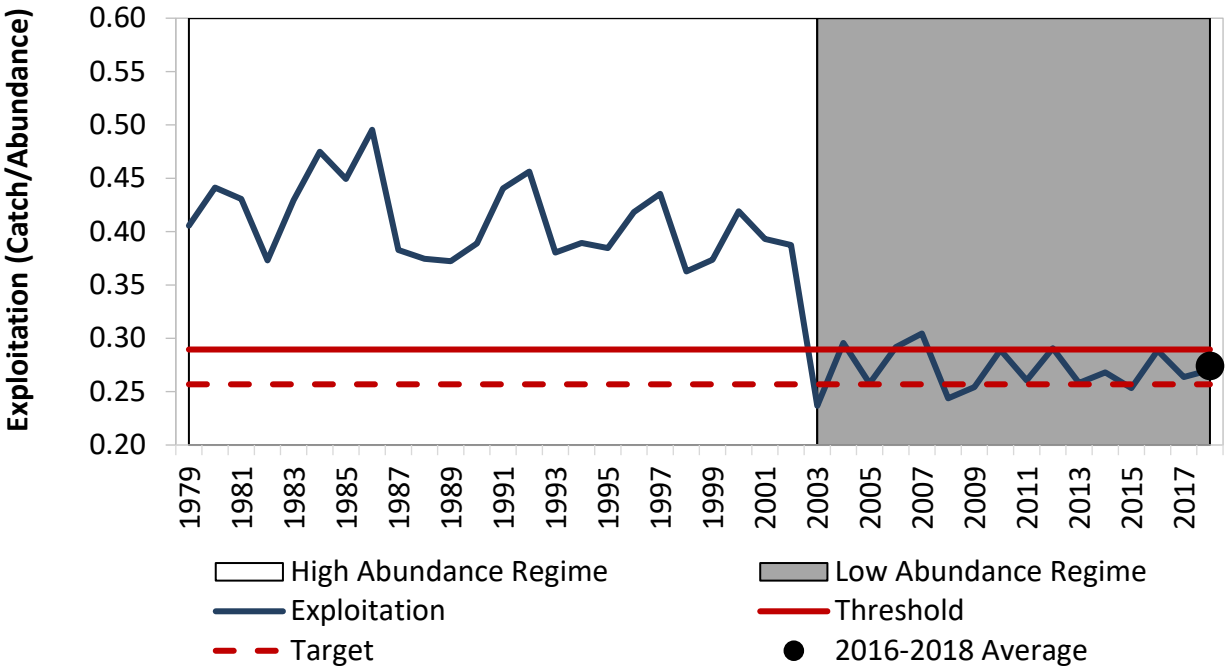


Figure 4. Exploitation for SNE Relative to Reference Points - REVISED



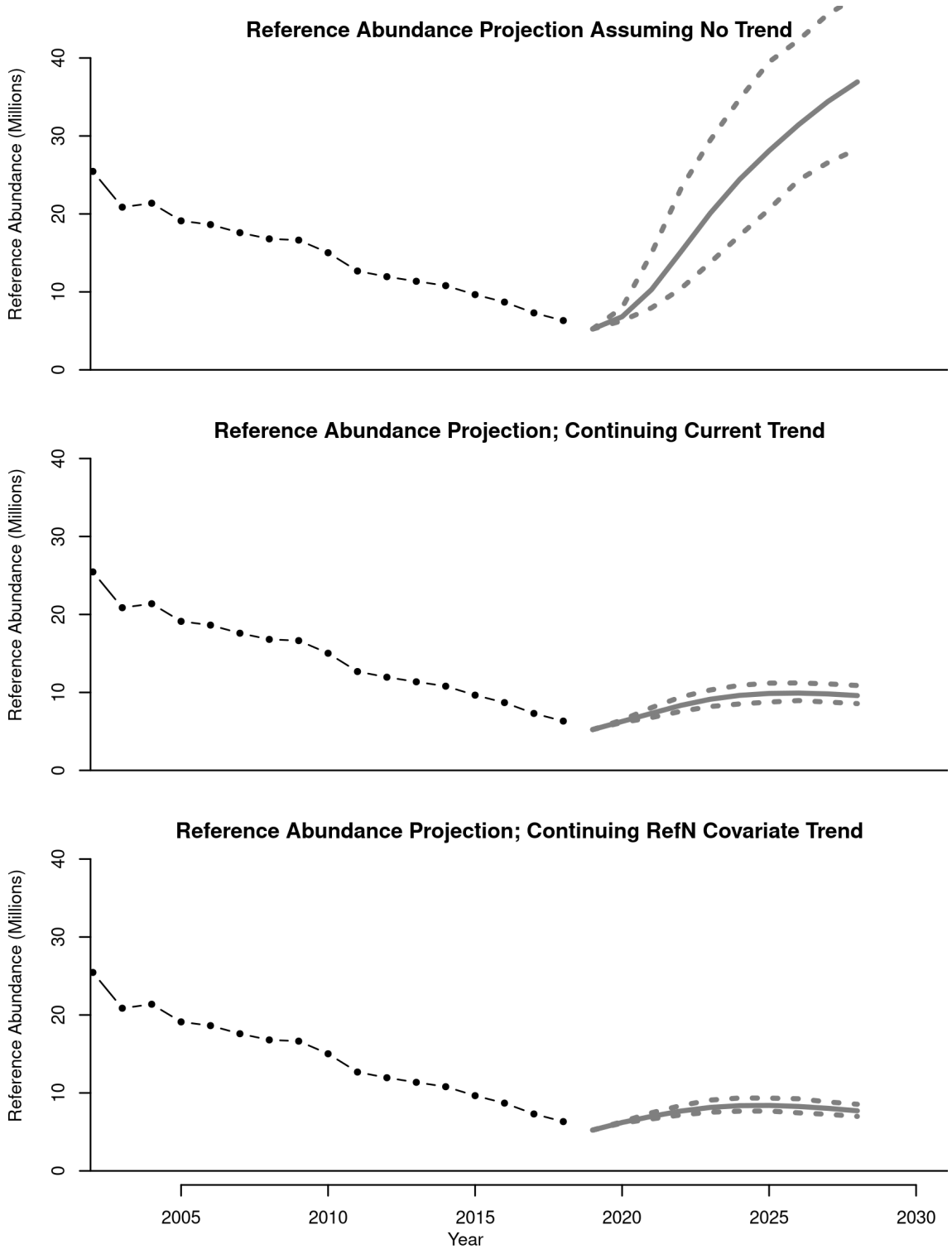


Figure 5. SNE reference abundance estimates for the current regime and projection scenarios for a no fishing mortality scenario. Source: 2020 American Lobster Benchmark Stock Assessment.

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MEMORANDUM

To: **American Lobster Management Board**

From: **Management and Science Committee**

Date: **January 15, 2021**

RE: **Lobster Management Strategy Evaluation Work Plan**

The ASMFC Management and Science Committee (MSC) formed a subcommittee during the 2019 Annual Meeting to develop a proposal for Management Strategy Evaluation (MSE) work on ASMFC-managed species. The MSC initially identified four priority species, including American lobster, considered the best candidate species for a MSE in the immediate future. Parallel to this development, Canada Department of Fisheries and Oceans (DFO) identified MSE as a priority to address management issues for Canadian stocks. Canada DFO work to develop an MSE has begun and would provide a valuable opportunity for collaboration between Canadian and U.S. lobster researchers, including the development of MSE tools. Both the subcommittee and MSC at-large agree American lobster is an ideal candidate for development of a MSE. The following prospective work plan outlines potential MSE focal areas, resource needs for a lobster MSE, associated workload tradeoffs for competing Lobster Board tasks/initiatives, and next steps if a MSE is identified as a priority by the Lobster Management Board.

Several potential focal areas for a MSE have been identified based on current lobster management issues, including: (1) stock productivity resiliency, (2) socio-economic resiliency, (3) whale interactions, (4) and climate change impacts.

Despite record high landings in recent years, the recently completed 2020 stock assessment found that YOY abundance indicators have been neutral or negative since the previous stock assessment (2015). The YOY signals may foreshadow future declines in recruitment, spawning stock, and ultimately landings. These YOY abundance conditions are similar to findings from the previous stock assessment that prompted the initiation of a Gulf of Maine stock resiliency addendum to proactively ensure sustainability of the spawning stock biomass. A MSE focused on stock resiliency could evaluate performance in achieving management objectives through various management actions, such as aligning management actions across Lobster Conservation Management Areas (of which was to be considered as part of the resiliency addendum).

The 2020 stock assessment also provided a socio-economic-based target reference point to indicate the need for management action to promote lobster industry stability before abundance declines to levels of biological concern (threshold and limit reference points). This newly developed reference point was in recognition of environmental drivers that negatively impacted the SNE stock and could similarly impact the GOM/GBK stock in the future under a warming climate. The assessment recommended socio-economic analyses be conducted following the stock assessment to refine this target reference point and provide guidance on appropriate management actions. A MSE focused on socio-economic resiliency could evaluate performance of achieving management objectives through management actions in response to abundance declines that would degrade the economic performance of the lobster industry.

Whale interactions with lobster gear have increasingly become a cause for lobster management responses and actions, so much so that development of the resiliency addendum was delayed to focus

on this management need. A MSE incorporating whale interactions could evaluate performance of achieving management objectives through management actions in response to these whale interactions.

Environmental conditions, particularly temperature, are well-documented drivers of lobster population dynamics and these conditions are changing rapidly throughout the range of American lobster. The 2020 stock assessment highlighted how environmental drivers impact the stocks differently through space and time even within stock boundaries. Environmental conditions are projected to continue changing throughout the American lobster's range, leading to future impacts that are not well accounted for in advice from regular stock assessments. A MSE focused on climate change impacts could enhance MSEs of the previous focal areas by explicitly considering environmental processes driving population dynamics and industry operation.

The first focal area, stock productivity resiliency, is considered the most feasible for a near-term MSE given available data and models. The other three focal areas would require considerably more time and resources to incorporate into a MSE and potentially new data sources that are currently unavailable, such as complete harvester reporting. These focal areas may be best to purse in future MSEs by expanding upon tools developed in an initial MSE.

Resource Needs:

State and Federal Agency Staff - TC and SAS workloads would be similar to a benchmark stock assessment. TC and SAS members would contribute to stakeholder recruitment, data gathering, technical aspects of the MSE, and training for using the MSE tools in future updates. (No Additional Cost)

ASMFC Staff - The workload would be similar to a benchmark stock assessment for the ISFMP Coordinator and Stock Assessment Scientist and would include project management, data gathering, workshop coordination, and report writing/publishing. (No Additional Cost)

American Lobster Board Members - The Board would need to provide guidance on the MSE based on management goals and review progress of the process during regular updates at Board meetings. Additionally, a working group of Board members would be needed to participate in MSE meetings and workshops throughout the process. (No Additional Cost)

Facilitator - A facilitator would be needed to facilitate workshops and elicit stakeholder input for inclusion in the MSE. If a contracted facilitator is necessary, a funding source is needed. ($25,000)

Travel – Meetings to elicit stakeholder input and participation in the MSE. ($35,000)

Biological/Environmental Model Development – Model developers are needed to build new models and/or synthesize current models to describe biological and environmental processes. This role would need to be filled by contracted personnel, current technical personnel on the TC/SAS, or a combination of both. The needs for this role, and therefore resource needs for a MSE, will be dependent on the focal area and objectives being pursued. For example, whale interaction and climate change focal areas would likely require additional modeling expertise from whale biologists and climate scientists, respectively, outside the lobster modeling community. If contracted personnel are necessary (e.g., Dr. Yong Chen, University of Maine), a funding source needs to be identified. Funding would likely be needed for multiple years for a programmer and supervisory support.

Socio-economic Model Development - Model developers are needed to build new models and/or synthesize current models to describe socio-economic processes of the lobster industry. Lobster industry socio-economic expertise is limited and data access might be a concern, so this role would likely need to be filled by contracted personnel with appropriate clearance. One year of funding has been confirmed for new socio-economic research at the Northeast Fisheries Science Center to support a

lobster MSE. Research will focus on model conceptualization and identification of data gaps. There is potential for extended funding of this research if a MSE is identified as a priority by ASMFC. If contracted personnel outside personnel currently funded through the NEFSC are necessary, a funding source needs to be identified. Funding would likely be needed for multiple years.

Workload/Resource Tradeoffs:

- Potential Jonah crab benchmark stock assessment being considered for initiation in August 2021
- Development of a resiliency addendum
- Potential work to support management response to the 2020 stock assessment
- Ongoing and future whale interaction work
- Next lobster benchmark stock assessment to be completed in 2025

Next Steps:

- Identify priority level of a lobster MSE through consultation with the management board.
- Identify roles and responsibilities for all personnel and potential funding sources for contracted personnel.
- Identify timeline for MSE milestones and completion.

Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

MEMORANDUM

January 12, 2021

To: **American Lobster Management Board**

From: **Tina Berger, Director of Communications**

RE: **Advisory Panel Nomination**

Please find attached a new nomination to the Johan Crab Advisory Panel – Jon Williams, a commercial offshore trap fishermen representing the State of Rhode Island. 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.

Enc.

cc: Caitlin Starks

Jonah Crab Advisory Panel

Bolded names await Board review and approval

January 12, 2021

Maine

Chris Bates
32 Edgewood Lane
Brooksville ME 04617
cbates123@myfairpoint.net

- Awaiting confirmation from ME regarding nomination

New Hampshire

Todd Richard Ellis (manager for offshore lobster/crab boats)
4 Laurel Lane
Somersworth, NH 03878
Phone: 603.396.0993
tellis@littlebaylobster.com
Appt Confirmed 5/4/15

Massachusetts

Marc Palombo (comm. lobster traps)
4 Popes Meadow
Sandwich, MA 02563
Phone (home): 508.888.5714
Phone (cell): 508.648.0261
calicolob@comcast.net
Appt Confirmed 10/22/18

Captain Jan Horecky (comm traps/offshore SNE)
29 France Street
Middleboro, MA 02346
Phone: 774.766.8466
jhorecky@verizon.net
Appt. Confirmed 5/4/15; 8/18

Rhode Island

Brian Thibeault (comm trap/inshore SNE)
40 lakeside Drive
Charleston, RI 02813
Phone: 401.932.8250
Kwe5tbos90@yahoo.com
Appt Confirmed 5/4/15

Jon Williams (comm trap/offshore)
132 Herman Melville Blvd.
New Bedford, MA
Phone: 508.951.4788
jwilliams@atlanticredcrab.com

New York

Vacancy

Maryland

Earl Gwin (comm lobster trap/LCMA 5)
10448 Azalea Road
Berlin, MD 21811
Phone: 401.251.3709
jeanenegwin@verizon.net
Appt Confirmed 11/2/15

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: Barbara Cournoyer (your name) State: RI

Name of Nominee: Jon Williams

Address: 132 Herman Melville Blvd, 53 Log Cabin Rd

City, State, Zip: New Bedford, MA: Westport, ME

Please provide the appropriate numbers where the nominee can be reached:

Phone (day): 508-951-4788 Phone (evening): 508-951-4788

FAX: N/A Email: jwilliams@atlanticredcrab.com

FOR ALL NOMINEES:

1. Please list, in order of preference, the Advisory Panel for which you are nominating the above person.
   1. Jonah
   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_____

3. Is the nominee a member of any fishermen's organizations or clubs?

   yes X no_____

   If "yes," please list them below by name.

Atlantic Red Crab Harvesters Assoc.	NEFMC Halibut Committee
Large Whale Take Production Team	
Industry Advisor for AP Committee	

4. What kinds (species) of fish and/or shellfish has the nominee fished for during the past year?

Jonah Crab	Eels
Atlantic Red Crab	
Lobster	

5. What kinds (species) of fish and/or shellfish has the nominee fished for in the past?

Jonah Crab	King Crab, Snow Crab
Atlantic Red Crab	Halibut, Sea Urchins, Swordfish
Lobsters, Eels	Rock Sole, Alaskan Cod, Pollock

FOR COMMERCIAL FISHERMEN:

1. How many years has the nominee been the commercial fishing business? 2007 years
2. Is the nominee employed only in commercial fishing? yes X no _____
3. What is the predominant gear type used by the nominee? Traps
4. What is the predominant geographic area fished by the nominee (i.e., inshore, offshore)? Off Shore

FOR CHARTER/HEADBOAT CAPTAINS:

1. How long has the nominee been employed in the charter/headboat business? 2007 years
2. 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): _____

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.

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.

_____

_____

_____

FOR SEAFOOD PROCESSORS & DEALERS:

1. How long has the nominee been employed in the business of seafood processing/dealing?
   2007 years

2. Is the nominee employed only in the business of seafood processing/dealing?

   yes _____ no X If "no," please list other type(s) of business(es) and/or occupation(s):

_____

_____

_____

3. How many years has the nominee lived in the home port community? <1 years

   If less than five years, please indicate the nominee's previous home port community.

New Bedford, MA, Westport Island ME, Hampton VA

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):

_____

_____

_____

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.

In addition to the total amount of years fishing, processing and boat ownership with extensive indus

Nominee Signature: _____ Date:

Name: Jon Williams
(please print)

COMMISSIONERS SIGN-OFF (not required for non-traditional stakeholders)

_____ State Director

_____ State Legislator

_____ Governor's Appointee