

Atlantic States Marine Fisheries Commission

American Lobster Management Board

*May 2, 2018
1:15 – 3:15 p.m.
Arlington, Virginia*

Draft Agenda

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

1. Welcome/Call to Order (*S. Train*) 1:15 p.m.
2. Board Consent 1:15 p.m.
 - Approval of Agenda
 - Approval of Proceedings from February 2018
3. Public Comment 1:20 p.m.
4. Lobster Conservation Management Team (LCMT) Proposals to Reduce Latent Effort **Potential Action** 1:30 p.m.
 - Review Board Task Regarding Latent Effort (*M. Ware*)
 - Review LCMT Proposals
 - Discuss Board Goals and Objectives Regarding Task
 - Consider Board Action in Response to Proposals
5. Law Enforcement Committee Report (*R. Cloutier*) 2:45 p.m.
 - Enforceability of Ropeless Fishing
6. Plan Development Team Update on Lobster Draft Addendum XXVII (*M. Ware*) 3:10 p.m.
7. Other Business/Adjourn 3:15 p.m.

The meeting will be held at the Westin Crystal City, 1800 S. Eads Street, Arlington, Virginia; 703.486.1111

MEETING OVERVIEW

American Lobster Management Board Meeting

May 2, 2018

1:15 – 3:15 p.m.

Arlington, Virginia

Chair: Stephen Train (ME) Assumed Chairmanship: 02/18	Technical Committee Chair: Kathleen Reardon (ME)	Law Enforcement Committee Representative: Rene Cloutier (ME)
Vice Chair: Dan McKiernan (MA)	Advisory Panel Chair: Grant Moore (MA)	Previous Board Meeting: February 6, 2018
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 February 2018

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. LCMT Proposals to Reduce Latent Effort (1:30-2:45 p.m.) Potential Action

Background

- In October 2017, the Board tasked the LCMTs with developing proposals to assess and reduce latent effort in their respective fishing area. This was prompted by a memo from the SNE Working Group, which recommended the Board investigate latent effort in the fishery after the Board did not approve Addendum XXV.
- As the Board reviews the submitted proposals, it is important for the Board to discuss the goals and objectives for this tasking.

Presentations

- Review of Board task regarding latent effort by M. Ware
- Review of LCMT Proposals (**Briefing Materials**)

Board actions for consideration at this meeting

- Consider Board action in response to the proposals received.

5. Law Enforcement Committee Report (2:45-3:10 p.m.)**Background**

- In February, the Board tasked the LEC with reviewing the enforceability of ropeless fishing in the lobster fishery. This discussion was prompted by the recent decline in the right whale population and subsequent discussion regarding ropeless fishing.
- The LEC is scheduled to discuss the enforceability of ropeless fishing at its May 1st in-person meeting.

Presentations

- Law Enforcement Committee Report by R. Cloutier

6. Update on Development of Draft Addendum XXVII (3:10-3:15 p.m.)**Background**

- The Board initiated Draft Addendum XXVII to increase the resiliency of the GOM/GBK stock.
- The PDT has begun work to draft the Addendum; the TC is conducting analysis to understand the biological impacts of standardizing various management measures.

Presentations

- PDT Update by M. Ware

7. Other Business/Adjourn

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

**The Westin Crystal City
Arlington, Virginia
February 6, 2018**

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

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INDEX OF MOTIONS

1. **Approval of Agenda by Consent** (Page 1).
2. **Move to approve Issue 1 Option B, maintain current harvester reporting effort and allocate reporting through an optimal approach** (Page 8). Motion by Pat Keliher; second by Jim Gilmore. Motion amended.
3. **Move to amend the motion to add “100 percent harvester reporting to be required through electronic reporting within 5 years”** (Page 15). Motion by Adam Nowalsky; second by Ritchie White. Motion tabled.
4. **Move to table the main motion and the motion to amend until later within this meeting** (Page 17). Motion by David Borden; second by Sen. Brian Langley. Motion carried (Page 18).
5. **Move to approve under Issue 2, Harvest Reporting Data Components, select Option C, expanded data elements regarding gear configuration (number of traps per trawl, number of buoy lines)** (Page 18). Motion by Doug Grout; second by David Borden. Motion carried (Page 19).
6. **Move to approve Issue 3, Option D, 10 minute squares, and LCMAs, and to allow states to maintain their within-state statistical reporting areas** (Page 19). Motion by David Borden; second by Doug Grout. Motion carried (Page 24).
7. **Move to implement the pilot tracking program within one year** (Page 24). Motion by David Borden; second by Pat Keliher. Motion carried (Page 25).
8. **Move to bring the tabled motions back to the Board** (Page 25). Motion by Dennis Abbott; second by Sen. Brian Langley. Motion carried (Page 25).

Main motion: Motion to approve Issue 1 Option B, maintain current harvester reporting effort and allocate reporting through an optimal approach.

9. **Move to amend to add “or paper” following “electronic” in the amended motion** (Page 26). Motion by Dan McKiernan; second by Pat Keliher. Motion carried (Page 27).

Main motion as amended: Motion to approve Issue 1 Option B, maintain current harvester reporting effort and allocate reporting through an optimal approach.

10. **Move to amend the motion to add “100 percent harvester reporting to be required through electronic or paper reporting within 5 years** (Page 27). Motion by Doug Grout. Motion carried (Page 28).

Main motion as amended: Motion to approve Issue 1 Option B, maintain current harvester reporting effort and allocate reporting through an optimal approach; 100 percent harvester reporting to be required through electronic or paper reporting within 5 years.

11. **Move to amend to add “if a state waters commercial harvester landed less than 1,000 pounds of lobster and Jonah crabs in the previous year, that individual can submit a monthly summary of landings data rather than then the trip level reports** (Page 29). Motion by Doug Grout; second by Emerson Hasbrouck. Motion carried (Page 29).

Main motion as amended: Motion to approve Issue 1 Option B, maintain current harvester reporting effort and allocate reporting through an optimal approach; 100 percent harvester reporting will be required through electronic or paper reporting within 5 years. If a state waters commercial harvester landed less than 1,000 pounds of lobster and Jonah crabs in the previous year, that individual can submit a monthly summary of landings data rather than then trip level reports. Motion carried (Page 30).
12. **Move to approve Addendum XXVI to the American Lobster FMP/Addendum II to the Jonah crab FMP as amended today** (Page 32). Motion by Doug Grout; second by David Borden. Motion carried (Roll call vote) (Page 34).
13. **Move to include the following TOR: Evaluate the implications of habitat expansion or contraction on population productivity. Review evidence for stock boundaries and associated stock structure, and confirm the current stock units are appropriate** (Page 38). Motion by Pat Keliher; second by Joe Cimino. Motion carried (Page 39).
14. **Move to accept the Terms of Reference for the 2020 American Lobster Benchmark Stock Assessment.** Motion carried (Page 39).
15. **Move to elect Dan McKiernan as Vice-Chair of the American Lobster Management Board** (Page 39). Motion by Doug Grout; second by Pat Keliher. Motion carried (Page 39).
16. **Motion to adjourn** by Consent (Page 39).

ATTENDANCE

Board Members

Pat Keliher, ME (AA)	Jim Gilmore, NY (AA)
Sen. Brian Langley, ME (LA)	Emerson Hasbrouck, NY (GA)
Douglas Grout, NH (AA)	Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Jeff Brust, NJ, proxy for L. Herrighty (AA)
G. Ritchie White, NH (GA)	Roy Miller, DE (GA)
Raymond Kane, MA (GA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Dan McKiernan, MA, proxy for D. Pierce (AA)	John Clark, DE, proxy for D. Saveikis (AA)
Rep. Sarah Peake, MA (LA)	Rachel Dean, MD (GA)
Jay McNamee, RI (AA)	Mike Luisi, MD, proxy for D. Blazer (AA)
David Borden, RI (GA)	Joe Cimino, VA, proxy for J. Bull (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Peter Burns, NMFS
Sen. Craig Miner, CT (LA)	
Mark Alexander, CT (AA)	

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

Ex-Officio Members

Rene Cloutier, Law Enforcement Representative

Staff

Robert Beal	Jeff Kipp
Toni Kerns	Geoff White
	Megan Ware

Guests

Rachel Baker, NOAA	Allison Murphy, NMFS
Purcie Bennett-Nickerson, PEW	Derek Orner, NMFS
Colleen Giannini, CT DEEP	Cheri Patterson, NH F&G
Zack Greenberg, PEW	Jeffrey Pierce, Alewife Harvesters
Earl Gwinn, Ocean City, MD	Terry Stockwell, NEFMC
Marin Hawk, MSC	Mike Thalhauser, Center for Coastal Fisheries, ME
Arnold Leo, E. Hampton, NY	Darrell Young, MEFA
Chip Lynch, NOAA	Chris Wright, NMFS

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The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia; February 6, 2018, and was called to order at 9:30 o'clock a.m. by Chairman Stephen Train.

CALL TO ORDER

CHAIRMAN STEPHEN TRAIN: Hello everybody; my name is Steve Train. I'm the Governor's Appointee from the state of Maine; and I'm the new Chair of the Lobster Board. I would like to welcome everybody to the meeting today. We happen to be the first meeting of the winter meeting this year; so I would like to welcome everybody to our winter meeting.

APPROVAL OF AGENDA

CHAIRMAN TRAIN: I assume everybody got the paperwork in the mail or the electronic paperwork, or whatever you want to call it. The first item on our agenda is board consent for the agenda. Is there any opposition to the agenda as sent to you? Seeing none; it's approved with consent.

APPROVAL OF PROCEEDINGS

CHAIRMAN TRAIN: Does everybody have the proceedings from the October meeting?

Are there any additions, deletions, corrections? If not we'll consider that approved with consent. Seeing no opposition we'll call that approved.

PUBLIC COMMENT

CHAIRMAN TRAIN: We have nobody signed up for public comment. If somebody missed an opportunity to sign up and they have something to comment on that is not on the agenda, please raise your hand, come up and introduce yourself. This is going fast. Okay now before we get into the guts of the agenda I have one thing.

There seems to be a lot of whale discussion driving management in the lobster industry

right now; or at least impending management. We have a whale discussion coming on the Policy Board later. I would like to try as much as possible to keep it out of the discussion in today's meeting; it's not a direct agenda item. If possible withhold whale comments that aren't actually pertinent to what we're doing. Pat.

MR. PATRICK C. KELIHER: Thank you Mr. Chairman, but I do have a comment and possibly a pending motion as it relates to whales and the Law Enforcement Committee that I would like to address prior to the completion of the meeting.

CHAIRMAN TRAIN: It's pertinent to Law Enforcement then and we'll bring it in then; thank you.

AMERICAN LOBSTER ADDENDUM XXVI AND ADDENDUM III FOR JONAH CRAB FOR FINAL APPROVAL

CHAIRMAN TRAIN: Okay, it's time to get started. We have Addendum XXVI for Lobster and Addendum III for Jonah Crab; it's a final action, and we're going to be started off with summaries from Megan Ware. Megan.

MS. MEGAN WARE: We'll just wait for the presentation to get pulled up; but just an overview of what we're going to talk about today. I'll open up with the problem statement. I will quickly review the management options; and then I'll review the public comment that we received on this document. Then that will be followed by a Law Enforcement Committee report, as well as an AP report. Just as a reminder; there are two primary concerns that this Addendum is trying to address. The first is that current harvester reporting requirements do not provide the level of information needed to respond to management issues. More specifically, the spatial information we're collecting is too coarse to respond to management actions. There is a lack of information on the depth of the fishery coastwide, and then not all harvesters are

required to report. The second concern is that the as the lobster fishery is moving further offshore, and the Jonah crab fishery is expanding in federal waters.

This is a concern because the majority of our biological sampling is occurring inshore or nearshore. As a reminder, the Technical Committee in their report commented that many of the statistical areas are not meeting the three-sample-per-season baseline, which is in the stock assessment, which means that we need to be borrowing data from different statistical areas and that our greatest data gaps are in offshore Georges Bank.

REVIEW OPTIONS AND PUBLIC COMMENT SUMMARY

MS. WARE: Then before getting into the management options, I thought I would just review the TC analysis on the percent harvester reporting in Maine. As a reminder, the Board did task the TC with investigating a statistically valid sample of harvester reporting. There were three primary conclusions from that TC report.

The first is that overall the TC is recommending 100 percent harvester reporting; to accurately account for all trap hauls and the spatial extent of effort. However, in the interim the current 10 percent harvester reporting in Maine is sufficiently precise; in large part due to the size of the fishery.

What this means is that that 10 percent harvester reporting is resulting in a low coefficient of variation for metrics such as trap hauls and landings. The TC also had a recommendation to improve the current 10 percent reporting; by focusing on active permit classes, which contain a large number of vessels and have a high variance of landings.

Focusing on active permit holders as opposed to latent permits and that is going to be Option B on the next slide. Issue 1 is the percent harvester reporting; and there are three options here. Option A is status quo, so we maintain

the minimum of 10 percent harvester reporting with an expectation of 100 percent reporting over time.

If a state is at 100 percent reporting it maintains that percentage. Option B is maintaining the current effort associated with reporting; so if a state is at 100 percent reporting they maintain that percentage. If a state is at less than 100 percent harvester reporting, they maintain their current level of effort but they redistribute their current sampling through that optimal approach; which is again from the TC report.

For this option there is an expectation of 100 percent reporting over time through the use of electronic reporting. Finally, Option C is 100 percent harvester reporting; and there are two sub-options here. Sub-option 1 is a straight 100 percent trip level reporting. Under Sub-option 2, there is an exception for commercial harvesters who land less than 1,000 pounds of lobster and Jonah crab annually. They can submit monthly landing reports.

Then since electronic reporting is mentioned in one of the options, I just remind everyone that electronic reporting is highly encouraged by the Plan Development Team and the TC; given it is a cost effective method to increase reporting and there is flexibility to collect expanded data elements. The Addendum is recommending the use of eTrips or eTrips/Mobile, given it can be implemented at little to no cost to states. It's approved by GARFO for EVTRs, and there is a well-established relationship between ACCSP and ASMFC. However, states can use a different platform for electronic reporting; but it must be API compatible, which just means it has to allow data to be consolidated from other sources.

Issue 2 is asking what data components harvesters are required to report; under Option A, again status quo. Right now the plan requires things like statistical area, number of traps hauled, the species, and the pounds. Options B and C provide ways to expand upon

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that. Under Option B, the plan would also require depth, bait type, and soak time.

Under Option C it would require number of traps per trawl and number of buoy lines. Again, these are the minimum baselines for all the states. Some states are already collecting some of this information; but it would just codify it in the plan. For this issue, you can think of this issue as building blocks.

The Board can choose Option B, they can choose Option C, or they can choose both. Finally, the third question is asking about the spatial resolution at which we collect data. There are five options here. Option A is statistical area; so that is our status quo. Option B is statistical area and LCMA.

Option C is statistical area and distance from shore; so we have 0-3 miles would be our inshore region, 3-12 miles would be our nearshore region, and greater than 12 miles would be our offshore region. Option D is 10 minute squares, which are what are shown coastwide in the figure on this slide.

This is basically breaking down the statistical areas into smaller boxes. Then Option E is for an electronic tracking pilot program. As a reminder, this is a one-year pilot program to test electronic tracking devices in the fishery. To do this we would put together a subcommittee of Board, Plan Development Team, Industry and Law Enforcement members.

They would be charged with designing the pilot program; as well as selecting the technologies. At the end of that one year the technologies would be evaluated, based on compliance, ability to determine trap hauling from steaming, industry feedback, and cost. At the end of that one year the Board has three options.

They can choose to end the program and not pursue electronic tracking. They can extend the program for one year to test new technologies or test them in different areas; or they could

pursue the implementation of tracking in the lobster fishery. Then just to wrap up some of the other changes that are included in the Addendum.

In terms of biological sampling, there is still a requirement for non de minimis states to conduct either a ventless trap survey, a settlement survey, or a trawl survey. However, this addendum would set a minimum baseline for biological sampling; so states would be required to conduct a minimum of ten sea or port sampling trips in the lobster/Jonah crab fishery.

If a state comprises more than 10 percent of coastwide landings in either of the lobster or Jonah crab fishery, they would be asked to do additional trips. Finally, there are three recommendations for federal waters. The first is to establish a harvester reporting requirement for that lobster-only-federal permit. The second is to create a fixed-gear VTR, and the third is to implement a targeted lobster sampling program in federal waters. Moving on to the public comment we received.

There were eight hearings held in seven states; with about 130 individuals attending those. Then we received 13 written comments. Most of those were from organizations; including NGOs, industry associations, and the New England Council. Then the remaining was from individuals. Just to orient everyone.

These are going to be the graphs I show for the three issues. On the left column on the top is the written comments; split out by individual versus organization, and then the public hearings are split out by state. Then on the top are the different options. Again, this is Issue 1; Percent Harvester Reporting.

Overall the greatest support was for maintaining the current harvester reporting effort; but allocating this through an optimal approach, so that Option B or that 10 percent modified on the screen. Much of the support

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for this option came from the Maine public hearings; as well as individual letters from Maine residents, and several industry organizations.

Comments in favor of this option included, it is the best use of Maine's time and money, 10 percent harvester reporting is statistically valid, and harvester reporting should focus on active permit holders. The 100 percent reporting, which is Option C, was the second most supported option; with much of the comments coming from the New Hampshire and New York hearings, letters from NGOs, as well as the New England Council.

Those who favored this option commented that all fishermen should be treated the same; and be required to report. A hundred percent reporting should be required from Maine; which comprises 83 percent of the fishery. A hundred percent reporting is needed to address data gaps and understand the offshore movement of the fishery.

In particular, several NGOs recommended immediate adoption of 100 percent reporting; rather than the five-year-phase-in approach that is outlined in the addendum. Finally, for Option A, which is status quo, those who supported this option again commented that the 10 percent reporting is statistically valid, that 100 percent reporting is redundant given there is 100 percent dealer reporting, and it's a better use of Maine's budget to focus on biological sampling as opposed to harvester reporting.

The next issue is the data elements. Again, we have status quo and then Option B was to add in effort and location elements; and Option C were the gear elements. The greatest support was for status quo. At almost every hearing, participants commented that their state is collecting more data elements than what is required under the plan. They are already exceeding the plan requirements.

However, there was resistance to requiring additional data elements in the plan; as participants generally commented that they're already providing enough data. In particular there was little support for requiring bait type; and there were concerns with depth, given that a single trawl can cover a wide depth range. Those who supported the addition of data elements included NGOs, a few individuals at hearings, as well as the New England Council. They supported the additional data elements; particularly those gear elements, given the ongoing discussions regarding protected resources. Finally, Issue 3 was the spatial resolution of data. Overall, greatest support was for distance from shore; which is Option C, as well as statistical area Option A.

Much of the support came from the Maine public hearings; where fishermen are already reporting statistical area and distance from shore, so Options A and C would not add additional requirements for those fishermen. The addition of 10 minute squares, Option D, got moderate support at several hearings, as well as from several industry organizations, the New England Council, and NGOs.

These participants commented that a greater spatial resolution of data is needed; to show a history of where the lobster and Jonah crab fisheries are taking place. Importantly, many participants commented that fishermen should not be required to fill out a new trip report for every square fished; since this would significantly increase the burden on fishermen.

Finally, several NGOs recommended immediate adoption of electronic tracking in the lobster fishery. Just to wrap up with some of the additional comments. In regards to the federal recommendations, there were 16 comments in support of 100 percent harvester reporting for federally permitted vessels, 7 comments in support of the fixed gear VTR, and then 3 comments in support of a targeted biological sampling program.

Others did caution against increased observer coverage. Regarding protected resources, several NGOs recommended subsequent action to address the right whale deaths. Then at the New Jersey and Connecticut hearings, fishermen highlighted the economic impacts of the current season closures. In particular they both talked about the requirement to remove gear; as that extends the length of the closure, and prevent them from fishing for other species. I will now pass it off for the LEC report.

LAW ENFORCEMENT COMMITTEE REPORT

MR RENE CLOUTIER: The Law Enforcement Committee did not have any specific recommendations for addressing the level of harvester reporting; or the types of additional data that might be desirable or mandatory. The LEC supports efforts to collect as much data as possible; but offered the view that as reporting requirements become more complex, with additional data needs, it would be unreasonable to expect strict enforcement of incomplete or incorrect reporting.

Regulatory enforcement standards for non-reporting are in place and effective. The LEC supports the development and improvement of vessel tracking as statistical area reporting as a means to enhanced enforcement and management of the lobster fishery as a whole.

While the usefulness of additional data collection for enforcement purposes may vary from state to state, there may be ancillary utility in having additional information at hand, such as water depths, bait types, and gear soak times. The LEC welcomes the opportunity to provide enforcement advice; regarding the development of tracking and harvester reporting systems for the American lobster fishery.

ADVISORY PANEL REPORT

MS. WARE: Thanks Rene, and then I will just wrap up with the Advisory Panel report. I'm presenting this on behalf of the AP. The AP met via conference call on January 17, to review the

management options, review the public comment that had been received to date, and then also provide recommendations to the Board. On Issue Number 1, five AP members supported 100 percent reporting in federal waters. There were comments that as the lobster fishery moves offshore the data gaps in federal waters are becoming exasperated.

Of those five individuals, two AP members were comfortable with 10 percent harvester reporting in state waters; but the 100 percent reporting in federal waters. Two separate AP members supported maintaining the current 10 percent harvester reporting requirement. There were comments that 10 percent harvester reporting is statistically valid; that Maine cannot handle 100 percent reporting, given the number of trips, and that again 100 percent reporting would be redundant.

One of these individuals did support Option B; which is redistributing that 10 percent to focus on active permits. Then one AP member suggested either an optional or additional reporting program for recreational fishermen; so that they can provide their knowledge and information to managers.

For Issue Number 2, four AP members supported the redesign of the federal VTR to encompass data needs of the lobster fishery; with comments that the current form is not presented in a logical order, and that different fishermen are interpreting the data elements differently. On Option B, which is the additional elements in regard to location and effort, one AP member supported inclusion of soak time, but did not see a need for bait type.

Another AP member expressed concern about depth; again given a trawl can span such a wide range of depths. Then for Option C, which are the gear configuration elements. One AP member supported inclusion of these, given it is pertinent to the ongoing protected resources discussions.

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Finally for Issue 3, so regarding the electronic tracking pilot program, five AP members did not support this, commenting that eventually the cost will fall on fishermen, and it's not appropriate for the inshore fishery. One AP member did support the exploration of electronic tracking for federal vessels; especially given increases in the Jonah crab fishery.

Regarding the 10 minute squares, two AP members supported the use of the 10 minute squares; as long as fishermen don't have to fill out a separate form for each square, with comments that this will help the fishery in the long run, because it will provide a history of where the effort is taking place.

Then one AP member supported stat area and LCMA, and one AP member did not support distance from shore; given Long Island Sound is all in state waters. Then just some additional comments, one AP member overall supported greater sampling of the whole fishery. One AP member highlighted the importance of reporting being fishermen friendly; so logical and simple. Then one AP member cautioned the Board against moving towards requirements that are found in the groundfish fishery. With that we'll take any questions.

CHAIRMAN TRAIN: Do we have any questions? David Borden.

MR. DAVID V. BORDEN: I just note first off, congratulations on being the Chairman. It's really refreshing to be over on the side of the table through this meeting. I have a question for the NOAA staff. A number of the points that are made both in the public hearings and in the document, talk about revisions to the VTR.

I know that NOAA staff routinely does small revisions to the VTR system. I'm just wondering how much flexibility there is to adjust the VTR language to try to address some of these concerns. If someone from NOAA could speak to that I think it would be beneficial.

CHAIRMAN TRAIN: Peter, I had to ask who it was. You were a shadow. Peter Burns, go ahead and answer, please.

MR. PETER BURNS: Good, I hope you can see me a little bit better Mr. Chairman, thank you. As far as the flexibility, I mean the forms are set up. I imagine over time if we wanted to revise these forms, one of the options here, the recommendations is to go forward with a fixed-gear reporting form.

But right now if we were going to go forward with some more electronic reporting, there may be some more flexibility that way. Those are systems that we're trying to develop and working on. But right now we would have to go through and change those forms. We would have to go through a process to evaluate the burdens and things like that; and go through significant administrative process to change the forms the way they are now.

CHAIRMAN TRAIN: Follow up, David?

MR. BORDEN: Yes just a quick question. Peter, in the past we've talked about having a fixed gear VTR system; and if my memory is correct, that always triggered some type of OMB requirement or review, which was not seen as being terribly probable. Is that still the case?

CHAIRMAN TRAIN: Peter, go ahead.

MR. BURNS: Thanks for the question, David. Well yes, anytime we go through any types of changes that require changes in the burdens to the public and to the federal government to provide information, we have to go through a process. Yes we would have to go through and revise these forms.

We would have to give the rationale and the appropriate adjusted burdens and things like that; and we would have to get approval from OMB to go through and actually implement these types of things. Big or small, any kinds of changes are going to have to require updated

adjustments, updated evaluations of the burden, and we would have to get approval of that up the line.

CHAIRMAN TRAIN: Ritchie White. No? Do we have no other questions? Mark Alexander.

MR. MARK ALEXANDER: Just to follow up on some reporting questions, not on VTRs, but with state reporting. I think it's wise that the Addendum takes the direction of looking toward electronic reporting. But in that regard, has there been any communication with or feedback from ACCSP on these additional data elements; because some of them are not part of the present program design? I would guess that that might involve some of the various committees in incorporating those state elements into the design; and then subsequently have them translate into the electronic application itself. I was just wondering if there was any idea how long that may take.

MS. WARE: Yes, so a member of ACCSP was on the Plan Development Team for this Addendum for that reason. I again checked in with them on Friday, and they expressed to me their confidence to be able to implement whatever is chosen in this Addendum, including the data elements, so I think that they are confident that they can do it.

MR. ALEXANDER: Did they indicate a timeline?

MS. WARE: I'll use a menhaden phrase, cautiously optimistic for next fishing year.

CHAIRMAN TRAIN: Does anybody have anything else? Yes.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Just a follow up on the ACCSP question. Geoff White I think is on his way over from the office; so if he gets here you guys can ask him some of the more detailed questions. He might be able to help out. But he'll be here hopefully soon.

CHAIRMAN TRAIN: Trying to stay on task here. We've got reports, we've got reviews and we're into final approval; and yet we may need more information.

EXECUTIVE DIRECTOR BEAL: If folks want to dig in deeper to the questions that were just posed to Megan. If they were concerned about her responses or we needed more detail of data elements or timing and those sorts of things; Geoff may be able to do that. If folks around the table are satisfied, I think then you're ready to go full steam ahead.

CHAIRMAN TRAIN: We're at the point where we have to consider final action; unless people would like to wait for more information. I don't see anyone raising their hand to make a motion. Dan McKiernan.

MR. DANIEL MCKIERNAN: Can I recommend that we take these, one issue at a time?

CHAIRMAN TRAIN: That's fine. Pat Keliher.

MR. KELIHER: I'm not sure we're going in order. Maybe the best approach from trying to determine. There is obviously going to be a lot of direction towards the state of Maine on our willingness to go beyond anything, beyond 10 percent. There are both fiscal issues within the state of Maine that I think the Board is aware of. I think we have an option here in front of us that start to improve on Maine's already utilization of 10 percent harvester reporting; with a strong emphasis on the further development of electronic reporting.

It would be good to have an ACCSP representative here; I think as we get into the finer details of electronic reporting, because my staff continues to express concerns with me about the current eTrips, and how it would have to have a lot of modification I think, to work for the state of Maine because of the size of our fishery. But if it will help move things along, I will be happy to put a motion on the board and we can go from there. **If you will Mr.**

Chairman, I would make a motion to move Option B; maintain current harvester reporting efforts, and allocate reporting through the optimal approach. If I get a second I will give further justification.

CHAIRMAN TRAIN: We have a motion; is there a second? We have a second from Jim Gilmore. Further discussion, go ahead Pat.

MR. KELIHER: There has been a lot of talk over the years, for many years in regards to Maine's harvester reporting. Maine's fishery has nearly 6,000 commercial license holders that make up both the state and federal portion of our fisheries. Last year there were 265,000 trips taken in that year or 292,000 trips in 2016.

With our current 10 percent, our landings program selects 650 to 700 licensed harvesters a year to report. This 10 percent is chosen from each zone and each license class category. We currently enter about 30,000 lobster records a year; and I believe that exceeds all the rest of the jurisdictions put together with our 10 percent.

The TC has determined that Maine's current 10 percent harvester reporting provides statistically representative data; because of the large scale of our fishery. The CV, which is less than 5 percent, equates to a 95 percent confidence interval with the data associated with 10 percent reporting. It is a very marginal benefit to increase to 100 percent at this time.

The appropriate stratification of license class and zones could be worked upon; and we could deal specifically with making sure that we're sampling both active license holders, and we could also take out the recreational component from that. I think what the TC has recommended is to continue to further develop the electronic reporting.

Maine is very, very supportive of that approach. I think we have a very good track record in the state of Maine; as far as being leaders

associated with electronic reporting. The elver fishery is a prime example of that; and I think something that should be looked at, as it relates to this type of reporting.

Something that can be simplified, everybody is carrying these damn things around, these smart phones around now that could be utilized for this type of reporting associated with daily landings. With that Mr. Chairman, I'll stop there. But I do know Senator Langley has some much greater detail as it pertains to the financial resources within the state of Maine, and how anything beyond 10 percent could affect us. It may be worthwhile hearing from the Senator.

CHAIRMAN TRAIN: Senator Langley

SENATOR BRIAN LANGLEY: You know I have just been in contact with our Chair of our Appropriations Committee this morning; just to make sure that my figures are correct. Our last economic forecast predicted about a 12 million dollar surplus that we would go into this year to fund what is on the table, our appropriations table that were carried over from last session.

I think the "asks" are probably ten times what the money is. Our state has had to come up with 2 million additional outside of the budget last year for the Medicaid expansion voted in by the voters, another million plus for implementing ranks choice voting that's come in. We're extremely challenged in this; and every rock will be turned over to try to meet those needs. I don't know what it's like in your states; but for legislators that are off the coast, you know there is probably not as much interest in what happens on the water, those of us that live on the coast. Then as a perspective, less than 1 percent of the budget in Maine is from the Department of Marine Resources. All natural resources departments are less than 3 percent of the budget; and it's very, very tightly watched.

The Department also has some increases within that they have to absorb with increased prices for trap tags and such. The extra \$500,000 I don't see would be coming to the Department; and if they had to increase the reporting mechanism it would be at the sacrifice of some other, I would say more worthy endeavors.

Then the other thing that I might suggest is that one item to take a look at, if statistically speaking you know 10 percent at some point doesn't become valued, then you would trigger it and maybe go to 15, or whatever you needed to, to be statistically accurate. That wouldn't be as difficult to swallow. Thank you for your time and your patience.

CHAIRMAN TRAIN: Thank you, Senator, anybody else? Peter Burns.

MR. BURNS: Just a question really about the structure of the document. Later on in Section 5, there are some specific recommendations for National Marine Fisheries Service; and one of them is the percentage of reporting, and it says that it would be the percentage that's determined by the Board. Now in this particular section that is specific to the state's reporting, it talks about the states.

We've got an option on the table right now that allows states to be able to optimize how they sample; so that they ensure that they get a representative sample of harvester reporting. Now would that apply to the National Marine Fisheries Service as well? Is this the point where the Board is going to determine how that translates into federal reporting; or is that a separate decision?

MS. WARE: I might suggest that it's a little bit separate. There hasn't been that analysis for the federal side on what that optimal reporting percentage is; so I can't give a percentages to what that is. But I think that would be a discussion under Section 5; if the Board is comfortable with that.

CHAIRMAN TRAIN: Are you good, Peter? No follow up?

MR. BURNS: You've got to have standards for state reporting and then separate standards for federal reporting? Is that what I'm understanding?

MS. WARE: Not necessarily different or separate; but my understanding from a comment before was to take each issue one at a time. That is where I was going with that. But if you guys want to change it up that is the Board's decision.

CHAIRMAN TRAIN: David Borden.

MR. BORDEN: Megan, is this recommendation consistent with the guidance we got from the Technical Committee; or have they commented on this specific option?

MS. WARE: Just to clarify, you mean for state or for federal waters for on the motion?

MR. BORDEN: For state.

MR. JEFF KIPP: Yes, the Technical Committee does recommend going to 100 percent; but then in the interim the 10 percent is reasonable.

CHAIRMAN TRAIN: Dennis Abbott:

MR. DENNIS ABBOTT: Senator Langley spoke about Maine's budgetary issues. I think the issues in Maine I'm sure are no different than they are in any other state. But from my point of view, I look at Maine's large lobster industry, and I look at how many trap tags they must issue, in the millions, 6,000 licenses.

It seems like that money should be used for lobster management of some portion of it; rather than going into the general fund to support things in inland Maine, or whatever. It's hard for me to swallow the fact that we can't do appropriate management measures

based on the state of Maine's budget diverting lobster income to other things.

CHAIRMAN TRAIN: I have Dan McKiernan next; but if there is a direct answer to Dennis, I'll take Pat out of order; you're also on the list. Pat Keliher.

MR. KELIHER: Just to be clear. I think Senator Langley's reference is to whether we could make up the difference for \$500,000.00. Our license money and our trap tag money go directly to our Lobster Management Fund; they are not diverted to the general fund. In this case, coming up though with \$500,000.00 on top of a \$270,000 hit that we just took because the price of our trap tags have just recently increased from, I think .03 to 11 cents.

We're already in a deficit of \$270,000.00; and to add potentially a \$500,000.00 component or bill to that deficit. We would not be able to cover that cost. We would have to go to the Legislature. The Legislature would have to then appropriate additional funds to the Department of Marine Resources.

I think to Senator Langley's point, it is not going to happen, especially when fishermen are going to say wait a minute, it's a 95 percent confidence interval. Why do we have to do more? This leads us into a political discussion; but I think Senator Langley's reading of the political tea leaves, as it comes to the Maine Legislature is quite accurate.

CHAIRMAN TRAIN: Briefly Dennis, and then Dan is next.

MR. ABBOTT: Thank you Pat for that clarification. That's a little different understanding that I had. I was under the impression that your trap tags was gaining a lot more revenue than what I thought.

MR. KELIHER: They use to.

MR. ABBOTT: It used to.

MR. KELIHER: They used to until this year.

MR. ABBOTT: Thank you.

CHAIRMAN TRAIN: Dan McKiernan.

MR. MCKIERNAN: I plan to oppose the motion; and I just want to give the Board a brief thumbnail sketch of the Massachusetts program. We have over 7,400 fishermen who are reporting trip level; all the way from the most small scale clammer up to an offshore lobster boat. We have 6,200 reports that come into us as trip level reporters at the state level.

Another 1,200 fill out VTRs; so in Massachusetts if you're filling out a VTR, you don't have to fill out a state trip level report. We have a program right now that is comparable to what Maine is fearing; in terms of the number of participants. I don't think it costs us a half million dollars. I have been looking at the Rhode Island model; where they put a surcharge on the fishermen, if the fisherman chooses to submit paper, which puts burden on the state to keypunch those records.

I think if I'm not wrong it is a \$50.00 surcharge; and they have a 54 percent electronic reporting rate, which clearly reduces the burden on the state. I think that's a great model; and it's something that we want to look at in Massachusetts. I am sympathetic to the plight of the Maine Legislature and the Agency; but this really needs to be borne by the industry, and the industry members to submit these catch reports.

The reason we didn't get a lot of comments south of Maine at the public hearings is because by and large, people accept this and they can't believe that we don't have it now. My last comment is, I won't go into all the gore, but one of the most painful professional experiences for me was the debates over the monument proposals that were occurring last year or a year and a half ago.

At the end of the Obama administration, when folks were trying to understand the impacts to these fisheries in the southern Georges Bank area, and all we could produce is huge stat area summaries that were not suitable for us to sort of fight back, or explain the impacts to these fisheries. I think we owe it to our successors, those who are going to inherit lobster management 5, 10, and 15 years from now, to really bring this up into modern standards. Ten years ago we enacted Addendum X, and the expectation was to eventually go to 100 percent.

Massachusetts went from 10 to 20 to 100 in the span of three years; because our staff told us, why would we make all this investment with the fisherman in year one and have him go away in year two? I mean once they've done the electronic reporting or the trip level reporting, they were in favor of it. That is why I'm going to vote against the motion.

CHAIRMAN TRAIN: Doug Grout.

MR. DOUGLAS E. GROUT: You know I believe this is a very important Addendum; particularly as we start having to deal with in our next addendum potentially some impacts to climate change, and trying to build some resiliency into this fishery. I am certainly sympathetic to the budgetary issues that Maine has brought forward with this. The concern I have with the motion on the Board is that it doesn't start moving towards the 100 percent reporting that the TC has put forward as a recommendation in the long term. I see the optimization as being a good step forward; but it's optimization with 10 percent. I also, one of the things that I think is very important as we move on into the future here, is to get a better idea of the spatial extent of the fishery.

I am concerned that at 10 percent we're not going to get that. You know the TC recommended back in October that 100 percent harvester reporting in the lobster and Jonah crab fishery to accurately account for all trap

hauls and the spatial extent of the effort. I understand the TC saying that from a catch estimate standpoint that 10 percent is statistically viable.

I believe I certainly understand the analysis they did, and I think that's a good way to go. But I think at some point we've got to start moving forward both in state waters and federal waters towards 100 percent. If this had some mechanism to start moving; even incrementally forward, I would be willing to support this. But at this point I can't support this unless there is some movement to something that we put forward over ten years ago as a need for this fishery.

CHAIRMAN TRAIN: Pat Keliher.

MR. KELIHER: Maine has 20,000 license holders. Dan's comment on regarding all the license holders in Massachusetts equates to 7,500. We deal with 30,000 reports alone with 10 percent harvester reporting. Then we have all of our other fisheries associated with it. I just want to make sure it's clear to the Board that Maine's landings program is significant in size and stature; dealing with all of our harvesters and all of our dealers across all of the fisheries.

The point around corals and monuments, I agree Dan. I mean having better data associated with those is important. Maine was successful pulling together very detailed information from a financial and effort standpoint, in regards to the coral conversations of the state of Maine, and we were successful utilizing that information through the New England Council approach to minimize the financial impact to the state of Maine.

To Doug's point in regards to this motion, Option B, the language within Option B, under this option states maintain 100 percent harvester reporting unless they have less, and in the case of Maine is obviously 10 percent. The

language within the document goes on to say it is expected that the states will work towards 100 percent harvester reporting over time through the use of electronic reporting.

That is specified within Option B. I am fully supportive of that. There are some problems associated with eTrips within the state of Maine. There are six or seven data points that we require that eTrips does not capture. If eTrips is the tool that we need to use to go forward that's fantastic; but my staff continues to show great concerns, and tell me about their concerns that relates to eTrips.

I think we need to roll up our sleeves and develop a system across states and with the federal government that is specific to 100 percent reporting electronically, but is also user friendly and not clumsy, to use a term that my staff uses in regards to eTrips. If you want more explicit language within the motion; I'm certainly willing to consider it. But to have the motion reflect anything other than 10 percent in some incremental fashion moving forward, when the TC has said it is of marginal benefit. I would rather spend my money on things that are frankly more important at this time, while we focus on electronic reporting development.

CHAIRMAN TRAIN: David Borden and I haven't seen any others so we're going to have to move forward after this. Oh, I'm sorry, Terry.

MR. BORDEN: I guess following up on Pat's point and Doug's point. How long would it take us to review the electronic reporting issue and basically make the types of changes that Pat is requesting? It seems to me, going back to the point that Doug made and Pat has made. What we need is we need a timeline in this motion that is on the table.

It sounds like it would be acceptable if we had a timeline and a path to revise the electronic reporting form. How long is it going to take us to do that? I don't know the technical nuances of that as well as I should. Can somebody

address that? I don't know whether Geoff is here.

CHAIRMAN TRAIN: Thank you Geoff.

MR. GEOFF WHITE: No problem. I'm sorry for arriving a little bit late. Can you just catch me up on what changes to the electronic reporting piece you would be asking for?

CHAIRMAN TRAIN: Pat, you were the one that said it was lacking, I believe. Can you explain what you would like?

MR. KELIHER: In conversations with my staff, and Geoff thanks for being here, because I think it's important. When I talk about electronic reporting based on the concerns within the state of Maine. I'm not sure that eTrips is frankly the right way to go. It was not developed for this. It could be modified and it could work for this; and I'm certainly open to that conversation.

But I think there are other technologies out there that might get us to the same point, in a way that is more user friendly from the industry. I got an e-mail from my staff in regards to this. I asked them to pull together their concerns. We're getting a lot of feedback here. I'm not sure. Is that a little better? Okay. That's great. This is purely intentional on my part. I don't think it's my microphone.

CHAIRMAN TRAIN: Pat, if you don't mind I will let Terry go and then when they get your microphone straightened out you can answer that question. Terry, would you like to go? Oh, now you can't. Go ahead, Terry.

MR. TERRY STOCKWELL: I'm here on behalf of the New England Council; and overall the Council appreciates the Commissions work on this Addendum and supports measures that will improve monitoring in federal waters. However, the Council does not support the motion on the board.

As the lobster and crab fisheries continue to shift operations further offshore, they are going to increasingly interact with other federally managed fisheries, the species targeting those fisheries, habitats, corals and protected resources. In addition there are a number of offshore wind and other energy projects currently being proposed. It's important that we all understand the patterns of effort so we can better estimate the bycatch and consider other overlaps between these fisheries and the other federal fisheries and habitats that the Council manages. I'm hoping that this motion will be amended and the Council can then provide some support.

CHAIRMAN TRAIN: I'm going to go to Peter Burns since they're still playing with plugs, Pat, and then I'll get back to you.

MR. BURNS: You know this gets back to my earlier question about whether we're going to determine the level of federal reporting within this motion or in this section of the document or later on; and it sounds like there are going to be two separate decisions. Given that this does have implications on the federal side; because if the Board was to approve this motion here, and then my thinking is that if there is going to be any increased request for increased federal reporting later on.

Any of the spatial data gaps that result from only a 10 percent harvester reporting in Maine are going to fall in the lap of federal permit holders and on the federal government to cover that gap. I thought Doug made a good point; which is you know the robustness of the TCs analysis of Maine's sampling program talks about trap hauls and landings.

But it doesn't really talk about or get to the issue of the spatial representation of harvester reporting coastwide. We know we have a big black hole in reporting somewhere in the Gulf of Maine and into Georges Bank. We've got a situation where the federal government wouldn't necessarily fall into this optimal

situation; where we could try to adjust our reporting requirements to get a better geographical resolution.

If we were required to report at a higher level we would have these much higher administrative costs and things like that. We do have electronic reporting is something that we're working on. It's come a long way. But it's not completely done yet, and so any kind of immediate reporting requirement would have to come under the existing budgets and things like that that we have. We don't have the fee structure or the trap tags or any of these other types of revenues that can help offset those costs.

We don't charge federal permit holders anything. My concern is that although I can appreciate the TCs analysis, and I can certainly appreciate Maine's budgetary situation. I don't think that this gets to the spatial need for data offshore. I'm just concerned that this would just become the responsibility of the federal government to pick up the slack here; and so I can't support this motion.

CHAIRMAN TRAIN: Is your microphone working yet, Pat?

MR. KELIHER: How's this, better? Just to an earlier point from a numbers perspective. Maine does 100,000 harvester reports and nearly 500,000 dealer reports; to give you a size of our current landings program. But to the point in regards to eTrips, these are the concerns expressed from my staff.

Program does not have great intuitive flow to the process. Harvesters continue to be very frustrated with the program. It only works on Android platforms, unless changes have been made that we're not aware of. It interfaces with SAFIS not the Maine Licensing System database. There are very few checks and balances. Fields have no validation at time of data entry. Areas fished selection needs major revisions; zone and distance from shore using

current data elements. Too many pages to scroll through, and with issues around functionality more customer service needs to be the focus. Just from an element standpoint, Maine regulations require additional information beyond the eTrips, including number of sets, time of sets, total gear in the water, depth, Maine's lobster license, Maine home zone information, distance from shore and then sea time.

There is a lot within eTrips that is not captured, for what the state of Maine's needs are. I think as we look at this are we looking, I guess to back up. We had a data reporting workshop, where we spent a lot of time focused on electronic reporting. The state of Maine continues to be very supportive of electronic reporting.

I think potentially if we can fix the electronic reporting in a way that satisfies all jurisdictions, including the comments by Peter Burns today, then we can get to a point where we're dealing with the spatial resolutions within this fishery that people are so concerned about. I think we need to put our efforts in that basket.

We need to start really focusing on the development of a good, useable platform from an electronic monitoring standpoint. This 10 percent allocates or optimized, was supported by the TC; but the TC wants more. They want 100 percent. To get to that 100 percent based on Option B, is to really start focusing on electronic reporting. With that Mr. Chairman, I'll shut up.

CHAIRMAN TRAIN: Geoff, did you get what you needed?

MR. G. WHITE: Yes, thank you. A couple of things, number one ACCSP eTrips and eTrips/Mobile do support third party Apps that submit the data through an API. It's becoming a lot less of a conversation over, you know eTrips is certainly available, and we support the use of it. But if there is another tool that an agency wants to use that can still submit it via the API

that means it still lands in the SAFIS database every evening, and everybody can use it for accessibility for management.

That's a big plus. I think in the point of 100,000 fishermen reports per year, I believe that is. The technology and the servers that ACCSP have will have no issues handling that data volume. It's of course the issues of compliance tracking and the work on the other end. The question was what is the timeline schedule to address the concerns raised by Maine; in terms of area fished, number of sets, and time of sets, the sea time, distance from shore?

I know that there has been a lot of discussion about making some adjustments to those fields for the South Atlantic; so some of those are already in progress. It would be hard to say exactly how much time it would take to incorporate your list of requested changes. But a lot of those are in process. I don't know exactly the timeline of what you wanted this motion to apply to; in terms of what reporting period.

Certainly these are all things that we're working on within this year. The dataflow is something that in the overall SAFIS redesign is an ongoing process. But some of those points that you brought up, which fields are available, when can they be incorporated, can the servers handle the volume. Those are in process and would go through pretty much the normal Information Systems Committee change management process.

CHAIRMAN TRAIN: I've got Mark Alexander and then Dennis Abbott.

MR. ALEXANDER: Coming from a fiscally challenged state; I certainly sympathize with Pat Keliher's point of view. I believe really we should be focusing on electronic reporting. I think once that's established and adopted by all the states, then a lot of the spatial challenges and the percent participation challenges will help solve themselves.

I do think that it might be good for the Lobster Technical Committee and the ACCSP Commercial Technical Committee maybe to have a joint meeting. The Lobster TC has a good feeling for what's needed to better manage the fishery; and I think the Commercial Technical Committee will have a better idea about how best to implement that in the ACCSP standards, and subsequently in whatever reporting applications come out of that.

They may be even able to recommend whether it's worthwhile to actually put a lobster specific skin on the reporting application; to make it easier and more user-friendly for fishermen. But I don't think us forcing Maine into an escalating percentage of reporting over the next five years, or whatever some of the other alternatives mentioned is really going to be productive here. I think focusing on electronic reporting I think will in the end achieve what it is set out to do in this Addendum.

CHAIRMAN TRAIN: I have Dennis and then Adam Nowalsky.

MR. ABBOTT: My recollection is many years ago when George LaPointe was in Pat's seat that when we instituted 10 percent there was an understanding that the percentage was going to increase. But more specifically my question is, Pat mentioned and I think I'm quoting him correctly is "that the Technical Committee stated that it would be of marginal value if we increased from 10 percent."

If that is the case then why are we going through this exercise? But I would appreciate a comment from the Technical Committee. Does the Technical Committee think that increasing from 10 percent is marginal? Could we have a comment from the Technical Committee?

MR. KIPP: Over the range evaluated of sampling up to 40 percent, I think it was in the report; the increase in precision was marginal over those values. I think that is what the Technical Committee was referring to, as far as

a marginal improvement by increasing percentage between 10 percent and 100 percent.

CHAIRMAN TRAIN: Follow up Dennis.

MR. ABBOTT: It seems persuasive that there is no need to go up from 10 percent; even though I think it's a good idea.

CHAIRMAN TRAIN: Adam and Jim will be next.

MR. ADAM NOWALSKY: We've heard a number of concerns with this motion, primarily from the state of Maine. We've heard concerns with regards to some other motion from the state of Maine. We've heard concerns from the Service about a gap that would occur if we don't get to 100 percent. We've heard concerns that the TC would like to see an increase in reporting. I've heard a number of people indicate that they would support the increase in electronic reporting. I'm going to make an effort here to try to move this forward and bridge this gap; and **I'm going to move to amend the motion to add 100 percent harvester reporting will be required through electronic reporting within five years.** If there is a second to that I will provide a little more support.

CHAIRMAN TRAIN: Do we have a second? Second from Ritchie.

CHAIRMAN TRAIN: Go ahead.

MR. NOWALSKY: I think what this accomplishes is the Option C that we have in here sets out specific increases that we need to see as soon as next year. This essentially gives the state of Maine, ACCSP, and any other management bodies, reporting bodies that need to be involved, gives us five years to work them out, but gives us all as we leave here today a finite deadline to work towards, and that would be my reason for making this motion.

CHAIRMAN TRAIN: I have one question and that is, as fast as electronic and computer stuff

moves it probably will be, but if it is not ready satisfactorily in five years and this passes, where are we left?

MR. NOWALSKY: I would see this management body having to have to take some subsequent action at that time.

CHAIRMAN TRAIN: Adam, would you look at what's up there and make sure that was what you said?

MR. NOWALSKY: Yes that is correct.

CHAIRMAN TRAIN: Discussion, David Borden.

MR. BORDEN: I support the concept of what Adam has put forth. But I would go back to the point that Mark made, which I thought was a good point that if we get two of our committees together, they basically can look at this issue, examine all the points that Pat has raised, the concerns that the Maine staff have raised, and then come back to us and actually give us a timeline of what is reasonable, a reasonable expectation in terms of trying to revise the existing system.

I mean the way I understood Pat is he's willing to go to 100 percent electronic reporting; but the system has to change. What we lack here is some calendar that is based on estimates by the technical people that know the issue the best, to come back to us with a deadline. It's almost like we should approve some kind of motion here with a timeline; but then refer it to the technical people and ask them to report at the next meeting as to how long it's going to take us to transition to the new system, and then set the deadline.

I don't think anybody here at the table would support five years if it's going to take ten years to get there. But on the other hand, if it's going to take two years to get there, I think a lot of the people around the table would want two years in this motion. We won't know that until they have that technical discussion. In my case,

I could vote for this but I probably want to table the entire motion until the next meeting; and get the type of input that Mark described.

CHAIRMAN TRAIN: Next on my list is Jim Gilmore; but Jim, you wanted to speak to the main motion. Do you want to speak to the amendment or shall I go on to amendment people?

MR. JAMES J. GILMORE: I'll try to speak to both. I'm not helping you Pat here. I'll pass, because I'm not going to be able to do this. My microphone doesn't work either.

CHAIRMAN TRAIN: I have Ritchie White and then Doug.

MR. G. RITCHIE WHITE: I seconded this motion for two reasons; one is I think the five years is reasonable, and speaking to David's concerns. If this doesn't happen as Adam said, we're going to have to take another action. At least this puts something in place that pushes us ahead on electronic reporting number one. Number two; it gives the state of Maine time to address this financially. They have plenty of time to talk to the Legislature, explain to them the importance of this that the data that we're desperately going to need that now is not coming in.

I think that clearly has shown the need for additional information; with the questions that are being raised about the fishery moving offshore into federal and deeper waters, and the issues with recruitment. Maine is clearly going to need more information to understand what's happening with this resource. I think five years is fine. We can always take action in the future if we have to adjust that; and I support the motion.

CHAIRMAN TRAIN: Doug Grout.

MR. GROUT: I would support this amendment; because it does get at one of my major concerns. One thing that I am a little bit

concerned about is that as brought up by David Borden. He suggested maybe we should get the Lobster Technical Committee and the ACCSP Commercial Technical Committee together to try and figure out what the appropriate timeframe would be.

To try and avoid us having to go through an entire addendum again if this passes, I might offer up some modified language to this that would allow the Board to adjust the timeframe by a Board vote instead of having to go through another addendum to adjust that timeframe. If the maker and the second.

I can either make a motion to amend the motion, which may be the amendment, which may be kind of cumbersome. I might offer up a suggestion to the maker and seconder if they would be willing to accept it that the timeframe may be changed or modified by Board vote.

CHAIRMAN TRAIN: Modified would allow it to go either way.

MR. GROUT: Yes.

CHAIRMAN TRAIN: Would the maker of the motion be satisfied with that?

MR. NOWALSKY: I appreciate the intent here; but I'm not going to view it as friendly for two reasons. The first reason is I specifically chose the use of the word within for the purpose of if we get input that we can achieve this in three years, we should do it. The second reason is that five years, you know one of the concerns I'm hearing is the time to develop this electronically.

Five years in the world of software is an eternity. I would sincerely hope that we would be able to have the resources to move this forward within that timeline, and I can't see going beyond that. I think that gets away from anything in this document. Nothing in this document contemplated a timeline beyond

that. I appreciate the intent; but I wouldn't support it as a friendly amendment.

CHAIRMAN TRAIN: Doug, you're left with either making it an amendment to the amendment or letting it go.

MR. GROUT: You know I'm going to withdraw this concept at this point. I'll just leave it at that. I think Adam made some good points.

MS. WARE: I just wanted to clarify one thing to make sure everyone is on the same page. When I read this motion, I just want to make sure that everyone knows that this doesn't say Maine anywhere in it, so the 100 percent reporting through electronic reporting to me is applying to every state in this motion. I just want to make sure every state is comfortable with that; unless I'm reading this wrong. Within five years every state has to be doing 100 percent electronic reporting. If you are uncomfortable with this, now would be the time to speak up.

MR. MCKIERNAN: Yes obviously if we want to accommodate some percentage of harvesters who prefer paper, I think we should have that opportunity to do that. I think the motion is flawed.

CHAIRMAN TRAIN: Anybody else? Dave.

MR. BORDEN: This is one of those moments, Mr. Chairman where I think we need a little bit of time to work on the language here; rather than try to forge our way through this. I'm going to make a motion to table this. The intent is to deal with some of these other issues, and then we'll come back to it after a break. I would hope that some of the suggestions around the table have been written down, so that we can revise this at that time. **I'm going to make a motion to table.**

CHAIRMAN TRAIN: Go ahead, Bob.

EXECUTIVE DIRECTOR BEAL: Mr. Borden, are you just tabling the motion to amend or are you trying to sort of set both of these motions aside for a while and to a time specific within this meeting?

MR. BORDEN: My intent is to set them aside for a while and allow us to deal with some of the other issues; and hopefully recraft this rather than try to do it the way we're doing it right now. That would take place at this meeting in other words, before we break to reconsider.

CHAIRMAN TRAIN: It's clearly a motion to table. We'll pick it back up later at the same meeting. Is there a second? Yes, Senator **Langley, okay we have a motion on the floor to table this until later in the meeting. Is there any opposition to that? All right, we'll move on to our next item.**

MS. WARE: There are still two more issues in the document regarding the data elements; and then the spatial resolution of the data.

CHAIRMAN TRAIN: Doug Grout.

MR. GROUT: Yes, I would move under Issue 2, Harvest Reporting Data Components that we select Option C, expanded data elements regarding gear configuration (number of traps per trawl, number of buoy lines).

CHAIRMAN TRAIN: Do we have a second; David Borden, discussion Pat Keliher?

MR. KELIHER: This is a question for NOAA, Mr. Chairman. Is it likely that Protected Resources is going to require an annual recall survey of gear? Do you know if that's in the cards? Is that going forward, or is that outside of your purview?

CHAIRMAN TRAIN: Peter.

MR. BURNS: Thanks for the question, Pat. I think I am probably speaking out of school a little bit. I think that the intent of the agency is

to improve its reporting with respect to getting better information to help the situation with the large whales and things like that. I don't know specifically if there is a movement underway to do that.

But I think some of that might be contingent upon what happens here today and what happens with this Addendum. If we can get that kind of information through an expanded reporting requirement this way; then that might alleviate some of the burden on the government to try to get that information some other way.

I think what you're hinting at is this going to be redundant information? I think if there is something that comes from this Board today that requires expanded reporting, we could work internally to try to make sure that fishermen are trying to provide that information in as efficient way as possible.

CHAIRMAN TRAIN: Are there any other questions about the motion, comments? Okay. We don't need a roll call until the final, right? Peter.

MR. BURNS: I'm sorry to stop the progress here; but I just wanted to clarify that this pertains to the states as well right. It's not state and federal reporting.

MS. WARE: We always include in the addendums that the recommendation for federal waters to enact regulations that are complementary or mirror the regulations in state waters. I assume that is how we would deal with these two data elements for federal waters.

CHAIRMAN TRAIN: Dan McKiernan.

MR. MCKIERNAN: But to Peter's question. You wouldn't want a redundant report; and so if the states are collecting that information, which we do now and an annual recall, there wouldn't be

requirement for the fishermen to fill out a complementary federal report.

MS. WARE: Correct. I think the question was towards the VTR. If that needs to be added to the VTR; not necessarily an annual recall, but maybe Peter can clarify that.

CHAIRMAN TRAINS: Go ahead, Peter Burns.

MR. BURNS: That sort of did get to my question; because I think that we can do some expanded data elements as we move forward with electronic reporting. But to try to fold those now into something in our existing paper forms, as I mentioned earlier, we've got to go through a whole process to change these forms and to get that all squared away. Any kind of expansion in the data elements likely would come through an expanded electronic reporting requirement moving forward.

CHAIRMAN TRAIN: Before I ask any more questions. We're on a second item in this topic and we keep running into a similar situation; where we don't have the ability to collect what we need to report, yet we're trying to drive this car down the road. It seems like we've missed something here, in my opinion.

I don't know whether it's we haven't got the horse in front of the cart yet or not. Am I missing the point here that everything we've tried to do, we're missing the fact that we can't collect the data or we can't report the data, or we're not ready to assimilate the data? Have we gotten out ahead of ourselves; anybody? Doug.

MR. GROUT: You know with this particular motion, I don't think it's really getting out ahead. Many of the states already collect this information. We were able to add this into the ACCSP database. I mean we had no problem doing that. I don't see that this should be a major lift for anybody on this. I mean we did it very simply.

CHAIRMAN TRAIN: **Okay then, any other discussion on this motion? Seeing none, we don't need a roll call; can I do this by consensus? Is there any opposition to the motion? No opposition; the motion is approved. David Borden.**

MR. BORDEN: On Issue 3, I'll make a motion to approve Option D; 10 minute squares, plus LCMA.

CHAIRMAN TRAIN: Is there a second? Doug Grout. Discussion, David would you like to explain your motion?

MR. BORDEN: Yes, and I'll make this quick. I go back to the point that Dan and others around the table had made. We've gone through a whole series of issue here. The Coral Amendment particularly as it pertained to the areas off of Maine, wind towers where we needed better spatial and temporal resolution of the data.

We've looked at the guy on my immediate right and I have agonized over the issue of the Monument impacts with others. We need better resolution; in terms of the data that we're collecting. I know that there has been some resistance from some parties on this; but we need the data in order to defend the lobster industry from some of these types of activities. I think 10 minute squares is reasonable. The Council looked at this. I don't know whether Terry wants to comment on it; but 10 minute squares are a reasonable type of intensity so that we can draw valid conclusions from it. I think that is probably kind of as good as we can get it.

CHAIRMAN TRAIN: Doug, you seconded it. Would you like to speak?

MR. GROUT: Nothing more than what Dave had indicated.

CHAIRMAN TRAIN: Terry Stockwell.

MR. STOCKWELL: Yes to follow up on Dave and Doug. The Council did support Option D as the most comprehensive way to gather the information possible; that we need to better manage all the issues on our plate in front of us.

CHAIRMAN TRAIN: Mark Alexander.

MR. ALEXANDER: I just want to make two points. The first is that I think 10 minute squares would dramatically help the collection of data in the offshore fishery. I'm not sure, especially in the case of Long Island Sound that 10 minute squares would be particularly informative. If you look at the map in Appendix 4, it just doesn't gain you much beyond the statistical subareas that we presently use.

I don't know how other states feel about states waters or nearshore waters, whether the 10 minute squares are helpful or appropriate. I wouldn't mind hearing from other people if they think otherwise. But that is where I'm thinking. The second is a point was raised at our public hearings that fishermen wouldn't mind reporting by 10 minute squares; as long as they don't have to fill out a separate report for each 10 minute square.

I think one of them even suggested he envisioned, you know if you're using electronic reporting in a mobile application that you just be able to highlight the particular 10 minute squares that you're fishing in on that trip, on a map on the screen instead of having to enter a square number or anything like that. I think that's a good idea.

That might cause a little bit of complication to the person reporting more than one 10 minute square; but it certainly a lot finer resolution than broad statistical areas. I would like that to at least be taken into consideration; especially if we're going to convene the TC and the Commercial Technical Committee together to talk about this. I would like that to be an option on the table.

CHAIRMAN TRAIN: Emerson.

MR. EMERSON C. HASBROUCK: I'm wondering currently, the eTrips App. Does that allow for 10 minute square reporting? Can that accommodate that? That is part one of the question. The other part is whether or not it can or cannot accommodate 10 minute square reporting, the fishermen indicates lat/long down to at least minutes, if not minutes and seconds for lat/long. Can the program just interpolate that and put it in a 10 minute square?

CHAIRMAN TRAIN: I don't know if Geoff can answer that or not, but I'm assuming within the timeline we're setting up it could be accommodated, if that first issue comes back around. Maybe he can answer now; 10 minute squares?

MR. G. WHITE: There is technology. Part of the application already works; where you can look at a grid and actually put your finger on it on the tablet, which grabs a lat/long. That can fit in with the 10 minute grid squares or the distance from shore issues. The 10 minute grid squares, as long as the codes are developed, it's actually not that difficult to get the program to make it work.

CHAIRMAN TRAIN: Dan McKiernan.

MR. MCKIERNAN: I would like to follow up on a point that Mark Alexander made; that within the states fisheries some of us have statistical reporting areas that are already smaller than 10 minute squares. I would like to be able to retain those for historical purposes; even though they don't line up exactly with 10 minutes, but they are clearly more refined. I don't know if I need an amendment or just on the record that states with their own statistical reporting areas within their state can retain those.

CHAIRMAN TRAIN: Pat, do you have an answer to that or another question?

MR. KELIHER: I've got an answer for everything, Mr. Chairman. No actually I agree with Dan. I think in that case you're just being more conservative; and I think the states need to be able to retain that type of reporting for their own uses and needs. It may be a very good question to roll in with any development. If we're going to have a subcommittee looking at electronic reporting that question should just be rolled into it. I personally don't see a need to be made part of the motion.

CHAIRMAN TRAIN: My only question for both of you; before we kind of move past that is do these subareas sometimes overlay two squares?

MR. KELIHER: Not in the state of Maine's case. I mean we're reporting 0 to 3, 3 to 12, and then 12 and beyond. But if it does, thinking out loud. If there is the tablet approach that Geoff just spoke of, and you're just tapping on that line and the lat/long pops up. Then that may actually get it to what Dan is talking about through the development of the electronic application.

CHAIRMAN TRAIN: Geoff White, you've got your hand up.

MR. G. WHITE: I just wanted to clarify. The ACCSP standard has three levels of area codes. There is the grand statistical area. Below that is the subarea which the 10 minute grid cells can be mapped to. Then below that there is a local area. The local areas have been used currently for shellfish areas.

But those local areas would be where the areas smaller than a 10 minute grid cell could be defined by the state and therefore entered by the fishermen. The fields exist. The codes might need some development or completion; so they're consistent up and down the coast. But the capability is already there.

CHAIRMAN TRAIN: David, you made the motion. I have a question. Would you consider

the subgroups that are smaller than the 10 minutes squares, but may overlap one in a violation of the rule we are putting in place in this motion, or is it small enough and good?

MR. BORDEN: No, I think it is actually consistent. The lobster plan has a provision that allows states to be more restrictive. I think this is consistent with it. I would say it is consistent with my intent; if Doug agrees with that.

MR. GROUT: Thank you I do. I totally agree with that. In fact I can see several instances where a fisherman may be fishing in multiple 10 minutes squares in a single day; and so they would be filling out multiple squares. They would also be filling out the local state codes in the same manner.

CHAIRMAN TRAIN: Yes, Mark.

MR. ALEXANDER: Yes in the case of Long Island Sound, the subareas that Geoff referred to do not align with 10 minute squares. The lines are, I would say as a rule, are not drawn exactly horizontal or vertical. They are at the orientation of Long Island Sound. They help define the boundary line between Connecticut and New York state waters.

Unfortunately we don't have a graph of sufficient resolution to actually see where those 10 minute squares lie in relation to the subareas. But my guess is that each subarea probably contains more than one 10 minute squares, and each 10 minute square may contain more than one subarea.

CHAIRMAN TRAIN: Are there any other questions? Before I actually ask for a vote on this, I am very uncomfortable with part of this; because we are basically saying we know we said 10 minute squares, but we don't care if you're in more than one, as long as it's a subgroup.

I don't know if having that in the minutes is satisfactory to not have a fisherman who has to fill out a logbook be in violation; because he didn't write three of the 10 minute squares down. Do we need to amend this; or is having this in the minutes enough that the intent of the motion is that the subgroup satisfies the intent? Dan, go ahead.

MR. McKIERNAN: I think it's probably better to create an exemption for states within their state waters to maintain their existing statistical reporting areas. That would make sense to me just for clarity.

CHAIRMAN TRAIN: David, would you be willing to amend your motion; correct whatever you need to do to that motion to make that work, so we don't have to wonder?

MR. BORDEN: That is acceptable to me if it's acceptable to Doug.

CHAIRMAN TRAIN: Dan, do you have language for them that they could use to amend their own motion or correct their own motion?

MR. McKIERNAN: I make a motion to amend to allow states to retain their within-state statistical reporting areas.

CHAIRMAN TRAIN: That was deemed a friendly by both the maker and the seconder; so it is automatically added as I understand, is that correct? Okay, is there any other discussion?

MS. WARE: Dan, could we just maybe clarify that the state statistical reporting areas are finer scale than what's required in the plan?

MR. McKIERNAN: Actually, I have one statistical reporting area that is bigger than a 10 minute square in southeastern Cape Cod Bay. I can't say with any integrity that all of our statistical reporting areas are smaller than a 10 minute square; but they are all within state waters and they're historic, and we've worked out a long term historical record with all of our gear types.

I don't think the Technical Committee when they were trying to wrestle with data, really had any issue with what was going on within the state waters. The biggest gap is in the federal zone.

CHAIRMAN TRAIN: Pat Keliher.

MR. KELIHER: Just a quick question for Dan. Dan, are your statistical areas, are they similar to what we would refer to as our zones within the state? I mean you're just using them for management areas?

MR. McKIERNAN: No Pat. Our statistical areas go back about 50 years, and many of them do line up with the federal statistical areas. But historically we've always had statistical reporting areas for the federal zone. In other words, we have one area that is 521 or 537.

But within Massachusetts we have like Buzzards Bay as its own statistical reporting area. You know Vineyard Sound is another, Nantucket Sound is a third. It really like similar to what Mark was describing, in a lot of cases these used points of land and just historical fishing behaviors to capture these areas.

CHAIRMAN TRAIN: Adam Nowalsky.

MR. NOWALSKY: Just as a matter of clarification. The motion as it's up there on the board continues to call this Issue 3, Option D. I don't think this is Option D anymore. Option D specified 10 minute squares and the ability to provide more fine scale data. Where we're at now is we have 10 minute squares, LCMAs, which were actually part of Option B, and the ability to maintain state statistical reporting, which we've now heard on the record may not be more fine scale. I don't know what the best way to handle that is; but it's a hybrid of a number of things, but I'm not sure it's Option D anymore.

CHAIRMAN TRAIN: Adam, if I can try to answer this, because I understand it when we go out to

public hearing, when we come back we can actually cherry pick anything within the range of anything we went out to public hearing on. You are probably right that it's not Option D. But everything up there has gone out to public hearing individually. If we remove Option D and left the rest, or used the text from Option D, everything up there is still in the range of what went out to public hearing.

MR. NOWALSKY: I'm not objecting to any of the elements that we've put in here; in fact I was reinforcing that fact. I'm just saying I don't think we're voting on Option D anymore, and it would probably be good to remove that from this motion specifically.

CHAIRMAN TRAIN: Let me ask staff. If we remove Option D and just leave what is up there, is it too vague or does it give us the same thing?

EXECUTIVE DIRECTOR BEAL: I think it is fine; since it spells out 10 minute squares, LCMAs and allow, I think that all the elements are in there. Just taking out the Option D and the two commas around it; you're all set.

CHAIRMAN TRAIN: Of course that does change the motion; Ritchie.

MR. R. WHITE: You could just add as modified, Issue 3, Option D as modified.

CHAIRMAN TRAIN: Dave Borden.

MR. BORDEN: This is why you never want to watch government in action. Let me just make the point that Adam's point is correct. I would have no objections to taking out the word Option D; because I think the rest is consistent with the intent. I would also make the point that we're getting into some of the fine details here. I think where we're going to end up at the end of this meeting is we're going to have an approved addendum.

But some of the details are going to have to be worked out between the Technical Committee and the ACCSP staff. I think we're going to benefit from that type of dialogue going forward. We may have to consider some minute changes at some point, I hear at the spring meeting. On the suggestion, if it's all right with Doug Grout, I would say remove Option D and then maybe we can move on with a vote.

CHAIRMAN TRAIN: Doug; we have an okay from Doug. Peter Burns.

MR. BURNS: At the risk of hopefully not going further into the weeds, I just had a question for David Borden; as sort of our in-house expert on the offshore fishery. I know you've recommended this David, the 10 minutes squares. I just wanted to get an idea; just so that I can get a better understanding of how the burden on us on the federal side of getting more vessel trip reports potentially, and what the burden on the industry would be if somebody in the offshore fishery had to fill out a vessel trip report that had this information in it. Can you give us just a general idea of what the change would be?

MR. BORDEN: The change, at least my view of this is what we have to do is we have to move in the direction that Pat Keliher is trying to push this, which is electronic reporting. If we do that then reporting in multiple 10 minute squares will be easier; because you will be able to do that with simply the way it has been characterized here, just touching a box.

The offshore boats, just so everyone is clear. The offshore boat will fish in multiple 10 minute squares on every trip. It is that issue and how you solve that short of having them fill out a separate page of a VTR; which no one does. I would point out that there are trawlers during the whole coral discussion that would move 150 miles on a trip, fishing in different areas. They are not complying with the requirement to fill out a different page of a VTR. We need to solve

that problem; and the way to solve the problem is to do electronic reporting, and make it easy.

CHAIRMAN TRAIN: Are you satisfied, Peter? Okay any other questions, or shall we call this vote? No other questions, is there anybody opposed to the motion on the table? **Do you need time to caucus or anything? I see no opposition; the motion passes by consensus.** We're back to Issue 1. David Borden.

MR. BORDEN: I would like to first deal with the Pilot Program. I kept that out of the motion intentionally. **I would like to make a motion for the Commission to move forward with the development of a pilot electronic tracking program to be implemented in the next year.**

CHAIRMAN TRAIN: Is there a second for that? Pat Keliher. David.

MR. BORDEN: I mean the logic for doing this. I don't think we're ready to require electronic reporting at this stage. But I think given the experience of the Law Enforcement Committee, and Pat and I have gone before the Law Enforcement Committee on a number of occasions and talked about the need for better federal enforcement.

That whole dialogue has come up in about four different venues here recently; as recently as a whale meeting that a number of us attended. We need finer scale information. We need to know where some of these boats are fishing. One of the options do that with the electronic system that the Enforcement Committee has been doing some tests of.

That system is very similar to the urchin system that the state of Maine has been utilizing; and it's also very similar to the system that's been deployed on the enforcement boats in the state of Maine. I think what we need is a committee to look at this issue, look at the utility of it, deploy some of the units on more of a coastwide basis.

Then once we get all of that then we can have a policy decision about the pros and cons that are associated with it; but we'll have a much broader scale program to look at the results. Then we can make a determination whether or not we want to deploy it; whether or not we want to deploy it on a certain segment of the fleet, or in certain areas. This I think is really an informational gathering activity.

CHAIRMAN TRAIN: Pat.

MR. KELIHER: I agree with everything David just spoke of. With the experience that we've gained within the state of Maine regarding our urchin program, the utilization of these tracking programs, the experience we have with covert trackers, obviously much different than here.

But it directly links to the ability to enforce our laws in both state and federal waters. I think we need to go down this information finding road. I think, and this came up in the subcommittee that was established that looked into electronic reporting. The issue of tracking came up; and the ability to link both of those together needs to be part of this conversation as we move forward, because it can be potentially one tool. I think while Maine fishermen spoke out against the concept of tracking, other Maine fishermen who are very interested in establishing an offshore zone within Area 1, know that in order to be able to even think about implementing something like that trackers would have to be a part of that conversation. I think doing that here through this process is warranted.

CHAIRMAN TRAIN: Is there any other? Yes, David.

MR. BORDEN: I just want to quickly add to what Pat just said that the implications of this pilot will go far beyond lobster management. In other words, the Commission is, if you look at the rest of the agenda we're going to deal with here. They are going to be talking about climate change initiatives, how we make the

fleet more cost effective, how we reduce carbon impacts on the environment, and those types of things.

One of the options that are listed in one of the documents that we're going to consider over the next couple of days is talking about aggregate limits. One of the biggest problems with aggregate limits is how do you enforce them? Well this is a technology that we can bring to bear on those types of issues. We need more information and this is the way to get it.

CHAIRMAN TRAIN: **Anybody else? Does anybody oppose this motion? Does anyone need to caucus? No opposition; it passes by consensus.** We're back to Issue Number 1. Dennis Abbott, thank you.

MR. ABBOTT: I just make a move to remove the issues from the table.

CHAIRMAN TRAIN: Who seconded, Senator Langley? We've got a motion on the table to remove the tabled issues and bring them back to discussion. Do we need to vote on that? Is there any opposition to doing that? I bet there is, they're just not going to say it. **No opposition, all right we're back to Issue Number 1.** Adam Nowalsky.

MR. NOWALSKY: Just to take a moment to respond to a couple of the concerns I heard that resulted in this being tabled. First off let me offer that I believe that the combination of the amendment and the original motion would still include the distribution of reporting in an optimal manner as described under Option B in the document.

Nothing with that amendment in my opinion would change that. Secondly, with regards to the requirement of electronic reporting and accommodating those with paper reporting. In the Mid-Atlantic the for-hire sector effective next month recreationally, will no longer be able to report via paper. You will be required to

effectively, March 12, report electronically, and electronically only.

It's clearly a direction we're moving towards. There are a number of accommodations that have been made, training, electronic devices being given out in some cases; to go ahead and accommodate that. I think that's a direction we're moving towards, and in another five years I think the concept of paper in any reporting will be nearing an archaic level.

Finally, with regards to concerns about states having to have to implement something electronic themselves, it's my belief, and our representatives from ACCSP can certainly provide input that eTrips or SAFIS could be the collection point for this electronic information. If the state needs that data, work would be done over the course of the next five years to build interfaces to get that data to the states. That would be the mechanism, I believe some of that data is already with VTR data is going back to the Service already directly. I would be confident that if we knew ahead of time this is a Spec for the electronic reporting project that that could be accommodated through technology.

CHAIRMAN TRAIN: Mike Cahall.

MR. MIKE CAHALL: Good morning. I could certainly comment to that point. The SAFIS eTrips/Mobile tool is indeed going to be deployed on March 12, to do the reporting requirements. We are already feeding data directly to the servers at GARFO, along with the SAFIS system; and those data are made immediately available to the state agencies that need it.

We're also working now with a couple of other third-party vendors to have their systems feed. There is no reason at all that the SAFIS eTrips tool could not be modified to transmit the data to whichever, many more than one server if needed. It could potentially go directly to SAFIS and potentially go directly to some state

system; if that is a requirement for any individual state.

CHAIRMAN TRAIN: Anybody else? Dan McKiernan.

MR. MCKIERNAN: Just to answer a question we asked about 15 minutes ago. Is this suggesting that states won't allow fishermen to report on paper in five years?

MS. WARE: I think it needs to be clarified by the Board. I would say that this motion is unclear as to what this is saying. Just reading it I'm seeing electronic reporting; but I'm not seeing the word paper anywhere in there. If you want to add it, it might be a good idea.

CHAIRMAN TRAIN: Dan, do you want to add it?

MR. MCKIERNAN: **Yes, motion to amend to allow a paper reporting option for participating states and NMFS; because the VTR currently is paper.** If we're still allowing paper for some subset of the fleet, so be it.

CHAIRMAN TRAIN: Is there a second? Pat Keliher. Do you feel you need to explain that more, Dan? Pat, do you have anything to say to that one?

MR. KELIHER: Yes. At dinner last night our waiter didn't know where the state of Maine was, and I think he thought we were part of Canada; and others at the table don't know where we are either, I guess. My point is that I think we have some challenges with the 100 percent electronic reporting.

I have to support this; because we've got some individuals who from a connectivity standpoint would have difficulty. While the intent is to drive to 100 percent electronic reporting, there are going to be instances where that probably won't be possible. The Senator just made a really good point; by waiver.

To ensure that we don't have just a large group that will say, well I'm not going to do that electronically, but force them into potentially a waiver position. But I don't think that needs to be caught up in this motion.

CHAIRMAN TRAIN: Peter Burns, you had your hands up?

MR. BURNS: Just a question. All the other options for this issue specifically say trip level reporting and Option B doesn't. I'm just making sure that this is speaking directly to it is a requirement for trip level reporting. Is that correct?

MS. WARE: Yes it's correct.

CHAIRMAN TRAIN: Doug Grout.

MR. GROUT: A couple of things. One, I might offer a more simplistic way to say this, and that is to move 100 percent harvester reporting to be required through electronic or paper reporting within five years. It just might be simpler. The other thing I'll let you know is if we approve this amendment.

I would like to offer another amendment to bring up that option that if a vessel lands less than 100 pounds in the previous year they would be exempted and be required to do monthly reporting. I'll bring in that wording after we do this; because I don't want to get into an amendment of an amendment of an amendment.

CHAIRMAN TRAIN: I have a concern on your last statement that it doesn't follow the intent of the motion or the second that basically says this won't go forward until the electronic reporting is up to speed or acceptable to all sides. The way your statement there reads, in five years if we're not doing electronic we're going to probably have to do paper. Do I read that wrong?

MR. GROUT: The motion to amend says allow paper reporting option for participating states and NMFS. What I was just trying to get at with, we can leave it at that **but I was just offering to the maker of the motion and the seconder that a simpler way would be motion to amend that would say 100 percent harvester reporting be required through electronic or paper reporting.** It's just adding two words opposed to. I see at least the maker, Dan and Pat. We can leave it the other way, but it just seemed like it was simpler just to say and paper in the original. No?

CHAIRMAN TRAIN: I have Sarah Peake, I had Adam's hand up and then I had Mark again.

REPRESENTATIVE SARAH PEAKE: Mine is a quick question on the last line there; the way I read it 100 percent harvester reporting to be required through electronic and paper reporting. That says to me you have to submit it electronically and with paper. I don't think that is the intent of the maker of the motion.

CHAIRMAN TRAIN: Adam, I have you next. You're all set? Okay, Mark.

MR. ALEXANDER: I totally support this. No matter how much you try there is always going to be some people that will not be able to report electronically. I think once you establish electronic reporting it's in the interest of the state to fold in as many people as they possibly can. There is just a built-in incentive there. The second thing is I just want to clarify that all we're talking about here is commercial reporting, not recreational or personal use lobster activity, correct?

CHAIRMAN TRAIN: I believe currently this is for the commercial section of the plan. We do have reporting in the recreational sector some, and some not. It depends on where it's sent or who is collecting it. Pat Keliher.

MR. KELIHER: I can support Doug's language, as long as it's clear that the intent. As long as it's

clear that the intent is to drive as many as possible to 100 percent reporting, and that there is an option available for people who don't have that ability; not to give them an option to say let's just keep status quo on the table.

CHAIRMAN TRAIN: I'm sorry the discussion we were just having is the position that Doug brought forward should be considered a friendly amendment to Dan's amendment to clarify it that it allows a paper option, essentially. Is there a language that makes that clearer so we can vote?

MS. WARE: I think we're basically just adding the "or paper" into the amended motion. If everyone is okay with that we'll take it as a friendly, and then we can vote on the amended motion.

CHAIRMAN TRAIN: The maker and the seconder are happy with that as a friendly. Okay so that is in there. Are we ready to vote on the amendment? **I see no opposition to voting on the amendment. All those in favor, well I can do it by consensus. Is anyone opposed to the amendment? I see no hands up. Okay, so now the main motion as amended.** Let's get that up there. Dave, we know what it's going to say, do you have a comment?

MR. BORDEN: I'm going to make a suggestion, and the suggestion is we take a five minute break and try to rewrite this motion. All the elements are up there; we just need to rewrite the motion and not deal. I don't want to see the new Chair get off on the wrong foot of motion.

CHAIRMAN TRAIN: I'm with you. We'll take a five minute break and wait for this to get up there.

(Whereupon a recess occurred.)

CHAIRMAN TRAIN: If everybody is ready to start, we have the amended motion at the bottom of the screen. I don't want to rush anyone here, give everyone a chance to read it. Mark, go ahead.

MR. ALEXANDER: Just for clarification, Mr. Chair. This amended motion is going to be an amendment to the main motion or a replacement for it?

MS. WARE: We'll first vote on that bottom part, the amended motion. Then we'll put those two sections together in a single motion, and that will become the main motion.

MR. ALEXANDER: This is a motion to amend, not really an amended motion then, right?

CHAIRMAN TRAIN: You're right. Is there any opposition to the (to word it properly) motion to amend? Okay so that passes by consensus. Now to deal with the motion as amended, it now becomes the main motion. They're going to pull that up. Doug, what do you have?

MR. GROUT: I have another motion to amend, and they're putting it together but I will read it at this point. The motion to amend is if a commercial harvester landed less than 1,000 pounds of lobster and Jonah crabs in the previous year that individual can submit a monthly summary of landings data rather than then the trip level reports. If I get a second I'll speak to it.

CHAIRMAN TRAIN: Is there a second? Any second, Emerson.

MR. GROUT: This was a concept that was in Option C, Sub-option 2 in the amendment. The reason I put this in there is because it would help alleviate some of the reporting burden on a lot of very small harvesters; the state reporting burden. We have implemented this in our state for a number of years.

These individuals that land less than 1,000 pounds per year amount to about 5 percent of our total harvest. The trip level guys are reporting on 95 percent of our harvest, yet these people make up more than 50 percent of our lobstermen in our state. What I think this could provide a state with a little bit more cost effective way of getting at the majority of the landings information that we use; and it would still provide a very high level trip level reporting for the full-time harvesters.

CHAIRMAN TRAIN: Emerson, do you have any comments as seconder?

MR. HASBROUCK: No, Mr. Chairman.

CHAIRMAN TRAIN: Adam Nowalsky.

MR. NOWALSKY: To clarify what the landings summary or summary of landings data would entail, we had made motions about expanded data elements earlier for trips per trawl and number of buoy lines. We also made a motion on spatial resolution. Would those elements be excluded from these monthly summaries of landings, or is the goal to somehow incorporate that enhanced collection of data in that monthly summary?

MR. GROUT: I would like to see if we could incorporate some of that information, but on a monthly summary level.

CHAIRMAN TRAIN: Are you satisfied that that is in there, Adam?

MR. NOWALSKY: I just think it's important to the record and for the fishermen that are going to be impacted by this, what the expectation is going to be that they will be reporting on, on a monthly basis.

CHAIRMAN TRAIN: Dan McKiernan.

MR. MCKIERNAN: My question has to do with the federal aspect of this. I think the intent is among folks like Doug and others, who have

small scale fishermen nearshore who are not fishing in the EEZ, to be eligible for this lower level of reporting. But I wonder if we should make it specific to state waters. I don't know if this would undermine any federal reporting standards.

MR. GROUT: I would have no problem with doing that. I'll have to admit I would assume that there would be very few, if any that with the federal permits that are using traps out in federal waters that would be landing less than 1,000 pounds. That would not be a very economically viable business out in federal waters.

CHAIRMAN TRAIN: Eric Reid.

MR. ERIC REID: My question is, is it 1,000 pounds of lobsters and 1,000 pounds of Jonah crabs or is it combined weight?

MR. GROUT: I would say either or. What I had in here, I pulled this out of the Addendum, and the way I took it was 1,000 pounds of lobsters and 1,000 pounds of Jonah, or but it says and Jonah crab. I guess the way it is written it's a combination. Correct?

MS. WARE: That's my interpretation, but I took those from the New Hampshire regulations, so that's what it says in there.

MR. GROUT: In our case that's lobster, at least within state waters. Let's leave it as is, 1,000 pounds of combination, just to make it simple.

CHAIRMAN TRAIN: Peter Burns.

MR. BURNS: I think Dan's comment was a good one. I think that if this pertains to state waters, I think it makes it a lot cleaner to be able to move forward with something like this. But if this starts to spread out into federal waters for a federal permit holder who fell under these criteria, I'm not sure we could support that on the federal side, with respect to how we require reporting with a vessel trip report.

CHAIRMAN TRAIN: Doug, would you like to specify that to state waters or not?

MR. GROUT: Sure, if the Chair would allow me I would just say if a state waters commercial harvester.

CHAIRMAN TRAIN: Is the seconder okay with the change?

MR. HASBROUCK: Yes, Mr. Chairman.

CHAIRMAN TRAIN: Okay the maker and seconder have amended their own amendment; anybody else? Okay, is there anybody opposed to Mr. Grout's amendment? Do you see anybody? **Okay we'll call that passed with consensus; now the main motion as amended, discussion.** David Borden.

MR. BORDEN: Not a motion to amend. I just want to make sure that the intent here is to allow, as I think Mark Alexander recommended some time ago, for the ACCSP staff to meet with the Technical staff and work through the Maine concerns, and then come back to us with a report on this. This is all subject to that type of qualifier. Is that correct? That is what the intent is.

CHAIRMAN TRAIN: Does everybody understand that to be the intent? Is there anyone that felt it wasn't? Speak now. Okay that is clear and on the record.

MR. BORDEN: Can I request that that report be submitted by the spring meeting then? Thank you.

CHAIRMAN TRAIN: It's been requested.

EXECUTIVE DIRECTOR BEAL: We'll work towards that I guess is the best answer, David. If it turns into something more cumbersome, and some of the elements of the electronic reporting, you know timeline, take more time than anticipated, we'll give you an update at a

minimum at the May meeting and see if we can bring the whole report to you.

CHAIRMAN TRAIN: If there are no other questions, we have to vote on the main motion; and I understand that needs to be read. I have to turn around to read it. **Move to approve Issue 1, Option B, maintain current harvester reporting effort and allocate reporting through an optimal approach; 100 percent harvester reporting to be required through electronic or paper reporting within five years.**

If a state waters commercial harvester landed less than 1,000 pounds of lobster and Jonah crab in the previous year, that individual can submit a monthly summary of landings rather than trip level reports. Adam Nowalsky, you have a question.

MR. NOWALSKY: I just had a minor grammatical correction. The 100 percent harvester reporting to be required either should become will be required or the period prior to 100 percent should become a comma and insert the word with; but right now as that stands, that second item isn't a sentence, I don't believe.

CHAIRMAN TRAIN: Is everyone satisfied that that was a grammatical correction and not substantive to the motion.

MR. NOWALSKY: The intent of the original motion was for that to be added with a comma with, but as it was put together I think will makes it work here; and I'll defer to the Chair for how to address it.

CHAIRMAN TRAIN: My take would be it's a grammatical correction to the wording that was posted and needed to be done. You think it's good the way it is?

MR. ABBOTT: My only question was who made this motion and who seconded it?

MS. WARE: The very first motion was made by Pat Keliher, seconded by Jim Gilmore.

CHAIRMAN TRAIN: I've been doing this by consensus, but this has been the one that has taken the most time, so I think we're going to have a vote on this one. I'll let everyone caucus and then we're going to vote. **All in favor of the motion behind me please raise your right hand; all opposed, I could have stuck with a consensus, abstentions, null votes. Thank you very much, the motion passes.** Dan, go ahead.

MR. MCKIERNAN: I wanted that to pass so I didn't want to raise any issues to postpone that. However, I just want to point out that in NMFS letter to the Board, they have 50 percent reporting now; but I don't believe that that 50 percent is through an optimal approach. In fact I don't think there is any statistical design to that 50; it just happens to be that because of the requirements of other management plans, namely ground fish, scup, et cetera.

Any of those permit holders has to report on VTRs. But I still believe that there is a bias about the representation within the population of VTR reporters to the south, or to those harvesters who have that permit type. I don't know what recommendation we're going to make to NMFS, but I don't think they're going to do anything, in terms of an optimal approach.

I would urge NMFS to go to 100 percent reporting as soon as practical; because of all the other pressures that the Board and the industry is under, and 100 percent reporting by NMFS as soon as possible will solve, I think a lot of problems, in terms of the management challenges we're going to have.

CHAIRMAN TRAIN: I think you wanted that more on the record than actually a statement for me. Okay thank you. Now we have, I believe a roll call vote for this Amendment and Addendum on all of these assimilated. Well I have somebody's hand up, David Borden.

MR. BORDEN: Mr. Chairman, do we still have to do Section 5 recommendations for federal waters? If we do, I would be happy to make a motion.

MS. WARE: Yes, if there are any changes that people want to those recommendations, now would be the time to bring those up.

CHAIRMAN TRAIN: I have Adam Nowalsky and then Peter Burns. I don't have Adam, he already spoke. Peter.

MR. BURNS: I think my question has already been answered. I thought we were going to go through Section 5 as well, so I think I'm good right now, thank you.

CHAIRMAN TRAIN: Emerson, go ahead.

MR. HASBROUCK: Do we need to do anything about sampling, Section 3?

MS. WARE: Again, if the Board wants to make changes to those sections based on the public comment, you're welcome to. Now would be the time to do so. I think is kind of an opportunity to make additional changes to the addendum as it currently reads. I'll just remind everyone of the three federal recommendations.

They are for the creation of a fixed-gear VTR form, for the establishment of a harvester reporting requirement for the federal lobster permit holders, and for implementation of a targeted lobster sampling program in federal waters. Dan just mentioned the recommendation for 100 percent reporting as soon as practical; so if that is the statement that the Board wants to make, it seems like that is on the record. But maybe we can just get a nod that that is what everyone is in agreement about.

CHAIRMAN TRAIN: Peter Burns.

MR. BURNS: These are some very ambitious and expensive recommendations in Section 5.

The National Marine Fisheries Service understands the need for the data and the need to make the required adjustments to the way we sample and require reporting. I'll probably abstain on this part of it, just because of the nature of the recommendations.

We had a very fruitful discussion about how to go about reporting; with that motion that's on the table that we just approved that pertains to the states. Dan made the point that we should implement 100 percent harvester reporting for the Feds as soon as possible, or as soon as practicable.

I think that since we're really in lockstep with the states through the ACCSP, with our own data programs here at NOAA Fisheries, that it makes sense to really move forward with this hand in hand. I think we could live with a similar approach that has been approved by the Board for the states on the federal side.

Then we can work together to develop the systems we need to do, and also have the option for some kind of an optimal program, if in the interim that makes sense. I don't know if it does; but that is something that we can look into, and a lot of these things we'll need to look into. The sampling that is a big jump from what we've got.

We don't have any additional funding to cover extended observer programs and things like that. If the Board does move forward with those recommendations, I hope that we can work with the states and with the industry to try to plug the gaps as needed, given the financial constraints on expanding an observer program. Thank you.

CHAIRMAN TRAIN: Pat Keliher.

MR. KELIHER: Has the Technical Committee looked at this issue as it pertains to statistical viability, I mean on the federal side on reporting? Are there any concerns that have

been raised on the Technical Committee side associated with the reporting?

MR. KIPP: Yes I don't believe that has been done. That can be done for the report that came to the Board in October. It was based on strictly looking at three samples per stat area quarter, year accommodations, so no. It has not been done.

**CONSIDER FINAL APPROVAL OF
ADDENDUMS XXVI/III**

CHAIRMAN TRAIN: Once again, Section 3, Section 5, if we don't have any changes, recommended motions. Doug Grout.

MR. GROUT: I would like to make a motion to approve the Addendum as modified today.

CHAIRMAN TRAIN: Second by Dave Borden. Discussion, I think we've had plenty already. Okay this is a roll call vote. I'll give you three minutes, 30 seconds. Go ahead, Peter.

MR. BURNS: I guess getting back to my question. Maybe I lumped too many things into that last statement that I made. Right now it says in this Section 5 that NMFS will have to report at the level determined by the Commission. Since that previous motion that we just approved has to do with the states, is there something more explicit that the Board is going to say in this particular section to talk about the level of federal reporting? Is it something that we can do consistent with what has been approved for the states?

MS. WARE: My understanding, Peter is that right now the recommendation coming from the Board to GARFO is to implement 100 percent reporting, you know as soon as practicable for federal vessels, and that there is a clear indication that electronic reporting is where this fishery is moving.

CHAIRMAN TRAIN: Does that answer your question, Peter?

MR. BURNS: I don't think it's exactly clear in the document. I mean I understand it in concept, and those comments were made on the record. But Section 5 doesn't say that.

MS. WARE: Correct. Section 5 would have to be updated. Right now it says to the percentage approved by the Board or recommended by the Board; so I would fill that in as what the Board has said today, and then we'll send a letter to you guys with the specific statements.

CHAIRMAN TRAIN: Go ahead Peter, and then we've got a vote here.

MR. BURNS: It's been a long morning. I'm sorry, Mr. Chairman. I just have one more thing. I want to make sure we're all walking away with the same idea in mind. If NMFS moved forward in the manner that is consistent with what the states have been required to do now, in this last motion, is that amenable to the Board? Is that a reasonable approach, or am I missing something?

CHAIRMAN TRAIN: I will be corrected if I say this wrong. But I would think if you move forward in something that is under the guidelines we just set up; it would be acceptable to the Board. David Borden.

MR. BORDEN: In terms of the federal waters issue here. I think we've got to be clear and have this on the record. This is more and more becoming a federal waters fishery. All you have to do is look at the state of Maine, look at what is happening in southern New England and down in the Mid. The traditional inshore fisheries are evaporating.

The industry is moving offshore. I think there has to be a lot more focus on the part of the federal agencies and federal funding sources, to try to address this. I would urge them to go to 100 percent federal reporting as soon as possible. They certainly have the capabilities to

do that. I think we're talking about 1,000 boats that would potentially fall under that category.

As far as the data elements in this, in terms of the fishery dependent sampling and the port sampling and these types of activities. This information is critical from the assessment side of it. We need fiscal resources to be brought to bear on some of these problems. We're talking about a fishery that the dockside value is probably worth three-quarters of a billion dollars; and we have at least 10,000 boats licensed in the fishery.

It's the most valuable fishery on the coast; and yet we have, as our Technical Committee has pointed out. We have these huge data gaps in the stock assessment for federal waters. These have to be resolved. They can be resolved by our partners in the federal government doing the work. They can also be resolved by bringing some congressional funds into the mix; or having our federal partners fund activities similar to the foundation work, where the fishermen are collecting the information.

Delaying action on this is the wrong strategy; as far as I'm concerned. WE should accelerate implementation of this, if we can possibly do it. We need to fix these holes in the stock assessment; because the consequences are so great for the coastal communities. We have to get on with this.

CHAIRMAN TRAIN: Dan, and then we've got a vote on the table here, we were caucusing.

MR. MCKIERNAN: I get that. Just briefly, my intent is not to have the states unload the burden of their federal reporting boats back to NMFS. I hope when NMFS assesses the cost of what it's going to take to comply with this, they don't think that that is the outcome. I think we can work cooperatively.

You know my state, Rhode Island, Connecticut, New Hampshire; we already have a mandatory trip level reporting for federal boats that don't

fill out VTRs. I don't think any of us are looking to unload that burden in order to get 100 percent achieved. Maybe the states and NMFS can work cooperatively and they can cherry pick the missing boats; and then the cost would be far less.

MS. WARE: Not to delay this process further, but we need to choose an implementation date, so we've chosen the five-year timeline for the reporting percentage. But for the harvester reporting elements as well as the spatial resolution, it's the idea that that would also be with that five-year timeline or is it on a sooner timeline?

CHAIRMAN TRAIN: Is everyone ready to vote?

MS. WARE: I need an implementation deadline.

CHAIRMAN TRAIN: Oh, I'm sorry; I was caucusing while you were doing that. We do need an implementation deadline on the record for this vote. Adam's hand is up.

MR. NOWALSKY: An implementation deadline as I would expect it would work at this point; given we put a five-year backstop on the reporting, would mean that clock would begin, not today, but at whatever our implementation date is for this document, correct?

CHAIRMAN TRAIN: Yes. Doug Grout.

MR. GROUT: But the other concepts are the data elements; and also the optimization for states that have less than 100 percent, until such time as we get the electronic reporting 100 percent in place. **I'm going to throw commercial harvest out a date, and I'm more than willing to modify it; unless if the state of Maine feels this is too aggressive, or any other states. But I would say January 1, 2019.**

CHAIRMAN TRAIN: Okay so we have a date. Is there any opposition to the date? Good. Are we ready to vote, knowing the date? It looks

like it. We have consensus on the date, we'll consider that approved. On the roll call vote.

CHAIRMAN TRAIN: State of Maine.

MR. KELIHER: Yes.

CHAIRMAN TRAIN: New Hampshire.

MR. GROUT: Yes.

CHAIRMAN TRAIN: Massachusetts.

REPRESENTATIVE PEAKE: Yes.

CHAIRMAN TRAIN: Rhode Island.

MR. REID: Yes.

CHAIRMAN TRAIN: Connecticut.

MR. ALEXANDER: Yes.

CHAIRMAN TRAIN: New York.

MR. GILMORE: Yes.

CHAIRMAN TRAIN: New Jersey.

MR. CHRISTOPHER ZEMAN: Yes.

CHAIRMAN TRAIN: Delaware.

MR. JOHN CLARK: Yes.

CHAIRMAN TRAIN: Maryland.

MARYLAND: Yes.

CHAIRMAN TRAIN: Virginia.

MR. JOE CIMINO: Yes.

CHAIRMAN TRAIN: National Marine Fisheries Service.

MR. BURNS: Abstain.

CHAIRMAN TRAIN: The motion passes 10 in favor, 1 abstention.

MR. STOCKWELL: Eleven in favor.

**SOUTHERN NEW ENGLAND WORKGROUP
REPORT ON GOALS AND OBJECTIVES FOR
SNE LOBSTER STOCK**

CHAIRMAN TRAIN: Thank you Terry, we're back to Megan for Southern New England Workgroup.

MS. WARE: All right, so switching gears here to the Southern New England Workgroup. At Annual Meeting the Board tasked this workgroup with reviewing the goals and objectives by which the southern New England stock is managed. This was prompted by the Board's ongoing discussion regarding future management of the stock; and concerns that the southern New England stock may not be rebuilt to historic levels.

That workgroup met via conference call on January 22; to discuss the applicability of these current goals and objectives. Some of the questions that the group talked about are, are the current goals and objectives still applicable? Are there other or additional objectives that would be more applicable, and do we need separate objectives for the southern New England versus the Gulf of Maine/Georges Bank stocks?

In their review of the existing goals and objectives, the Workgroup found that some goals and objectives are still pertinent. As an example, one of the goals in the FMP is to ensure that changes in the geographic exploitation patterns do not undermine success of the management program. That is still a pertinent goal; but other objectives may no longer be germane, given the Board's concern over the ability to rebuild the southern New England stock, as an example the goal to minimize the risk of stock depletion and recruitment failure.

As a result the southern New England Workgroup concluded that the goals and objectives may need to be updated to address current issues in the fishery. In addition the Workgroup concluded that while it's valuable to have a set of overarching goals for the lobster fishery, it may also be appropriate to have further refined goals specific to the two biological stocks. I'm not going to read all of these objectives; given the time. But all of these objectives can be found in the memo from the southern New England Workgroup; and there are two sets of them.

There are ones that could be applicable to both stocks, and then there are ones that could be applicable just to the southern New England stock. Some of the themes here are looking at dynamics between the inshore/offshore stock, programs to reduce latent effort and manage active effort, promoting consistency of regulations and regulatory timelines, promoting sampling, investigating stock connectivity, and then switching to those that are more applicable to the southern New England stock. Given the apparent negative impacts of climate change enhancing the protection of spawning stock biomass for lobster, scaling the size of the southern New England fishery to the diminished size of the southern New England resource, managing the southern New England stock as a multi-species fishery, and evaluating the reference points for southern New England based on the current state of the environment.

Moving forward from this discussion, there are several things for the Board to consider. Changes to the goals and objectives in Amendment 3 will require an amendment. As a result, the Board needs to consider its desire to undertake such an action; keeping in mind that we do have an ongoing benchmark stock assessment. We have pending action on Draft Addendum XXVII, which is still being developed, as well as many discussions regarding protected resources. In addition, if the Board is considering changes to the goals and objectives in Amendment 3, it may be pertinent to include

representatives from that Gulf of Maine/Georges Bank stock in future discussions.

CHAIRMAN TRAIN: Questions for Megan. Are we burnt out already? Do you see any hands? Does anybody have a motion based on what you just heard? We have no further tasking. On to Agenda Item 6, I'm sorry I did have a hand go up. David.

MR. BORDEN: Before we leave this item. I think that Committee has done its work on this. But I just remind everybody, as Megan just indicated. There are things that are ongoing that have a direct bearing on what we might ultimately include in an amendment. For instance, the last three lines on the board here, Addendum XXVII and the benchmark stock assessment.

When we get into the terms of reference for that stock assessment, it addresses some of the issues that have been raised by the Subcommittee. I think more importantly, we're going to have this whole discussion about resiliency on the Gulf of Maine and Georges Bank stock and how to beef up resilience there.

I think this is going to kind of unfold over like a period of a year, maybe. At that point we'll have I think some different suggestions for goals and objectives on the Gulf of Maine/Georges stock, which we could incorporate into this; and we'd also have more technical guidance as the benchmark stock assessment develops that we could fold into it.

Then at that point we decide to go forward with an addendum. My long term view is we have fundamental objectives that apply to all of the lobster stocks; and then kind of area specific objectives that can be tailor made to meet the requirements in the two areas.

CHAIRMAN TRAIN: Doug Grout.

MR. GROUT: With that being said, modification of the goals and objectives will require an amendment, but our Addendum XXVII to try and build resilience is an addendum. It sounded almost like you were describing that we should change the goals and objectives while we're doing Addendum XXVII. You're saying go through Addendum XXVII and then address changes to the goals and objective of the plan?

CHAIRMAN TRAIN: Go ahead, David.

MR. BORDEN: I think Addendum XXVII is going to shine some light on the issue of what we can do for resiliency; and that may have a direct bearing on what we would incorporate into an amendment. I'm thinking of this in sequence. I don't think we necessarily have the staff time and resources to go forward with another amendment at this point. It might be somewhat less than productive to do it now; as we need that input from these other discussions.

CHAIRMAN TRAIN: Joe Cimino.

MR. CIMINO: I agree with everything David just said. I was just wondering if the Working Group was kind of aware of that if they had any concerns that this might be on the other side of 2020 before we got to it.

MS. WARE: The Workgroup didn't specify a timeline for these future actions; so it's not something we necessarily discussed. But there is also no deadline that they suggested.

REVIEW AND CONSIDER APPROVAL OF 2020 AMERICAN LOBSTER STOCK ASSESSMENT

CHAIRMAN TRAIN: Here we go; Review and Consider Approval of 2020 American Lobster Stock assessment.

MR. KIPP: This is my first time addressing this Board. I'm Jeff Kipp; I'm the Commission's science staff that will be working on the upcoming lobster assessment, and so I'm here to present the TORs for that assessment for

Board consideration and approval. I'll read through these rather quickly; they went out in meeting materials, so I'm in hopes that everyone has had a chance to look through these.

For the stock assessment, we have estimate catch and catch at length from all appropriate fishery dependent data sources, including commercial and potential discard data, provide descriptions of each data source, discuss data strengths and weaknesses and their potential effects on the assessment.

Justify inclusion or elimination of each data source. Explore improved methods for calculating catch-at-length matrix. Present the abundance data of being considered and/or used in the assessment; characterize uncertainty in these sources of data. Justify inclusion or elimination of each data source. Describe calculation or standardization of abundance indices.

Evaluate new information on life history; such as growth rates, size at maturation, natural mortality rate and migrations. Identify, describe and if possible quantify environmental climatic drivers. Use length-based models to estimate population parameters for each stock unit and analyze model performance.

Evaluate stability of model; perform and present model diagnostics. Perform sensitivity analyses to examine implications of important model assumptions; including but not limited to growth and natural mortality. Explain model strengths and limitations. Justify choices of CVs, effective sample sizes, or likelihood weighting schemes.

State assumptions made and explain the likely effects of assumption violations on synthesis of input data and model outputs. Conduct projections assuming uncertainty in current and future conditions for all stocks. Compare projections retrospectively with updated data. Update and develop simple empirical, indicator-

based trend analyses of reference abundance, effective exploitation, and develop environmental drivers for stock areas.

Update the current exploitation and abundance reference points. Explore and if possible develop alternative reference points and reference periods that may account for changing productivity regimes due to environmental effects. Characterize uncertainty of model estimates, reference points and stock status. Perform retrospective analyses, assess magnitude and direction of retrospective patterns detected, and discuss implications of any observed retrospective patterns for uncertainty in population parameters and reference points. Report stock status as related to overfishing and depleted reference points; include simple description of the historical and current condition of the stock in laymen's terms. Address and incorporate to the extent possible recommendations from the 2015 benchmark peer review. Develop detailed short and long term prioritized lists of recommendations for future research, data collection and assessment methodology. Highlight improvements to be made by next benchmark review.

Recommend timing of next benchmark assessment and intermediate updates, if necessary relative to biology and current management of the species. Now I'll move into the terms of reference for the Peer Review Panel. These are quite similar to what I just went through, but just for the Peer Review to evaluate the work done by the Stock Assessment Subcommittee and Technical Committee.

Evaluate thoroughness of data collection and presentation and treatment of fishery dependent and fishery independent data in the assessment; including the following but not limited to consideration of data strengths and weaknesses, justification for inclusion or elimination of available data sources,

calculation of catch-at-length matrix, calculation and/or standardization of abundance indices.

Evaluate the methods and models used to estimate population parameters and reference points for each stock; including but not limited to, use of available life history information to parameterize the model, model parameterization and specification, the choice and justification of the preferred model, was it the most appropriate model used given available data and life history of the species? Evaluate the identification and characterization of environmental climatic drivers. Evaluate the estimates of stock abundance and exploitation from the assessment for use in management. If necessary specify alternative estimation methods. Evaluate the methods used to characterize uncertainty and estimated parameters. Were the implications of uncertainty and technical conclusions clearly stated?

Evaluate the diagnostic analyses performed; including but not limited to sensitivity analyses to determine model stability and potential consequences of major model assumptions retrospective analysis. Evaluate the preparation and interpretation of indicator-based analyses for stocks and sub-stock areas.

Evaluate the current and recommended reference points in the methods used to estimate them. Recommend stock status determination from the assessment or specify alternative methods. Review the research, data collection and assessment methodology recommendations provided by the Technical Committee; and make any additional recommendations warranted. Clearly prioritize the activities needed to inform and maintain the current assessment, and provide recommendations to improve the reliability of future assessments.

Review the recommended timing of the next benchmark assessment relative to the life history and current management of the species,

These minutes are draft and subject to approval by the American Lobster Management Board.

The Board will review the minutes during its next meeting.

and prepare a Peer Review Panel TOR and Advisory Report summarizing the Panel's evaluation of the stock assessment in addressing each Peer Review term of reference. Develop the list of tasks to be completed following the workshop. Complete and submit the report within four weeks of workshop conclusion. Then up here I just have an abbreviated version of the assessment schedule, with the in-person meetings. We met in November, where we developed these TORs. Today we're presenting the terms of reference. Then we have three in-person workshops tentatively scheduled to invite researchers and review monitoring data. That has been scheduled for May 14 through the 17th.

We'll have a data and assessment workshop in January, 2019, and a final assessment workshop tentatively scheduled for September, 2019 with a Peer Review workshop anticipated in May of 2020. We anticipate presenting the results of that assessment and peer review to this Board in August, 2020. Any questions on the TORs or schedule, I can take those now.

CHAIRMAN TRAIN: Any questions for Jeff? If a hands up you're going to have to move it, because I can't see it. Pat, go ahead.

MR. KELIHER: Mr. Chairman, I don't have a question but I have a motion; if it's needed to be done in a motion for two inclusions into the terms of reference.

CHAIRMAN TRAIN: We're not sure it needs to be. Put them up, put them up.

MR. KELIHER: I'm probably the only one getting thousands of e-mails around menhaden today, so my computer was a little clogged. In talking with my staff, I think a couple of things that are missing. **One is evaluate the implications of habitat expansion or contraction on population productivity.** Certainly in southern New England lobster habitat likely is contracted and reduced the potential of lobster populations.

In the reverse within the Gulf of Maine we seem to have an expansion of habitat, based on warming waters. I think some exploration into that is certainly appropriate. **Then the second one would be to review evidence of stock boundaries and associated stock structures, and confirm the current stock units are appropriate.** I think hopefully that is self-evident. That would be completed in a motion.

CHAIRMAN TRAIN: Do we have a second to include that? Mr. Cimino. Pat, do you feel you need further explanation on that or shall I go to questions? Any questions, Jay go ahead.

MR. JASON McNAMEE: Just to state up front. I like both of these additions. My concern is having gone through the lobster stock assessment; it's an enormous amount of work. I'm concerned about them. The last time we did this it was, I don't know delayed because the committees kept getting tasked with additional things. I'm wondering if we should keep the terms of reference as Jeff presented them; because my fear in particular from number one.

That would be adding a work element that would take time away from getting the assessment completed. Number two, I think is already kind of implicit in one of the terms of reference, so I'm not as opposed to that one. But the first one I'm just concerned about adding work to an already enormous workload for this committee and delaying the outcome of the assessment, which is already going to be a couple years past the end date of the data that they have available.

CHAIRMAN TRAIN: Any other questions or statements? Okay, we're going to have to vote on whether to include this or not. Then we'll move forward on whether we approve the terms of reference with or without these. That is the next two steps. Go ahead, Pat.

MR. KELIHER: I certainly appreciate Jay's comments on this. However, I really even

though there is a lot of work associated with it, the changes in productive habitat within the Gulf of Maine is a contributing factor to stock structure and the health of the resource going forward. I really think it should be included in the workload. If there are other things that maybe fall out, maybe they come back to us on that. But it should be part of the discussions.

CHAIRMAN TRAIN: Hearing little dissension, I'm going to try this by consensus. All those in favor of including these two into, I want to say the right term, the terms of reference. Is anyone opposed? Rhode Island. Everyone else is in favor, so we have consensus minus one. I guess we need a roll call vote because we didn't get consensus. No? Okay show of hands. Who is in favor? All states please raise your right hand; and governmental organizations. **All opposed, do you have a count, abstentions, null votes. The motion passes 10, 1, 0, 0.**

Now, we have to approve the Terms of Reference as amended, which means we've included these two. Is there any further discussion? All in favor raise your right hands; opposed, abstentions, null votes. It is unanimous with no abstentions, no null votes.

ELECTION OF VICE-CHAIR

CHAIRMAN TRAIN: We're on the next item, we need a Vice-Chair. Doug Grout.

MR. GROUT: I move to nominate Dan McKiernan.

CHAIRMAN TRAIN: Does anyone move to close nominations? Is there a second, Pat Keliher? Are there any other nominations; all in favor of Dan as the Vice-Chair, sorry, Dan, okay, other business? Pat Keliher.

MR. KELIHER: I'm not going to go into specifics, because it does pertain to right whales. But there has been a lot of conversation in regards to this fishery, the lobster fishery as it pertains to ropeless fishing. I would like to task the Law Enforcement Committee with investigating the

enforceability of the lobster fishery as it relates to ropeless fishing.

OTHER BUSINESS

CHAIRMAN TRAIN: Okay. Is there any other business? Peter Burns.

MR. BURNS: Just a quick update on a motion that was approved by the Board at the last meeting; and the motion was to have NMFS and the states of New York and New Jersey get together and talk about the discrepancies with the Area 4 seasonal closure. I just wanted to inform the Board that I've been in contact with staff from New York and New Jersey Fish and Game, and we're meeting on February 26 to have an interim meeting to see how to move forward on this.

ADJOURNMENT

CHAIRMAN TRAIN: Anything else? We are adjourned.

(Whereupon the meeting adjourned at 12:35 o'clock p.m. on February 6, 2018)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Marine Resources

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To: ASMFC Lobster Management Board
From: LCMA 4 Lobster Conservation Management Team – NY members
Subject: Proposal to Decrease LCMA 4 Latent Effort
Date: April 16, 2018

At the October 2017 Atlantic States Marine Fisheries Commission (ASMFC) Annual meeting, the American Lobster Management Board tasked Lobster Conservation Management Teams (LCMT) with investigating latent effort in their respective management areas and developing a proposal to reduce that latent effort. The LCMT for Lobster Conservation Management Area 4 (LCMA 4) met on March 28, 2018 to address latency and develop a reduction proposal to be considered by the American Lobster Management Board at their May 2018 meeting. To decrease travel impacts, the New York LCMT members met at the NY DEC Division of Marine Resources Headquarters and held a webinar with the New Jersey LCMT members who met at the Nacote Creek Research Station in Port Republic, NJ. NY team members came to consensus on a measure to reduce latent effort, while NJ members did not. Since NYDEC and NJDFW manage lobster trap allocations separately, different proposals from NY and NJ will not compromise collaborative LCMA 4 lobster management. Separate proposals are being submitted by each State's LCMT 4 members. The following proposal is being submitted as the latency reduction proposal by the by NY members of LCMT 4.

NY LCMA 4 Latency Reduction Proposal:

The trap reductions in this proposal focus on non-active permits. Due to the depressed status of the Southern New England lobster population, the group proposed that any type of fishing should be considered when determining who was active, not just lobster trap fishing.

Program details below:

- Reduce permit holders trap tag allocation by 50% if they hadn't reported actively fishing 50 days during the 5-year period from 2013 through 2017.
- This proposal would decrease latent effort by 19% (Table 1)
 - Minimum allocation capped at 50
 - To be considered "actively fishing" a permit holder must have reported fishing for any species. Fishing activity needed to be verifiable through submitted state or federal vessel trip reports.

This proposal only includes NY state lobster trap allocations for LCMA 4 and does not include trap allocations of NY federal lobster permit holders. These allocations are managed by NMFS.

- NMFS commented that reducing effort on some but not all Area 4 permit holders would be akin to another state/Federal cooperative limited access qualification and allocation program. This may require intensive work to implement because individual allocations would need to be re-assessed based on any new criteria that are adopted, and state and Federal decisions on revised allocations would need to match in order to avoid a disconnect on the number of traps a permit could fish. Such an approach also offers little direct conservation benefit because it would be regulating many fishermen who are no longer fishing. Across-the-board trap reductions (percent reductions to all Area 4 permit holders) may be more effective at addressing latent effort and could also remove active traps from the water. This approach would not be as intensive as a selective re-allocation program.

Table 1. Proposed NY LCMT4 Latent Effort Reduction

Scenario	NY Permits	NY Alloc	% Reduction
NY 2017 Allocation	85	39,165	
Proposal: 5 yrs <50 trips decrease alloc by 50%	56	31,605	-19%



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Lt. Governor

CATHERINE R. MCCABE
Acting Commissioner

To: ASMFC Lobster Management Board
From: LCMA 4 Lobster Conservation Management Team
Subject: Proposal to Decrease LCMA 4 Latent Effort
Date: April 16, 2018

At the October 2017 Atlantic States Marine Fisheries Commission (ASMFC) Annual meeting, the American Lobster Management Board tasked Lobster Conservation Management Teams (LCMT) with investigating latent effort in their respective management areas and developing a proposal to reduce that latent effort. The LCMT for Lobster Conservation Management Area 4 (LCMA 4) met on March 28, 2018 to address latency and develop a reduction proposal to be considered by the American Lobster Management Board at their May 2018 meeting. To decrease travel impact the New York LCMT members met at the NY DEC Division of Marine Resources Headquarters and held a webinar with the New Jersey LCMT members who met at the Nacote Creek Research Station in Port Republic, NJ.

NYDEC and NJDEP provided information on NY and NJ trap allocations and latent effort (Tables 1 and 2). They also provided information on several scenarios to reduce latent effort which were investigated by the LCMA 4 LCMT members (Table 3).

While NYDEC was able to come to a consensus, NJDEP LCMT 4 members were split between approaches to reduce latent effort. Since NJDEP and NYDEC manage lobster trap allocations separately, different proposals from NJ and NY will not compromise collaborative LCMA 4 lobster management. Separate proposals will be submitted by each State's LCMT 4 members.

There were NJ LCMT 4 members concerned about the validity of NJ latent permits since Federal lobster permit holders are not required to report. While NY has regulations, which require anyone landing lobsters in NY to submit harvester reports on either federal or state Vessel Trip Reports (VTR), NJ did not institute similar rules until 2016. NJ state lobster permit holders may not have evidence for reporting history. NY LCMA 4 members suggest using dealer reports and/or dealer receipts to verify fishing history.

NJ LCMA 4 members are additionally concerned because there are several active fishermen who hold multiple permits that have not been used in recent years. They fear that they may lose these additional permits, even though they have been actively involved in the fishery.

Based on these concerns, NJ LCMT 4 members would request that the Management Board evaluate the following approaches:

1. Status Quo-

NJ has had a moratorium on lobster permits since 2002. Since the effective date, no additional vessels are permitted to enter the American lobster fishery by any means except transferability of an existing permit.

Table 4 shows the number of actively fished NJ lobster permits in LCMA 4. The number of active licenses has seen a substantial decline within the last five years, with as much as a 28.57 percent decrease in the years 2014 and 2015 respectively from the baseline year of 2008. A number of LCMT 4 members have proposed that the percentage of actively fishing permits will continue to decline with the current measures and restrictions they are facing.

2. Latency by owner, not vessel-

As previously mentioned, there are a number of active NJ LCMA 4 lobster fishermen who possess multiple NJ lobster permits. Due to the depleted status of the SNE lobster population, many of these fishermen have not utilized the entirety of their permits within recent years. However, they do not want to see these permits go away, since they have been actively involved in the fishery.

NJ LCMT 4 members requested that NJDEP staff consider looking at permit ownership and not individual permits to determine latent percentages. This is: if a NJ LCMA 4 lobster fishermen has actively fished enough to satisfy one of the latency requirements, then all lobster permits under their possession will be exempt from latency. Alternatively, if a fisherman does not meet those requirements for any of his/her permits, all permit would then be considered latent.

NJDEP staff has begun to review state permits and determine the occurrence of multiple permits owned by a single owner.

Table 1. NY-NJ Lobster Trap Allocation:

Year	NY-Permits	NY_Allocation	NJ-Permits	NJ_Allocation	A4_Permits	A4_Allocation	% Decrease
2008	104	44,062	42	46,630	146	90,692	
2009	100	42,512	41	45,785	141	88,297	-2.6%
2010	99	42,462	43	47,981	142	90,443	2.4%
2011	97	42,350	42	46,266	139	88,616	-2.0%
2012	97	42,350	42	46,926	139	89,276	0.7%
2013	96	41,050	37	40,436	133	81,486	-8.7%
2014	93	39,875	30	33,916	123	73,791	-9.4%
2015	92	39,865	30	35,796	122	75,661	2.5%
2016	89	39,515	31	35,072	120	74,587	-1.4%
2017	85	39,165	32	36,899	117	76,064	2.0%

Table 2A – 2D. NY-NJ Latent trap effort

Table 2A. NJ LCMA 4 Latent Permits By Year

Year	# permits	# Latent	% Latent
2008	42	21	50.0
2009	41	22	53.7
2010	43	21	48.8
2011	42	17	40.5
2012	42	15	35.7
2013	37	14	37.8
2014	30	12	40.0
2015	30	14	46.7
2016	31	10	32.3
2017	32	12	37.5

Table 2C. NJ LCMA 4 Latent Traps By Year

Year	NJ_Allocation	# Latent Traps	% Latent	Active
2008	46,630	20,877	44.8	25,753
2009	45,785	23,699	51.8	22,086
2010	47,981	21,091	44.0	26,890
2011	46,266	16,016	34.6	30,250
2012	46,926	14,996	32.0	31,930
2013	40,436	12,946	32.0	27,490
2014	33,916	13,446	39.6	20,470
2015	35,796	16,086	44.9	19,710
2016	35,072	11,022	31.4	24,050
2017	36,899	14,129	38.3	22,770

Table 2B. NY LCMA 4 Latent Permits By Year

Year	# permits	# Latent	% Latent
2008	104		
2009	100		
2010	99	81	81.8%
2011	97	82	84.5%
2012	97	82	84.5%
2013	96	80	83.3%
2014	93	79	84.9%
2015	92	77	83.7%
2016	89	77	86.5%
2017	85	73	85.9%

Table 2D. NY LCMA 4 Latent Traps By Year

Year	NY_Allocation	# Latent Traps	% Latent	Active
2008	44,062			
2009	42,512			
2010	42,462	31,912	75.2%	10,550
2011	42,350	33,040	78.0%	9,310
2012	42,350	34,350	81.1%	8,000
2013	41,050	31,975	77.9%	9,075
2014	39,875	32,225	80.8%	7,650
2015	39,865	29,440	73.8%	10,425
2016	39,515	30,665	77.6%	8,850
2017	39,165	30,835	78.7%	8,330

Table 3. Possible Scenarios to Reduce Latent Effort

Scenario	NY Permits	NJ Permits	NY Allocation	NJ Allocation	A4 Permits	A4 Allocation	% reduction
1A) 5 yrs >50 trips	56	22	31,605	25,130	78	56,735	-25%
1B) 10 yr >100 trips	56	27	32,630	32,450	83	65,080	-14%
2A) proportional trips=0 Allocation<=50	85	45	28,521	31,950	130	60,471	-21%
2B) Proportional trips=0, Allocation=0	73	45	27,961	31,050	118	59,011	-22%
3) Trap Cap = 800	85	32	29,603	23,549	117	53,152	-30%

Table 4. Percent Decrease of NJ LCMA 4 Active Permits 2008-2017

Year	# permits	% decrease*
2008	42	
2009	41	2.38
2010	43	-2.38
2011	42	0.00
2012	42	0.00
2013	37	11.90
2014	30	28.57
2015	30	28.57
2016	31	26.19
2017	32	23.81
*Percent decrease based off 2008 baseline permit count		

Maryland-Delaware-Virginia
Lobster Conservation Management Team
LCMA5

Chair-Sonny Gwin

Vice-Chair-Wes Townsend

February 15, 2018

Dear Ms. Megan Ware,

A Lobster Conservation Management Team (LCMT) 5 meeting was held on February 5, 2018 as requested by the Atlantic States Marine Fisheries Commission American Lobster Management Board to evaluate latent effort. As you know, LCMT5 is large, consisting of five states along the coast. It has been difficult to organize all the states represented in LCMT 5 but we shared the meeting announcement with relevant states. Representatives for Maryland were in attendance and the Chair discussed this topic with fishermen and dealers that were unable to attend after the meeting.

We examined latent effort in Area 5 and determined that in the past nine years' effort has been naturally declining. Specifically, we reviewed the number of active permits, maximum number of traps fished and latent effort for past nine years and effort in Area 5 has declined over that time period (Tables 1-2). Category A5 permits in LCMA 5 have declined in the past nine years from 28 active permits down to 26 permits which is reduction in potential effort. Category A5W active permits also declined in that time period from 20 down to 12.

Area 5 lobster permittees are only allowed a maximum number of traps which is based on their historical allocation of traps fished; therefore, the amount of traps allocated to each fisherman cannot be increased. This policy is already a deterrent to activating latent effort in Area 5 as some permits only allow a small amount of pots. The nine year average maximum potential trap limit was 800 traps with the lowest allocation being 200 traps and the maximum being 1,440 traps.

In conclusion the *de minimis* states of Delaware, Maryland and Virginia contribute less than 3% of landings in Southern New England and less than 0.1% of landings coastwide. As indicated in draft Addendum XXV, fishermen in this area participate in multiple fisheries. Fishermen add/drop fisheries based on factors such as markets, quotas, and life situations (examples: injuries, boat repairs and health). Lobster Conservation Management Team 5 recommends allowing the natural attrition to continue so as to allow for the continuation of the small historical lobster fishery in Lobster Conservation Management Area 5.

Thank you.

Sincerely,

Sonny Gwin*, F/V Skilligalee

John Gourley*

Merrill Campbell, Southern Connection Ocean City

Kerry Harrington, F/V Sea Born, F/V Integrity, F/V Delphinus

Wes Townsend, F/V Paka

Roger Wooleyhan, F/V Labrador, F/V Wooley Bully

*Attended the meeting

Maryland-Delaware-Virginia
Lobster Conservation Management Team
LCMA5

Chair-Sonny Gwin

Vice-Chair-Wes Townsend

Table 1. Number of active Lobster Conservation Management Area 5 permits by year, principal port state, and category (Area 5 or Area 5 Waiver (A5W)). Permits were considered active with renewal but may not have associated landings.

Permit Year	MA		RI A5W Total	CT A5 Total	NY		NY Total	NJ		NJ Total	DE		DE Total	MD		MD Total	VA		VA Total	NC A5W Total	Grand Total	
	A5	A5W			A5	A5W		A5	A5W		A5	A5W		A5	A5W		A5	A5W				
2009		1	1	1			1	1	16	10	26	4	3	7	7	1	8	1	2	3	1	48
2010		1	1	1			1	1	16	10	26	4	2	6	6	1	7	2	2	4	1	47
2011		1	1	1					15	9	24	4	2	6	6	1	7	2	2	4	1	44
2012		1	1	1	1				15	9	24	6		6	6	1	7	1	3	4	1	45
2013		1	1	1	1				14	9	23	5	1	6	7		7	1	2	3		42
2014				1					14	10	24	5	1	6	7		7	1	2	3		41
2015	1		1	1					14	8	22	5	2	7	7		7	1	2	3		41
2016	1		1	1	1	2		2	12	7	19	2	2	4	9		9	1	2	3		40
2017	1		1	1	1	1		1	12	7	19	2	2	4	8		8	1	2	3		38

Greater Atlantic Regional Fisheries Office. (2009-2017). Vessel Permit Data, Available at greateratlantic.fisheries.noaa.gov/aps/permits/data/index.html; accessed (January 23, 2018).

Maryland-Delaware-Virginia
Lobster Conservation Management Team
LCMA5

Chair-Sonny Gwin

Vice-Chair-Wes Townsend

Table 2. Lobster Conservation Management Area 5 Permit, Trap, and Latent Effort Summary. These data do not include Area 5 waivers because the Total Maximum Traps was not available.

	Total Active Permits *	Total Latent Permits**	Total Maximum Traps	Total Maximum Latent Traps	Percent Maximum Latent Traps
2009	28	12	22,209	9,448	43%
2010	28	12	21,372	8,635	40%
2011	27	11	21,492	8,755	41%
2012	29	11	24,063	8,830	37%
2013	28	11	23,183	8,830	38%
2014	27	10	22,573	7,955	35%
2015	28	11	22,333	8,615	39%
2016	28	12	20,770	9,215	44%
2017***	26	10	20,499	7,741	38%
* Only active permits were included and there may be more in the Confirmation of Permit History. Permits were considered active with renewal but may not have associated landings.					
**Landings for states outside of Maryland may not be reflected in the count of latent permits.					
***Landings from 2017 are preliminary.					
Sources: Greater Atlantic Regional Fisheries Office. (2009-2017). Vessel Permit Data, Available at greateratlantic.fisheries.noaa.gov/aps/permits/data/index.html ; accessed (January 23, 2018).					
Atlantic Coastal Cooperative Statistics Program. (2009-2017). SAFIS Landings – Row-Level Data; generated by Angel Willey; using Data Warehouse [online application], Arlington, VA: Available at www.accsp.org ; (Login) Data Warehouse; accessed (January 23, 2018).					



Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

To: ASMFC American Lobster Management Board
From: LCMA 6 Lobster Conservation Management Team – CT members
Subject: Proposal to Reduce LMA 6 Latent Effort
Date: April 16, 2018

At the October 16, 2017 Atlantic States Marine Fisheries Commission Annual Meeting the American Lobster Management Board tasked each Lobster Conservation Management Team (LCMT) with developing proposals to reduce latent effort in their respective lobster management areas (LMA). The LCMT for LMA 6 (Long Island Sound) met via teleconference on January 9, 2018 and March 29, 2018 to develop a proposal. The following proposal is being submitted as the latency reduction proposal by the CT members of the LMA 6 LCMT, with a preferred (Option 1) and non-preferred approach (Option 2) for the Connecticut waters of LMA 6. During the discussions surrounding the non-preferred option, (Option 2) while team members were in agreement surrounding the details of a target, no consensus could be reached between the CT and NY delegates on what measures to implement if the target was met. The options in this proposal were unanimously voted upon by the CT members of the LMA 6 LCMT at their March 29, 2018 meeting. Since NY DEC and CT DEEP manage lobster trap allocations separately, different proposals from NY and CT will not compromise collaborative LMA 6 lobster management. Separate proposals are being submitted by each State's LCMT 6 members.

LCMA 6 Latency Reduction Proposal

Option 1 (Preferred Option): Status Quo. The LMA 6 LCMT members had lengthy discussions surrounding the substantial decrease in effort and participation observed in the Long Island Sound lobster fishery since the large scale lobster mortality in 1999. The team felt strongly that given the current conditions of the lobster resource in Long Island Sound, natural attrition in the fishery occurring in both CT and NY, and the difficulties and improbability of inactive lobstermen returning to the fishery, latency is being addressed in LMA 6.

Additionally, Connecticut commercial fishery licensing statutes were amended in 2015 (Public Act 15-52) which mandated renewal of limited entry lobster licenses, whereby a license holder must renew their moratorium license by March 31 each calendar year to maintain their eligibility to renew those privileges in the future. In the first year since these changes were implemented on January 1, 2016, the total trap tag allocation for limited entry license holders in the state fell from 237,360 traps allocated to 126,319 traps allocated, a 46.7% reduction (resulting in 111,041 fewer traps). As the renewal requirement remains in place and as people continue to exit the fishery, trap allocations are expected to continue to slowly decrease in the future.

Option 2 (Non-preferred Option): Trigger approach to address latency. This option incorporates a trigger which would require trap allocation reductions should an 80% increase from the number of lobster traps actively fished in 2016 (30,188 traps) occur. Specifically, when more than 54,338 traps are reported fished by Connecticut license holders in LMA 6 in any given year, a trap allocation reduction process would be required.

Trap reductions will be calculated as a proportional reduction in trap tag allocations based on the number of years fished over the five year period from 2013 through 2017. The proportional reductions are applied as follows: (Trap tag allocations of 50 or fewer traps will not be reduced.)

- Trap tag allocations will not be reduced if a permit holder fished all five years;
- Trap tag allocations will be reduced by 20 percent if a permit holder fished four out of five years;
- Trap tag allocations will be reduced by 40 percent if a permit holder fished three out of five years;
- Trap tag allocations will be reduced by 60 percent if a permit holder fished two out of five years; and
- Trap tag allocations will be reduced by 80 percent if a permit holder fished one out of five years.

Should the trigger be reached, this option would further reduce the state's total trap allocation to 73,493 traps. This would be an additional 41.8% reduction (52,826 traps) from the 126,319 traps allocated in 2017 to limited entry license holders.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Marine Resources

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To: ASMFC Lobster Management Board
From: LCMA 6 Lobster Conservation Management Team – NY members
Subject: Proposal to Decrease LCMA 6 Latent Effort
Date: April 16, 2018

At the October 2017 Atlantic States Marine Fisheries Commission (ASMFC) Annual meeting, the American Lobster Management Board tasked Lobster Conservation Management Teams (LCMT) with investigating latent effort in their respective management areas and developing a proposal to reduce that latent effort. The LCMT for Lobster Conservation Management Area 6 (LCMA 6) met on January 9, 2018 to address latency and develop a reduction proposal to be considered by the American Lobster Management Board at their May 2018 meeting. To decrease travel, the New York LCMT members met at the NY DEC Division of Marine Resources headquarters in East Setauket, NY and held a webinar with the Connecticut LCMT members who met at the CTDEEP Marine headquarters in Old Lyme, CT. The LCMT 6 members requested that several scenarios be evaluated to decrease latent effort. The LCMT 6 members met via webinar again on March 29, 2018. CT team members came to consensus on a measure to reduce latent effort, while NY members were split. Since NYDEC and CTDEEP manage lobster trap allocations separately, different proposals from NY and CT will not compromise collaborative LCMA 6 lobster management. Separate proposals will be submitted by each State's LCMT 6 members.

NY LCMT 6 members did not come to consensus on a single management measure for reductions in latent trap effort, rather different members reached agreements on three different approaches. Some members of the group felt NY was already doing enough through annual attrition, others thought overall trap effort in LCMT 6 was too large and should be reduced, while others thought reductions should focus on allocations of permits that weren't being fished. NY LCMT members request the Management Board to evaluate the three approaches detailed below:

1 - Status Quo:

Table 1 presents the number of permits and trap allocation of NY resident lobster permit holders with LCMA 6 trap tag allocations. NY has had a moratorium on lobster licenses since 1995. If a permit isn't renewed, the permit is permanently retired along with the associated trap tag allocation. There is no permit or trap tag transferability, though permit holders can designate their permit to an immediate family member. LCMA 6 trap allocations have decreased by four percent on average over the ten-year period from 2008 to 2017. There has been a 33 percent decrease over the whole 10-year time period. These are permanent reductions in LCMA 6 trap allocation. There are a

number of NY's LCMT 6 members who propose reduction through attrition as the sole mechanism for NY to reduce latent effort.

Table 1. NY Lobster Permits and Trap Allocations

Year	# permits	Allocation	% Reduction
2008	307	197,117	
2009	285	179,752	-9%
2010	273	173,037	-4%
2011	259	166,392	-4%
2012	260	166,442	0%
2013	250	156,617	-6%
2014	245	154,082	-2%
2015	230	144,344	-6%
2016	220	137,228	-5%
2017	207	132,058	-4%

-33%

2 - Trap Cap:

Another group of LCMT 6 member propose a more active approach to reducing effort in LCMT 6. This group feels the overall level of effort in LCMT 6 is too large. They suggest a trap cap of 800 traps. Any allocation above 800 would be reduced to 800, while those below would remain the same. Instituting a trap cap of 800 on NY trap allocation would decrease allocations by 30 percent.

This group also suggests raising the cost of trap tags from 14 cents to one dollar. The extra money collected through trap tag purchase must be used to fund lobster research. They feel that by raising the cost of trap tags people would limit purchases to the amount permittees intend to fish.

3 - Decrease allocations on non-active permit holders:

A third group recommend that trap reductions focus on non-active permits. Due to the depressed status of the Southern New England lobster population, the group proposed that any type of fishing should be considered when determining who was active, not just targeting lobsters.

Program details:

- Permit holders who haven't submitted at least 50 harvest reports in the last five years (2013 – 2017), would:

- A. have their trap reduction decreased by 50 percent This would decrease allocations by 23 percent.
- B. An alternative suggestion was to institute a trap cap of 800 on people not actively fishing. This would decrease allocations by 15 percent

Table 2. Scenarios to Reduce Latent Effort

Scenario	# permits	Allocation	% reduction
1) Status Quo	207	132,058	~4% annual
2) Trap Cap = 800	207	92,511	-30%
3A) 5 yrs >50 trips, 50% decrease	108	102,199	-23%
3B) 5 yrs <50 trips, 800 cap	108	115,888	-15%



**Department of
Environmental
Conservation**



**NEW JERSEY DIVISION OF
Fish and Wildlife**

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Trenton, NJ 08625-0400
Larry Herrigty, Director

ASMFC: Lobster Board
From: LCMA 4 Lobster Conservation Management Team
Subject: Allowance to fish for alternative species with pots during the LCMA 4 closed season in federal and/or state waters
Date: April 16, 2018

At the 3/28/2018 LCMT 4 meeting substitute measures to LCMA 4 season closure (4/30 – 5/31) were discussed. LCMT 4 members feel they are being unfairly impacted during the closed season since NOAA Fisheries requires federal lobster permit holders to remove lobster pots during the closed season. This is not the requirement for state waters in LCMA 4 or for LCMA 6 permit holders during the LCMA 6 closed season. This results in a substantially longer impact to harvesters due to the amount of time it takes permit holders to remove the gear safely during the spring.

LCMA 4 members gave a number of alternatives; 1) fish for other species that they had permits for using lobster pots in federal and/or state waters, returning all lobsters to the water; 2) fish for other species using fish pots in federal and/or state waters, again returning all lobsters to the water; 3) fish for other species using pots with vents that are large enough to allow all lobsters in the LCMA 4 size range to escape in federal and/or state waters.

NOAA Fisheries point to the fact that the Lobster Technical Committee recommended that all lobster pots be removed from the water in relation to closes seasons and that the Board Motion on closed seasons required pots out of the water. The main concern is if pots remained in the water during the closed season lobster bycatch mortality would adversely impact the lobster population and negate benefits of the closed season.

Smith and Howell (1987) investigated bycatch mortality of lobsters due to the trawl and pot fisheries in Long Island Sound. They found both minor and major damage to lobsters due to both the pot and trawl fishery, but trawl induced damage occurred more frequently, especially during molting period. The incidence of immediate monthly mortality from pot gear never exceeded 0.05%, while trawl induced mortality never exceeded 2.2%. Delayed mortality was only seen in lobsters caught by trawl, not by pots. Trawl induced mortality was highest during molting, especially during the summer molt (21.3% in July vs 6.3% in November) and relatively low during intermolt (2.2% May and 1.0% in August).

Huntsberger et al. (2015) examined the seasonal bycatch of the scallop fishery on Georges Bank. The project tested two different scallop dredges in regards to bycatch. Overall there was no significant difference in lobster catch between gear types. Lobster damage was rated similar to Smith and Howell, no damage, moderate damage or lethal damage. Lethal damage ranged from 28 to 36 % by area. There was no significant difference in damage between areas with an overall lethal damage rate of 32%. Previous work by Jamison and Campbell (1985) as cited in Huntsberger et al. (2015) indicated Jamison and Campbell used SCUBA divers and noted that most of the lobsters avoided or escaped the scallop gear the study used.

In addition, the ASMFC stock assessment model does not include bycatch mortality in its calculations. Estimates of discard mortality were low, so it was not included in the model.

Besides the total loss of fishing income due to the federal gear removal requirement, LCMA 4 permit holders are also concerned about fishermen with other gear impacting the resource while the pots are out of the water. As evidenced from Smith and Howell (1987), even though trawl bycatch mortality is relatively low during May (2.2%), it's still significantly higher than bycatch mortality from pot gear. In addition, damage and mortality from the scallop fishery may not be insignificant. It also seems inequitable to allow other gears to fish during the lobster closed season that could impact the lobster recovery owing to their higher bycatch mortality than lobster gear.

Given the options express by LCMT 4, it would seem that NOAA Fisheries could come to some compromise so they could continue to make a living during the Spring. Especially in light of the fact that they allow other fisheries which catch lobsters in their gear to fish in LCMA 4 during the closed season which have higher bycatch mortality compared to pot gear.

Citations:

Huntsberger, C., K. Thompson, M. Winton, L. Siemann. 2015. Seasonal Bycatch Survey of the Georges Bank Scallop Fishery. NOAA Final Report NA13NMF4540011. 107 pgs.

Jamison, G. and A. Campbell. 1985. Sea scallop fishing impact on American lobster in the Gulf of St. Lawrence. Fish. Bull. 83:575-586.

Smith, E., P. Howell. 1987. The effects of bottom trawling on American Lobsters, *Homarus Americanus*, In Long Island Sound. Fish Bull. Vol. 86 No. 4.



February 23, 2018

Megan Ware
Atlantic States Marine Fisheries Commission
1050 N. Highland St. Suite 200A-N
Arlington, VA 22201

Re: American Lobster Board

Dear Megan:

I submit the following comments on behalf of Maine Certified Sustainable Lobster Association, Inc. (MCSLA) to the Atlantic States Marine Fisheries Commission (ASMFC) American Lobster Board (the Board).

As you may recall, the MCSLA currently holds a Marine Stewardship Council (MSC) certificate of sustainability the Maine lobster fishery. Maintaining the certificate requires the MCSLA undergo annual audits and meet specific milestones set by MSC's independent auditor.

In anticipation of the upcoming annual audit, the MCSLA makes the following statements to the Board:

1. The MCSLA urges the Board to adopt appropriate harvest control rules for the lobster fishery;
2. The MCSLA urges the Board to adopt a method to provide sufficient bycatch data to detect significant increase in risk to the main bycatch species in the lobster fishery; and
3. The MCSLA urges the Board to develop and adopt a research plan that provides the ASMFC with a strategic approach to research with reliable and timely information to ensure the fishery activity level is such that lobster fishing can continue indefinitely and lobster fishing operations must continue to be managed in a way that maintains structure, productivity, function and diversity of the ecosystem.

The MCSLA appreciates the opportunity to provide these comments.

Regards,

/s/

John F. Whiteside, Jr.
General Counsel
John@JWhiteside.com

**IMEP #62 The New England Lobster Convention of 1903
Habitat Information for Fishers and Fishery Area Managers
Understanding Science Through History**

***Reprinted in the Comment Section Atlantic States Maine Fisheries
Commission American Lobster Management Board Meeting, May 8th 9th,
2017, Alexandria, Virginia. Page 1 to 389.**

**(IMEP History Newsletters can be found indexed by date
Title on the BlueCrab.info™ website: Fishing, Eeling and Oystering Thread)
The Sound School ISSP – Capstone Series
Do Climate Factors Lead to Habitat Failure?
Climate Change and Habitat Capacity Complicates Policy Discussions
(Readers Should Review IMEP #53 The Southern New England Lobster Fisheries
Collapse of 1898-1905 posted on July 30, 2015)**

**Timothy C. Visel, Coordinator
The Sound School Regional Vocational Aquaculture Center
60 South Water Street
New Haven, Connecticut 06519**

**Revised for Capstone/SAE Proposals, April 2017
ASTE Standards Aquaculture #5 Natural Resources #6, #7, #9
Review the 51 page “Report Upon a Convention Held at Boston, 1903, to Secure
Better Protection of the Lobster” by J. W. Collins
Wright & Potter State Printers, 1904 Massachusetts**

**Two-Day 1903 Lobster Convention Allows Industry Proposals for Lobster
Enhancement, Following Shallow Water Die Off**

Submitted to the Lobster Management Board – Atlantic States Marine Fisheries Commission April 6, 2017
Public Comment Period LCMTs Prepare Preliminary Proposals (all pages)
Consider Habitat Enhancement (Artificial Reefs) and Lobster Hatcheries as possible response to
management option for increasing egg production (survival).

To: Megan Ware, ASMFC

It was very nice meeting you recently at the Old Lyme Connecticut public hearing in response to Southern New England (Lobster) stock decline. Last year a paper regarding the lobster collapse 1898-1905 was included in the public comment section and perhaps this attached paper, IMEP #62 could be added as well.

I started this report after attending the 2016 Maine Fishermen's Forum in Rockland Maine, it had been many years since I could attend a forum and had a great time. One item that did come up in several lobster discussions during the forum was climate, predator/prey and habitat bottlenecks, many of the same issues raised a century ago at the New England Lobster Convention of 1903. This two day convention raised similar issues of climate, predation by fish and "water space" (habitat).

The 1903 convention discussed important issues concerning the 1898 lobster die off that started in the fall of 1898, lobster hatchery science was included and perhaps today habitat enhancement (artificial reefs) and hatchery transplants could be part of the Atlantic States Marine Fisheries Commission Management options. Some excellent research regarding habitat enhancement occurred in Boothbay Maine in the middle 1960s and later regarding the importance of kelp forests to southern New England's lobster resource regarding this issues.

Perhaps lobster hatchery science and habitat enhancement (rubble/kelp reefs) could allow our very much diminished lobster fishery here to continue, offering any assistance to the Commission we may be able to provide.

Tim Visel, The Sound School

Capstone Questions:

Most lobster regulatory policy articles do not include references to the 1898 lobster die off or the 1903 Lobster Convention held in Boston on September 23 through September 24, 1903. On the second day of the convention, the lobster industry was invited in for comment/discussion. Almost all of the industry proposals were later incorporated into policy. Did the previous day's discussions reflect in any of the resulting regulations?

Climate factors and temperature changes were mentioned at the convention but not connected to climate-induced cycles of lobsters. While some fisheries flourished in the Great Heat (1880-1920), such as oysters and blue crabs, others were in steep decline, such as lobsters and the bay scallop. How does the increase and decrease in these fisheries compare to multi-trophic predator/prey, habitat quality or quantity studies today as Maine's lobster catch continues at very high levels and a huge lobster predator (codfish) is at a low point?

Habitat capacity concepts of expansion or compression refugia or dominance were still decades away from fishery management discussions. A larger lobster actually reduces carrying capacity for habitat

limited areas and explains the first colonial reports of huge lobsters speared in shallow near shore areas. (They eat their young). Larger lobsters need deeper (colder) habitats and live in the shore only when water temperatures allow, giving the movement of lobsters back to the shallows each spring the appearance of runs – or the expansion or compression of habitats on a seasonal basis. Habitat enhancement (artificial reefs) was not part of the Lobster Convention discussion but lobster hatchery science was. How did this discussion impact future actions?

All the New England states built lobster hatcheries, including one at Noank, CT. Rhode Island, however, led the country with its development of a lobster upweller and larval culture bags. When the hatcheries were built, the summers were hot and winters mild. The summer of 1898 was so hot that ponds and lakes did not freeze. In 1899, southern New England experienced an “ice famine.” It was at this time the ice business moved north to coastal Maine towns, such as St. George, mid-coast Maine, “The ice business in St. George thrived during the 1890’s” (Coaster Days by Roy Meservey – Jackson Memorial Library, 1976, Pg. 14). Connecticut had declared brook trout extinct in 1901, but the oyster industry was thriving. Did any of these factors, in your opinion, influence the 1903 Lobster Convention?

Copies of the 1903 Lobster Convention report are available from Tim Visel in the Aquaculture Dept. (It is also available online)

The Lobster Convention of 1903

By 1900, it became evident that New England faced a severe “lobster problem.” Inshore southern New England catches especially New York and Connecticut were dropping. By 1902, “the lobster problem” became a regional lobster crisis. The 1903 lobster convention focused on two issues: uniform laws on the size of lobsters for commercial markets and the protection of egg-bearing female lobsters. In the decades before, egg-bearing females were preferred by many chefs, especially those in the Boston area, as eggs went into sauces and stuffing of lobster caviar. Most states after 1850 had enacted stiff penalties for keeping “eggers” and now most members focused upon “shorts,” now that each state was warned about its neighboring states well being if different sizes continued. However, it made enforcement of lobster laws tougher if just a few miles away what was a legal lobster was now illegal. Many lobster fishers may recall that Rhode Island had a smaller “legal” size lobster than the rest of New England for almost a century. The capture and selling of short “lobsters” now occupied much of the regulatory response to declining lobster abundance in southern New England. These lobsters had not sexually matured and sublegal lobsters represented a potential recruitment (egg) reproductive loss.

The state of Maine took much of the blame for insufficient enforcement of lobster regulation while recognizing the demand of summer visitors (summer trade/tourism) fueled the demand for lobster meat along its long hard to patrol coastline. In actuality, removing larger lobsters (from the 1820’s onward) had altered the natural carrying capacity of the lobster resources in many areas. Lobsters are cannibals, so it is very possible that the fishery had, in fact, created the conditions for shorts to now become a dominant part of the lobster population. This population because of habitat refugia from larger lobsters

lived close to shore. Lobsters can live in excess of a century and crush any competing lobsters for food and space, allowing more (yet smaller) lobsters to live in a defined habitat area. A similar example exists with snapping turtles. Over time, one or two large snappers could exist in a small pond, crushing, killing or driving off smaller snappers, even its own young, unfortunately, until a balance to food and space is reached. Surviving snappers now grew to large sizes and existed within the carrying capacity of the available food. Trap out these large snappers and that would free up capacity for perhaps two or more smaller snappers; trap them and it freed up habitat for 20 to 30 small snappers, all competing for limited space and food. As snappers grew slowly in an area that had been “cropped,” smaller turtles were all that could be had. The snapper turtle fishery actually made more space available for more yet smaller turtles.

You could see how something very similar could happen with lobsters. There is a reason that the first settler accounts had accounts of speared lobsters a fathom long in shallow waters; they had overtime limited the abundance of other lobsters by killing off the smaller water competitors. In time, you were left with some very large lobsters and many small lobsters trying to live in a habitat area that usually meant death. With the removal of large lobsters, the natural carrying capacity had been altered to favor more smaller lobsters or “shorts.” Inshore areas where larger lobsters had held territory, this territory (habitat), were now available for many more lobsters. The trapping of legal size lobsters altered the capacity as well by feeding the shorts. In time, some areas within the small boat range contained all shorts, and if your job was to produce lobsters for the table, it left little choice. As larger lobsters freed up habitat space, the fishery did something as well – it now provided habitat and fed the shorts. Natural food limits had altered carrying capacity again as lobsters entered into a type of “bird feeder” husbandry. We had taken away the “groundskeepers” but now nourished the young as a contingent to fishing – the lobster bait itself.

The 1903 convention focused in on regulation, but in actual fact, climate had altered megalops drift (wind) and survival, carrying capacity had been altered by us, and warmer water reduced storm losses while speeding up growth. Lobsters in Maine were no longer habitat rich and cold water limited, but now habitat enhanced for a faster maturing lobster. In waters where lobsters could still live, those populations were mostly sublegal and surviving, as catch per trap (units of effort) dropped more traps (more food) were set. I would not be surprised that in many areas of our coast then sublegal populations surged as warm waters in southern New England contributed to a collapse of landings while those in Maine brought in many more legal lobsters. In the shallows of the southern range, waters were so warm there was an absence of lobsters of any size. It is these same conditions that govern carrying capacity for lobsters today, a century later, that remain poorly understood – temperature and energy cycles.

While the 1903 convention focused on regulation and lobster hatcheries, a warming climate, changing prey relationship and carrying capacity were not addressed. Maine’s landings would continue to hold and then collapse as cod in colder waters now became more abundant. Cod in colder waters devastated the lobster population and reduced habitat capacity to those areas in which cod could now feed. What was good for the cod fishers meant doom for small lobsters, as cleaned cod soon yielded stomachs full of lobster. Any extra carrying capacity was soon lost to a growing population of codfish. Lobster catches in Maine then declined.

A Habitat History

By 1902, the southern New England lobster fishery was in ruin and the U.S. Fish Commission, created in 1871 to investigate the decline of warm water fish (the 1870's would bring incredible cold to New England, including the Connecticut cattle catastrophe of 1873 when exposed milking cows froze in Connecticut fields), saw opportunity in bringing all the states together to discuss lobster regulations, then termed "uniform laws." It was promoted by J. W. Collins of the U.S. Fish Commission and by Dr. George Field of Massachusetts, a colleague and once employed by the same U.S. Fish Commission who provided conference support and eventually its host site, Boston, Massachusetts.

1898 was a terrible year for southern New England fisheries. The summers of 1895 to 1897 had some of the worst heat waves since the Civil War. The bitter cold of the 1870's had now become a distinct memory when temperatures fell as much as 30 degrees below zero for days at a time. The late 1890s were very different.

Connecticut oyster growers suffered a massive sulfide kill in deep water of Long Island Sound beds, asking for a survey in 1899. In September of 1898, Narragansett Bay turned red and then chocolate, as Dr. Mead of Brown University wrote that a "plague" had descended upon the citizens of Rhode Island. In small salt ponds and coves in southern New England, the warm water had numerous fish kills, and some of the worst had black waters, the sulfide overturn that left an odor of sulfur in morning mists. In 1899, the warm waters from an extremely hot summer created an "ice famine." Southern New England block ice producers had no product to sell or store as waters did not freeze all winter.

Into this heat, small lobsters inshore died by the millions as city residents rushed to New England coastlines for the promise of cool water breezes, lobsters left the shallows for deeper waters into the mouths of deeper water predators. It must have been a slaughter. If they could move, many I estimate, did not make it and died in the shallows easy prey for "warm water" fish.

A type of habitat failure occurred, habitat compression. {The term habitat "compression" signals an event that after appears before a habitat failure defined as habitat conditions that no longer are able to support one or more habitat functions, nursery, grow out, maturation or reproduction. For lobsters undergoing compression from high temperatures it is a form of a "blue crab jubilee" detailed in southern areas and in the fisheries literature when extremely hot conditions with little wind or storm "energy." Sulfide levels from organic reduction build into the water column until organisms (in this case blue crabs flee, and crawl out of the water) are forced to leave the water itself, and thus make for easy catching.

A lobster jubilee is much less noticeable (lobsters rarely are reported to leave the waters) but easy catching is the lobster catches in compressed habitats that can be quite high or surge. These events are recorded in landings as described by Dr. Donald Rhoads of Yale in the early 1980s. Rising temperatures can cause sulfide events (such as the loss of Striped Bass nursery habitats in Chesapeake Bay in the 1970s) and for lobsters catches would increase just before a collapse.

Dr. Rhoads describes this event in a 1985 Long Island Sound Workshop – The EPA-NOAA estuarine workshop series #3 which brought about 50 Island Sound researchers (both New York and Connecticut) together to discuss habitat, environmental and fisheries concerns relating to Long Island Sound.

NOAA Estuary of the Month, Seminar Series No 3, Long Island Sound Issues Resources Status & Management PG 88-175773 Prepared for the EPA Washington CT January 1997 (Seminar date May 10th, 1989). On page S6 Donald Rhoads of Yale mentions this relationship.

“I want to leave you with an interesting thought about oxygen-organism relationships. Secondary benthic production can be very high in the hypoxic and dysaerobic zones, a phenomenon related to the abundance and high turnover rate of enrichment species that dominate these zones. This production (mainly polychaetes) may attract and support enhanced populations of benthic foragers such as demersal fish and crustaceans. However, as the basal low-oxygen conditions spread up the sides of the basin, these commercially important predators may be compressed into an ever decreasing aerobic environment. The immediate perception may be one of increased catch per unit effort by fishermen. As a result, maximum commercial yields may be obtained just before there is a crash in the exploited populations. This crash may be related to enhanced fishing pressure, immigration of species from the encroaching hypoxic water and intensified competition for space and food in the diminished aerobic habitat space. These observations are consistent with the general observation that the early to intermediate stages of eutrophication may temporarily increase the carrying capacity of a benthic system.” (Pearson and Rosenberg, 1978).

This is the type of situation that preceded the industry lobster die off in Long Island Sound in the late 1990's just before the “crash” lobster catches soared, habitat compression did occur in waters with more oxygen a Long Island Lobster “Jubilee” but signified a much lower habitat quality.}Larger lobsters moved into cooler waters, and for a while, Cape Cod lobster catches increased. So did the state of Maine while lobster fishers in the south most likely found empty pots, dead lobsters or those diseased, called black tail. In some coastal towns, there were no small lobsters at all, such as Noank, CT once the Capital of New England lobster trade which “lay in destruction” as catches fell. Into the heat, eelgrass flourished and bottoms turned black. It is important to note that Native Americans may have left clues to previous reversals as Niantic River was once called “Black Bay.” Perhaps an ancient reminder of long ago when shallow waters could turn black as part of a very long history of natural cycles (see Art Gaines, Value Judgment and Science, Woods Hole Oceanographic Institution, New England Salt Pond Data Book, June 1990, Arthur C. Gaines, Jr., Pg 17). (History of New London County D. Hamilton Hurd 1882).

The brutal heat waves of the 1890's had taken its toll on the freshwater fisheries as well. Here we see the first comments about fishery collapses and habitat failures. By 1900, states saw the failure of brook trout, a native coldwater species. Connecticut in 1901 declared brook trout now extinct, started to build the framework for the U.S. Fish Commission trout hatcheries and considered the importation of brown and rainbow trout as being more heat “tolerant.” Some of the first hatchery science in the U.S. was for freshwater fish as the New England carrying capacity for trout declined for a decade. Alewife in this heat also declined sometimes “abandoning” its coastal runs (now suspected by the result of sulfide blocks).

But not all fisheries declined, black sea bass filled the Rhode Island trap nets, blue crabs now surged, and oyster sets covered the shores. Some of the best oyster sets had happened in the 1890's. In the 1870's, oyster sets were rare and New England once depended upon "Virginia plants" for seed oysters. When Block Island fishers reported tropical fish and tarpon were caught in Narragansett Bay fishery managers grew alarmed. In 1898 Rhode Island fishery managers now commissioned the Narragansett Bay Biological Survey and that annual survey continues today. A very famous striped bass fishing club, now known as the Cuttyhunk Club, moved its location north three times following huge striped bass that, into this heat, grew to enormous size, yet moved farther and farther north. The first marine experiment station was created to study the decline of coastal fisheries after an immense fish kill in Point Judith Pond, RI in 1897. The first director of this marine experiment station was none other than George Wilton Field himself, now working in Massachusetts after leaving the Rhode Island facility in 1901 (See the search for Megalops Blue Crab Forum™, Blue Crab Newsletter, Series #3, posted on November 2015 – Northeast Crabbing Resources, The Blue Crab Forum™ "Rhode Island, Blue Crab Capital.")

With both fresh and saltwater fisheries undergoing rapid change, the U.S. Fish Commission was building federal fish hatcheries (some of these programs continue today) investigating the decline of shad now thought to be the result of high temperature "sulfide blocks." It was this context that Dr. Field also hoped, perhaps, that uniform laws could stop and possibly reverse the decline of lobster in Massachusetts which had now become a popular seafood menu item for those wishing to spend summers at the shore away from the brutal "hot terms." Lobster fishers had now "ready markets" along the coast where lobsters were caught, no longer totally dependent on distant markets. The market had now moved to them as the "summer trade" from what must have been seen as a growing "summer population" at the shore. Some no doubt took advantage of this commercial opportunity, and scrubbing eggars (once a prized delicacy) and cooking "shorts" for fresh lobster meat for shore visitors was a problem as was the impacts of factory waste pollution that putrefied in slow moving streams. Overharvesting, impact of pollution and climate change would all "seats" at the lobster convention of 1903, which fishing area managers hoped would finally bring uniform lobster regulations to New England; it was not to be.

The Lobster Convention of 1903: A Missed Opportunity to Review Climate Change, Prey Relationships and Lobster Habitat Carrying Capacity

Was a decline in lobsters from overfishing or from climate? This question overshadowed the entire 1903 conference, and Rhode Island, which had several large fish kills in the 1890's including one in Narragansett Bay, put forth the strongest climate change questions.

"The ever varying conditions that exist on the surface of the earth doubtless exist in as large measure at the bottom of the ocean, in that part occupied by the fish. Just what effect is produced by the changes we will not attempt to solve at this time." Rhode Island Commissioner Southwick states "We cannot well control the effects produced by nature, hence all that can be done, if anything, is to restrict the catch by man." (Pg. 12)

That belief became pervasive in fisheries management and was to hold for over a century, what can we do about nature, delaying or dismissing critical predator/prey, carrying capacity, and climate cycles' impacts studies to the lobster fishery. In other words, the conference attempted to give nature a "free pass" for the lobster die off of 1898, which now continued. But some felt otherwise, and the Rhode Island Commissioner, Mr. Southwick, later read a paper to the convention that included this section: [My comments are in brackets, T. Visel]

"For ourselves, we think that only calculations of the inhabitants of the great deep, which ignores the fluctuations caused by nature, very fallacious" and further we ask here to be allowed to quote from Professor Baird (First Director of the U.S. Fish Commission) in his estimate of the number of fish destroyed upon our coast by blue fish at 10 billion daily or the number of menhaden so destroyed at 3 billion (daily) in the summer months. He also says this calculation might be pursued to any extent, but I have presented enough to show that the question of human agencies in the way of affecting or influencing the great ocean fisheries is scarcely worth considering." And Mr. Southwick continues "True every lobster taken causes a reduction, but the question is as to the measure of the reduction. It must, to be effective, be beyond their power of reproduction. This is the question of most importance relating to the legal control of the lobster fishery." (Pg. 40)

"So general and fixed is the belief in the efficiency of this method [controlling human catch efforts – T. Visel] that very much money and effort is continually being put into it, even though no apparent success follows, and within certain limits all are willing to acquiesce in it as on experiment, but some appear to wish it anyhow, successful or not, with these we cannot agree." (Pg. 41)

These were strong words from Rhode Island to the conference that was designed to put forth a "unified effort."

It is easy to read between the lines as J.W. Collins issues a stern rebuke to the Fisheries Commissioner, Mr. Southwick from Rhode Island, who later raises the issue of habitat carrying capacity to a species already known for its ability to eat each other – "water space" is referred to as habitat quantity and capacity as to control populations because they eat their young and each other. Today we would call these "space" issues as artificial reefs. According to Commissioner Southwick:

"... the great difficulty in the propagation of lobsters is in having the water space large enough under natural conditions to put them in after they are raised to the third or fourth moulting. Their home is in the ocean, and to find a space large enough that they can have control of is very difficult in a small state like Rhode Island. That is the difficulty in the rearing of lobsters for commercial purposes. The great destruction of lobsters, as I saw from the little experiments I had myself, was when they are in a confined space. They eat one another and fight like tigers. It is hard to get them distributed through the water and get them separated. The motion of the water in the breeding apparatus keeps them separate, but if they had a large space they would separate without the motion." (Pg. 14)

From: Our Changing Fisheries, USAPO, 1971, NOAA (In press as a US Fish & Wildlife Service Publication) on page 459 includes this reference:

“Current investigations include improving propagation techniques and living conditions for lobsters in their natural environment; one promising technique for improving lobster abundance is the construction of artificial reefs and burrows using such objects as tile pipes. An artificial reef was constructed in Boothbay Harbor in 1966 observations by a scuba team revealed a dramatic increase in the lobster population. By December 1967, lobsters utilizing the new reef and increased in number until they were six times as abundant as an adjacent natural grounds.”

J.W. Collins, who co-chaired the conference, believed that overfishing was an industry condition, and New Jersey, although not invited, was mentioned.

“But the conditions that confront us today had confronted New Jersey, New York, Connecticut and Rhode Island, and may sooner or later present themselves to our friends in Maine.” (Pg. 43)

{In other words, the die-off was suspected of spreading to the north but not detailed as such T. Visel}.

Commissioner Collins, whose opinion the convention valued, believed the increase in Maine’s lobster catches was from an expanding winter fishery in the north (not climate related). Because of the bias at the time to seek out human causes, Collins dismisses the increase in Maine’s catches as southern New England’s catches declined from warm waters (Pg. 39). Winters were now open, warmer fish conditions improved as areas became ice-free – this was not mentioned at all! No one, it seems, mentioned on expanding the winter fishing season as a result of changing climate conditions that now made winter fishery possible.

“The distinguished commissioner from Maine finds that during the past three or four years, there has been a gradual increase in the yield of the lobster fishery of Maine as shown by carefully compiled statistics that have been gathered by his deputies. This would seem to indicate that there has been an increase in the abundance of the lobster. If not, why this increase in the catch? It is not necessary to seek far to find the cause,” and this was the cause according to Collins was a winter fishery.

As Collins explains: [My comments are in brackets, T. Visel]

“The recent remarkable advance in the price of the lobster, especially accentuated in the winter, has led to the employment of a larger number of men and a still larger number of pots for the capture of lobsters. Also, whereas the lobster fishery was formerly pursued only six or seven months in a year, possibly eight

months in extreme cases, it has gradually become customary in these recent years for the fishermen to pursue their industry throughout the year, thus fishing about 40% of the time longer than they used to. Besides this, the winter fishery has led to the exploitation of new grounds. Now the boats sometimes go out ten or fifteen miles from land to fish, and fully investigate fishing grounds that they did not venture to visit five or six years ago. Thus, the area of available bottom resorted to has been doubled. This has led to a slight increase in the Maine catch from year to year for the past four years [I believe the rapid rise started in 1898, the year that the Narragansett Bay die off, known as “the plague,” occurred and detailed by Brown University’s Dr. Mead, T. Visel] because more and more of the hardy fishermen have taken up winter fishing each year recently [This period saw open winters, shorter “ice on” days and in 1899 New England weather was so warm an ice famine occurred. T. Visel]. But so far as showing any increase in the general abundance of the lobster, the contrary is true, for as already stated, there is a pronounced scarcity of lobsters on many of the inshore grounds where they were formerly present in large numbers.”

[This is, of course, a form of high-temperature habitat compression lobsters leaving the shallows as determined by Rhode Island Narragansett Bay tagging studies] (See IMEP #53, The Southern New England Lobster Fisheries Collapse of 1898-1905)

In actual fact, “winter” fishery was occurring because the climate conditions from the 1870’s had in time changed; it was warmer in New England and few strong storms during the Great Heat 1880-1920. That was, in essence, correct; a widespread decline had happened in the southern New England states and most noticeably in shallow waters. But conference attendees gave little review to climate conditions (This would change in two years as Rhode Island officials grew alarmed when Tarpon was caught in Narragansett Bay in 1905 with the combined incredible rise in eelgrass and the blue crab). The demand for lobster meat, mentioned several times in the conference report, came from summer visitors but made no mention of the reasons why large numbers of them sought to escape from city killer heat waves and disease outbreaks themselves, mostly tuberculosis, which spread fear and loathing to what was called “the hot term.” (See appendix about Sanatoria). In this heat and dry summers, forest fires increased and coldwater brook trout had “vanished.” While the lobster population collapsed the oyster industry grew rapidly in the same waters in which lobsters were disappearing, such as Narragansett Bay. No one mentioned the ice failure of 1899 just four years before the convention. And what about the blue crab, from minor importance in the 1870’s, Noank, CT and Buzzards Bay, MA once thrived on inshore lobster fisheries soon found a new “blue” crustacean inhabiting its shores, the now abundant “southern” blue crab? The Great Heat of 1880-1920 for southern New England and 1890-1915 for northern New England saw oysters and blue crabs extending ranges far to the north as compared to the 1870’s. Maine’s rivers started to have again widespread oyster sets, which now spread into the Canadian Maritimes by 1910.

In these summer heats, black water fish kills increased, alewife and shad runs diminished and cod moved to northern cooler waters. All these factors contributed to a transitioning climate period, a warm stable coastline period with few storms. These climate shifts did not enter the discussions. As the heat moderated in the late teens and winters became colder, codfish returned in greater numbers and now found millions of small lobsters, prime food just waiting for the return of cod its chief non-human predator. The catching of larger lobsters enabled the natural carrying capacity to be moved far to the right of more yet smaller lobsters, ready to eat meals for codfish now poised to recapture lost habitat ranges. The heat would bring lower codfish catches declining in 1908 and drop to its lowest point about 5,000 metric tons in the gulf of Maine in 1915 when it started to cool in the 1920's, codfish catches recovered. This most likely contributed to lower lobster catches as cod now found an important forage base to help rebuild its population. It is important to note that cooler temperatures bring adult cod closer to (Pg. 173) shores and into habitats of small lobsters. In the spring of 1879, for example at the end of a decade of very cold New England temperatures, 11,000,000 pounds of codfish were caught in Ipswich Bay by local fishers (Bigelow & Schroder 1953, Pg. 193) and that the most prevalent bait used to catch cod was the soft clam (Pg. 196). As waters cooled, lobster growth slowed, and Maine's lobster catches tumbled while those in the south slowly recovered. With the clash of colder polar air sinking south, it energized coastal lows and it is during this period that small lobsters were cast upon the shore to die. Storm intensity and frequency increased ripping out eelgrass meadows in the 1940s, which dominated shallow habitats between 1880 and 1920 and replaced it with cleaned cobble stones and then kelp forests, a great habitat for those lobster areas in southern New England. The 1950's and 1960's saw the lobster recapture "lost" habitats at the turn of the century in southern New England.

And the blue crab which increased so rapidly at the turn of the century - it was now retreating into the warmer and shallower salt ponds and rivers. Here organics (Sapropel) allowed it to dig in and survive the winter but by the 1950s and 1960s at the height of a negative Northeast Atlantic Oscillation (NAO) colder waters and less Sapropel blue crab populations ended in many areas.

With all the information on climate patterns today from numerous sources, we should take a look at climate factors again influencing lobster stocks in New England, including habitat quality and quantity in the southern range.

The Lobster Convention of 1903 would challenge most of the assumptions of fishing impacts if a broader resource viewpoint was considered. Herrick, who had published a major study of the lobster in 1895 (he did not attend the 1903 convention), provides information on lobster carrying capacity on Cape Cod, notes that the Provincetown, Cape Cod and that the fishery started at 1800. By 1865, a marked decline had occurred; citing "Rathbun" "The Cape Cod lobster fishery has been at a low standing for many

years, and although but few men have enjoyed in the fishery of that region for a long time, there are, as yet, no signs of improvement.” (Pg.22)

Now compare that to the statement from the same location in 1903 [The Lobster Convention of 1903] the Cape Cod fishery was improving. “Last year, 1902 the lobster fishery on Cape Cod never was better,” pg 45. It is important to note that industry and lobster fishers were invited and did not participate in the first day regulatory discussion on September 23, 1903, but included only in the second day, September 24, 1903 the wrap-up session at 2:15 p.m. and largely gave the convention almost all of the measures for conservation and protection adopted for consideration in the final report [T. Visel] = use of a larger escape vent such as utilized by area lobster fishers on Cape Cod, a requirement having state permits, suggested uniform sizes (all states) and that lobsters be marketed live in the shell. Dr. Field supported the use of hatcheries and the conference becomes divided. “It was not found practicable for the committee to agree on any other recommendation for laws, which should equally apply to all the lobster producing states. In regard to the plan (hatcheries) advanced by Dr. Field, the convention was impressed with the idea that the experimentation had not been carried far enough to take the matter beyond the plan of theoretic, and therefore scarcely safe at this time to risk an entire change of the system of lobster protection”. In other words, the construction of lobster hatcheries would continue and accelerate {CT approved funding in 1904 for the Noank lobster hatchery.}

Natural History of the American Lobster H.F. Hobart and Consideration of Water Temperatures

Would the convention of 1903 unify states to regulations or admit a climate/natural factor was a part of the decline? In the end, they decided to do both, protect the egg bearing females v-notch/gauge laws and invest some additional hatchery resources to raise stage 4 when it has a much larger chance to grow. Releasing the fry most likely fed increased Black Sea Bass, which surged in abundance during the Great Heat 1880-1920. (p. 376) Bulletin of the Bureau of Fisheries (1909, Document #47) told of the movement away from releasing lobster fry (megalops stage) to rearing lobsters until they reached stage 4.

“It further shows that the method of hatching the eggs of this animal and immediately liberating its young is ineffective, because of the meager results which can come from it. On the other hand, it speaks loudly in favor of a law to protect the large egg producers (regulation gauge v-notch), and of the newer plan of rearing (lobster hatcheries) the young to the bottom seeking stage (stage 4), as the only means pisciculture (old term for Aquaculture) can hope to aid this fishery materially.”

History of the Lobster Hatcheries

Did the 1903 lobster convention accomplish what conference organizers hoped for? No, it did not. If anything, it brought a strong rebuke from Rhode Island, which felt smaller lobsters increased habitat capacity (it did increase the gauge, actually reduces capacity for those species that are cannibals) and that weather (climate) conditions influenced the survival of young lobsters (Rhode Island's view would be largely supported by looking at climate energy and temperature cycles).

What we can do, in retrospect, is examine the lobster hatchery records themselves; they often contained habitat observations, such as the Wickford Rhode Island Lobster Hatchery reports.

We have a chance to look at an entire series of lobster hatchery reports from the Lobster Hatchery Reports from Noank, CT (Some of these reports are now posted on-line by the University of California at Berkeley). This quote is from the State of Connecticut Report of Fish and Game Commissioners 1911-1912: from a lobster fisher of the last century –

GUILFORD {CT} “The marked increase of small lobsters is very gratifying and is sufficient proof that the hatchery is one of the greatest institutions in the State, and I shall do all I can to help the Commissioners of Fisheries and Game in the protection and propagation.”

In the end, what conference organizers had hoped to occur with unified lobster regulations did not happen. Lobster fishers continued to mention observations of no shorts at all. In 1904, as southern Connecticut lobster fishers continued to report a near absence of shorts in shallow waters and diseases (called black tail), a consensus formed around an artificial lobster culture of the stage 4 lobsters. Rhode Island had a major aquaculture breakthrough with its larval upweller in Wickford, Rhode Island and developed the concept of a hatchery stocking process, releasing stage 4 into an algae bottom cover.

Massachusetts would continue to push the regulatory agenda and issued a 200 page report titled “The Lobster Fishery: A Special Report - Suggestions for Unified Laws in 1911, mostly from Dr. George

Field's point of view. Massachusetts would, in time, open a lobster hatchery on Martha's Vineyard. The Boothbay Lobster Hatchery in Maine operated for nearly half a century. Eventually the cost of heating the seawater, it was felt, outweighed the benefits. Lost in the cost discussion, it appears, was the fact that seawater temperatures over time had gotten cooler and therefore cost more to heat.

In summary, all the states that operated lobster hatcheries should make these reports available to the lobster community, fishers, shippers, those involved in retail and wholesale businesses, and finally the seafood consuming public.

While the concept of overharvesting has followed the lobster fishery for more than two centuries, this latest die-off has occurred under excellent regulations. In fact, raising the gauge again will actually make the resource recovery harder (my view). Additional competition for food and space by raising the gauge does not ensure habitat quality or quantity.

In addition to the lobster hatchery efforts of the 1900's, fishery area managers suspected but did not know for certain the relationship of kelp/cobblestone to the survival of the key stage four for juveniles. They did not follow the cycles of vegetation as it compared with young of the year habitat quality. We have some excellent kelp/cobblestone habitat studies to support habitat enhancement itself, the construction of low profile "rubble reefs," which grow kelp and could help provide stage four lobsters with "new space." (See recruitment habitats and nursery grounds of the American Lobster *Homarus americanus* a demographic bottleneck? Wahle /Steneck 1991). We could, in fact, build more habitat capacity with artificial reefs, and we should proceed with both these site location reef efforts and investigate hatchery efforts – my view, Tim Visel.

The Southern New England Lobster Die-Off of 1898 The Lobster Convention of 1903

SUMMARY

The Lobster Convention of 1903 did not accomplish what it was intended to do, which was to unify regulations in the Maritimes including Canada. In fact, in many ways, it was an introduction to climate cycles. Maine presented data in which its lobster catches were now increasing. Maine, Rhode Island, and Canada pointed to nature and environmental factors as guiding lobster populations. The southern New England states and its fishery managers at the time were frustrated by these comments, thus the section from conference proceedings written by Joseph W. Collins:

“The distinguished commissioner from Maine finds that during the past three or four years there has been a gradual increase in the yield of the lobster fishery of Maine, as shown by carefully compiled statistics that have been gathered by his deputies. This would seem to indicate that there has been an increase in the abundance of the lobster. If not, why this increase in the catch?”

States reporting catch increases were not what conference organizers had anticipated. In reports at the time discussed a unified regulatory approach about sizes as “shorts” were a problem, especially areas in northern New England and in the Canadian Maritimes where a number of short lobsters had risen dramatically. The 1903 Lobster Convention transcripts record this frustration as representatives of several states mentioned climate factors and that, in some regions, lobster populations were in fact increasing. Nova Scotia, Canada felt that it was climate and was preparing for sector management; lobster biology conditions for the north were different than those in the south. Others at the convention agreed. Rhode Island felt it was the impact of temperature and strongly opposed additional regulation upon the industry. Some good rules happened, releasing eggers and trap escape vents. Rhode Island supported seasons, and did so in 1904, but reversed itself in 1905 as having no effect. Maine continued to press the point that as the lobster populations continued to die off in the south, lobster catches in the north were increasing and Canada was preparing individual management zones. Each area was climate different and was to be considered for lobster management separate. So instead of unifying regulations, Canada was poised to establish different rules for each section of its Maritimes. Mr. Southwick of Rhode Island read a prepared statement that concerned dramatic water temperature warming as a natural impact – and referenced Spencer Baird, the U.S. Fish Commission Director himself, who also felt climate cycles deserved a closer look with temperatures before enacting additional regulations – Southwick of Rhode Island comments:

“What is the cause of diminished size and decreased numbers? Admitting that both are true, these are important matters in the settlement of the very great questions how to stop a reduction and how to cause an increase of lobsters in our waters. If we can determine the cause we can better arrive at a conclusion as to what will be a remedy, as a doctor first diagnoses his case before attempting to apply remedies. Heretofore, remedies have been tried with no better result than generally follow quack practice. Restrictive laws have not sufficed to increase the numbers of lobsters, and we should be very glad could we know that artificial propagation had been made a commercial success. We would be the last to say a word to discourage the efforts made in artificial aid to nature in every way it may be applied to the lobsters or any other of our fisheries. There has been so much accomplished that we have great hopes of much more in the future. The importance of the object aimed at justifies all the effort that may be made and any expenditure of time and money it may require.” ...

“Yet there is another peril, which we have not mentioned —the diseases to which they are subject, for we cannot believe they are immune from what attacks other forms of life. The ever-varying conditions that exist on the surface of the earth doubtless exist in as large measure at the bottom of the ocean —in that

part occupied by the fishes. Just what effect is produced by these changes we will not attempt to solve at this time.”

Additionally, Mr. Venny, the speaker from Ottawa, Canada was reported as saying:

“First, I desire to tender the thanks of the Department of Marine and Fisheries of Canada for the opportunity my colleague, Mr. Bertram, and I have of being here today, and the benefit we have received from the information given us by gentlemen of the different States. But of course we are here in a rather peculiar position. We will gladly give you the benefit of anything we know. If we in the Dominion have done something, which seems better to you than you have been able to do, we will be very happy to explain those points to you. But I don't think we can undertake to join in any agreement you may make about the sea and shore fisheries. Of course the lobster is a peculiar animal, and each country and perhaps each State must deal with it according to the needs of their respective localities.

Professor Prince in 1896 wrote: — “In the Dominion of Canada there remains the last great lobster fishery of the world, and it is not too much to say that this fishery has reached a critical stage.”

“From time to time since 1873 restrictions have been imposed upon our lobster fisheries. As long ago as 1877 the necessity for sectional close seasons was recognized and admitted by Canadian legislation; and, although changes have since been made in the dates and geographical divisions, the principle has not only been maintained but greatly extended, inasmuch as at present there are no less than seven different close times.”

“The question of a uniform close season has been open to much argument in the past, and the records of the department reveal that scarcely a season has passed without concessions, based on geographical and climatic conditions in different districts.”

“I notice nothing has been said here to-day leading to the idea that you have any close seasons for lobsters. It seems that you are satisfied with attempting to save the lobster by the size limit. We go farther in that respect. We have seven sections in the Provinces having close seasons varying from eight to ten and a half months. We regard that as very important. We put berried lobsters out after the close season comes in force and after the open season is over, and therefore we think they cannot be caught again until the next open season. The close season with us is really the most important factor in the regulations.”

“Lobsters are climatic. The difference in the legal lengths permitted by our regulations is explained in this way.” (Collins, J., Report Upon A Convention held at Boston, 1903, to Secure Better Protection of the Lobster, pp. 18-22)

For the fishery management efforts, the conference was not accomplishing what fishing managers had hoped. Scarcely a season has passed without concessions “based upon climate conditions in different districts.” In fact, the 1903 Convention had done more to identify differences of opinion and climate questions based upon temperature than uniform laws. It must have been frustrating for convention

organizers as attempts to unify regulations across large regions were failing. I think Dr. Field carried more than J.W. Collins ever realized to the convention and if I may read between the lines to “Dr. Fields’ plan,” George Wilton Field brought his personal experience as well to what habitat failure meant to inshore fishers; Dr. Fields was familiar with 1897 Fishkill at Pt. Judith Pond of Narragansett, Rhode Island. It was here that a growing land grant agricultural school we know today as a University of Rhode Island opened up the first marine laboratory in 1898 – staffed by Dr. Field. He was also in Rhode Island to see the beginning of the lobster die-off detailed by Dr. A. D. Mead of Brown University in Narragansett Bay itself. (An Investigation of The Plaque Which Destroyed Multitudes Of Fish And Crustacean During The Fall Of 1898 – November 18, 1898 issue of Science Magazine Vol. 8 #203.) Seeing these types of sulfide/low oxygen fish kills in the Southern New England was for different than the cooler, oxygen-rich shores of Maine. Blackwater events were rare in Maine (except those rivers obtaining pulp from lumber mills or paper factories) and storms killed many more lobsters in shallow water than black water. I feel after reading, the convention meeting summary was written by J.W. Collins, perhaps Dr. Field felt that this situation alone could not be solved by unified regulations and why perhaps his experiences would begin a lifelong support of Aquaculture? In many books today, Dr. Field is mentioned as the “Father of Aquaculture” and that interest possibly be traced to the lobster die-off of 1898.

The climate of southern New England was hot but warmer waters had increased lobster catches to the north. This difference was not easily explained and led to further division. Rhode Island, for example, felt a smaller lobster is more suited in its region and would have its own legal size lobster for 70 years. Maine would develop a double gauge and the v-notching of lobsters. Massachusetts and Connecticut moved to uniform laws. All, however, built lobster hatcheries.

In the end, New England states all soon had operational lobster hatcheries, realizing that it was perhaps not all a “regulatory solution.” Something had happened to the “shorts” and fishery officials, even those who supported stricter laws, eventually supported the construction of lobster hatcheries. What had happened was beyond just better laws.

I have been asked many times recently if the “Aquaculture” lobster hatchery efforts a century ago – helped the lobster industry rebuild. I believe they did. The same question could be asked of Agriculture, “Does it help raise food?” The quick short answer is “yes,” but one can have the best soil pH, the most expensive seed, and a proper nutrient balance, but if it does not rain, “all is lost.”

That is what farmers and fishers face, the uncertainties of nature itself. Today we call it cycles; long ago it was “feast or famine.”

We should not ignore the fact that turn of the century hatchery efforts coincided with a growing negative NAO phase – the climate conditions favorable for lobster megalops to stage four improved in the 1940’s and 1950’s (See NOAA Climate Prediction Center North Atlantic Oscillation – NAO Index since January 1950). It got colder. As kelp beds grew in southern New England, lobster recruitment now improved. By the late 1950’s in a cooler climate period, these hatcheries were nearly all closed. The

warm waters of the 1890's had turned cool once again. While the hatcheries were active, however, the lobster fishery continued.

I respond to all emails at tim.visel@new-haven.k12.ct.us

Appendix A

New England Climate Conditions after 1864

492 – Boston Medical and Surgical Journal – May 3, 1906

Dr. William Ogle has shown that fishermen, who are from the nature of their occupation, exposed to the greatest amount of moisture in the air and surroundings, have the lowest death rate from respiratory disease, and that occupations necessitating an indoor life the highest, where presumably they are more protected from dampness and the vicissitudes of weather. The late Dr. Abbott of our State Board of Health conclusively demonstrated tuberculosis to be essentially an indoor disease and the outdoor treatment is our so-called damp and cold (The New England Journal of Medicine, Vol. 154, Pg. 491).

The incidence of tuberculosis, an infectious bacterial disease primarily of the lungs, once called consumption, soared after 1898, as cities felt the burden of outbreaks resulting in the construction of sanatoria for “fresh air” after reports were circulated such as the above after 1906. Sanatoriums were often built on lakes and by the sea. The Catskills in New York became the location of the first sanatorium for the treatment of tuberculosis. In 1930, the State Commission on Tuberculosis would purchase the Smith-Crimes estate in Waterford, CT and became a “Seaside Sanatorium” until the use of streptomycin made such establishments unnecessary. For half a century, people with tuberculosis would seek out salt air, believing it had curative powers. This belief of “salt air” continued far into the 1950s and 1960s. The estate is now scheduled to become a state park.

Appendix B

United States Commission of Fish and Fisheries

47th Congress First Session, Document 124, Part 3

Geographical Review of the Fisheries -

R. Edward Earl 1883 – Print Date 1887 GPO

New Jersey Northern Coast, Pg. 391

[My inserts/comments are within brackets T. Visel]

Northern New Jersey The Southern Limit of the Lobster Fishery

“Lobsters are found all along the New Jersey coast, but not in sufficient numbers in its lower half to warrant the fishermen in engaging in their capture. The lobster fishery of the state is therefore confined to its northern portion or to the region lying between Sandy Hook and Squan River, this being the southern limit of the lobster fisheries of the United States. The fishermen of northern New Jersey have been engaged in the capture of the lobster for many years, and about 1860, the fishery is said to have been quite important [This represents a much cooler period but increasing warmth in the 1860’s – T. Visel]. From that date, the business gradually declined [This is the warming influence – T. Visel] until, in 1870, the capture of the species was almost wholly discontinued. In 1872, the fishery again to revive [This explains the impact of bitterly cold winters most likely created cold waters along the shore – T. Visel] and at present time large quantities of lobsters are taken in the region” [The 1870’s had some of the coolest temperatures in perhaps several hundred years. The winter of 1873-1874 was so cold, minus 20oF or lower for days that apple trees froze and cattle in unheated barns died in Connecticut – T. Visel].

In 1880, there were fourteen boats with twenty-eight men engaged regularly in the capture of lobsters in connection with their work in the line and net fishery, the catch being sold in New York and Philadelphia and partly to the local trade. The pots, which are covered with netting, are usually set in May [about the same temperature range as the July “run” on the Long Island Sound – T. Visel] and the fishing continues until October, though a few men begin fishing early in March, and others fish until the last day in November [Also, the fall/early winter “run,” usually around Thanksgiving in Long Island Sound, can be almost as large as the July “run” but of much shorter duration – T. Visel].

Appendix C

State of Connecticut --Report of Fish and Game Commissioners
1911-1912

Commissioners:

Frank W. Hewes, M.D., President

Groton, Connecticut

E. Hart Geer, Secretary

Hadlyme, Connecticut

Frank O. Davis

Pomfret, Connecticut

Lobsters. Through enactment of the Legislature of 1905, the propagation of the lobster was placed in control of this Commission. Previous to this little or no attention was given to lobster protection and none to artificial propagation.

The statistics collected by the United States Bureau of Fisheries in 1908 shows there were TEN persons pursuing the occupation of lobster fishing at Noank. In 1902, your Commission issued thirty-two permits for persons to engage in the lobster fishing. This number does not include quite a number of persons who confine their fishing operations in New York waters, but who live in and bring their product to Noank, and who take out no permit from this Commission.

The Acts of 1907 require lobster fishermen to furnish statistics of the fishery, and we find, at that time, 247 people engaged in lobster fishing, with a product of 391,203 pounds of lobsters, valued at \$56,475.00. The statistics for 1912 show 498 permits issued by the Commission. The produce amounting to 514,579 pounds of lobsters at a value of \$76,986.00. This increase, perhaps, serves as an index to the extension of the fishery.

- Connecticut Lobster Fishery Observations 1911-1912 -

NEW HAVEN.—“ Not many lobsters this year. There is quite a few small lobster. No egg lobsters have been caught in three years.”

NIANTIC.—“Lobsters scarce; more small ones than last year.”

MADISON.—“ I have noticed a large number of very small lobsters the whole season for taking in deep water. Egg lobsters are quite plentiful now, and these I find in shoal water close to the shore.”

MYSTIC.—“ Large lobsters have been very scarce. Small lobsters from four to seven inches long have been plentiful.”

GUILFORD.—“ The marked increase of small lobsters is very gratifying and is sufficient proof that the hatchery is one of the greatest institutions in the State, and I shall do all I can to help the Commissioners of Fisheries and Game in the protection and propagation.”

EAST RIVER.—“ A large number of very small lobsters.”

BRANFORD.—“ Early in the season lobsters seemed to be plentiful enough, but towards the end they became scarce. there are a lot of undersize lobsters in this vicinity which I think will be of size next season. Most of these seem to be perfect and not injured in any way. These undersize lobsters seem to stay in one place.”

CLINTON.— “Small lobsters have seemed more plentiful for the last two seasons, but it may be because there are fewer big ones. Little ones are not apt to get into pots when there are large ones around.”

COS COB.—“ Large quantities of small lobsters this year. More than usual.”

ROWAYTON.—“ I found plenty of small lobsters, but the large ones were scarce.”

NOANK.—“The Sound off Noank was full of small lobsters all summer, from two to four inches long.”

STONY CREEK. —“ I find a large number of very small lobsters the past two years of a size that I have not caught at any time previous to last year. Have fished lobsters about 18 years. My report includes last fall after the report was sent in, as I lobstered to December 1st.”

WESTBROOK.—“There were lots of small lobsters. Should be better next season.”

WATERFORD.—“ The lobsters were more than last year. There have been more small lobsters this year than I have seen before in eight years, so it looks more encouraging than it was for four years. Lots of small ones.”

STONINGTON.—“ Lobsters were few, that is large ones, but there were a large number of short ones and a large number of them from five to seven inches long.”

STAMFORD.—“ I have found lobsters very scarce. Plenty of small ones not fit to sell.”

Report of the NOANK Lobster Hatchery 1911-1912

Noank Station. In procuring the eggs for the operation of this Station the same general policy has been pursued as heretofore, by purchasing the adult lobster with the egg attached. These were collected from the fishermen the entire length of the coast, who are paid the full market price. After the eggs have been removed and placed in the hatching jars, the parent lobsters are returned to the waters of Long Island Sound, as near the same locality as possible from which they were taken.

During the biennial period, 1,474 ripe egg lobsters have been collected, from which 25,585,990 eggs were obtained, resulting in the hatching of 22, 750,000 fry which was planted in the coast waters.

During this same period, there were also collected 1,586 green egg lobsters, making a total of 3,060 egg-bearing lobsters collected, of which number 1,586 were held in cars during the winters, and the balance, 536, were returned to the water.

In the seven years of the operation of this hatchery, 208,761,870 fry have been hatched and liberated.

The lobster fishery in the State of Maine is the largest in the United States, and nearly 14,000 egg lobsters were collected the past season for the Federal hatchery at Boothbay Harbor. This is the largest collection ever made in one season. Conditions in the other New England States indicate a material decrease in the egg lobster collections with a corresponding reduction in hatcheries output.

The Noank Station* was visited by a representative of a foreign country who showed much interest in the hatching operations at this station. Your Commission supplied several adult lobsters to the Wickford Experiment Station* in order that this representative could observe the practical methods as conducted by the Rhode Island Commission.

[Note - *

These were often referred to as Marine Experiment Stations modeled after land prototypes, The Agriculture Experimentation Concept. The NOANK and Wickford stations operated the lobster hatcheries
- Tim Visel]

**Twenty-eighth Report of the
Commissioner of Sea and Shore Fisheries
of the State of Maine: 1903 - 1904**

The U. S. Fish Commission has assisted this department by making collections for a part of the season in the western section of the State waters. It has also secured an artificial saltwater reserve in Lincoln county and is experimenting in the keeping of lobsters therein, awaiting transportation to the hatchery, and for other purposes of observation and investigation under natural conditions.

The following report for the two years 1903 and 1904 shows the magnitude and importance of this duty performed by the "Sea Gull," and it will be interesting to learn as to the collection and dispersing of the lobsters, and millions of fry hatched from them and returned to our waters. Account of purchase from fishermen of egg-bearing lobsters, and disposition for the year 1903.

Number purchased from March to November 30 14,173

DISPOSITION.

Transported to U. S. Hatchery at Gloucester, Mass., for scientific investigation and propagation of eggs: 1,925. The lobsters were later returned and liberated in Maine waters. Impounded at the U. S. Reserve in Bristol, Lincoln County to be cared for by U. S. officials: 6,801. These were in the following spring taken to the Gloucester, Mass., hatchery, the eggs hatched, and the mother lobsters all returned and liberated near the place of purchase. Number liberated at time and place of purchase 5,447

The young hatched from the above eggs were cared for at the Gloucester hatchery and were subsequently brought here and deposited to the number of 32,700,000 eggs, as will appear by reference to the following table for 1903.

LOBSTER FRY PLANTED IN MAINE WATERS, 1903.

Date of Plant Number fry planted Point of Deposit 1903.

June 5 1,200,000 Casco Bay, near north shore, Great Diamond Island.

June 10 1,500,000 Portland Harbor, In cove northwest of Portland Head Lt. Casco

June 11 1,500,000 Casco Bay, in a cove near the south shore of Mackey's Island.

June 12 1,500,000 Casco Bay, in a cove near the north shore of Cushings Island.

June 13 1,500,000 Casco Bay, east side entrance to Fore River.

June 15 1,500,000 Casco Bay, south shore Clapboard Island.

June 16 1,500,000 Casco Bay, Diamond Island Cove.

June 17 1,500,000 Casco Bay, near north shore Half Way Rock.

June 19 1,000,000 Maine Coast, off Cape Porpoise.

June 19 1,000,000 Maine Coast, north shore, Wood Island.

June 19 500,000 Maine Coast, south shore, Small Point.

June 19 1,000,000 Maine Coast, east shore, Pemaquid Point.

June 19 1,000,000 Maine Coast, Port Clyde, near shore.

June 19 1,500,000 Casco Bay, nearshore, Back Bay.
June 21 1,500,000 Maine Coast, Rockland Harbor.
June 20 1,500,000 Casco Bay, southeast shore, Peaks Island.
June 22 1,500,000 Casco Bay, near east shore Cushings Island.
June 23 1,500,000 Atlantic Ocean, off Kittery Point.
June 24 1,500,000 Atlantic Ocean, off York Harbor.
June 25 1,500,000 Atlantic Ocean, off York Harbor.
June 26 1,500,000 Atlantic Ocean, Kittery Point, off Whaleback Light.
July 2 500,000 Gulf of Maine, Richmond Island Harbor.
July 2 500,000 Gulf of Maine, Wood Island Harbor.
July 2 500,000 Gulf of Maine near south shore, Kennebunkport.
July 3 1,500,000 Casco Bay, at Diamond Island Bar.
July 7 1,000,000 Delivered to A. R. Nickerson for distribution, 333,000 to each,
July 7 500,000 Vinalhaven, Stonington and Cranberry Island. Boothbay Harbor, near Cape Newagen.
Total fry planted on Maine coast. 32,700,000

Account of purchase by this department of egg-bearing lobsters, and what was done with them for the year ending November 30, 1904.

Number bought from November 30, 1903, to November 30, 1904, 16,076

Number taken to the U. S. Hatchery at Gloucester, Mass. 1,646

Impounded at the reserve at Bristol, and subsequently taken to the hatchery 8,638

Number liberated at time and place of purchase 6,232

Quite a number of lobsters were caught and re-purchased. 1903 1904

Number punched 2d time 396 310

Number punched 3d time 18 35

Number punched 4th time. 9 7

Number punched 5th time — 1

For the information of those interested I will state that when a lobster is purchased, before being released a small hole is punched in the middle flipper, thus it will be understood that in 1903, for instance, nine lobsters were released, being marked with five perforations in the flipper, and in 1904 one was decorated with five punch-holes before liberation.

The lobsters taken to Gloucester as above to the number of 10,284 were after the eggs were hatched, returned and liberated. Young lobsters hatched from the eggs to the number of 53,950,000 were subsequently distributed in our waters along the shore.