Atlantic States Marine Fisheries Commission

American Eel Management Board

August 7, 2013
8:00 am – 12:00 p.m.
Alexandria, Virginia

Draft Agenda

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

1. Welcome/Call to Order (*T. Stockwell)* 8:00 a.m.

2. Board Consent 8:00 a.m.
   - Approval of Agenda
   - Approval of Proceedings of May 2013 Board meeting

3. Public Comment 8:05 a.m.

4. Draft Addendum III to the American Eel FMP 8:15 a.m.
   - Review of management options (*K. Taylor*)
   - Review of Working Group Recommendations (*K. Taylor*)
   - Consider Working Group Draft Addendum III management options recommendations **Possible Final Action**

5. Other Business/Adjourn 12:00 p.m.

The meeting will be held at the Crowne Plaza Hotel 901 North Fairfax Street, Alexandria, Virginia (703) 683 – 6000

Atlantic States Marine Fisheries Commission

MEETING OVERVIEW

American Eel Management Board Meeting
August 7, 2013
8:00 am – 12:00 p.m.
Alexandria, Virginia

Chair: Terry Stockwell Assumed Chairmanship: 5/12	Technical Committee Chair: Brad Chase (MA)	Law Enforcement Committee Representative: Fessenden/Marston/Hurd
Vice Chair: Tom O'Connell	Advisory Panel Chair: Martie Bouw	Previous Board Meeting: May 21, 2013

Voting Members: **ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, VA, NC, SC, GA, FL, D.C., PRFC, USFWS, NMFS (19 votes)**

2. Board Consent:

- Approval of Agenda
- Approval of Proceedings from May 21, 2013 Meeting

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-up 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 Board 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. Draft Addendum III for Final Approval (8:15 a.m. – 12:00 p.m.) Possible Final Action

Background

- The Board accepted the 2012 American Eel Stock Assessment for management use in May 2012. The stock assessment report found that American eel stocks were depleted. The Board initiated the development of Draft Addendum III in August 2012 with the goal of reducing mortality on all life stages of American eel.
- At the February Board meeting the Board approved Draft Addendum III for Public Comment **(Briefing CD)**. The public comment period was open from March 20 – May 2. A total of 13 public hearings were held.
- At the May Board meeting the Board delayed final action on the addendum so that a Working Group comprised of Commissioners and the TC and AP Chairs could further develop management options for consideration by the Board **(Supplemental Material)**.

Presentation

- Review of management options by K. Taylor
- Review of Working Group Recommendations by K. Taylor

Board actions for consideration

- Consider working group recommendations on Draft Addendum III

5. Other Business/ Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

AMERICAN EEL MANAGEMENT BOARD

Crowne Plaza Hotel Old Town
Alexandria, Virginia
May 21, 2013

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

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ATTENDANCE

Board Members

Patrick Keliher, ME (AA)
Terry Stockwell, ME, Administrative proxy
Steve Train, ME, (GA)
Doug Grout, NH (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Paul Diodati, MA (AA)
William Adler, MA (GA)
Robert Ballou, RI (AA)
Rick Bellavance, RI, proxy for Rep. Martin (LA)
David Simpson, CT (AA)
Lance Stewart, CT (GA)
James Gilmore, NY (AA)
Pat Augustine, NY (GA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Asm. Albano (LA)
Leroy Young, PA, proxy for J. Arway (AA)
Loren Lustig, PA (GA)
Mitchell Feigenbaum, PA, proxy for Rep. Vereb (LA)
Roy Miller, DE (GA)
David Saveikis, DE (AA)
John Clark, DE, Administrative proxy
Bernie Pankowski, DE, proxy for Sen. Venables (LA)
Russell Dize, MD, proxy for Sen. R. Colburn (LA)
Thomas O'Connell, MD (AA)
Bill Goldsborough, MD (GA)
Kyle Schick, VA, proxy for Sen. Stuart (LA)
Rob O'Reilly, VA, proxy for J. Travelstead (AA)
Louis Daniel, NC (AA)
Bill Cole, NC (GA)
Ross Self, SC, proxy for R. Boyles, Jr. (AA)
Spud Woodward, GA (AA)
Patrick Geer, Administrative proxy
Jim Estes, FL, proxy for J. McCawley (AA)
Derek Orner, NMFS
Steve Meyers, USFWS
Ellen Cosby for A.C. Carpenter, PRFC

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

Ex-Officio Members

Joe Fessenden, Law Enforcement Committee Rep.
Brad Chase, Technical Committee Chair
Marty Bouw, Advisory Panel Chair

Staff

Robert Beal
Toni Kerns
Mark Robson
Kate Taylor

Guests

Bob Ross, NMFS
Bill Archambault, USFWS
Tom McCloy, NJ DFW
Cory Hinton, Passamaquoddy Tribe
Rosemary Gram, USFWS
Mari-Beth DeLucia, The Nature Conservancy
James Trossback, PRFC
Kevin Miller, Portland Press Herald
Anthony Rios, ofc. Sen. Boyle, NY
Jeffrey Pierce, Maine Elver Fishermen Assn.
Merry Lembi, Wildlife Conservation Society
Darryl Young, Maine Elver Fishermen Assn.
Angela Young, Maine Elver Fishermen Assn.
Raymond Kane, CHOIR
Doug Huntley, American Eel Sustainability
Kim Huntley, Norrstown, PA
Barry Kratchman, Norrstown, PA
Arnold Leo, East Hampton Baymens' Assn.
John Pedrick, Harrisburg, PA
Janice Plante, Commercial Fisheries News
John Tulik, ASMFC LEC

The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel Old Town, Alexandria, Virginia, May 21, 2013, and was called to order at 2:55 o'clock p.m. by Chairman Terry Stockwell.

CALL TO ORDER

CHAIRMAN TERRY STOCKWELL: Good afternoon, everyone. I am Terry Stockwell, the chair of the American Eel Board, and I call this meeting to order. We've got a very full agenda this afternoon.

APPROVAL OF AGENDA

CHAIRMAN STOCKWELL: We're going to start off with approval of the agenda. Are there any changes to the agenda? Seeing none from the board, I have one minor change. It is the Law Enforcement Committee Report under Item Number 8. It is going to be made by Mark and not Joe.

APPROVAL OF PROCEEDINGS

CHAIRMAN STOCKWELL: Are there any changes to the proceedings of our February 20th meeting? Seeing none; I will consider the proceedings approved. Before I go to the public comment on items that are not on the agenda – and I do stress are not on the agenda – I just wanted to give you all a heads-up that I will only be chairing this meeting until Agenda Number 8, the final action on Addendum III.

Because of the value of importance to both the state of Maine and Maryland, both the chair and the vice-chair are going to be relinquishing our responsibilities to Bob Beal, so congratulations, Bob.

PUBLIC COMMENT

CHAIRMAN STOCKWELL: We're now segueing into the public comment period. These are specific to items that are not on the agenda. I have got four names. First is Doug.

MR. DOUG HUNTLEY: My name is Doug Huntley. My May 2nd comments are in your package with hard copies on the back table. I am passing out a May 10th newspaper article from England's Mail Newspaper reporting the 2013 European Glass Eel Harvest in England at a 30-year high with the UK Glass Eel Station getting more than one ton in a single night.

Since some have expressed a concern that a decline in the European eel might reflect a broader global trend in declining eel recruitment, I wanted to alert the commission to the bountiful 2012 and 2013 European harvest consistent with some of the record-breaking recruitment numbers we have seen in North American over the past three years.

The 2007 Fish and Wildlife Decision noted the American eel is said to have the broadest diversity of any fish species by occupying multiple aquatic habitats. From an evolutionary standpoint, this generalist use of habitat is favored in fluctuating environments. Once again, this amazing fish has demonstrated its resiliency, which resiliency has lasted for the last 52 million years. Thank you for your consideration.

CHAIRMAN STOCKWELL: Thank you, Doug. Paul.

MR. PAUL DIODATI: I didn't get the last speaker's name or representation. You're mentioning them by first name, but I don't know who these people are.

CHAIRMAN STOCKWELL: Yes, that was Doug Huntley from – excuse me, could you –

MR. HUNTLEY: Huntley with the American Eel Sustainability Association.

CHAIRMAN STOCKWELL: Mr. Pierce.

MR. JEFFERY PIERCE: Chairman Stockwell and members of the American Eel Board and other Atlantic States Marine Fisheries Commission Members; my number is Jeffery Pierce. I am the executive director of the Maine Elver Fishermen's Association. Our group is 179 members strong and growing.

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We have worked diligently with the Maine State Legislature to pass any poaching laws in Maine, and we're committed to stopping poaching in Maine. We really appreciate your consideration on balancing economics with sustainability. Thank you.

CHAIRMAN STOCKWELL: Next I have Darrell Young.

MR. DARRELL YOUNG: My name is Darrel Young. I'm from Eastbrook, Maine. I'm the founder of Maine Elver Fishermen's Association. I'm here to see how this all goes. I hope you guys vote status quo. We need this very much in Maine. It is a poor state. I'm here to answer any questions and hoping to work with your guys in the future. Thank you.

CHAIRMAN STOCKWELL: The last name I have on the list is Corey Hinton.

MR. COREY HINTON: My name is Corey Hinton. I'm a member and representative of the Passamaquoddy Tribe of Maine. The commission is here today to consider a revision of its rules because the current rules have not adequately protected the American eel. My people are poor. We have subsisted off the American eel since time immemorial and never ever until very, very recently have we been told that access to this resource would be limited.

In recognition of the pressure on the resource, we implemented a total allowable catch limit upon ourselves to promote wider access to the community while still limiting the amount of eels pulled out of the rivers. To us this was the best way to manage the resource. I'm not a scientist, but it makes more sense to be regulating the poundage of eels coming out of the rivers as opposed to the number of the people standing in it.

I'm here today to say that I'm very encouraged and pleased to see that the board is considering an amendment to its rules because the inability of the commission to act at an earlier time has resulted in oppression and hardship on my people, which is falling on individuals who are saddled with thousands and thousands of dollars of fines where per capita income is well below the poverty level and where our unemployment is hovering consistently around 60 percent.

We have worked hard with Commissioner Keliher and the Maine Department of Marine Resources to reconcile our two plans and regrettably were unable to do so. I feel that our inability to do so was largely because of the rules that have been implemented in the past by this commission; mainly limits on the number of licenses issued as opposed to quotas. I'm here today in support of a quota, and I'm here today in support of further consultation between this body and the federally recognized tribes of the United States of America, including the Passamaquoddy Tribe. Thank you very much.

CHAIRMAN STOCKWELL: Thank you and that concludes the folks that have signed up to speak on this public comment period. I am going to turn it over to Kate to review and populate the advisory panel membership.

REVIEW AND POPULATE THE ADVISORY PANEL MEMBERSHIP

MS. KATE TAYLOR: At the February board meeting, an application to nominate Mari-Beth Delusia, a senior fisheries aquatic biologist with the Nature Conservancy, to the advisory panel was included in the briefing material; but when the motion was made it did not include her name and so just to ensure that Mari-Beth is officially nominated to the advisory panel by this board, we request consideration of Mari-Beth at this meeting.

CHAIRMAN STOCKWELL: Does anyone on the board wish to make the nomination? Mitch.

MR. MITCHELL FEIGENBAUM**: Yes, I'd like to nominate Mar-Beth Delusia to the Advisory Panel for American Eel.**

CHAIRMAN STOCKWELL: And seconded by Russ. Are there any comments? Bill.

MR. WILLIAM A. ADLER: Yes, just out of curiosity – and I don't know who the rest of the

members are of the advisory panel – is there a member from the Passamaquoddy Tribe happen to be on that advisory panel at all? I'm just curious.

MS. TAYLOR: Currently there are no tribal representatives on the panel.

MR. ADLER: Is there room for one?

MS. TAYLOR: That would be at the discretion of the management board.

MR. ADLER: I might ask the state of Maine if they might just look into that. I think they should be represented on that panel.

CHAIRMAN STOCKWELL: Thank you. To the motion on the board; are there any further questions or comments? Is there any objection? Well, congratulations to Mari-Beth. Bill, you have a request?

MR. ADLER: Only that the state of Maine might look into putting in a nomination for a Passamaquoddy Tribe representative on the AP Board; that's all.

CHAIRMAN STOCKWELL: Okay, thank you. Okay, Kate, we're on to the FMP Review and State Compliance.

FMP REVIEW AND STATE COMPLIANCE

MS. TAYLOR: Compliance reports for the 2011 fishing year were submitted this past fall and reviewed by the plan review team in March and April. As you are aware, the stock assessment was initiated in 2009 and the Stock Assessment Committee reviewed over a hundred surveys and accepted 19 young-of-the-year and 15 yellow eel surveys for use as indices of abundance in the stock assessment, recognizing that American eel are considered a data-poor species. The trend analysis and model results indicate that the stock has declined in recent decades and the prevalence of significant downward trends in multiple surveys was cause for concern by the Stock Assessment Committee, and the stock status was declared depleted.

This assessment passed peer review and was approved for management use last May. This graph is just showing current landings back from 1950; and as you can see, this is showing current landings since the time of implementation of the FMP have been right around a million pounds since the FMP was implemented.

State-reported landings of yellow and silver eels in 2011 were actually just over 1 million pounds, which represents a 30 percent in landings from 2010. In 2011, landings from New Jersey, Maryland and Virginia each totaled over a hundred thousand pounds, accounting for 78 percent of the total coast-wide landings.

Landings are glass eels were reported from Maine and South Carolina last year and totaled just over 9,000 pounds, and they have fluctuated from 14,000 pounds in 1998 to a low of just over a thousand pounds in 2004. The FMP does require annual young-of-the-year surveys to be conducted by the states.

In 2011 below average surveys were seen in Maine, New Hampshire, New York, Delaware, South Carolina and Georgia, but note that nets were poached on six separate nights in Maine and so this was contributing to the below average results. Average results were seen in Massachusetts and Florida and above average results were seen in Rhode Island, Connecticut, Maryland and Virginia; and especially the Rhode Island young-of-the-year survey was the highest on record.

There was a brief call with the technical committee prior to this board meeting, and I was able to poll them on the results of 2012 and preliminary information on the 2013 young-of-the-year surveys just to provide the board some additional information on the current status of the young-of-the-year surveys.

This chart is just showing a very simple stoplight methodology of where the states are with red being just below average, orange being average and green being above average. In 2012

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below average surveys were seen in Rhode Island and Florida with average surveys in Massachusetts and Georgia and above average surveys in Maine, Maryland, New Jersey, Delaware and the Potomac River Fisheries Commission.

In 2013 there were below average surveys in Massachusetts, New Jersey and Georgia; average surveys in Maine, Maryland and Florida; and above average in New Hampshire, Rhode Island and Delaware. Some of those 2013 surveys are still preliminary. The compliance reports noted a few program changes in 2011 and 2012.

New Jersey had a monitoring program change. Due to a collapsing overpass, the young-of-the-year survey was not accessible. North Carolina had previously requested that their young-of-the-year survey be allowed to be conducted by the NOAA Beaufort Lab, and the 2011 results are unavailable due a backlog of processing of the samples by the NOAA facility.
There was also a regulatory program change in 2012 by the state of Maine. The state of Maine changed their closed season from noon Friday to noon Sunday to noon Tuesday to noon Wednesday and noon Saturday to noon Sunday. It went from a 48 consecutive hour closure to 24-hour closures.

The PRT finds that all states are currently implementing the required provisions of the FMP with the possible exception that Maine did not submit a proposal in advance of implementing a regulatory change as specified under Section 4.4.1 of the FMP to ensure that the proposed measures are as conservative or more conservative as the measures that were put in place at the time of the FMP's implementation.

The PRT cannot comment if this change is conservationally equivalent, and the PRT does request that any changes made to regulatory programs be reviewed by the technical committee as well as the advisory panel prior to board approval. The de minimis standard is that for the two preceding years the state's average commercial landings of that life stage constitutes less than 1 percent of the coast-wide commercial landings.

In the 2012 compliance reports, the states of Maine, Pennsylvania, South Carolina, Georgia, Florida and the District of Columbia requested de minimis. Based on landings, the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, South Carolina, Georgia and District of Columbia qualify for de minimis.

Based on landings, the state of Florida does not qualify for de minimis. Their average commercial landings were 3.2 percent of the total coast-wide commercial landings. However, the state does currently implement all the requirements of the FMP despite being granted de minimis in previous years. The state has withdrawn that de minimis request.

The PRT recommends that the board grant de minimis status to Massachusetts, Pennsylvania, South Carolina, Georgia and the District of Columbia. The PRT also requests that states highlight any notable trends in their reports and describe any circumstances that prevents sampling from occurring. The PRT also encourages states to collect biological data from landings. The PRT would like to affirm the value of the young-of-the-year surveys and their need to be completed on an annual basis. Thank you, Mr. Chairman.

CHAIRMAN STOCKWELL: Are there any questions for Kate? Pat.

MR. PATRICK C. KELIHER: Mr. Chairman, as far as the state of Maine non-compliance, I just want to make it clear that we will bring forward the additional information as needed. The changes made regulatorily were actually made through emergency legislation that was passed by the legislature in 2012.

In doing so, the questions came to the department regarding enforceability and conservation equivalency, and at the time it was believed that they were enforceable and it was equally conservation equivalent, so we will make sure we rectify that in the future. Thank you.

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MR. ROB O'REILLY: Kate, I guess I would ask you to reflect back on the assessment. Once we see this information on landings, it could be pretty stark; but at the same time I'm wondering did the assessment have much to say about catch per effort from the various states and the various fisheries. I was just handed the Potomac River CPUE for pots and also for pound nets, but for traps you can see the landings decline in the Potomac River to where they're not much less than where Virginia is now. It looks like about 95,000 pounds in 2012.

However, the CPUE for pounds per pot is fairly similar from 1988 through 2012. There were some peaks right around 2009 and 2010. To me this is very important information to be displaying on a continuous basis for the board because it tells us more than just landings when we know that there also nominal efforts falling off in some states through licensees; but more importantly for those licensees that remain, it may be that catch/effort is a little bit different in terms of an indicator of the stock abundance than other factors such as just landings.

MR. BRADFORD CHASE: The stock assessment subcommittee did spend a fair amount of time reviewing the fishery-dependent catch-per-unit effort data. It was found to be very useful and valuable, but the time series and the data quality was not sufficient to allow it to establish a biological threshold; so it was considered in the end to be unreliable given the time series we had. It did not make its way further in the stock assessment. We hope for the next stock assessment it will continue to be used and become valuable.

MR. JOHN CLARK: Kate, did the technical committee look at the most recent glass eel data from 2012 and 2011; and would that have changed the trend that we saw when we did the assessment where it showed a downward trend for all the states combined?

MS. TAYLOR: The technical committee just only briefly reported on the results of their 2012 and 2013 young-of-the-year surveys on our call last week. It hasn't been considered being re-input back into the assessment models at this time.

MR. FEIGENBAUM: As some of you might be aware, when the Fish and Wildlife Service in 2007 declared that the eel stocks were stable, they cited three recruitment indexes as really pretty much their most major significant piece of data to support that decision. One was the New Jersey Index and one was the North Carolina Index.

The third one was actually the East River Surveys from Nova Scotia, Canada. I just want to point out that the East River Surveys have been ongoing, and in the last three years they have increased each of the three years, and in fact last year was the highest year on record. I can make that data available to anyone on the board who would be curious to see what those recruitment indexes show. Thank you.

CHAIRMAN STOCKWELL: Are there any other questions for Kate**? I will be looking for a motion to accept the FMP Review and de minimis requests. Motion made by Bob Ballou; seconded by Bill Adler.** Are there any board comments? Mitchell.

MR. FEIGENBAUM: I would just like everyone to reflect before voting on the motion whether – we all know that the topic of elver fishing, glass eel fishing, call it what you will, is obviously one of great import today. I would point out that South Carolina is one of only two states that has a glass eel fishery.

I'm not sure what the full consequences of a de minimis status would be, but it seems to me that we need to carefully question whether – I see the motion maybe is changing; but in any event perhaps my comments are moot in light of the fact that they're requesting de minimis for yellow eels. Thank you.

CHAIRMAN STOCKWELL: Are there any other comments? I will read the motion. It is to move to accept the 2012 FMP Review and approve de minimis requests from Massachusetts, Pennsylvania, South Carolina, Georgia and District of Columbia for the yellow

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eel fisheries. Motion by Mr. Ballou and seconded by Mr. Adler. Is there any objection to the motion on the board? **Seeing none; the motion is approved**. We move on to Agenda Item Number 6, an update from Kate on the proposed listing.

PROPOSED AMERICAN EEL ENDANGERED SPECIES ACT LISTING

MS TAYLOR: As you may recall, in 2010 a petition was submitted to list American eel under the Endangered Species Act. In 2011 a positive 90-day finding was published that listing may be warranted. A lawsuit was filed against the Fish and Wildlife Service for failure act under the time required under the ESA. A settlement agreement has been approved by the court, which requires that U.S. Fish and Wildlife Service publish a 12-month finding on the petition no later than September 30, 2015. That settlement agreement was included in your briefing material.

CHAIRMAN STOCKWELL: Are there any questions? Bill Adler.

MR. ADLER: Could you say again who sued the Fish and Wildlife for this?

MS. TAYLOR: The organization was originally the Council for Endangered Species Act Reliability and they have changed their acronym to something else, which I don't have handy. The organization is called CESAR, and they're based out of Sacramento, California.

MR. FEIGENBAUM: Mr. Chairman, I have passed around just a six-page summary of information. On the last page there is an articled called "Catch as Catch Can" from the Free Press in Rockland, Maine. I have included just an excerpt from that article about CESAR. I know from going to the public meetings around the country that a lot of the public has expressed concern about eel.

Their concern is based very much on the fact that this petition was filed. I think it is important that this board and my fellow commissioners understand that this group, CESAR, has some pretty obvious ulterior motives for filing this action. This action is not motivated by conservation concerns for eels but rather by that organization's goal to force congress to reevaluate the Endangered Species Act.

In other words, the eel is being used as a pretext in a much broader agenda by those in the west coast that feel the Endangered Species Act is an impediment to business development and land development. They feel that having the eel listed under the Act would render the Act so unworkable that congress would have no choice but to amend. Thank you.

LAW ENFORCEMENT COMMITTEE REPORT

MAINE ELVER FISHERY ENFORCEMENT

CHAIRMAN STOCKWELL: Are there any other questions for Kate? Seeing none; the next agenda item is a Law Enforcement Committee Report of sorts. It is really an issue that follows a memo that is part of your materials that I drafted, which is a summary report of the many recent actions taken by the state of Maine to address law enforcement issues and poaching with the elver fishery. As you all know, the Maine Elver Fishery has been a subject of continued public and media interest. Paul Diodati and I were recently featured in the Boston Globe. I am going to turn it over to Pat Keliher to give a brief update on elver fishery enforcement in Maine.

MR. KELIHER: I will just down and do a quick summary of compliance and then go into some of the enforcement components to the elver fishery in Maine, as well as some of the next steps that have already been discussed with the Maine Legislature. Under the current fishery's management plan, Maine is allowed 744 licenses and 1,242 pieces of gear; gear being fyke nets and/or dip nets.

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In 2013 the legislature made several changes to the statutes that allow us to issue licenses. The number of licenses was increased to a total of 705 with the total pieces of gear being at 864. If you break it out, DMR licenses issued 433 with 550 pieces of gear; then legally authorized tribal licenses, 272 licenses with 314 pieces of gear.

In a memo submitted to you by Terry Stockwell, it was indicated that the Passamaquoddy Tribe did issue 575 licenses. Only 150 of those were actually authorized by myself as being legal licenses, so we have continued to deal with the remaining licenses as illegal fishing and we're summonsing and taking gear accordingly.

Just quickly; 2012 landings, roughly 19,000 pounds worth around $40 million. In 2013, as of 5/15/2013, landings were at 13,600 pounds with a value of just over $25 million. The Maine Legislature really took this issue very seriously. They understand that both the commission process as well as the Endangered Species Act conversations continue and wanted to ensure that we had the strongest possible enforcement available.

Several changes were made to state law. The fine was a fine that may go up to $2,000 and is now a mandatory $2,000 fine. It is a two-strike violation process now. If a person with a valid license violates the law a second time, that is a mandatory lifetime loss of that license within this fishery. All violations are now criminal.

We have taken about half of the violations within that chapter were civil. We made the entire chapter of that law criminal. Most people are now going directly to jail without passing go. When they are released from jail, bail conditions include keep them away from fishways and not being able to possess elver fishing equipment and things of that nature.

All sales to dealers require a photo ID where that was not the case in the past. As you all know, we've heard the stories about this being a cash fishery. The Maine Legislature outlawed the use of cash with this fishery. It is now a check-based fishery. For the first time, the Bureau of Maine Patrol has access to confidential landings' data.

As you know, we all deal with confidentiality differently from state to state or within the federal government. The legislature gave authority to the Marine Patrol to access that confidential data for the purposes of enforcing landing laws. In the process of reviewing that information, we are finding many different crimes; in fact, a lot of very different levels of white collar crimes dealing with tax issues, tax evasion and things of that nature.

Under my sworn duty, any crime against the state I have to elevate to the Maine Attorney General's Office. Whenever we find crimes beyond the existing investigation that deals with our Maine Landings Program, I elevate to the Attorney General's Office; and then the Department and the Bureau of Marine Patrol falls under the umbrella of the Attorney General's Office so we can continue to investigate those particular crimes and hopefully successfully prosecute.

On patrol violations, in summary I did authorize through our Eel and Elver Management Funds $60,000 in overtime this year. That is nearly a doubling of authorized overtime from the year before. In 2012 we wrote a total summonses of 293. As of just a couple of days ago, we have only written 209 summonses, so violations are down while patrol effort is up.

I would also include that because we've had the tribal issues we have continued to deal with, there are about 40 violations of the 209 are related to the Passamaquoddy; so if we weren't in this continued legal disagreement with the Passamaquoddy Tribe, which we do hope to resolve soon, that number would be down significantly.

As far as next steps for the state of Maine, assuming that we continue with fishery, there are several law changes that we looking at; and a lot of them have already been discussed with our Legislative Oversight Committee. They include additional law changes, including lifetime revocation for selling poached eels; so one strike

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and you're out if we find out that you are selling poached eels.

Currently under the dealer system that we have, we have a dealer license that includes supplemental dealer licenses. We have a fixed place of doing business with the main dealer and then that dealer may have several trucks out on the road; in some cases a dozen or more trucks out on the road buying directly from harvesters at rivers.

We are moving in the direction of a fixed place of business. They can have multiple fixed places of business but no more roving trucks because they become very hard for the patrol to be able to monitor. We believe a lot of the issues that we're having deal with the fixed place of business. We're also looking at the creation of a new license, which would be an export license.

The reason we're going in that direction is to create a very strict chain of custody; and in doing so we would partner directly with the U.S. Fish and Wildlife Service to ensure that our chain of custody matches up directly with the exportation needs as far as how the U.S. Fish and Wildlife Service would manage exportation on their end.

We've also moved in the direction of a new reporting system that would be real-time reporting by use of a swipe card. We started the conversations about swipe card reporting with our shrimp fishery that we share with Massachusetts and New Hampshire. But in this case we have moved – not knowing what the future of that Northern Shrimp Fishery is going to be based on the population and based on the fact that we had some ability to move in the direction of a new system, I have authorized our landings' program to start the development of a real-time swipe card system.

A harvester shows up at a dealer, they determine the poundage, the harvester hands over a unique swipe card with no other identification on it other than the identification of the harvester, the card swiped, the information would be entered by the dealer. When they hit "send", that information automatically is populated to within our landings' database. Then two receipts are then produced; one for the harvester and then a hard copy would be retained for the dealer records.

Lastly, one of the things that was discussed with the Law Enforcement Committee yesterday and something that we have talked about with the U.S. Fish and Wildlife Service is when the state of Maine or any other jurisdiction has a strong Lacey Act case, we believe that those cases need to be acted upon by U.S. Fish and Wildlife as quickly as possible.

We believe that is going to be a very strong deterrent when it comes to the poaching issues that we have going within other states. Believe me, it is not lost on the state of Maine that jurisdictions are spending resources on protecting the American eel in their states and that the state of Maine and probably to a lesser extent South Carolina becomes the selling point. Anything we can do to make some strong Lacey Act cases, to use those as a deterrent the state of Maine would strongly encourage. That is all I have, Mr. Chairman.

CHAIRMAN STOCKWELL: Are there any questions for Pat? Bob.

MR. ROBERT BALLOU: Pat, that was an excellent summary. If I understood your report correctly, for the current year you have had about 200 violations; 40 of those being associated with the tribe I assume that would fishing without a valid license?

MR. KELIHER: That's correct.

MR. BALLOU: The other 160 violations; what would be the nature of those if you were to summarize?

MR. KELIHER: The majority of those, Bob, would be fishing without a license; poaching in state waters; a lot of fishway violations, areas where the eels are congregating. Because of the criminal nature of the fishery now and because it is two strikes and you're out, compliance among licensed fishermen is an all-time high.

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MR. DENNIS ABBOTT: Pat, I know you have surely spent a lot of time on eels this year and last year, and we all appreciate the problems that you have encountered. You gave a figure of last year's catch value. How close do you think that is to reality, being that it was a cash business and there wasn't a lot of information provided? How do you feel about the actual total catch?

MR. KELIHER: In order for an illegal eel to sold into the stream of legal eels, an illegal eel to become a legal eel, so to speak, you need a licensed harvester. The licensed harvesters have to sell to a licensed dealer. There is a discrepancy between what we are seeing from harvester reports versus what we are seeing from dealer reports.

We think the dealer reports are much more representative of what is actually happening. Those numbers are based on both dealer and harvesters. I'd put some error bars around it, Dennis, frankly, as far as what is there. It is very hard for me to say that it is a hundred percent accurate; but I think from talking to our landings' program folks and talking about the fact that we did have several dealers who were out of compliance last year but came into compliance as we were moving forward so we were able to capture those landings, I would say it is a good representative number of reality; but, again, I would put some error bars around it.

MR. LOREN W. LUSTIG: If we could return to the slide that relates to citations, please, from 2012 and 2013; I was very interested in the sentence on the bottom there that violations are down while patrol effort is up. Does that relate a calendar year of citations; and if so, could you please comment about what you would anticipate would be the totals for 2013?

MR. KELIHER: I may ask the colonel to jump in a little bit; but from the timeframe that we're talking about is for the season itself, which is March 22nd through May 31st. Why I say violations are down and patrol effort is up; because we have authorized so much overtime, we have more officers in the field more often – I don't know if Joe would want to guess and Sergeant Cloutier from our field office is here as well, but I would say that number is probably going to go up; but to what extent, with only a few weeks left, it may go up into 230 or 240 range. That is my best guess. I don't know, Colonel, if you want to make a comment.

MS. ELLEN COSBY: I have just a quick question. This question came up at the technical committee. If a Maine harvester is found violating another state's laws, in other words poaching in another state, does that count as one of the strikes in Maine or is that not considered?

MR. KELIHER: Believe me, it was considered, but I couldn't do anything about it. It was a violation in another state; and because there are no reciprocal agreements, I was not able to count that violation towards the total violation of two. One of things that I think would be very good and the thing to discuss, especially through the Law Enforcement Committee, would be how we could move forward with a compact or a cooperative agreement between states to address just that type of thing.

We do know we have had several violations from Maine licensed fishermen in other states; and I think it would be very good to be able to recognize that. I have had that conversation within our state legislative conversations, but I think additional conversations through the commission and through the Law Enforcement Committee would be warranted.

MR. DIODATI: I want to thank Commissioner Keliher. That was a good summary and presentation. I'm curious about the change from cash to checks. Did you say that was a regulation; is that how you're going to do that? What do you hope to get from that given I'm assuming that a lot of poaching or black market product is still going to be cash, right?

MR. KELIHER: It is in law now, Paul. It was passed as part of an emergency provision about a month ago, and it became law instantly upon signature. The cash provision was twofold. One, from the Maine Revenue Service perspective, there is a lot of underground economy associated with this fishery with people avoiding paying taxes because it was a

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cash business, so we were trying to get at that issue from the Maine Revenue Service side. There was also a public safety issue here and an officer safety issue here. Because so much cash was floating around the coast, there were a lot of firearms involved in this fishery; not firearms being used, but firearms being carried. We were trying to find a way to remove that aspect of the fishery. There were being carried for self-protection. We were successful in having some of that happen – we're seeing, I would say, fewer instances with folks with firearms, but not totally.

Lastly, the transactions that are being made, if it is a poached eel, again, it still has to be made through that licensed harvester; bucket dumpers, we call them. They're not fishing; they're just getting a bucket from somebody, dumping those eels into their own bucket, and then walking into a dealer to sell them.

That is still a check transaction so then it becomes incumbent upon that fisherman to cash that check to split the money. What is interesting – I don't know if it is interesting or not; it is interesting to me – it was about 50/50 splint that we were hearing on the streets between poached eels – splitting the money 50/50 between the poacher and the licensed harvester.

That transaction has changed a lot because of the tax implications, so the poacher is now getting about four or five hundred dollars a pound. That provide some level of deterrent, but we have not been able to assess that.

MR. DIODATI: Just one more; I see that the glass eel fishery – at least the landings' data begins in 1998. Is that when the fishery began?

MR. KELIHER: No, this fishery has been going on for 20 or 30 years. That is when we had mandatory reporting coming from the dealer side.

MR. FEIGENBAUM: Commissioner Keliher, thank you for the presentation. One of the things that you mentioned twice was you mentioned the need for more coordination between the state and the Fish and Wildlife Service and the desire that the Fish and Wildlife Service would make some Lacey Act prosecutions.

When you were discussing the fact that you're moving towards real-time reporting and also real-time statistics, all the information would have to be shared with Maine Law Enforcement. I wonder whether there is any impediment now for the state to also make that information available in real time to the Fish and Wildlife Service.

The reason I asked the question is I know that you have been a big advocate, Commissioner Keliher, of the concept of going from the shore to the airplane and having traceability the entire way. I know that is a measure that would be very helpful here, but can we go to complete traceability if the state doesn't actually turn over its information to the Fish and Wildlife Service in real time?

MR. KELIHER: We have agreements with our landings' program with NOAA Fisheries, for instance, as far as data sharing. Those types of memorandums of agreement or understanding or cooperative agreements could be entered into. I would have to look at the language as it was just passed through the legislature to see if that would preclude us from doing that, but the goal would be as close to real-time traceability as we possibly could get for this fishery, so that is something that we would definitely consider.

MR. G. RITCHIE WHITE: Mr. Chairman, I would just like the opportunity to present a report from New Hampshire Law Enforcement if there is not a detailed one coming from the Law Enforcement Report at the end of this.

CHAIRMAN STOCKWELL: Yes, concluding any questions to Pat. Loren.

MR. LUSTIG: As a followup to what Paul brought to our attention, regarding the requirement to have the transaction undergirded by the use of checks, I believe dollar bills, for example, have the phrase "legal tender for all debts public and private". Do you anticipate that

the check-only provision will be challenged as unconstitutional?

MR. KELIHER: The constitutionality of the law was and has been questioned. Frankly, it was never put in place or determined to be place forever, because we're currently working with the Maine Revenue Service to see if we can get a different type of recording for cash transactions. If somebody does want a cash transaction, they would still have to fill out very specific paperwork.

For instance, there are federal regulations already in place for cash transactions over $10,000. The Maine Revenue Service has rule-making authority to be able to do with that, so that is a conversation that we will still be having as we forward with the legislature.

CHAIRMAN STOCKWELL: Are there any other questions for Pat? Thank you, Pat. We're going to move on to a report from yesterday's Law Enforcement Committee meeting. Mark.

UPDATE ON EEL ENFORCEMENT ISSUES

MR. ROBSON: I won't go into a lot of detail so perhaps if you had a detailed report from, for example, the state of New Hampshire, you may want to hear that from your representative on the board. In addition to some really good discussion with the folks from the state of Maine about what was ongoing in their state with regard to enforcement activities and some of the things that they're putting in place, some additional discussion was had among the LEC as to some of the enforcement issues or concerns or problems that they were experiencing, particularly as states where there is no current legal harvest but they are experiencing in some cases or at least a few cases some pretty significant poaching operations.

So, as kind of a general summary of what those discussions were, to give you a flavor for the kinds of issues that we talked about, there was a lot of resonance with what you heard from the state of Maine and what they're doing. For example, there are enforcement efforts underway among some of the states in trying to work cooperatively with federal enforcement, particularly the U.S. Fish and Wildlife Service, because there is a very strong, obviously, export component to this fishery, and so you do have some implications for Lacey Act issues, and so we do find that states have to coordinate with the U.S. Fish and Wildlife Service.

There are efforts underway – and you heard the concern about the fact that we're really unable to promote or advertise some of these cases that are being made, and that is a concern. In some cases Lacey Act cases are being made or will be made in other situations that are sensitive, ongoing investigations, so there is not a lot of opportunity to discuss those, but they are occurring at different levels between states and US. Fish and Wildlife Service.

Those cooperative efforts are ongoing in states in addition to Maine. There definitely was an expressed need – and you heard the way that Maine is addressing it with the enhancement and increasing of penalties for violations because of the significant economic or the price value of this particular fishery.

Many of the states are simply not equipped with their current penalty schedule to be able to do anymore than the basic very small slap on the wrist or cost of doing business for some of the poaching activity. There was expression among the LEC members that they really do need to work on that. Every state has a little different process that they might have to go through to get enhanced penalties. In addition to penalties, they were also talking about the need, for example, to have revocations or suspensions of licenses, and these things are a very effective deterrence or can be very effective deterrence.

I think two of the states were actually working through a couple of their cases of poaching and dealing with the courts or dealing with their chief judges to try to make sure that at least maximum penalties were applied because of the significant nature of the poaching and the dollar value of the fishery.

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In some cases those maximum penalties still aren't very much, but they were trying to work through that process as best they can, so that is definitely an identified need. Again, I mentioned because of the high export nature of the fishery, there is a strong need for coordination particularly for Lacey Act violations.

Now, a couple of the state representatives to the LEC did talk about their requirement to, if you will, redirect or divert some of their limited resources either in overtime or in officer time, that they might have had a block set aside for a certain kind of enforcement, perhaps they include eel enforcement in their particular state as part of their protected resources enforcement, and they were talking about the fact that they have had to kind of divert some of that resource, either officer time or other resources, to try to identify and work with eel poaching in their particular state.

They talked about how that had been kind of a negative impact on them as far as their ability to address some of the other species' needs that they have with limited resources. I know in the case of New Hampshire, that was one of the states that had been specifically talked about in our meetings where they're working hard with the judges to get some maximum penalties applied for some of these cases.

Another issue, and then I'll kind of wrap it up, is as a result of some of the poaching cases in states outside of Maine, where it is legal to harvest, they're finding that they're getting poachers coming from out of state, either from Maine or from other states, poaching and then taking product back to a place where it can be legally processed through shipping or through dealers.

There was discussion among the LEC members about some of the problems because if you're not a member of the Interstate Wildlife Compact, it is not possible sometimes to deal with those out-of-state violators in a ready way; or, they tend to be a no show in terms of the court system; where if somebody is caught in Rhode Island but they're from Maine, it is not uncommon at all for them to be a no show in terms of their court appearances.

Because you're dealing with some fairly low-fine structures, typically you wouldn't try to work through an extradition process for somebody who is coming from another state. Those kinds of things that need to be done for such a high-value fishery in order to try to put a clamp on some of that illegal activity from people coming from a state where maybe it is legal like Maine and going to a state where it is not legal to harvest. Those are some of the key issues outside of the state of Maine that we talked about among the LEC. Thank you, Mr. Chairman.

CHAIRMAN STOCKWELL: Thank you, Mark. You have a followup, Ritchie?

MR. WHITE: I just wanted to quantify a little more the impact this season had on New Hampshire this year. The coastal district has four officers; and at the time of the writing of this report – it is still ongoing – they had spent 413 hours in eel enforcement. They also averaged about four days a week bringing officers from other districts in to help.

The overall cost, which would include a state police helicopter, state police K-9 units, fuel consumption, vehicles, the court cost, taking it to court, we're estimating certainly well over $40,000 – 40 to $50,000. At this point there have been 22 arrests; 214 separate charges, which include simple assault on a police officer, resisting arrest, hindering apprehension, false information to a law enforcement officer, disobeying a conservation officer, taking American eels less than six inches in length, and taking American eels without a harvester permit. This has been a great strain on a small part of the New Hampshire Law Enforcement Coastal Area. I just want to kind of put that in perspective as to what we're talking about.

MR. DIODATI: Just to make sure that I understood your report, you don't have a glass eel fishery in New Hampshire?

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MR. WHITE: That is correct; these are poachers catching eels to take to either Maine or South Carolina to sell.

MR. DIODATI: And your enforcement investment is equal to that of a state that has the largest glass eel fishery? It sounded like it was the same. You had the same number of violations, 200 and change?

MR. WHITE: Well, our cost would be about the same as the overtime that the state of Maine put in.

MR. DIODATI: But you had the number of violations; I think you mentioned 214?

MR. WHITE: No, 22 arrests; 214 violations within those 22 arrests, but it is substantially –

MR. DIODATI: Right; but in the Maine report; wasn't it 203 or something like that violations?

MR. KELIHER: Yes, over 200 summonses to individuals.

MR. DIODATI: How many arrests did you have?

MR. KELIHER: I don't know how many arrests we have made at this point in time, but it is significant. Not everybody that we summoned even under a criminal would be brought to jail, depending on the violation.

MR. WHITE: So we had substantially less than the state of Maine, but it is still a significant impact on the size of our coastal law enforcement.

CHAIRMAN STOCKWELL: Are there any other questions for Mark? Mitch.

MR. FEIGENBAUM: Yes, can you give us a sense of how your effort this year compares with the efforts in previous years? Obviously, ASMFC has generated a lot of attention to this fishery and the Law Enforcement Committee as well in the past few months. I am wondering is this something that is like a new issue to New Hampshire or has New Hampshire put this kind of resources into combating illegal activity in the past?

MR. WHITE: The only information I have on the 2012 season is the direct officer time, and that is a little less than half of this year. I don't have a report on any of the other issues. I don't believe they had the type of resisting arrest and the need for a state police helicopter and dogs and stuff the previous year for this year.

MR. ABBOTT: Mr. Chairman, somewhat in response to Mitch's question about previous years, I took the time to quickly review the minutes from the August 1999 Eel Meeting that we had in which Dr. Stewart was the chair at the time and representing Maine was Lew Flagg. Lew stated on Page 234 that glass eels at that time were selling for $15 a pound, and there wasn't much of a market; so I don't think you'd find many people coming to the state of New Hampshire to poach eels, but at $2,000 a pound it is a different situation.

We're dealing with a state with 18 miles of coastline and a number of small brooks and rivers. If you look at Maine, you might question with 1,400 miles of coastline, an innumerable amount of streams, how much poaching must be going on within their own state that with their limited resources compared to ours, that there is probably a lot of poaching going on there, also. Just as an aside.

CHAIRMAN STOCKWELL: We're starting to transition into the next agenda item. Pat.

MR. KELIHER: Mr. Chairman, even though we have a great increase in the price and we obviously have a gold rush going on, back in the times that Mr. Abbott is referring to there were some 3,000 people and our annual harvest was still in that same range as it has been for the last several years.

Secondly, I do want to again recognize the fact that we understand that states are spending resources on this issue. I think it is imperative that all these states work closely together to try to rectify these issues. This next comment is not

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to take anything away from Ritchie's report because I recognize the severity of it.

I think a lot of those resources that were spent for dogs and with the state helicopter on one incident from a couple of idiots from Walterboro, frankly, for the record, that came down to New Hampshire to poach, so that one issue and one incident inflates the numbers, but again it is not to diminish the fact that I understand that resources are being spent.

CHAIRMAN STOCKWELL: Are there any other questions for Mark? Okay, seeing none, this is when I transition out and welcome Bob to the role of the Chair.

DRAFT ADDENDUM III FOR FINAL APPROVAL

REVIEW OF DRAFT ADDENDUM III

EXECUTIVE DIRECTOR ROBERT E. BEAL: Thank you, Terry. I thought that testifying before congress was going to be the toughest thing I had to do all day; I guess not. Under Agenda Item Number 8, Kate, it is you to go over Addendum III.

MS. TAYLOR: I will be first going through a review of the management options for Addendum III and then I will be reviewing the public hearing and written comment summaries on the addendum. The current fishery's management plan was adopted in 1999 and did set the recreational fishery's management measures at a 50 fish per day bag limit with a six-inch minimum size.

For the commercial fishery, there was a requirement that states maintain as conservative or more conservative measures at the time of the FMP's implementation. The addendum covers four sections, including habitat recommendations, monitoring requirements, commercial and recreational management measures.

The goal of the addendum is to reduce mortality on all life stages. These are coast-wide regulations and options can be implemented in combination. The recommendations for habitat include focusing efforts on increasing the understanding of habitat requirements, engaging the relevant regulatory agencies to increase or improve upstream and downstream eel passage and also to encourage habitat restoration.

Under the monitoring program, Table 1 details the young-of-the-year yellow and silver eel surveys by states, for fisheries-independent surveys, and there is a recommendation for states to conduct multiple life stage surveys; so glass and yellow or glass and silver eel surveys within one system.

The addendum also makes requirements for fisheries-dependent surveys for mandatory monthly reporting of catch and effort and increasing data on eels harvested for personal use; and an additional recommendation that marine agencies should work with inland counterparts to standardize reporting.

Under the commercial management options – for the glass eel fisheries management measure, Option 1 would be to maintain the status quo. Option 2 would be a closure of the glass eel fisheries in Maine and South Carolina; and this would either be an immediate closure or a delayed closure; five years of another timeframe as specified by the board.

The third option is for a glass eel quota, and the quota is based on the historical average of the landings from 1998 to 2012. Then there is also an option to reduce from this quota by 25 percent and also 50 percent. In general, Maine receives about 98 percent of the quota given the high number of licenses that the state has issued.

South Carolina is issued about 2 percent of the quota. The table in the addendum details what the quota allocations would be under the three different options of just the straight historical landings or 25 and 50 percent reduction. Maine's allocations could be anywhere from just over 3,000 pounds to just over 6,000 pounds; and in South Carolina the allocation would be anywhere from 100 to 200 pounds.

Option 4 would require a trip ticket system for harvesters and reporters in order to ensure accurate reporting of glass eel harvest. The plan development team recommends that if a quota system is implemented, that these monitoring measures are implemented in order to ensure the quota is not exceeded in a given year.

Option 5 is a pigmented eel tolerance. The increase in the pigmented eel harvest represents the development of a new fishery, which is not allowed under the current FMP. This option would allow for only a small tolerance of pigmented eel harvested in the glass eel catch. The recommendation in the document is a maximum of 25 pigmented eels per pound of glass eel catch. The states of Maine and South Carolina would have the option to propose restrictions which would meet the requirement of this option.

Under the yellow eel fishery's management measures, Option 1 would be to maintain the status quo. Option 2 which would be to increase the minimum size anywhere from eight to twelve inches is included in the documents. Option 3 would be to implement gear restrictions, and there are two options that are being considered in the document.

The first is a three-quarters by half inch minimum mesh size or escape panel. The second option is a one by half-inch minimum mesh size or escape panel. Option 4 would be the implementation of a coast-wide quota, and there are a few different options that are contained in the documents.

The quota options are based on the historical average of landings, and then there are also options to reduce from the base years by 20 to 50 percent. If the quota system was implemented, there could be an option for transferability among states; and if states exceeded the quota in any given year, they would be required to pay back the quota in the following year.

The base year options include 1980 to 2011; 1990 to 2011; and 2002 to 2011. The tables in the documents detail what the actual allocations would be by state. If any state fell below 2,000 pounds in their quota allocation, they were granted 2,000 pounds just to allow them to have some landings and not be given a very insignificant amount of pounds.

Option 5 would be reporting requirements, which would require a trip ticket system for dealer and harvester reporting. Again, the PDT recommends this option if a quota is implemented to ensure that the quota is not exceeded. Option 6 is for a two-week fall closure. This would apply only to the pot and trap fishery. It would be a closure for two consecutive weeks between September 1st and October 31st.

The states could specify when the closure would occur, but it must occur after the estimated start of the state's silver eel migration. During this time, all pots and traps would have to be removed from the water. The table in the document provides some information on catch by month for pots and traps.

Under the silvery eel fishery's management measures, Option 1 would be the status quo. Option 2 would be gear restrictions, which would specify no take of eels during the fall from any gear other than baited pots and traps. The recommendation in the document is for this closure to occur from September 1st to December 31st. There is some information provided in the document on the timing of the out-migration of silver eels as well as the potential impact on the states.

Under the draft recreational management options, Option 1 would be the status quo; the six-inch minimum size and 50-fish bag limits. Option 2 would be to reduce the recreational bag limit to 25 fish per day. Option 3 would be if the board chooses Option 2, this would allow for a party and charterboat exemption and would maintain the current 50 fish per day per crew member limits that party and charterboats now are allowed. There is a recommendation in the document that if a minimum size is changed in the commercial fishery, that a similar minimum size change would occur under the recreational

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fishery as well. Thank you, Mr. Chairman. That is the draft addendum.

EXECUTIVE DIRECTOR BEAL: Are there any questions for Kate? Jim.

MR. JAMES GILMORE: Kate, just a question of clarification. I'm looking at the summary chart of the comments that were handed out. If I go back to the addendum on 4.1.3 on Page 25, it says silver eel fisheries; and under that the two options are status quo and Option 2 is seasonal closure, but on the summary it has status quo and gear restrictions.

MS. TAYLOR: Yes, the two options for silver eel fisheries are the status quo and it is gear restrictions. I do apologize; I noticed that I referred to it as time closures and it was in the fall.

EXECUTIVE DIRECTOR BEAL: Are there other questions for Kate on the options that are included in Addendum III? Russell.

MR. RUSSELL DIZE: The two-week fall closure for the yellow eel fishery, it would really impact the state of Maryland. The state of Maryland has been very responsible in the taking of eels. Some years back we had a wire requirement of 3/8 by 3/8, which took less than a six-inch eel and less.

A few years back Maryland raised that to half by half, which lets and eight inch and larger eel go; a little larger than eight inches. To take us out of the fishery in Maryland when we have a stable fishery, it just doesn't seem like that is the right thing to do. We had a very good meeting when Kate was down in Annapolis.

We had thirty of forty people there. Most of the people were against this part of the yellow eel fishery. I think you should look at this especially for the state of Maryland because they have been very responsible in protecting our eels, and we have an upswing of eels in Maryland. Thank you.

EXECUTIVE DIRECTOR BEAL: Thank you, Russell. Unless there are any other questions, that is probably a perfect segue into Kate giving the summary of public comment on Addendum III**.** Are there any other questions? Kate, please.

SUMMARY OF PUBLIC COMMENT ON ADDENDUM III

MS. TAYLOR: The public comment on Draft Addendum III ran from March 20th to May 2nd. There were 13 public hearings held in 12 different states. Hearings were held in all states with the exception of Florida, Pennsylvania, Connecticut and District of Columbia. The state of New York had two hearings.

There were 111 people in attendance at the Maine hearing and 139 people at the remainder of the hearings. Written comment was received by 30 individuals and 31 different organizations. During the public hearings for the glass eel fishery management options, the majority were in favor of maintaining the status quo or opposed to closing the fishery.

There were six comments in support of the pigmented eel tolerance and five comments in opposition to a quota. A few of the comments were given in support of the closure of the glass eel fishery, implementation of a quota and increasing the reporting requirements. Under the yellow eel fishery's management options, at the public hearings the majority of comments were in opposition to implementing a quota, in opposition to the two-week fall closure and in opposition of increasing reporting requirements.

The majority of comments in favor of something were in favor of implementing a minimum size and the gear restrictions, although there were six comments in opposition to the minimum size. Fifteen people were in favor of maintaining the status quo. Under the proposed silver eel fishery's management option, seven people commented in favor of the status quo and twenty-three were in favor of the gear restriction and seasonal closure.

Under the proposed recreational fishery's management measures, the majority of the comments were in support of a 25-fish creel

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limit, the status quo; and exemption for the party and charterboat industry, there were 2013 and three given for those respective categories. Additional comments that were provided at the public hearing included better data is needed before management action is taken, and that there is too much uncertainty in the stock assessment; that the American eel population is stable and increasing and that demand is decreasing.

There were additional comments that there needs to a focus on habitat improvements, water quality, dam removal and fish passage; that there needs to be more socio-economic information provided before management action is taken; that there is a need to act now; that restocking should be considered; and also that there needs to be state flexibility in the management measures.

For the written comment summaries, for individuals that submitted comments, under the glass eel fishery's management options, slightly more than half of the individual comments received were in favor of the glass eel closure. Three comments were in support of the status quo. One comment was in favor and three comments were opposed to the use of quotas in the glass eel fishery.

For the yellow eel management measures, five comments were in support of a yellow eel quota. Two comments were submitted in opposition to any gear requirements, and two were submitted in support of a complete closure of the yellow eel fishery. One comment was submitted in opposition for size limits and the two-week closure.

For individual comments submitted under the silver eel management measures, nine individual comments were submitted in support of the time closures of the silver eel fishery or gear restrictions. Three more comments were provided expressing support for the closure of the fishery. One individual comment was submitted in support of allowing the silver eel fishery to continue as a small fishery.

For the recreational fishery management options, all individual comments received addressing the recreational fishery were in favor of a 25 fish per day creel limit. One person commented that party and charterboats should be allowed 25 fish per passenger, including crew and captain. Under general comments for individuals that submitted comments, those that submitted comments in favor of the status quo specified it was due to the uncertainty in the stock assessment; that the stock is stable and healthy or that there is need for more data before action is taken.

There was expressed support of improving habitat and passage. There were equal comments received that the stock is in decline; that the stock is stable; and that catch is increasing even though that effort is decreasing. As I mentioned, there were 30 organizations that submitted public comments that were included in the briefing material.

For organizations submitting comments, under the glass eel management option, slightly more than half were in favor of a glass eel closure. Six were in favor of implementing a quota with various recommendations of which quota to implement. Four comments were in favor of increased reporting, and three comments were received in support of maintaining the status quo and the pigmented eel tolerance.

Under the yellow eel management options, there were eight comments in support of a minimum size, and various options were given. There were seven comments in favor of the status quo and for mesh requirements with various options for the mesh requirements. There were six comments in favor of increasing reporting; five in support and five in opposition to the fall closure; and four comments in support of a quota system with three opposed.

Under the silver eel management measures, there were eight comments in support of increased silver eel restrictions; gear restrictions of time closures. There were five comments in support of the status quo. One comment supported closing the silver eel fishery. One

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comment requested that a limited number of licenses be allowed for a limited amount of time.

Under the recreational management options, eight organizations submitted comments in support of the 25-fish bag limit with one comment received that all anglers on party and charterboats, including crew and captain, should be subject to the same limit. There were seven comments in support of the status quo. One comment was in support of and one comment was opposed to a party and charterboat exemption.

Again, the general comments received by organizations include that eel populations are in decline and there is concern about the depleted status of stock. There was support for improving fish habitat and fish passage. There were concerns about poaching and the possible ESA listing. Many of the letters commended law enforcement efforts. Many of them asked for increased conservation efforts as well as more monitoring or a complete life cycle survey for American eels. Thank you, Mr. Chairman.

EXECUTIVE DIRECTOR BEAL: Are there any questions on the public comment summary? Okay, seeing no questions, let's go to the advisory panel report; Marty Bouw.

ADVISORY PANEL REPORT

MR. MARIUS BOUW: My name is Marty Bouw. I have been buying American eels for 23 years. I am a citizen from Holland. I have been buying eels in Holland since 1975. I am the primary purchaser of yellow eels in the United States and purchase most of the eels in the Mid-Atlantic and the Florida Region.

I participated in the AP meeting where I was elected chairman by choice, I think. I have had the ability to communicate with the commercial fishermen and harvesters and with the environmental people. We keep the recreational fishing industry and environmental groups and I have summarized the following general comments.

On the glass eel fishery, the majority of the AP members were in favor of Option 1, status quo. However, the AP recommends the following additional management options for the board to consider. The AP unanimously recommends that the board consider if a state is allowed to maintain a glass eel fishery, then the state must conduct a complete life cycle survey for the eels.

The AP unanimously recommends that the board consider requiring real-time reporting for all glass eel fisheries. The AP unanimously recommends a ban on harvesting of glass eels that will not pass through a 1/8 inch of non-stretchable mesh. The AP unanimously recommends that the board considers prohibition on harvest directed towards multiple life stages.

Additionally, the AP supports the reevaluation of any management changes after the next stock assessment. That is regarding the glass eels. The yellow eels; the AP unanimously supported a minimum size with an eight-inch mesh – sorry, with an eight-inch minimum size restriction to a half by half inch mesh size. Most of the eight-inch eels won't go through the mesh size.

The AP recommends that the board consider allowing implementation of this regulation through the use of an escape panel for a specific timeframe of three years. Any pots that don't meet the half by half inch size would have to have an escape panel. The majority of the AP was in opposition of the quota. There was unanimous opposition for the two-week fall closure. The AP recommends that the board reconsider limited entry and options to reduce latent effort.

Regarding the silver eel fishery; the AP unanimously supported Option 2, gear restrictions. However, the AP supported an exception for the state of New York to allow up to six weirs to fish in the Delaware River with the licenses issued to those with a long-term interest in the fishery.

The recreational fishery; the AP unanimously supported Option 2, 25 fish per day per angler bag limit, which includes passengers and crew on party/charterboats. The AP supports

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implementation of the same minimum size for both commercial and recreational fisheries in order to aid in enforcement efforts.

EXECUTIVE DIRECTOR BEAL: Thank you, Mr. Bouw. Are there any questions? John Clark.

MR. CLARK: Marty, what did the AP mean under the first recommendation for a glass eel fishery, that a state that has a glass eel fishery must conduct a complete life cycle survey for eels?

MR. BOUW: Well, they thought it was important that you could actually figure out how many silver eels leave the rivers. It is all right to having the young of the young and having the glass eels come into the rivers, but you don't know what is going out. That is the full life cycle. Once you know that full life cycle, you also know the realities of the status of the eel.

MR. CLARK: So in this case, then Maine would be required to set up a silver eel survey?

MR. BOUW: Silver eel; yes, sir.

EXECUTIVE DIRECTOR BEAL: Okay, are there other questions for the chair of the advisory panel. Bob Ballou.

MR. BALLOU: Marty, why did the AP recommend eight inches as a recommended minimum size; what was the basis for that specific recommendation?

MR. BOUW: Change of gear is one thing. A six inch now is just to make sure that the conservation factor is going to be there and also because of the change of gear restriction, because there is a lot of gear that has to be changed if you go to any difference, and this is, of course, for the fishermen themselves.

MR. O'REILLY: My question is on the escape panel and the recommendation was a half inch by a half inch for a three-year period. I'm not sure who was on the AP call, if that is what you had, but were there any comments on the inch by a half inch? The reason I ask is quite a few years ago the Virginia industry supported that. They actually brought that initiative to us; so I'm wondering if that was talked about at all and what comments you have.

MR. BOUW: Well, if you look at the inch by a half mesh size, it probably would take out 60 percent of all the fisheries. Really, looking at the data that we have right now and looking at the fishermen and the bait situation and everything that is going on, you wouldn't have no more fishery. That the reason why the half by half inch – and because an eight inch is a fairly nice size eel. You probably won't have any eight inch at all in a half by half inch mesh.

MR. O'REILLY: Okay, so that is coupled with the eight inch at the same time?

MR. BOUW: Right.

MR. O'REILLY: That was combined; okay, that makes a little more sense because at six inches it seemed as if the inch by a half panel still was a livable proposition for the industry.

MR. STOCKWELL: Marty, did the AP have any discussion on poaching in the glass eels?

MR. BOUW: No, we did not.

MR. PATRICK AUGUSTINE: Marty, I was concerned about the eight inches. Is that the critical size when they become pigmented? Is it right at about eight or is it nine inches or when do we see the occurrence of pigmentation occur from the glass eel to the next level – from glass to silver, I guess.

MR. BOUW: No, the pigmentation stage eel is an eel that is about four inches long, four and a half. It is the next stage after the glass eel, so it is way, way younger than that. An eight-inch eel, depending on what area you're in, whether you're in Maine or whether you're in Florida, in Florida that eel could be three years old or four years old. In Maine it could be seven years old.

MR. GILMORE: Marty, I was glad to see that there was this exception for that weir fishery on the Delaware because that seasonal restriction

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would have just completely shut that fishery down. The number where you came up with the six weirs; how did you come at that? Is that based upon the number of fishermen there or something else?

MR. BOUW: Yes, as far as we know there are additional weirs there. I think there are six weirs down there. They have been fishing there all their lives and we just didn't want to cut those people off. They would not hurt the stock at all. It would not even be a situation for stock depletion.

MR. ADAM NOWALSKY: Mr. Chairman, three questions. One with regard you had mentioned the AP was in favor of the eight-inch size limit for conservation benefit. What specifically is the conservation benefit that the AP is looking for? The information that we have shows that going to a minimum size of eight inches is no percent change in age per recruit; so what is the conservation benefit that going from six to eight inches is going to provide in the AP's opinion?

MR. BOUW: Well, the eel at eight inches has got more sustainability of life. It is two years older. It is also a measurement factor of change of gears. That is where the big problem – you can't measure an eel. You can if you put him in a bucket of ice, but you can't measure an eel otherwise. We came up with the eight inches purely for the fact because whatever we do here, it is conservation.

The conservation factor started – you take the conservation from a fisherman's point of view and not from the silver eel point of view at that point. You're looking at an eight-inch eel that really is bit a older and has got more chance of a life. It will still escape, otherwise, because you get between a nine and a ten-inch eel out of a half inch pot. That is really the reason why we looked at that factor.

MR. NOWALSKY: The second question is was there discussion about by going to a half by half inch mesh with an escape panel what impact that would have for those fishermen that use the pots in multiple fisheries? In New Jersey, for example, a lot of our fishermen use the pots for bait fish, killifish, so was there any discussion by the AP of the impact that would have on those other fisheries that these people multi-used the pots for?

MR. BOUW: No, there was not. We're not talking about a half by half inch with an escape panel. We're talking about the fisherman that cannot – like in New Jersey you have the 3/16, I think; and like some people a quarter by quarter; those don't need to have an escape panel. There was no mention about the other fisheries, no.

MR. NOWALSKY: Okay, and the final question is was there discussion about the cost that these fishermen would incur as well as the time they'd have to spend to redo all their gear, rebuild their hundreds of pots by going to another gear type, time that would be spent either on the water, and again the cost of purchasing the materials and the time for doing so?

MR. BOUW: Most of the states already have the half inch law. North Carolina has got an inch by half law. Virginia has got, of course, inch by half; also fishing with half by half with an escape panel for inch by half. The cost factor was not involved because – it was not talked about because at that point there is a very few fishermen that have that size of pots. Whereas, if you go to inch to three-quarter by half like everybody is putting on the suggestion board, that would mean that probably 80 percent of the fishermen have to change their pots, and I'm talking about 100,000 pots.

MR. NOWALSKY: Well, I appreciate those comments, but it is a large factor for New Jersey's fishermen given our current mesh size requirements.

MR. FEIGENBAUM: Marty, since I was at the AP meeting, I recall that there was discussion in terms of the New York situation that isn't it true that the exception for weirs nonetheless included a reduction. I believe information was presented at the AP that there were eleven weirs in place; and the AP's discussion indicated that although they wanted to preserve that traditional fishery,

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that since all life stages – since the goal of the addendum is to reduce mortality at all life stages, I believe the AP discussed the fact that allowing six weirs would allow that fishery to exist and at the same time serve the purpose of decreasing mortality at all life stages. Am I right about that?

MR. BOUW: Yes; you're right about that.

MR. FEIGENBAUM: And one other thing is I recall there was some discussion in terms of going from six to eight inches, the conservation issue was not limited to the issue of eggs per recruit; but the technical committee has reported that there is a concern that with the six-inch limit, there is actually emerging a new fishery.

Brad, I think you can correct me if I'm wrong, but the technical committee has recommended that an additional benefit of an increased size limit would be to discourage or even perhaps eliminate the same forces that are raising the price of glass eels and also creating this new fingerling, you know, the pigmented eel market that we will talk about when we get to glass eels. Some of those same individuals are actually now looking to even see about using a six-inch eel for farming in Asia, which could really put a lot of additional pressure on the fishery. Am I correct about that was part of the discussion?

MR. BOUW: Yes.

EXECUTIVE DIRECTOR BEAL: Are there other questions for the chair of the advisory panel? Seeing none; thank you for your report, Marty. We will go on to Brad Chase for a technical committee report**.**

TECHNICAL COMMITTEE REPORT

MR. CHASE: The technical committee met last summer to discuss management options in the wake of the stock assessment conclusion and the need to develop an addendum. We had two conference calls following that. I will briefly summarize those results; and if you have any specific questions, I am prepared to answer those.

Basically the technical committee supported the conclusions of the stock assessment that the status of the stock was depleted and also that there was a need to have eel conservation over the present status and to reduce mortality over all life stages. In terms of the addendum, we discussed and reviewed the addendum at several stages and offered our comments to that.

We very much support the approach to have a wide range of options to reduce mortality at all life stages. The technical committee did recognize that the status quo options really don't achieve that; and beyond that we provided our comments to the addendum and assisted that process.

EXECUTIVE DIRECTOR BEAL: Are there any questions? Dr. Daniel.

DR. LOUIS DANIEL: I guess it is a two-part question; first for the advisory panel chairman and then a followup to the technical committee. What is the general ex-vessel price of an elver per pound?

MR. BOUW: Right now?

DR. DANIEL: Yes.

MR. BOUW: I think it is about $1,500.

DR. DANIEL: What about a yellow eel?

MR. BOUW: Two seventy-five, two fifty a pound.

DR. DANIEL: And a silver?

MR. BOUW: No difference; you don't catch enough silvers to make it worthwhile. There is no price on it.

DR. DANIEL: If this fishery were all an elver fishery; would that be a conservation measure for the resource; to the technical committee?

EXECUTIVE DIRCTOR BEAL: Brad, can you take a shot at that one?

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MR. CHASE: I can try; that's a good question. I don't think we have the information to really convert that type of harvest to solely a glass eel fishery. It is a limitation in the stock assessment that we don't have that type of data. I really don't have that information.

DR. DANIEL: I guess my point, Mr. Chairman, is that we're hitting these things from all sides, from pre-juveniles I guess I would be an elver to the final adult stage that is leaving to spawn. One is worth two seventy-five and one is worth $1,500, and it is limited. I just think it is something that we should think about is, is there a way to capture – I mean, we talked earlier today about communities from Adam and all the various things that our mission and vision statements were going.

We're talking about a huge opportunity for communities coastwide and not just in Maine and South Carolina. I mean, if we're going to talk about trying to manage a fishery for its maximum sustainability but also economic yield, this is a perfect example of one that we might want to start looking at a little differently.

EXECUTIVE DIRCTOR BEAL: Thank you. I think we're slipping into the debate on Addendum III a little bit, but I've got a number of hands around the table. Tom Fote.

MR. THOMAS FOTE: You tried to draw a comparison, Louis, and I kind of don't agree with the comparison you're trying to use. When you use a bait fishery, then you've got to look at it if you didn't have the bait for the eel fishery, would people go fishing them on a lot of those trips that take place, and so the economic value to that and basically the quality of life where these are being harvested and sent to Japan and when they're basically used in the United States for bait fishing. They're using them to catch striped bass. You're comparing apples and oranges as far as I'm concerned and looking at it that way. We could look at a few people's idea of making money, and it is only going to a few people or the vast majority that use it for fish bait and numbers of anglers.

EXECUTIVE DIRCTOR BEAL: Let's focus on questions to the technical committee chair for now. We will get into the debate in a minute. Adam.

MR. NOWALSKY: I don't know who would be best served to try to answer this, either at the technical committee or maybe back to the advisory panel, but we have seen this dramatic increase in glass eel landings in the last couple of years. The hypothesis is that it is being driven by Asian markets that have been depleted as the result of environmental impacts there; but the expectation is that the availability will become available again in Asia and will likely decrease demand here in the states.

The question would be from a technical perspective is that the expectation; and then the possibility for an answer to the question from the AP side, what would that likely do to the price? What are we going to drive it back down to? We're talking about a 2,000 to $1,500 a pound fishery; but is that realistically what we're going to be talking about a year or two from now? What are we really talking about as a price per pound in the next couple of years?

EXECUTIVE DIRCTOR BEAL: Any insight on that, Brad?

MR. CHASE: Those are really market questions and I defer to the AP or maybe some of the commissioners to have some foresight as to where that is going to go.

MR. BOUW: And your price only went up because the Europeans stopped exporting glass eels to China. That is the reason why that jump in the glass eels came in. The market will level itself out as far as I can see. The economy in China is not as good at the moment probably as it was last year. That will drive the price down.

People still have to grow them and sell them, and they're all stuck with the expensive eels from last year that they're trying to sell this year and they're losing money. That is the reason why the price went down this year. If Europe would say we will sell half of our catch to China again, then this price would go down to about

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$500 a pound. Your market is totally driven by China. Of course, it is not a guaranteed market.

EXECUTIVE DIRCTOR BEAL: I've got four people on the list; Mitchell, Dave Simpson, Rob O'Reilly and then Dennis Abbott. I think we're quickly degrading into debate here; so hopefully those four people will focus on questions to Brad Chase as the technical committee chair.

MR. FEIGENBAUM: I will deter my comments to the debate on the glass eel options.

MR. DAVID SIMPSON: I wondered what we knew about the natural mortality rate at that glass eel stage. If you have a thousand at the beginning of the year; how many would you expect at the end of the year. It is sort of related to Louis' question. Do you have any insights by life stage?

MR. CHASE: I'm starting to repeat myself. Unfortunately, for that life stage we just have no information on natural mortality for the glass eel. We have estimates for yellow eels. It is something that has not been investigated. It is something that the technical committee very much would like to see some progress made towards. I think if we want these different life stages, we need to have that moving forward, but it doesn't exist right now. It is a very fecund species that has expected high mortality at early life stages. That is expected, but there are no data on what that would be.

MR. O'REILLY: Silver eels; I just heard a moment ago that the price is about the same as for yellow eels. The spawning potential is better further along, I should say. Has there been any talk on the technical committee in terms of what silver eels might benefit from not being harvested?

MR. CHASE: Yes, the technical committee discussed the concept quite often. It would be a goal to come up with maybe an escapement target for silver eels on a watershed or regional basis, and that would be a pretty good management target to try to maintain. At this point we don't have that information. There are obviously eels that are very successful and very close to making contributions to the population, so it is a topic the technical committee would like to work on and make some progress in the future.

MR. O'REILLY: I guess Table 12 in the addendum shows a protracted migration depending on where you are geographically on the time of it. I'm going to guess there is not a good idea as to when there are higher proportions of the silver eels in those late summer to late fall months. One other item of the addendum talked about that if there were a quota there should be reporting on a trip basis, but maybe it is time to get reporting so we can also get those types of classifications by stage.

MR. CHASE: That is a recommendation of the technical committee to improve reporting on that life stage, and that is a blanket recommendation that was made.

MR. ABBOTT: Mr. Chase, I think you have a very difficult job and you probably never have an adequate amount of information to help us a great deal in what we're faced with today; but a hypothetical question. If this year we removed all the glass eels from their habitat; when would the effects of their loss be felt in the future? When would you know that had a drastic effect?

MR. CHASE: It would be a long time down the road. For the southern states, your females will mature at a much younger age, possibly four to five or six years old; but in Maine they're going to mature at a much later age, so it could be 15 years down the road in the northern states until you saw that impact. Another problem is we don't really have many indices for yellow eels and we have none for silver eels, so it would take some time because we would know what the consequences were.

MR. ABBOTT: So we should be careful in whatever actions we take?

MR. CHASE: Certainly, and I think we should strive to improve our monitoring for later life stages so we can couple monitoring glass eels, which most states have glass eel indices; couple those with yellow eel and silver eel indices. That is a strong recommendation that has been

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coming from the technical committee in recent years. We need to have those joined monitoring efforts.

MR. ABBOTT: Thank you for your indulgence. It is probably the wrong place to place the question, but are eels still being considered for endangered species? Is that still active?

MR. CHASE: Yes, it is an ongoing review by the U.S. Fish and Wildlife Service due to conclude in –

EXECUTIVE DIRECTOR BEAL: September 30, 2015. We will get a 12-month review in about two and a half years from now. I have got a couple of other hands real quick. I had Paul, then Pat Keliher, then Doug, and then I think we need to move on pretty quick here. Paul.

MR. DIODATI: Brad, I just want to back up to your earlier remarks when you first began. I think I heard a couple of things that the technical committee agreed on, and one was that the technical committee feels that the stock is depleted. That was one thing I heard.

MR. CHASE: Correct.

MR. DIODATI: And the technical committee doesn't feel that the status quo fishery conditions could move forward in a sustainable way. I don't want to put words in your mouth, but you said something about the status quo would not be an appropriate way forth, something to the effect.

MR. CHASE: Yes, Paul, that is correct; the technical committee agreed with the stock assessment which concluded the status was depleted. There was considerable debate over whether the status should be overfished, and really the stock assessment did not have sufficient information to develop biological thresholds that would allow it to be declared overfished. There was concern with the technical committee over the status.

We felt that we have gone through a stock assessment in 2007; a second one recently. There have been two petitions before the Endangered Species Act Review. We felt the time was really now for some additional conservation for American eel. Therefore, the status quo options would not provide additional conservation measures or address the important recommendation to reduce mortality on all life stages.

MR. DIODATI: So I guess my question then would be – and I'll jump ahead because I don't think the technical committee can answer this, but is there any way you can advise the board as to what level of fishing would be adequate for any of these life stage fisheries in order to begin to recover the stock?

MR. CHASE: Again, we're left with a stock assessment that had limitations, but I will start with maybe the easy one, which might be the yellow eel fishery. We attempted a depletion-based stock surplus model that tried to come up with biological targets for directing future fisheries' harvest in the yellow eel fishery.

One level that appeared to be sustainable was 400 to 500 metric tons. It was a range that came up with many model runs. If you look at some of the averages that we're looking at in terms of the addendum, they come pretty close to that level. I think the technical committee – even though the amounts in the addendum really come from just averages from the fishery, but they do closely match I think the model results from the stock assessment, so that is one approach we would like to see some progress and certainly for future management have it based on biological thresholds that have a meaning with the stock that we have.

For glass eels, it is even more difficult. All we have really is 12 to 13-year series of glass eel recruitment among the states and so it is a very brief time series, and it is really an indicator of recruitment changes – large-scale changes up or down. For silver eels we have really even less information. It is a data-poor fishery at this point in the stock assessment.

MR. DIODATI: One more and I don't know if it is for Brad or for the chairman of the AP, but I thought I heard someone say that the European

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fishery stopped exporting to China. Can someone tell me why they made that decision?

MR. BOUW: Because of the fact that they thought they were going to be overfished. That is one of the things. Apparently they were wrong because they caught more baby eels this year. In two weeks they caught 34,000 pounds, and they caught more eels. Europe has been exporting – mainly France has been exporting 90 tons per year every year and they've never had a decline.

They had no decline. They had a certain decline in fisheries about 15 years ago in the big eel fishery, but it is coming back up now. Looking at the amount of glass eel that they exported, it didn't really do any harm. They believe that most of the glass eels that can't make it inland will die in front of the river, anyway.

This year they have caught most of the glass eels and imported them into the different countries in the EU just to restock lakes. The government buys those eels and they restock the lakes and the rivers where the glass eels can't get to. They also have a silver eel fishery in the fall that they will pay the fishermen – the government will pay the fishermen to fish the silver eels and bring them back to the ocean and let them go in the ocean to help them getting out.

Of course, here most of them go through the turbines and that is where your biggest mortality is. You bring the glass eels up one way but you don't bring them back the other way. I mean, it doesn't make any sense. And the whole reality of this fishery is at the moment, I think the really endangered species is the fishermen and not the eels.

I have seen more fishermen and I have seen more fishermen catch – fewer fishermen catch more eels than I've ever seen given the right bait. They can't get no bait. They're fishing with whatever they can find to put in a pot to get an eel and still they're catching 3,000 pounds. So if you would give those people good bait, they would fish 5 and 6,000 pounds every week. That is why I don't believe the stock assessment is made up because it is not – I see it every year. I've seen it for 23 years. I have seen these people go from 800 fishermen down to –

MR. DIODATI: I think you're going beyond the answer I needed, but thank you.

MR. CHASE: I just want to say there are published reports that do indicate that the European stock has experienced long-term declines, and so I think my perspective is a little bit different. That is a component of the situation we have right now. The European stock has declined and there is concern in Europe over the status of their glass eels and later life stages.

EXECUTIVE DIRECTOR BEAL: All right, thanks. It is a little bit before five o'clock. We're scheduled to go to 5:15 and that is not going to work. We have got a hard-stop event at 6:30 that we can't adjust. I think we need to start moving through this. We have one more report. We have a couple more hands on this and I think we need to get into the debate on some of these issues rather than sort of talking about them tangentially through some of these reports and the questions. With that, I have Pat Keliher and then Doug Grout.

MR. KELIHER: I have got a couple of questions and I'll try to be real quick. Brad, thank you for your report. I know the technical committee looked a lot about increasing the minimum size to eight and ten inches. Most eels on average in the yellow eel phase around 16 inches turn to female; give or take depending on where you are.

Four states have very significant landings of eels over 16 inches in females. We keep talking about silver eels being kind of the holy grail; we need to protect the silver eel, but obviously we need to protect the females and the larger females. Did the technical committee wrestle with that at all; is there anything that was talked about as far as trying to give greater protection for the larger yellow eels?

MR. CHASE: We did, and again it is pretty difficult with the different sizes and age at maturity among the states. If an eel is 40

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centimeters, 16 inches, it is going to be a female; so males are leaving at an earlier size and fisheries are catching these sizes at different proportions among the states. It was tricky to come up with something that could work. I think we finally agreed just to target reductions and activity that would catch silver eels; the weir fisheries, the fall fisheries. That was the nature of the two-week closure proposal for the fall fisheries.

MR. KELIHER: Thanks, Brad; and I see the advisory panel had a unanimous recommendation to the board to consider complete life cycle surveys for eels. Brad, can you just comment on what you think that would entail for a state and how many stations you may need to really make that worthwhile?

MR. CHASE: It is an excellent proposal, but it is not easy to achieve. We have our glass eel indices right now, so you would want to match it with a yellow eel index where you would age your yellow eels and you would have an index of abundance that could be tracked annually; and then match that in the same watershed with a silver eel index where you would also have ages and annual monitoring.

It is not done right now anywhere in North America because it is not easy to do. There is quite a cost to aging and sampling these eels, and so there is a good reason it hasn't moved forward. I think it has to happen. If we want to manage these fisheries in the future, we have to have biological thresholds that are based on eel abundance at the yellow and silver eel life stage. I think it is critical.

MR. DOUGLAS GROUT: Brad, my question – you know, I've heard some discussion about potentially an elver fishery would be the greatest economic value to the nation, but I've also heard this is a data-poor stock. I wanted to see if you had any insight into what kind of information data that states or the commission could collect to get to a point where we could tell what a safe level of glass eels to harvest would be, say, in a river or a state or even coastwide ideally, but I know that is getting kind of dreaming. What kind of information do you folks need to give a safe level of poundage of quota to harvest on a biological basis at the elver stage?

MR. CHASE: I think it is open for discussion, but it probably ties back to the previous question where you want to set some biological thresholds for yellow eel abundance that can be related to the glass eel indices and then have a similar threshold for silver eel escapement. If those two things can be established, then you can really relate the recruitment of glass eels to these later life stages and come up with sustainable targets. I think that is what the next stock assessment has to really zero in on, and I think it is what we have to work towards.

MR. GROUT: Just a quick followup; one question about how many years' worth of information – this sounds like a life cycle survey. How many years are we talking, ten, twenty, before we've be able to get to that point?

MR. CHASE: A generation time down in the south is going to be eight years or more, and further north it is going to be –

MR. CLARK: It depends on whether you are a freshwater estuarine, also?

MR. CHASE: Right. It is going to take a while but I think we're all committed to work on this and that is probably where we have to go if we want to have a better assessment in the future. I think if some states can commit to this, if we can find some funding and just start this, it is really the direction we need to go in.

EXECUTIVE DIRECTOR BEAL: I think the last report that we have is a Law Enforcement Report.

LAW ENFORCEMENT COMMITTEE REPORT

MR. ROBSON: I believe the members of the board were provided a copy of our report. The Law Enforcement Committee met yesterday and today, and we obviously have had some continued discussion about the options in Addendum III. The document we provided you

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has comments regarding each of the options for the three primary life stages that are of concern.

I'd like to point out that we've really restricted and focused our comments on the enforceability of the various options and tried to be very deliberate in looking at that from an objective point of view. One of the things that we used to do that was a document that was produced back in 2009 called "Guidelines for Resource Managers on the Enforceability of Fishery Management Measures. It was produced by the Law Enforcement Committee and through the Atlantic States Marine Fisheries Commission. That document uses some rating systems for various management strategies or options and categorizes them qualitatively under four descriptive terms. We have tried to use those terms in our discussion of how we feel about these options just to be consistent. You will note in the document that those four terms are in terms from least to most enforceable based on a numerical rating range for different management options; what they called "impossible", "impractical", "difficult" or "reasonable" in terms of just pure enforceability.

Keep in mind that a "difficult" or a "reasonable" enforceability rating is actually the second and the best highest rating in terms of enforceability. So moving right into glass eel harvest, under Option 1, which was the status quo, the Law Enforcement Committee considered that enforceability is considered impractical for this option. We have commented in the past in the public hearing document on the enforcement challenges that we have discussed a little bit today and particularly those associated with the fishery in those states where it is currently closed to legal harvest.

Under Option 2, closure of the glass eel fisheries, the enforceability is considered reasonable for this option. Generally seasonal closures or closures are relatively easily enforced, and they provide a general rating of about a reasonable, which is about as high as you can get. Under Option 3, a glass eel quota, enforceability is considered difficult for this option, so this would be the second best qualitative rating.

Because of the variety of management strategies that are associated with quotas, enforceability would depend in large part on how the quota systems are managed from state to state or across the board. Obviously, the increased complexity of quota systems will generally reduce overall enforceability.

For Option 4, the dealer requirements, this was an option that would require trip level ticket system or reporting. The LEC supports this option. We didn't put a qualitative measure on it, but we support this option and affirm that any increased reporting standards or frequency are likely to enhance enforcement efforts that are implemented for any particular fishery.

We have talked a little bit about this in the past that reporting frequency can be a big help in enforcement. Under Option 5, the discussion of allowing a tolerance for some pigmented eel take in the glass eel fishery, we considered enforceability for this option to be impractical or difficult; one or the other.

The LEC had questions about the definition of what an actual pigmented eel is that would apply in this circumstance. We understand that is something that may be clarified or could be made more clear, which would certainly affect enforceability. Nonetheless, we felt that enforceability was complicated by that lack of a clear definition of what a pigmented eel would be, whether it is by size or how it is defined; and the fact that it would be very difficult to assess the amount of pigmented eels in a catch under some specified tolerance or, if you will, bycatch level.

For the yellow eel harvest, under Option 1, the status quo, we didn't really identify any significant concerns with enforceability of the current regulatory structure for yellow eels. Under Option 2 for increasing the minimum size, minimum sizes or bag limits generally are very enforceable. We considered this particular increase in minimum size to be a reasonable option in terms of enforceability.

We have also previously commented on the fact that there are challenges, obviously, to

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measuring live eels in the field, but that a minimum size limit is currently in effect and it is enforced. We affirm again that to be most effective, a minimum size limit, whatever it is chosen to be, should be implemented in concert with consistent equivalent gear or mesh size restrictions that would enhance harvesting the correct minimum size.

Under Option 3 for yellow eel gear restrictions; enforceability is considered reasonable for this option, and again that goes back to the previous option of minimum size. If those two are done in concert, we feel that does provide an enforceable measure for maintaining a minimum size harvest. Option 4, the option for a coast-wide quota, we basically provide the same input that we did for the glass eel fishery.

Enforceability for a quota like this would be considered difficult; and depending on the complexity of the quota systems used, it may add or reduce to that enforceability. Under Option 5 for reporting requirements, again we support any actions that would enhance or increase reporting frequency or enhance reporting capabilities and would aid enforceability very much.

Under Option 6 for the yellow eel fishery, the two-week fall closure, enforceability is considered reasonable. Again, a closure or a seasonal closure or any type of closure is something that is enforceable; but in the case of this with such a short timeframe of two weeks, we want to make sure that to be enforceable all the gear must be removed from the water during that closure period.

We would also point out that with such a brief closure period, it is going to be enforceable at the harvester level but it is not going to be practical to do any enforcement at the dealer level under such a short timeframe for a closure. For the silver eel harvest, status quo, again, we didn't identify any significant concerns with current enforceability under the regulatory structure for silver eels.

For Option 2, the season closure restrictions, we consider that to be very enforceable. It is a reasonable option for enforceability given the nature of closures. For the recreational fishery, under status quo, we didn't identify any significant concerns with enforceability of the current system that is in place for the recreational fishery.

If there is discussion about reducing the bag limit, whether it is kept where it is or reduced, it would be pretty much equally enforceable as a regulation. However, the LEC also wants to make sure that we point out that in such cases you want to make sure that your harvest limits and your possession limits are the same.

Under Option 3 for party/charter exemption; we felt that this was a reasonable, enforceable option. The LEC has recognized that it has this kind of an exemption for an increased bag limit for captain or crew on charters and is familiar and comfortable with dealing with that kind of a regulation. That summarizes our comments on the options, Mr. Chairman.

EXECUTIVE DIRECTOR BEAL: Are there questions for the Law Enforcement Committee?

MR. CLARK: Mark, I just wanted to clarify you're saying that the Law Enforcement Committee on the minimum size for yellow eels, you find that a reasonable option to enforce moving to like an eight-inch size limit but without a gear restriction or only with the gear restriction?

MR. ROBSON: It would be I think in concert with the gear restrictions; both together. We commented before in our previous letter on the public hearing document that measuring them is not easy. Obviously, looking at gear in the water is not easy, but the combination of both of those provides an adequate way to check size limits either at the dock or on the water.

EXECUTIVE DIRECTOR BEAL: Are there other questions for law enforcement? Leroy.

MR. LEROY YOUNG: Mark, why would a quota be so difficult to regulate for when there are quotas for other fisheries? Are all of them difficult to monitor?

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MR. ROBSON: Well, to be honest, the four qualitative terms, impractical, impossible, difficult, reasonable, I don't think those are as descriptive as they could be. I think when you look at the actual numerical rating of quotas as a management measure and its enforceability in that document, the fact that it is difficult doesn't mean it is not enforceable.

Obviously, we have quota systems that we enforce throughout a lot of our fisheries. It just happens to be that is the way the rating for quotas worked out. When you get into complex quotas, if you're talking about quota share or transfers of quotas among states, those kinds of complexities do make enforcement a little bit more difficult, but we all understand in the law enforcement community that quotas are clearly something that we use and they're used to dealing with them. It is difficult, but that doesn't mean that it is not something that we wouldn't recommend, per se.

EXECUTIVE DIRECTOR BEAL: Are there other questions? Ritchie, you look like you're thinking about a question.

MR. WHITE: I just wanted to make a suggestion on procedure once you're done this and going to start the next item.

EXECUTIVE DIRECTOR BEAL: All right, thank you. Are there other questions? David Simpson and then Pat Augustine.

MR. SIMPSON: Yes, related to the quota; was there any particular discussion about how this fishery might be different in terms of enforcement and tracking the nature of the – you know, it is small boats. It may be more diffuse in terms of where landings occur. It seems to me that the product wouldn't pass through the normal channels of the seafood dealer that we use as the cross-checks or the trip ticket system.

Just in our own local experience, I know getting reporting seems to be more difficult. I will share that we've observed one fisherman who fishes right in front of our dock who then will not report that activity for that day. We had to call him up and remind him that you've got to report your catch. I wondered if there was any discussion about eels in particular and quota management.

MR. ROBSON: I stand to be corrected by any of the members of the LEC, but I wouldn't say that we got into that level of detail when talking about the glass eel or the yellow eel fishery in terms of their quota. We were talking more in general terms.

MR. AUGUSTINE: Mr. Chairman, are you ready for a motion?

BOARD DISCUSSION OF DRAFT ADDENDUM III

EXECUTIVE DIRECTOR BEAL: No, not quite. Are there other questions? All right, not seeing any, I think there are really four issues associated with this addendum, commercial glass eel fisheries, commercial yellow eel fisheries, commercial silver eel fisheries, and recreational fisheries. Kate has got a couple of slides I think to help us walk through those sequentially. Ritchie, you had some comments on process as well.

MR. WHITE: Yes, with the limited amount of time, I think we ought to go to our commission procedure where you only recognize someone once in the discussion phase and then you go one for or one against when we're in the debating phase.

EXECUTIVE DIRECTOR BEAL: Yes, I'm fine with that; and I think to get even that discussion focused is with motions; get them up on the board and get them going. With that, Kate, can you put up the slide with the options for the glass eel fishery? That is status quo, closure of glass eels, glass eel quota, reporting requirements and pigmented eel tolerance. These are not mutually exclusive, necessarily. Some of them can be mixed and matched. Are there any motions regarding the glass fishery? Mr. Stockwell.

MR. STOCKWELL: Mr. Chairman, given the hour, I'm going to cut to the chaise. I greatly

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appreciated Marty's report and the AP's recommendations that will sustain the extremely valuable elver fishery in Maine and South Carolina. These measures, coupled with the greatly improved and proposed enforcement and real-time monitoring and reporting measures articulated by Pat Keliher, would result to me in a status quo quite different than when the draft addendum was approved for public comment.

I have got a motion. **I am going to move that the following measures be approved for the commercial glass eel fishery. Participating states must conduct a complete life cycle survey within three years. Participating states must implement real-time reporting by both harvesters and dealers. Participating states must ban harvesting glass eels that will not pass through a one-eighth non-stretchable mesh. Participating states must prohibit yellow and silver eel fisheries.**

EXECUTIVE DIRECTOR BEAL: Thank you, Mr. Stockwell. Before I get to ask for a second, just as a reminder of the commission's relatively new procedure on transparency of votes, these series of votes that lead up to the final motion are not final actions; but if anyone would like to call for a roll call vote, you're obviously able to do that. We will have a roll call at the very end. With that, is there a second to the motion by Mr. Stockwell? John Clark seconds the motion. Is there discussion? Ritchie.

MR. WHITE: Well, point of order before discussion. Were those out to public hearings such that they could be a part of this motion?

EXECUTIVE DIRECTOR BEAL: Well, let's get it on the board and we will get back to you on that, Ritchie. I'm going to ask Kate to go down – and, Ritchie, I think some of these provisions are kind of a little bit of a mix-and-match thing and not directly related to the options here. There is some interpretation here, and there is going to be some question really of the comfort level of the board with some of these, and it is the board's discretion I think is probably where we're going to end up here. Kate, please.

MS. TAYLOR: The complete life cycle survey was included in the document under Section 3.2.1.4 of the monitoring program. The real-time reporting, there was an option under the glass eel fishery for the increased reporting requirements for harvesters and dealers, and that was trip level.

There was inclusion of the pigmented eel tolerance where states can propose management measures and restrictions to implement that pigmented eel tolerance, which this could potentially get at this one-eighth non-stretchable mesh option. There was not inclusion of an option for a prohibition of the yellow and silver eel fisheries directly.

MR. STOCKWELL: That was seconded by Mr. Clark. Thank you, Kate, for providing the beginning of my rationale. This motion would provide significant reduction and protection on all life stages of the fishery, providing conservation. It considers the extremely draconian economic impact of a total closure.

It also considers the administrative and enforcement burden of implementing a quota. I recognize there are a number of poaching and enforcement issues; and I would recommend to those states concerned with these issues that they request a board for a glass eel fishery in a future action.

EXECUTIVE DIRECTOR BEAL: Thank you, Terry. One of the questions that we have here at the front of the table is the notion of a complete life cycle survey within three years. Does that mean conduct that survey essentially once within that three-year period or does that mean set up an ongoing life cycle survey within three years?

MR. STOCKWELL: Set it up and fund it.

EXECUTIVE DIRECTOR BEAL: And it would be ongoing after that?

MR. STOCKWELL: Correct.

MR. FEIGENBAUM: I would like to speak in support of this motion. Thank you, Terry, for

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making the motion because I was going to make three or four separate motions to get to the same place. I had the pleasure of sitting in on the AP meeting where these issues were debated and the recommendations came from.

As Marty has indicated, that meeting was attended predominantly by yellow eel fishermen, but also by at least one representative of the glass eel fishery, at least one representative from the recreational fishery, and also one representative from the environmental community. Basically, the AP process worked about as good as this commission could ever hope an AP process will work.

The people came in with open minds. The debate was robust. The meeting went a long time. There were a lot of ideas that went back and forth around the table, but at the end of the day that panel came together; and although not every single aspect of their recommendations was unanimous, it was near unanimous.

With regard to Point Number 3, I'd like to just say that I had the opportunity to go to many of the state public hearings; and also I had the opportunity to attend the Law Enforcement Committee yesterday, their meeting. Basically, the technical committee has made the recommendation that we ban the harvest of fingerlings. With all due respect to the plan development team, the language in the addendum was simply too vague for anyone to really comment on how do you define a pigmented eel.

We heard from the Law Enforcement Committee that as written that option was simply not enforceable. However, a lot of work has been done in the state of Maine as well as at the AP to identify an objective measure that would accomplish exactly what the AP and plan development team wanted to accomplish, and that is to ban what Kate has referred to as really a new fishery.

It is not a new fishery in that the laws in Maine have allowed the take of these eels for many years, but it has only been within the last two years – and we heard this in many forums; it has only been in the last two years that there has been any desire from Asian markets for this kind of an eel, an eel that is actually really not a glass eel. It is actually a year one eel.

But rather put any one in law enforcement or any fisherman to the test of distinguishing an eel by its year just by looking at its color, that would make no sense; on the other hand, for 28 years fishermen in the state of Maine have been separating these eels – these eels that are larger than glass eels, they have been separating them out of the fishery by the use of a one-eighth inch non-stretchable mesh.

This is basically a proposal that would capture what has been the actual practice for the vast majority of the history of this fishery. In fact, the fishermen still use this exact screening device to separate out a glass eel from what we would properly call a fingerling.

EXECUTIVE DIRECTOR BEAL: Mitchell, can you kind of wrap it up and get to your position on the motion, please?

MR. FEIGENBAUM: Obviously, I support the motion. I would leave it to the commission's administrators to indicate Item 4, whether that would be permissible at this point, because that item did not go out to public comment.

MR. DIODATI: I think the previous commenter kind of answered or clarified some of what I was going to ask, that this is essentially status quo, if they have been doing that one-eighth inch non-stretchable mesh for quite a while. Other than eliminating some of your fisheries on older eels, this is a status quo fishery, and I have to speak about that for a number of reasons.

Although, yes, I heard the AP recommendation that we continue with status quo, but I also heard from our other two panels that reported that seemed to have some weight at least in my mind, and those panels indicated that status quo would not be the way to move forward with this fishery.

If you look at the experience around the world in these fisheries, the European experience, which

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we just talked about, a glass eel fishery in those areas of the world is not something that is being entertained today; certainly not with exports to China, which brings the lure of profits to the point where the fisheries are totally uncontrollable, unaccountable, and certainly enforcement compliance is not something that is even on the table.

When you look at the situation with historical overfishing, habitat loss and alteration, productivity and the food web changes that have impacted American eels, predation, the turbine mortality which we heard about, a changing climate which we haven't talked about but is soon slipping away from control of all the things that we do; and not to mention there is an ESA listing for this fishery that is out there looming. There is no way I can support a status quo**. At this point I am willing to offer a substitute motion for a closure of the fishery.**

EXECUTIVE DIRECTOR BEAL: You are making that motion, Paul?

MR. DIODATI: I make that motion.

EXECUTIVE DIRECTOR BEAL: There is a motion for a closure of the glass eel fishery, Option 2. There is a second to the substitute motion by Mr. Abbott. All right, now we're going to focus our discussion on the substitute motion, which is the closure of the glass eel fishery. Pat, I don't know if your comments were on the previous motion or this one or do you have comments on both?

MR. PATRICK GEER: It was on the previous motion. You had mentioned about on the survey; you say "to conduct"; you may want to change the word to "develop" because I had the same concerns you had. The other thing was, Terry, is the intent of your motion to allow any state to develop a glass eel fishery with these criteria or just Maine and South Carolina?

MR. STOCKWELL: At this point it is only Maine and South Carolina that have glass eel fisheries.

DR. DANIEL: I'm struggling with this, but I'm finding myself moving in this direction to provide us with the opportunity to develop another amendment or an addendum that could address some of the concerns that I've heard around the table about the opportunity for other states to develop an elver fishery.

Mr. Stockwell's motion is sort of a deal breaker for me in that he has got the $50 million to put together a life cycle survey within three years. I don't have that and that is going to be an extraordinarily difficult task to pursue in order to get an eel fishery. Likewise, I agree that the prohibition on yellow and silver eels should be stricken from the motion if it goes back.

I firmly believe that the fair and equitable treatment of the coastal states in this compact are best served by equal opportunities towards elvers, and I think we need to ask that question of our technical committee. I tried to ask the question but I think with the natural mortality rates, with the value of the fishery – I mean that is a more valuable fishery than our top two fisheries combined in North Carolina; the top two fisheries combined.

And it is 9,000 pounds and we don't even know what the impact of that is on the stock. I feel like all of us are missing out on a fairly significant opportunity. I hear what Tom said about the bait eels. I'm not trying to do away with bait eels, but I just feel like there are opportunities here that we're missing out on. We should pass Paul's substitute motion and develop an addendum that treats everybody fair and equally.

MR. ABBOTT: Mr. Chairman, I'm not sure where to start, and I'm not sure where we're going to finish on this issue. I think that both motions – obviously status quo, which the first motion represents as opposed to the motion that I seconded calling for a closure may be is too draconian at this time; but as Dr. Daniel just stated if we are going to have a fishery, I think that all states should have an opportunity to participate in the fishery.

Again, earlier I remarked about what went on in 1999 and in 1999 when we allowed Maine and

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South Carolina to continue with their glass eel fishery, the glass eel fishery was a very minor thing. It was minor to the point of talking about prices of fifteen dollars a pound and not much participation and not much market.

With all the problems that have come about as this gold rush, eel rush has occurred, I mean when else have we talked as a board about guns being involved and cash transactions, poaching, and enforcement issues. I don't know regarding this issue if it's important that we make a final decision today.
What we're doing is we're looking at what is going to happen in next year's fishery, and this is a serious issue and I am not sure that we shouldn't, which really hate to say, put this off until August and let us have further discussion. I don't know what the discussion would do or if we would be able to find a better solution than either of those motions up on the board, but I am sympathetic to the fishermen in Maine.

I am sympathetic to the two folks that came down on their own dime sitting in the back of the room as we sit here and affect their livelihood. I don't want to deprive them of their livelihood, but on the other hand this fishery is where it shouldn't be and somehow we have to fix it. I also don't believe that we will be provided enough science at any point in time in my lifetime to allow us to make informed decisions. I really don't believe that. I mean, I am getting old so I won't be around that long.

I think we have to make common sense decisions here, and I don't know what those common sense decisions are and I am not sure that at 5:30 on Tuesday afternoon is the time to make such a momentous decision. At some point I might entertain a motion to postpone this action until August, but I won't at this time. I prefer to listen to other members and their comments.

EXECUTIVE DIRECTOR BEAL: Thank you, Dennis, and there is always room for common sense in this process, I hope. There is always room for more conversation, too, so with that I have got a long list here. I've got Malcolm, Pat Keliher, John Clark, Tom Fote, and I'm sure other hands will pop up as we go.

DR. MALCOLM RHODES: First of all, we would have to oppose both of these motions right now. The first we couldn't complete. You have heard a lot about the Maine fishery and South Carolina keeps get thrown in. Back in the nineties, South Carolina reduced our permit holders to ten permit holders, allowed to have two fyke nets that are allowed on one section of the Cooper River, period.

Every other estuary and every other river in the system is wide open. The Cooper River is a very short river, and that is the only place this is allowed. To complete everything needed for the upper one would be impossible. This is almost a scientific survey of how many eel are coming into the state. We have 20 fyke nets that are manned.

We have the CPUE and you have the number coming in the Winyah Bay area, and that covers from the Appalachian end of North Carolina there is no fishing; the ACE Basin, so the Ashepoo, Combee, Edisto and all the rivers that go into tat area has no fishing on it. The Savannah River has no fishing on it. I'm missing a bunch of other rivers.

We have three major estuarine systems and there is no fishing on any of them except for a two-mile section of the Cooper River, which they don't even like fishing on. It is ten permit holders, two fyke nets each, and that is the extent of it. I am sure there is some poaching going on that we are unaware of, but it is nowhere near the problems Maine has. We can't mention the exact number of landings because there are so few people, but it is under 500 pounds a year, to give you an idea. I would say at least 95 percent of our river system has no fishing or pressure on it.

MR. KELIHER: Mr. Chairman, I was not perceiving Mr. Stockwell's motion as status quo. There is some status quo there, but this issue of the pigmented eel fishery wasn't an issue until last year when some of the fishermen started developing a market for pigmented eels at a

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much lower price, three to four hundred dollars a pound instead of over $2,000 a pound.

By utilizing the sorting grate or sorting mesh, we can eliminate that pigmented fishery and stop the sale of that life stage. In the state of Maine we do a tremendous amount of work for fish passage, including eels. We have removed over nine dams. We have put in over 21 upstream eel passages on several different rivers.

We have the same number of downstream passage devices in place at hydropower facilities. We have about five more hydropower facilities that have date-certain downstream passage requirements for shutdowns and other sorting to ensure safe downstream passage. This is all done because we have an incentive to do it.

We have an incentive to do that type of work because of the fisheries we have; the same for our river herring fisheries, the same type of scenario. We spend a tremendous amount of our time gaining and improving access to historic habit so we can ensure sustainable populations. I do share Paul's comment when it comes to the need for improved data, and that is definitely why we would like to see complete life cycle surveys.

I think Brad said it best. If we're going to move in the direction of having any of these fisheries, not just the glass eel fishery, a yellow eel fishery or even a silver eel fishery down the road, we need better science, but right now we're using what we have to make a determination. The Atlantic States Marine Fisheries Commission has always been a states' rights organization.

Here the economic benefit to the state of Maine has been small all along since 1977. It has been a very small fishery, the elver fishery. But two years ago, because of the issues going on within the European fishery and the bans of exports and because of the tsunami that impacted a lot of the grow-out ponds, there was a gold rush.

We thought it was a gold rush at $300 a pound. We have limited the licenses, we have tried to control the harvest. We do have a poaching problem now and the state of Maine is committed to working with these other states to try to solve it. But to go from a motion to try to maintain a fishery to a substitute motion to completely close it is just too polar opposites. I think we need to find some way to allow this fishery to continue in a meaningful, constructive and protective way.

MR. CLARK: Going back to when this plan was first passed in 1999, by that time many of the states on the east coast had already put six-inch size limits into effect to ban the glass eel fishery because of the impact during the previous gold rush, which was in the mid-nineties. When the plan was being developed, I think Maine made a strong case to keep their glass eel fishery going then. They talked about how closely they would monitor it, the high fees they were charged to keep it going.

I think Maine has done what they said they were going to do back then. When the plan passed, it was just Maine, South Carolina and I believe Connecticut. Since the plan passed, Connecticut decided it was not worth keeping the glass eel fishery. Maine has done what it said it would do. The fact that it has turned into the second gold rush, we're now all supposing that this will be the way it will be well off into the future.

We don't know what will happen next year with the market. When it goes away or when it drops back down to a hundred dollars a pound or whatever, you're not going to see this type of pressure in other states, obviously. I just think that when you look at the history of what has happened there, that it has been managed well and to this date I haven't seen any impact in other states from Maine's glass eel fishery. Thank you.

MR. FOTE: I was very involved in those battles in the nineties when we started having the problem. New Jersey was of the areas where they were running around with guns and beating up each others cars and causing damage, and that is what happened in New Jersey law enforcement-wise. There was a big debate.

It went through three sessions of our legislature whether we would have a glass eel fishery or

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not; and finally the people that were trying to push for opening up the glass eel fishery – because we had a glass eel fishery and we shut it down and basically with the idea that we needed a new permit and without the new permit the fishery couldn't exist and it was defeated in the legislature three times and three different sessions to not allow that.

I remember it was Phil Coates, the previous director from Massachusetts, that was the person, one of the most influential basically getting all of us to go to the six-inch minimum size. That is basically what were the nineties. Of course, we finally defeated for the last time and the permit didn't go down.

Because they wanted to charge $2,000 for the permit or 1,500, something like that, the price went down to that fifteen dollars a pound from the previous three or four hundred dollars a pound they were getting where they were poaching it. I have concerns for this fishery. I have concerns anytime we get the early life stages of the fishery and especially with numbers that are with this poor science. The two motions are draconian one way or the other.

I don't think we're ready today to do anything. I'm seriously thinking with Dennis; we need to go back and think this out. I can't live with the understanding or I can't support leaving this as status quo, but I don't think it is quite draconian enough to basically shut it down completely. I don't know exactly what to do. I am really twixt here in looking at it.

I know most states – you know, if we talked about going to New Jersey again and started trying to do a glass eel fishery, there would be overwhelming no support, because most of the comments that I received in the state at the hearing that I was and in the areas I go they don't support it, except for the people that see the fast money and want to get into it; and a lot of those people are not the historical watermen but other people coming from other ways of life and looking for a fast buck to make.

That is what happened back in the nineties. It wasn't the historical guys that went into it; it was the guys that saw the money and all of a sudden like – and it's like the picture of the person they pictured in – I will get off in a minute, Bob – in the film that we saw on PBS. They were hair dressers and they decided there was big money in glass eels, and all of a sudden they became fishermen of glass eels. That is my concern here. I don't think we're ready for a motion yet and I really think we've probably got to think this a little more further along. I can't support either one of these at this time.

EXECUTIVE DIRECTOR BEAL: Thanks, Tom. I've got four more commenters, Pat Augustine, Ritchie White, Bill Archambault, and Dr. Stewart. I'm going to take those four comments and then I think we need to regroup as a board and decide if you guys want to vote or do you want to step back from this for about three months and come up with some potential middle ground options. I am not pushing that in any way, but I think we could talk all night and not get anywhere. I think we need a more strategic plan than we have now. Pat.

MR. AUGUSTINE: Mr. Chairman, I have everything so far. I think the statements that have been made around the table, particularly what Mr. Keliher had put on the table relative to what their state has done, how aggressive they have been in pursuing the legitimate or illegitimate folks that are out there doing what they should be doing; I agree with the folks around the table that we have two options up there, the two extremes.

Here we are, if we go to either one or table this, we're going to abdicate our authority and responsibility to face up to the fact that we have to make a hard decision. With that being said, I would move that we amend the substitute motion and replace Option 2 and insert Option 3, suboption 3A. If you want me to address that reason, I will after I get a second.

EXECUTIVE DIRECTOR BEAL: Let's not do motions right now, Pat. We will come back to where the group is. Let's hold that and I'm not saying we won't do it. I just want to get through these four speakers, sort of see of where we are, and then decide where to go. Ritchie White.

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MR. WHITE: Mr. Chairman, the original motion, I don't believe the technical committee can tell us that is going to benefit a depleted stock. That is number one. Number 2, the original motion is unfair. It is unfair to other states. It is unfair to New Hampshire. It will continue to put an unreasonable burden on our law enforcement.

It is unfair to other states to not give them a chance to participate in this fishery. I think those two issues have to guide going forward. There has got to be a sense of fairness and it has got to be something that is going to help a depleted stock. Neither of these does that, and I think we have to come up with something that fulfills both those.

EXECUTIVE DIRECTOR BEAL: The next speaker is Bill Archambault. Bill, I owe you an apology; I should have introduced you at the outset of this board meeting. Bill is our Fish and Wildlife Service representative replacing Dr. Geiger. Welcome, Bill, and sorry for the lack of an introduction.

MR. WILLIAM ARCHAMBAULT: That is okay; thank you, Mr. Chairman. Just a clarifying question to Terry; Terry, when you mentioned on Point 4 that you would close your current yellow eel and silver eel fishery; could you tell us what that fishery right now looks like?

MR. STOCKWELL: Bob, if you could go to another question and I will get back to him.

EXECUTIVE DIRECTOR BEAL: I think Kate already has the numbers up, so maybe Kate can answer for you, if that is okay, Terry.

MR. STOCKWELL: That is even better.

MS. TAYLOR: For 2011, there were just over 8,000 pounds of yellow eels landed and it has pretty much been around 10,000 pounds, I believe, for the last few years.

EXECUTIVE DIRECTOR BEAL: Pat, do you have a clarifying comment on that?

MR. KELIHER: Yes; there are only two grandfathered silver eel weirs left in the state, and those will expire over time as the licenses go away.

EXECUTIVE DIRECTOR BEAL: Thank you. The last commenter I had on my list before we philosophically decide where we're going here is Dr. Lance Stewart.

DR. LANCE STEWART: I just thought I recount history a little bit. I was the first chairman of the Eel Board when the Eel Board was first created. Before that I was a academia and had designed a clearinghouse for glass eel fisheries that had come to me underground, so to speak, at the time. They were supported by a lot of Asian money.

We had the idea and the concept and the support from Taiwanese and Japanese to have the collection and have a grow-out facility in the state of Connecticut, which would then export the one kilogram eel. Anyway, just a point of business and comment for all the states, that could still be a possibility; and not just the glass eel fish that you sell for a dollar on the barrel to the Asian market, but to develop some sort of grow-out aquaculture industry.

Secondly, from all the science and research that I've done, the board in the late nineties approached the salmonids' philosophy, that they thought all the glass eels that were coming back to their home rivers were due to come back there by homing. Everything in the literature says that eels are pandemic. They spawn on the Sargasso.

They populate South America, they populate the Caribbean, all the Maritimes, all the way down through the states. Their timing of entry is really based on the maturity – and I'm just going over this to kind of put everybody in the frame of looking at where glass eels are coming from in the Gulf Stream and hitting Maine probably first of all the states to be able to market.

That is why they have a very early Asian market. Again, the thing is that they overproduce tremendously. McCleave is one of the foremost eel experts, and they're all

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suggesting that it is a thousand-fold more than any stream can absorb and mature. I fished for three years in Connecticut. You could catch five gallons a night without trying.

The watershed only went up a mile. So where do all those glass eels go? Every state along the coast has a real opportunity with a capped glass eel fishery to profit and to allow – I would also make the observation that these glass eel fishermen are not your offshore captains. They're the cordwood salesmen in the states. They're the ones that need an income. That is why we have gotten some poaching, so to speak. You have a socio-economic factor here also overriding this whole fishery. I think it is time to step back. Maine has optimized and I give them full credit for it and to stay into it, but I think every other state could have an opportunity as long as it is kept on a small scale and to help that fund monitor especially silver eel outflow.

Maine should have a good index on how many silver eels are coming out of their watersheds. If you look at every state and look at the rivers that dump into the Atlantic, you will get a good idea of holding capacity and reproductive potential and base your landings somewhat on that. Anyway, that is in retrospect where I have seen this whole board come from the hysteria of closing the glass eel fishery and not realizing a uniform opportunity and again to the final stage of making it a marketable export item.

EXECUTIVE DIRECTOR BEAL: Thank you. Mr. Chairman of the Commission; Paul.

MR. DIODATI: Is it your intent to move this discussion to our August meeting; is that a sense that you would consider that? **If it is, I would consider withdrawing my motion with the approval of my seconder provided Maine withdraws theirs and we start fresh at the August meeting.**

EXECUTIVE DIRECTOR BEAL: Well, that was going to be my next point of discussion, I think, Paul, is what is the pleasure of the group? I don't want to drive the train here. There have been two comments that it is late in the day. You guys started at 8:00 a.m. this morning with strategic planning. You guys have been up a long time and at this table a long time. Do you still have the ability to make great decisions at this hour given the brain power that has already been used? Dr. Daniel.

DR. DANIEL: I support doing exactly what Paul suggested and taking Dr. Stewart's comments very closely to heart as well as looking at the necessary reductions that we need at least in the yellow and silver eel fisheries to achieve the desires of the technical committee, their recommendations. Status quo doesn't meet those recommendations, and we need to have something that does that.

To me, Valhalla in this process would be to have reductions in those adult eel fisheries and be able to somehow come up with at least the infant stages of a coast-wide fishery. If that is possible, that is great. If it is not possible, then we might not be able to accomplish that right now with the status of the stock that it is. I strongly support not moving forward any further with this today because my head hurts.

EXECUTIVE DIRECTOR BEAL: There is a lot of head-hurting going around here from what I can see. I have got a pile of hands up. I think one of the things is if the board does decide to postpone this and wait until August, I think at the minimum are there specific questions that you guys have of the technical committee; is there some sort of working group that can tackle this? I don't think we can walk away from this and just assume things will somehow get better in the next three months and we can get back together and sail right through this thing. It is not going to happen. With that said, I'm going to go right down this side. Dennis.

MR. ABBOTT: I remember being on jury duty, Mr. Chairman, and the foreman told us when we were deliberating that we don't deliberate and come to a decision on an empty stomach; and I think we're approaching that, so we shouldn't be making any decisions on an empty stomach. I think what we should be looking at is what Paul suggested and I suggested also earlier that we obviously need a subcommittee to work on this issue. I think that would be the best answer

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because we just can't expect to be in a vacuum until August. That is what I was thinking.

MR. KELIHER: Just for the record, I agree with Dennis Abbott.

EXECUTIVE DIRECTOR BEAL: We're already making progress and maybe we should go back to these motions. Roy.

MR. ROY MILLER: Mr. Chairman, I just want to remind everyone what our technical committee chair suggested; namely, that the technical committee agrees the stock is depleted and that mortality on all life stages should be reduced. I would suggest that before we take up this topic again in August we do what we can to consider the recommendations of the technical committee. Thank you, Roy.

MR. O'REILLY: You asked about the technical committee; and I know in two previous meetings I asked about the relationship, if there was one, between the elvers, the surveys that are done towards some index of abundance the last time around it was that is hopeful, so I would recommend that the board get a chance to review the trends from the various systems.

Some of these collections have been going on 13 or 14 years or so. I think we ought to look at that information. The other thing is quite a few years ago Virginia had a fleeting moment with elvers, and at that time I was in correspondence with Brian Jessup from Canada. His information to me was that the mortality from removing elvers is swamped by the natural mortality. I think we ought to see an update on that in terms of removals of elvers compared to natural mortality; is there really anything substantive there?

On the other hand, just as a last comment, this idea of a cap that was just mentioned a little while ago is something that it would seem that should be talked about. Quotas are there right now, but a cap does what Louis Daniel might be asking about and others have talked about other states' opportunities.

EXECUTIVE DIRECTOR BEAL: Thank you, Rob; we can work on some of those and have those for the August meeting. Let's try it a different way. Does anyone object to essentially postponing this action and coming back in August and doing that? All right, with that, since both of these motions were made and seconded, they're actually the property of the management board so the maker and seconder can't withdraw those, but the board can.

Is there any objection to just withdrawing both of these motions and essentially starting with a clean slate at the August meeting; that we will form a subcommittee; we will try to get the technical committee to respond to some of Rob's points; and we will go from there. Does anyone object to that course of action? Bob.

MR. BALLOU: Mr. Chairman, just a clarifying question. We have only been talking about the glass eel element of the plan. Are we planning to reconvene in August to take up the entire draft addendum and address the glass eel issue, which I sense is going to be new Plan B, or at least there will be a proposal for a Plan B approach to the glass eel aspect; and then take up the yellow, silver and recreational eel elements as they are currently before us or are we looking to start with a whole clean slate as someone suggested meaning with regard to the entire addendum? Thank you.

EXECUTIVE DIRECTOR BEAL: No, I think the addendum, the public comment record and everything and the technical committee and the advisory panel advice and law enforcement advice; all that stands. That is the base information that we're going to start with in August and none of that will change.

I think the working group that we need to form will pick through the four issues that are included in this document and the numerous options under those four issues and provide some recommendations for this board to come back at least as a semi-reasonable or options that have some potential for moving forward I think is the best thing we can do. Adam.

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MR. NOWALSKY: We've talked about some options here today that we've had some question about whether it was in the public comment document. Should the subgroup come up with some options that we as a board believe are beneficial but have not actually gone out for public comment; how do we best address that procedurally before taking action on this in August?

EXECUTIVE DIRECTOR BEAL: It is difficult to predict where the working group is going to go; but if there are options that folks want to consider that have not gone out to public comment, we will need to find a way to provide an opportunity – at least a minimum of a 30-day public comment opportunity.

That is what we require for an addendum, but we'd have to have some board action taken to essentially start a new addendum because it would be new options for consideration. I think we're going to have see where the deliberations of the working group go and then we'll deal with the – you know, just kind of figure out where you want to go and then we'll figure out how to get there I think may be the best approach while providing transparency, openness and adequate public comment opportunity. Ritchie.

MR. WHITE: So the working group could come to the August meeting with a proposed new addendum for glass eels?

EXECUTIVE DIRECTOR BEAL: If they needed to. Hopefully, they can work within the parameters of what we already have and we don't have to start over. I think we're going to do the best we can, and I think the working group is little bit mythical right now because I don't know who is on it. Mitchell.

MR. FEIGENBAUM: Well, for one thing I would like to volunteer to be on that working group, to no surprise. (Laughter)

EXECUTIVE DIRECTOR BEAL: I didn't see that coming.

MR. FEIGENBAUM: I would also like to inform the board that Brian Jessup is retired at the DFO and has a lot of time on his hands. Contrary to something Brad said earlier – I know it was just an oversight, Brad, but there is a lot of information in North America about natural mortality rates for glass eels.

However, it is also somewhat of a site-specific analysis. One of the things we're going to learn in talking to someone like Dr. Jessup is that if the mortality on one system of – the natural mortality for glass eels is 99.9 percent; that doesn't mean that same formula will apply to another system. I see Dr. Stewart shaking his head.

My only point is that in addition to volunteering myself to be on that subcommittee, with the board's indulgence, I would like to reach out to Dr. Jessup and see if we could bring him in to address some of these issues, because really he is one of the historical figures in the creation of a glass eel fishery at least in Canada.

Rest assured, he has done a lot of the survey work and mortality studies in order to come up with quota recommendations and other measures that guide the Canadian glass eel fishery. His talent would be really invaluable to this process; and again with the board's permission, I would like to invite him to either consult to that group or be part of that group.

EXECUTIVE DIRECTOR BEAL: Thanks, Mitchell. I think that may be more of a technical committee type decision. If they don't feel they have the expertise to cover some of the questions that come forward from the working group, then it may be adequate or it may be reasonable to pull in some outside expertise, including Dr. Jessup. Pat, are you going to volunteer to be on the working group?

MR. KELIHER: No, I am going to volunteer Terry purely from a timing perspective. I know you have been on the Hill and you became very optimistic after being over there all morning; but I want to make sure that if we go to an addendum, timing-wise any additional delays would put the state of Maine in a position of not being able to deal with anything legislatively because we will have to have bills in and approved by October or November.

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EXECUTIVE DIRECTOR BEAL: So an approval of a document or postponing the approval of the document to the annual meeting does not work for Maine to affect the 2014 fishery?

MR. KELIHER: It would make it much more difficult.

EXECUTIVE DIRECTOR BEAL: That is good for the group to know. Roy.

MR. MILLER: Very quickly I just wanted to point out that in August if we consider opening glass eel fisheries in other states, that would take legislation in the state of Delaware because the six-inch size limit is legislated. Thank you.

EXECUTIVE DIRECTOR BEAL: Well, all states can be more conservative than the plan, so it would be up to the states if they want to open their glass eel fisheries. Bill Cole.

MR. WILLIAM COLE: Dr. Daniel asked me to assure you that he would be glad to serve on the working group. My second question is exactly what procedurally does the chair need to clear the board up there?

EXECUTIVE DIRECTOR BEAL: I think procedurally we did that. No one objected to withdrawing both those motions on the board and I think we are all set there. We have got a clean slate as far as motions go. Ross.

MR. ROSS SELF: Bob, South Carolina will be glad to volunteer some staff for the working group as well.

EXECUTIVE DIRECTOR BEAL: All right, we've got someone from South Carolina. We've got Mitch, Terry, Louis, John Clark, Tom O'Connell, Russ Allen and Paul Diodati. Paul doesn't want to be on it; he just wants to comment.

MR. DIODATI: Dan McKiernan.

EXECUTIVE DIRECTOR BEAL: I've got one hand in the audience; we haven't heard from the audience. Come on up to the mike while Mitch speaks.

MR. FEIGENBAUM: Very quickly, Bob, I think it would be very valuable, almost imperative for someone from the Fish and Wildlife Service to serve on this committee as well because really to a large extent enforcement issues are driving this matter. I think it has been very clear in the state of Maine as well as everyone in the industry, it is when we get Fish and Wildlife working on the same page as Maine we can really crack down on some of these enforcement issues very effectively.

EXECUTIVE DIRECTOR BEAL: Bill, welcome to ASMFC; have you got time to be on a subcommittee?

MR. ARCHAMBAULT: While I would love to commit my head LE guy, I cannot do that, but, yes, we will find somebody to serve on the committee and we will get you a name shortly.

MR. PIERCE: I am Jeff Pierce from the Maine Elver Fishermen's Association. With the board's permission, we would like an elver fisherman or glass eel fisherman to maybe sit on the subpanel to help with some information if that is permissible.

EXECUTIVE DIRECTOR BEAL: Traditionally we have kept the subpanels limited to board members, technical committee chairs and advisory panel chairs. If the state of Maine would like input from their fishermen, I think that may be the best if you reach out to your fishermen, Pat, or do you have different perspective on this?

MR. KELIHER: No, I was just going to say that we will be happy to have continued conversations with the harvesters in Maine to make sure we carry forth their viewpoint to the working group.

EXECUTIVE DIRECTOR BEAL: Yes, I'm not saying their input is not important; I think it is very important; but I think it is probably more appropriate for the state to solicit that input.

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MR. KELIHER: I don't know about Jeff Pierce having good input, but the harvesters that are underneath him do.

MR. PIERCE: Thanks for that, Pat, I appreciate it. (Laughter)

EXECUTIVE DIRECTOR BEAL: All right, are we getting pretty close?

ADJOURNMENT

MR. FOTE: Motion to adjourn.

EXECUTIVE DIRECTOR BEAL: All right, that is it; we've got a working group. Before everyone goes, we have a couple of new staff members that you guys should hopefully take some time to get acquainted with. We have got Deke Tompkins, the new legislative person at the commission.

I think a lot of you guys have already met him through running around to the Hill and some other things over the last couple of days and definitely received e-mails from him pleading for you to make some contact on the Hill. Kirby Rootes-Murdy in the back; he is a new FMP coordinator working on summer flounder, scup, black sea bass, bluefish and South Atlantic, so he has got a lot of species. I think that is it and we will get the work done between this meeting and the next.

(Whereupon, the meeting was adjourned at 6:05 o'clock p.m., May 21, 2013.)

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Atlantic States Marine Fisheries Commission

DRAFT ADDENDUM III TO THE FISHERY MANAGEMENT PLAN FOR AMERICAN EEL FOR PUBLIC COMMENT

ASMFC Vision Statement:
Healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015.

March 2013

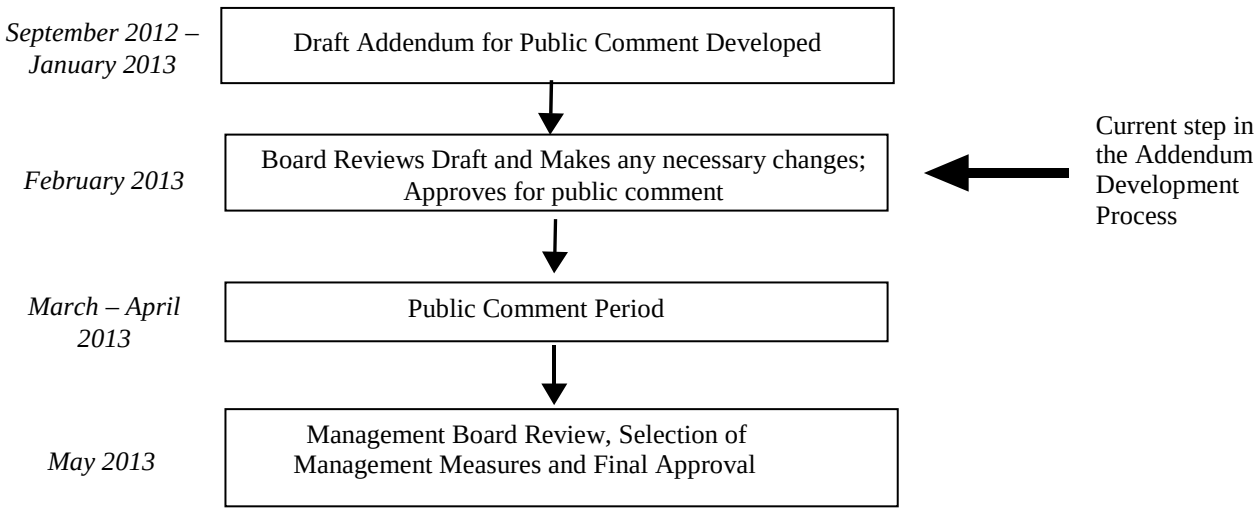
PUBLIC COMMENT PROCESS AND TIME LINE

The public is encouraged to submit comments regarding this document at any time during the public comment period. Regardless of how they were sent, comments will be accepted until 11:59 P.M. (EST) on May 2, 2013. Comments received after that time will not be included in the official record. The American Eel Management Board will use public comment on this Draft Addendum to develop the final management options in Addendum III to the American Eel Fishery Management Plan.

You may submit public comment in one or more of the following ways:

1. Attend public hearings in your state or jurisdiction.
2. Refer comments to your state's members on the American Eel Management Board or Advisory Panel, if applicable.
3. Mail, fax or email written comment to the following address:

Kate Taylor
Senior FMP Coordinator
1050 North Highland Street
Suite 200A-N
Arlington, Virginia 22201
comments@asmfc.org (Subject line: American Eel)



EXECUTIVE SUMMARY

The Commission's American Eel Management Board initiated the development of Draft Addendum III with the goal of reducing mortality and increasing conservation of American eel stocks across all life stages. The draft addendum was initiated in response to the 2012 Benchmark Stock Assessment, which found that the American eel population in U.S. waters is depleted. The stock is at or near historically low levels due to a combination of historical overfishing, habitat loss and alteration, productivity and food web alterations, predation, turbine mortality, changing climatic and oceanic conditions, toxins and contaminants, and disease.

This Draft Addendum includes a range of options suggested by the American Eel Plan Development Team, including possible moratoria or quota allocation on glass, yellow, and silver eel harvest; reductions in eel catch and effort for all life stages; seasonal closures; habitat recommendations; and future monitoring requirements.

Specifically, the management options under consideration are:

Commercial Glass Eel Fisheries
Option 1 – Status Quo
Option 2 – Closure of Glass Eel fisheries
Option 3 – Glass Eel Quota
Option 4 – Reporting Requirements
Option 5 – Pigmented Eel Tolerance

Commercial Yellow Eel Fisheries
Option1 – Status Quo
Option 2 – Increase Minimum Size Limit
Option 3 – Gear Restrictions
Option 4 – Coastwide Quota
Option 5 – Reporting Requirements
Option 6 – Two Week Fall Closure

Commercial Silver Eel Fisheries Measures
Option 1 – Status Quo
Option 2 – Seasonal Closure

Recreational Fisheries Measures
Option 1 – Status Quo
Option 2 – Reduce Bag Limit (25 fish/day bag limit)
Option 3 – Party/Charter Boat Exemption

For more detailed information on the proposed management options, please refer to the full draft Addendum. The public is encouraged to submit comments regarding this document at any time during the public comment period, which closes 11:59 P.M. (EST) on May 2, 2013.

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1. STATEMENT OF THE PROBLEM

The 2012 American Eel Benchmark Stock Assessment found that the coastwide stock has declined in recent decades and the stock was declared depleted. Additionally, the prevalence of significant downward trends in multiple surveys across the coast is a cause for concern. In response the American eel Management Board initiated the development of Draft Addendum III with the goal of furthering eel conservation and reducing mortality throughout all life stages.

1.1. BACKGROUND

American eel (*Anguilla rostrata*) inhabit fresh, brackish, and coastal waters along the Atlantic from the southern tip of Greenland to Brazil. American eel eggs are spawned and hatch in the Sargasso Sea. After hatching, leptocephali—the larval stage—are transported by ocean currents to the coasts of North American and the upper portions of South America. After ocean drift, metamorphosis transforms leptocephali into glass eel. In most areas, glass eel enter nearshore waters and begin to migrate up-river, although there have been reports of leptocephali found in freshwater in Florida. Glass eel grow in fresh, brackish, and marine waters, becoming yellow eel. Eel reach the silver eel life stage upon nearing sexual maturity. Silver eel migrate to the Sargasso Sea, completing sexual maturation en route, where they spawn and die.

Yellow eel can metamorphose into a silver eel (termed *silvering*) from three years old and up to twenty-four years old, with the mean age of silvering becoming greater with increasing latitude. Environmental factors (e.g., food availability and temperature) may play a role in the triggering of silvering. Additionally, males and females differ in the size at which they begin to silver. Males begin silvering at a size typically greater than 14 inches and females begin at a size greater than 16-20 inches (Goodwin and Angermeier 2003). Actual metamorphosis is a gradual process occurring in the summer and fall; a drop in temperature appears to trigger the final events of metamorphosis, which lead to migratory movements under the appropriate environmental conditions.

Juvenile eel and silver eel make extensive use of freshwater systems, but they may migrate to and from or remain in brackish and marine waters. Therefore, a comprehensive eel management plan and set of regulations must consider the various unique life stages and the diverse habitats of American eel, in addition to society's interest and use of this resource.

American eel occupy a significant and unique niche in the Atlantic coastal reaches and tributaries. Historically, American eel were very abundant in East Coast streams, comprising more than 25 percent of the total fish biomass. Eel abundance had declined from historic levels but remained relatively stable until the 1970s. More recently, fishermen, resource managers, and scientists postulated a further decline in abundance based on harvest information and limited assessment data. This resulted in the development of the ASMFC Interstate Fishery Management Plan (FMP) for American Eel.

The goals of the FMP are:

- Protect and enhance the abundance of American eel in inland and territorial waters of the Atlantic states and jurisdictions, and contribute to the viability of the American eel spawning population; and
- Provide for sustainable commercial, subsistence, and recreational fisheries by preventing over-harvest of any eel life stage.

In support of this goal, the following objectives were included in the FMP:

- Improve knowledge of eel utilization at all life stages through mandatory reporting of harvest and effort by commercial fishers and dealers, and enhanced recreational fisheries monitoring.
- Increase understanding of factors affecting eel population dynamics and life history through increased research and monitoring.
- Protect and enhance American eel abundance in all watersheds where eel now occur.
- Where practical, restore American eel to those waters where they had historical abundance but may now be absent by providing access to inland waters for glass eel, elvers, and yellow eel and adequate escapement to the ocean for pre-spawning adult eel.
- Investigate the abundance level of eel at the various life stages necessary to provide adequate forage for natural predators and support ecosystem health and food chain structure.

1.2. STATUS OF THE STOCK

The Benchmark American Eel Stock Assessment was completed and accepted for management use in May 2012. The assessment indicated that the American eel stock has declined in recent decades and the prevalence of significant downward trends in multiple surveys across the coast is cause for concern. The stock is considered depleted, however no overfishing determination can be made at this time based solely on the trend analyses performed. The ASMFC American Eel Technical Committee and Stock Assessment Subcommittee caution that although commercial fishery landings and effort have declined from high levels in the 1970s and 1980s (with the recent exception of the glass eel fishery), current levels of fishing effort may still be too high given the additional stressors affecting the stock such as habitat loss, passage mortality, and disease as well as potentially shifting oceanographic conditions. Fishing on all life stages of eels, particularly young-of-the-year and in-river silver eels migrating to the spawning grounds, could be particularly detrimental to the stock, especially if other sources of mortality (e.g., turbine mortality, changing oceanographic conditions) cannot be readily controlled.

1.3. STATUS OF THE FISHERY

The American eel fishery primarily targets yellow stage eel. Silver eels are caught during their fall migration as well. Eel pots are the most typical gear used; however, weirs, fyke nets, and other fishing methods are also employed. Glass eel fisheries along the Atlantic coast are prohibited in all states except Maine and South Carolina (see Appendix 1 for

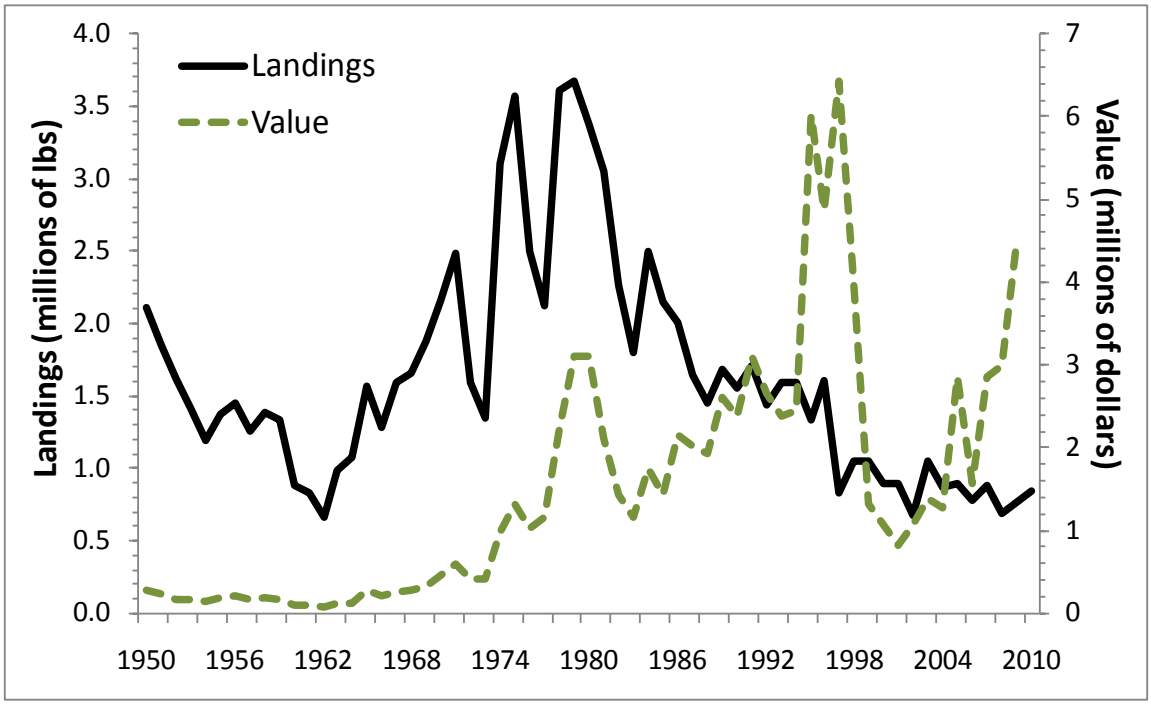

Figure 1. Total commercial landings of American eels and value in 2010 dollars along the U.S. Atlantic Coast, 1950–2010.

current regulations for all American eel fisheries). In recent years, Maine is the only state reporting significant glass eel and elver harvest. Harvest has increased the last few years as the market price has risen to over $2,000 per pound. Although yellow eels were harvested for food historically, today's fishery sells yellow eels primarily as bait for recreational fisheries. Glass eels are exported to Asia to serve as seed stock for aquaculture facilities.

From 1950 to 2010, U.S. Atlantic coast landings ranged from approximately 664,000 pounds in 1962 to 3.67 million pounds in 1979 (Figure 1). After an initial decline in the 1950s, landings increased to a peak in the 1970s and 1980s in response to higher demand from European food markets. In most regions, landings declined sharply in the 1990s and 2000s following a few years of peak landings. The value of U.S. commercial American eel landings as estimated by NOAA Fisheries has varied from less than a $100,000 (prior to the 1980s) to a peak of $6.4 million in 1997 (Figure 1). Total landings value increased through the 1980s and 1990s, dropped in the late 1990s, and increased again in the 2000s. For current commercial and recreational regulations for American eel by state, please see Appendix I.

2. HABITAT RECOMMENDATIONS

To meet the goal of reducing mortality on all life stages ASMFC should focus efforts on understanding habitat requirements for American eels, engaging the relevant regulatory agencies to increase or improve upstream /downstream eel passage, and encouraging habitat restoration. Specifically the Technical Committee and Plan Development Team have recommended the following items for completion:

1. Development of quantifiable eel habitat enhancement goals through the creation of a coastwide eel habitat GIS database. The goal of the database would be the generation of coastwide, regional, state, and watershed maps that would quantify the amount of available habitat relative to historical habitat and identify major barriers to eel migration. This information would allow the ASMFC to prioritize eel habitat enhancement programs at coastwide, regional, and state scales. Efforts should be coordinated with existing GIS efforts already underway in Canada (see: http://www.dfo-mpo.gc.ca/Library/345546.pdf). Potential funding and coordination with the Atlantic Fish Habitat Partnership should be considered. This project is considered a high priority item and should be completed either prior to the start of the next benchmark stock assessment or in conjunction with the stock assessment.
2. The American Eel Technical Committee should work with other appropriate ASMFC committees to develop materials to support states or jurisdictions interested in making recommendations to the Federal Energy Regulatory Commission (FERC) for upstream and downstream fish passage provisions for American eels in the hydropower licensing and relicensing process. A list of FERC requirements in coordinating with the states in the hydropower licensing and relicensing process is included in Appendix IV.
3. Work with states and jurisdictions to develop a list of non-FERC licensed dams and other impoundments which impact eel movements and migration. The Nature Conservancy recently completed an online, interactive inventory of dams from Maine to Virginia (see: The Northeast Aquatic Connectivity and Assessment of Dams) which could be adapted to meet this goal. An evaluation should be conducted on each general type of impoundment to assess the potential for eel passage without assistance (i.e. no eel passage constructed) or determine what type of eel passage for each type of impoundment would be most beneficial for all, or specific, life stages. The recommendations from the workshop proceedings (in preparation) from the ASMFC American Eel Passage Workshop held in Gloucester, MA, March 2011 should be a useful document to assist in the completion of this task. Additional recommendations on eel passage are found in Appendix III.
4. Based on #1 – 3, all states and jurisdictions should develop a timeline and target for 1) the amount of habitat to open up through creation of fish passage or dam removal, where feasible and/or 2) the amount of habitat to enhance to increase survival for all, or specific, life stages.
5. The Technical Committee should assess and provide recommendations related to other potential impacts caused by water supply and withdrawal operations, water diversions, and agricultural water use.
6. The American Eel Technical Committee and Stock Assessment Sub-committee should increase coordination with the ASMFC Fish Passage, Habitat, and FERC Guidance Committees. The state marine fisheries agencies should also encourage increased communication and collaboration with their inland fisheries agencies counterparts where applicable. The Commission should also continue the development of a Memorandum of Understanding between the Great Lakes Fisheries Commission, U.S. Fish and Wildlife Service, and NOAA Fisheries in order to reduce mortality on eels throughout their range, as well as improving access to suitable habitat.

3. MONITORING PROGRAM

3.1 CURRENT MONITORING REQUIREMENTS

3.1.1 Fisheries Independent Data Collection

Annual fishery-independent surveys for young-of year American eel were mandated by ASMFC in 2001. Each participating jurisdiction shall deploy appropriate gear to capture young of the year over an eight-week period. A variety of gear types are available for use, and states should use the gear most suitable to the habitat and geography within their jurisdiction. The timing and placement of the young-of-year sampling gear will coincide with those periods of peak onshore migration of young-of-year. The locations selected will be those previously shown to catch young-of-year American eel and should provide as wide a geographic distribution as possible. Standard stations and procedures will remain fixed. At a minimum, the gear will be set so that they are operational during periods of rising or flood tides occurring at nighttime hours. The entire catch of young-of-year will be counted, with weekly sub-sampling of 60 eels for length and weight.

3.1.2 Fisheries Dependent Data Collection

Under the FMP states must report on directed commercial harvest, by month, including pounds landed by life stage, gear type, and catch per unit effort (CPUE). Additionally, states must collect biological data from a representative sub-sample of the commercial catch, if available, to evaluate sex and age structure (for yellow/silver eels), length and weight. States must also report on the estimated percent of harvest going to food versus bait.

3.2 PROPOSED MONITORING PROGRAM

Monitoring programs should be implemented to maximize the collection of the most useful data for monitoring the annual health of the stock, as well as to provide both statistically valid and scientifically rigorous information for stock assessment analysis. Additionally, the design of a new program will need to take into consideration the priorities of state monitoring programs as well as available funding and personnel.

3.2.1 Fisheries Independent Surveys

The 2012 American Eel Benchmark Stock Assessment made the following recommendations with regard to coastwide fisheries independent sampling:

1. Recommend states collect biological information by life stage including length, weight, age, and sex of eels caught in fishery-independent sampling programs; at a minimum, length samples should be routinely collected from fishery-independent or fisheries-dependant surveys.
2. Encourage states to implement surveys that directly target and measure abundance of yellow- and silver-stage American eels, especially in states where few targeted eel surveys are conducted.
3. A coast-wide sampling program for yellow and silver American eels should be developed using standardized and statistically robust methodologies.
4. Continue the ASMFC-mandated young-of-the-year surveys; these surveys could be particularly valuable as an early warning signal of recruitment failure.

3.2.1.1 Annual Young-of-Year Abundance Survey

States and jurisdictions currently conducting young-of-the-year surveys, as specified in Table 1, will be required to maintain these surveys. The requirements of the annual young-of-the-year survey will remain as specified under Section 3.1.1 of the FMP. As funds and/or personnel become available it is recommended that states/jurisdictions consider implementing young-of-the-year monitoring programs as specified in Table 1.

3.2.1.2 Annual Yellow Eel Survey

States and jurisdictions currently conducting yellow eel surveys, as specified in Table 1, will be required to maintain these surveys. As funds and/or personnel become available it is recommended that states/jurisdictions consider implementing the yellow eel monitoring programs as specified in Table 1.

3.2.1.3 Annual Silver Eel Survey

States and jurisdictions currently conducting silver eel surveys, as specified in Table 1, will be required to maintain these surveys. As funds and/or personnel become available it is recommended that states/jurisdictions consider implementing the silver eel monitoring programs as specified in Table 1.

3.2.1.4 Multiple Life Stages Survey

Where possible, the American Eel Technical Committee recommends the identification of areas where multiple life stage surveys can be conducted. Ideally the survey would target glass eel immigration and silver/yellow eel emigration in the same system in order to track recruitment, age, growth, survival, and mortality.

3.2.2 Fisheries Dependant Surveys

States and jurisdictions are required to continue commercial monitoring programs, including mandatory monitoring (harvester or dealer) of catch and effort, applicable only to the commercial sector of the eel fishery. To increase accuracy of reporting, dealer and/or harvester landing catches must report to the state of landing monthly or more frequently, if possible. States with more conservative reporting requirements in place will be required to maintain them. States and jurisdictions may continue to petition the Management Board for *de minimis* status (met if commercial landings are less than 1% of the coastwide total), which exempts them from additional fishery dependent monitoring requirements, per Section 4.4.2 of the FMP.

The American Eel Plan Development Team and Technical Committee have discussed the need to improve harvest data for eel caught under commercial permits and kept for personal use and not sold. There is concern this practice may be underreported especially in New England where some commercial permit holders save eels as bait for the commercial striped bass fishery. Under this addendum states and jurisdictions are recommended to implement strategies within their reporting system to recover data on eels harvested for personal use. This could be accomplished by updating current reporting criteria or implementing a special-use permit. A related reporting gap likely exists for recreational eel potting, however the

coast-wide magnitude is expected to be lower. Where feasible, states and jurisdiction are encourage to also investigate strategies for improving recreational harvest data on eels kept for personal use.

Additionally, this draft addendum recommends that the state marine agencies work with their state inland counterparts, where applicable, to standardize reporting of trip-level landings and effort data that occur in inland waters on diadromous populations of eels.

Table 1. Proposed Fisheries Independent Monitoring for American Eel

State	System	Monitoring Program	Targeted Life Stage				Information Collected
			G	E	Y	S	
Maine	West Harbor Pond	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Sebasticook River (Benton Falls)	Irish Elver Ramp^[A]		X	X		length, weight, count, EV
New Hampshire	Lamprey River	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Squamscott, Oyster, and Winnicut	Fyke net			X		length, weight, count, EV
Massachusetts	Acushnet, Parker, and Jones Rivers	Sheldon/Irish Elver Trap*^	X				count, length, weight, pigment stage, EV
	6 Coastal Rivers	Bycatch survey*^			X		length, weight, count, EV
Rhode Island	Gilbert Stuart	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Annaquatucket River	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Narragansett Bay	Trawl Survey^			X		length, weight, count, EV
	Narragansett Bay	Seine Survey^			X		length, weight, count, EV
Connecticut	Ingham Hill	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Farmill River	Electrofishing survey ^[A]			X		length, weight, count, EV
New York	Carmans River	Fyke net^	X				count, length, weight, pigment stage, EV
	Hudson River	Striped Bass Survey*^[A]		X	X		length, weight, count, EV
	Hudson River	Alosine Survey*^[A]		X	X		length, weight, count, EV
	Western Long Island	Seine Survey*^		X	X		length, count, EV
New Jersey	Patcong Creek	Fyke net^	X				count, length, weight, pigment stage, EV
	tributary of Delaware River/Bay	River Herring electrofishing survey*			*X*		length, weight, count, EV
	Delaware River	Striped Bass Seine Survey*^[A]			X		length, weight, count, EV
Pennsylvania	non-tidal DE River	Small mouth bass survey^		X	X		count
Delaware	Millsboro	Fyke net^	X				count, length, weight, pigment stage, EV
	Delaware River	Trawl survey ^[A]		X	X		length, weight, count, EV

State	System	Monitoring Program	Targeted Life Stage				Information Collected
			G	E	Y	S	
Maryland	Turville Creek	Irish Elver Ramp^[A]	X				count, length, weight, pigment stage, EV
	Bishopville	Irish Elver Ramp	X				count, length, weight, pigment stage, EV
	Sassafrass River	Pot Survey^[A]			X		length, weight, count, EV
	Chesapeake Bay	Juvenile Striped Bass Survey*^[A]			X		length, weight, count, EV
	Corsica River	Trap Survey^[A]				X	length, weight, count, EV
PRFC	Clarks Millpond (Coan R.)	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Gardys Millpond (Yeocomico R.)	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
DC	Potomac River	Electrofishing survey^			X		length, weight, count, EV
	Potomac River	Pot Survey^			X		length, weight, count, EV
Virginia	James	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	York	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Rappahannock	Irish Elver Ramp^	X				count, length, weight, pigment stage, EV
	Inland Waters	Electrofishing survey**^[A]			X		length, weight, count, EV
North Carolina	Beaufort Bridge	Net Survey^**	X				count, length, weight, pigment stage, EV
	Estuarine Trawl Survey	Trawl Survey^[A]			X		length, count, EV
South Carolina	Goose Creek	Fyke net^	X				count, length, weight, pigment stage, EV
	Lower Edisto, Combahee, Ashley, Cooper Rivers and Upper Winyah Bay	Red Drum electrofishing survey*^[A]			X		length, weight, count, EV
	PeeDee, Edisto, Savannah Rives	Juvenile Am. Shad electrofishing survey*^			X	X	length, weight, count, EV
Georgia	Altamaha	Pot Survey			X		length, weight, count, EV
Florida	Guana River Dam	Dip Net Survey^	X				count, length, weight, pigment stage, EV

*Survey is primarily targeting another species and collects information on American eels caught as bycatch. The survey is conducted either as required by separate ASMFC FMP or at the discretion of the state. Under this addendum collection of data on bycaught eels is not a compliance requirement. However, if the state discontinues the survey it is recommended that a similar survey be implemented, as possible, to continue data collection.

** Survey is currently conducted by the inland or freshwater division in the state. G = Glass Eel E = Elver Eel Y = Yellow Eel S = Silver Eel

^ Survey currently conducted. A = Survey used in 2012 American Eel Stock Assessment. EV = Environmental Variables, as specified under Section 3.1.1 of the FMP

4. MANAGEMENT OPTIONS

It is important to emphasize that the 2012 American Eel Stock Assessment was a benchmark or baseline assessment that synthesized all available fishery-dependent and independent data yet was not able to construct eel population targets that could be related to sustainable fishery harvests. This is not an uncommon result of baseline stock assessments. The development of sustainable population and fishery thresholds will be an essential goal of future stock assessment. Despite the absence of fishery targets derived from population models, it is clear that high levels of yellow eel fishing occurred in the 1970s and 1980s in response to high prices offered from the export food market (Figure 1). For all coastal regions, peak catches in this period were followed by declining catches in the 1990s and 2000s, with some regions now at historic low levels of harvest. Given that high catches in the past could have contributed to the current depleted status the PDT believes it is prudent to reduce mortality on all life stages while enhancing and restoring habitat. This approach is further justified in light of the public interest in eel population conservation demonstrated by two recent petitions to list American eel under the Endangered Species Act.

4.1 COMMERCIAL FISHERY MANAGEMENT OPTIONS

The American Eel Stock Assessment recommended that mortality should be reduced on all life stages. Therefore the management options proposed below are not exclusive of one another and, in order to maximize the conservation benefit to American eel stocks, may be implemented in combination. If new regulations are implemented by the Management Board, these regulations will replace Section 4.2.1 of the FMP. States/jurisdictions shall maintain existing or more conservative American eel commercial fishery regulations, unless otherwise approved by the American Eel Management Board. The implemented provisions will be considered a compliance requirement and are effective either upon adoption of the Addendum or as specified by the ASMFC. Management measures also include all mandatory monitoring and annual reporting requirements as described in Section 3. For current commercial regulations by state refer to Appendix I.

4.1.1 Glass Eel Fisheries

The following options apply to the glass eel fisheries that currently operate in Maine and South Carolina (Table 2). For all other jurisdictions, states are required to maintain existing or more conservative measures at the time of implementation of the American Eel FMP. These measures restrict the development of glass eel fisheries in the remaining states and jurisdictions. The following options are not mutually exclusive and can be implemented in combination.

Option 1 – Status Quo

Under this option the current regulations for glass eel fisheries will remain in place.

Option 2 – Closure of glass eel fisheries

Under this option no glass fisheries will be allowed to operate within state and jurisdictional waters.

Sub-Option 2a – Immediate closure
Under this sub-option all glass eel fisheries will close upon final approval of the addendum.

Sub-Option 2b – Delayed closure
Under this sub-option the glass eel fisheries will be closed within five years after final approval of the addendum or at another timeframe specified by the Management Board.

Table 2. Harvest (in pounds) and value of the glass eel fishery in Maine and South Carolina from 2007 - 2012. **South Carolina landings are confidential. ^ 2012 data is preliminary.*

	Maine		South Carolina	
Year	**Landings**	**Value**	**Landings***	**Value**
2007	3,713	$1,287,485	No activity reported	
2008	6,951	$1,486,355	No activity reported	
2009	5,119	$519,559	No activity reported	
2010	3,158	$584,850	<500	<$100,000
2011	8,584	$7,653,331	<500	<$500,000
2012^	20,755	$38,574,146	<1,000	<$2,000,000

Option 3 – Glass eel quota

Under this option glass eel harvest for states and jurisdictions with a glass eel fishery will be regulated annually through a quota system. Examples for quota management are described in the following sub-options.

Sub-option 3a – Historical Average (1998 – 2012)
Under this sub-option, glass eel landings will be managed through a quota system, with allocation based on the average landings from 1998 – 2012. This period was chosen as it includes reliable harvest from recent years. However, the American eel Plan Development Team (PDT) expressed concern about using 2012 harvest data as the landings were not representative of the historic operation of the fishery given the recent spike in demand for glass eels.

Under this sub-option, the annual quota would be set at 6,567 pounds, with 97% (6,373 pounds) allocated to Maine and 3% (194 pounds) allocated to South Carolina (Tables 3 and 4; Figures 2 and 3). If a jurisdiction exceeds its allocation, the amount in excess of its annual quota will be deducted from the jurisdiction's allowable quota in the following year.

Sub-Option 3b – Harvest Reductions
Under this option the annual quota for all states and jurisdictions would be reduced between 25% and 50%, or another percentage specified by the Management Board

but the Plan Development Team does not recommend a reduction over 50%. The baseline used for determining the quota reduction would be the 1998 – 2012 harvest average. Under the 25% option, Maine would be allocated 4,780 pounds and South Carolina would be allocated 145.5 pounds. Under the 50% option Maine would be allocated 3,187 pounds and South Carolina would be allocated 97 pounds (Tables 3 and 4; Figure 2 and 3).

Table 3. Estimated value for Maine under quota management based on the historical average (Sub-Option 3a) and a 25% and 50% harvest reduction (Sub-Option 3b). Estimated value based on 1) $100 per pound, 2) $1,000 per pound and 3) $2,500 per pound price for glass eels. *Difference refers to the difference between allocation and the average harvest from 2010 – 2012 (10,284 pounds).

	Allocation	Difference*	Estimated Value		
			$100/pound	$1000/pound	$2500/pound
Sub-Option 3a - Quota	6,373	-38%	$637,300	$6,373,000	$15,932,500
Sub-Option 3b - 25%	4,780	-53%	$477,975	$4,779,750	$11,949,375
Sub-Option 3b - 50%	3,187	-69%	$318,650	$3,186,500	$7,966,250

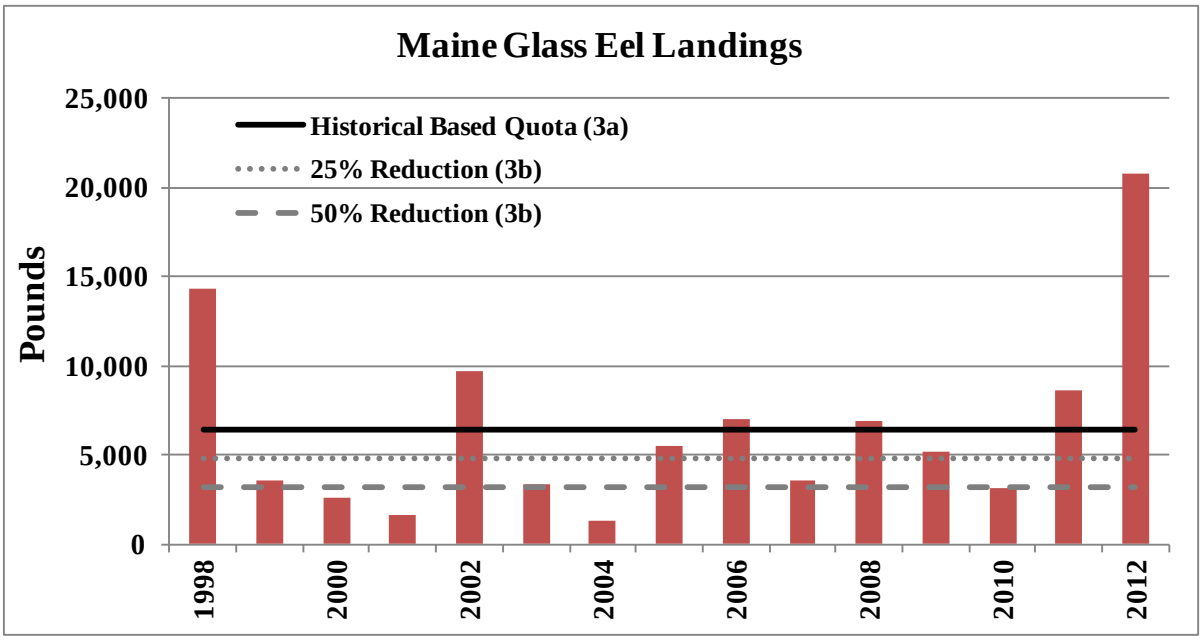

Figure 2. Maine glass eel landings and quota alternatives, in pounds.

Table 4. Estimated value for South Carolina under quota management based on the historical average (Sub-Option 3a) and a 25% and 50% harvest reduction (Sub-Option 3b). Estimated value based on 1) $100 per pound, 2) $1,000 per pound and 3) $2,500 per pound price for glass eels. **South Carolina glass eel landings are confidential.*

	Allocation	Difference*	Est. Value		
			$100/pound	$1000/pound	$2500/pound
Sub-Option 3a - Quota	194	-	$19,400	$194,000	$485,000
Sub-Option 3b - 25%	145.5	-	$14,550	$145,500	$363,750
Sub-Option 3b - 50%	97	-	$9,700	$97,000	$242,500

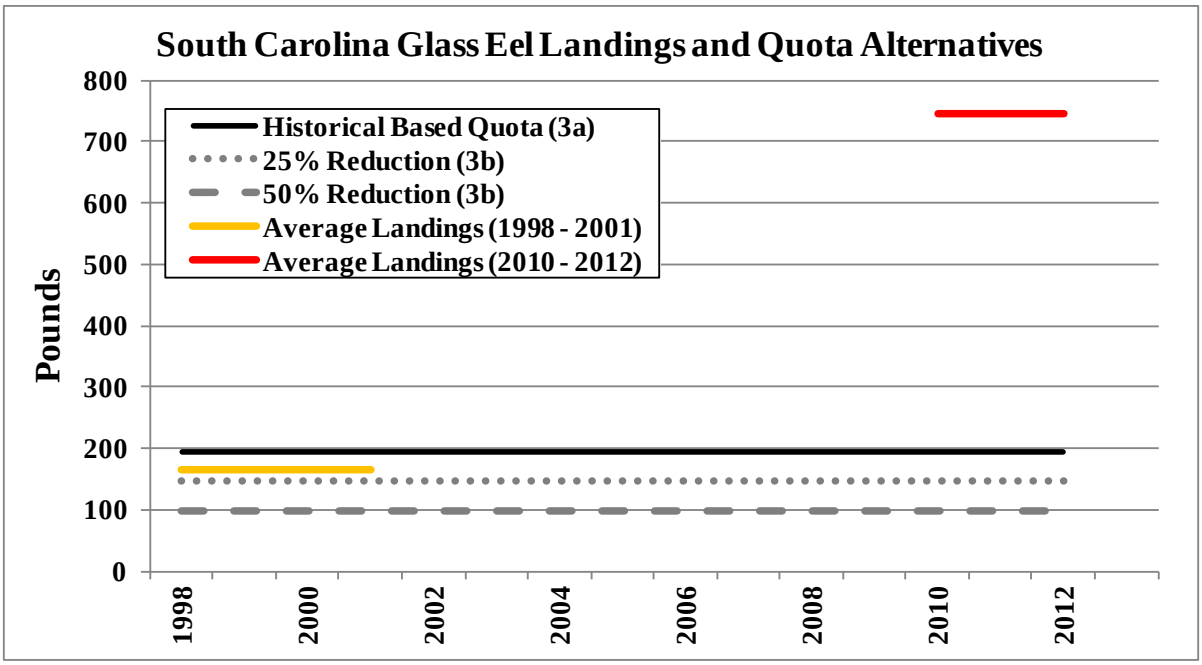

Figure 3. South Carolina glass eel landings (1998 – 2001 and 2010 – 2012 averages) and quota alternatives, in pounds.

Option 4 – Dealer Requirements

Under this option states with a glass eel fishery would be required to implement a trip level ticket system for harvesters and dealers in order to ensure accurate reporting of glass eel harvest. The American Eel Plan Development Team believed this system would be essential for quota monitoring accuracy given the sharp increase in market value and rise in illegal harvest. A cap or reduction in the number of glass eel dealers, or alternatively increased dealers license requirements, would also help address the underreporting problem by preventing people without a long-term interest in the fishery from entering.

Option 5 – Pigmented eel tolerance
An increase in harvest of pigmented eels has been observed in recent years during the glass eel fishery. Glass eels generally become pigmented as the season progresses and water temperatures increase, although there may be other factors that affect this pigmenting process (Haro and Krueger 1988). The pigmentation provides disruptive coloration and countershading for the eels, which presumably reduces predation and increases survivorship. Under the FMP, states must maintain current or more conservative fishing regulations. While the glass eel fishery is a traditional fishery, the pigmented eel fishery represents the development of a new fishery.

Therefore, under this option, for states with a commercial glass eel fishery, only a small tolerance (maximum of 25 pigmented eels per pound of glass eel catch) of pigmented eels would be allowed. States would have the option to propose other restrictions (e.g. mesh size requirements) to meet the goal of minimizing the development of a pigmented eel fishery, which would require review by the Technical Committee and approval by the Board. It has been observed that catches are predominately either glass eels or pigmented eels (i.e. the catch is not a mixture of both pigmented and glass eels). States may choose to It is also recommended that all catch be graded on the boat or streamside and that any bycatch is returned to the waters where the fish were harvested.

4.1.2 Yellow Eel Fisheries
Currently commercial yellow eel fisheries operate in all states with the exception of Pennsylvania and the District of Columbia. The following options are not mutually exclusive and can be implemented in combination.

Option 1 – Status Quo
Under this option the current regulations for yellow eel fisheries will remain in place.

Option 2 – Increase Minimum Size
Under this option sates and jurisdictions would be required to adopt a new minimum size limit for all yellow eel fisheries. Size limits are difficult to enforce prior to harvest, unless the gear selects for a certain size. Harvesters would be required to sort their catch and discard eels smaller than the size limit.

The American Eel Stock Assessment Subcommittee (SASC) has used the Sequential Life-table and Yield-per-recruit Model for the American Eel, known as *SLYME,* to describe the effects of growth and mortality on the American eel population by age class from the time that glass eel arrive at the coast to the time that adult eel spawn. Originally developed by David Cairns (Canada DFO) for the August 2000 meeting of the International Council for Exploration of the Seas (ICES) Working Group on Eels, the SASC has applied this model to evaluate the relative impact of varying fishing mortalities on egg production (eggs per recruit, EPR) and the relative increases in egg production as a result of changing the minimum size limit and implementing a maximum size limit for harvest (See *Silver Eel Management Options*). It is generally accepted that American eel in the northern portion of

the species' range are larger than eel in the southern end of the range. However, the SASC has determined that there is not enough information to develop regional or state specific maximum sizes for the coast.

The American Eel Plan Development Team (PDT) recognizes that the potential Eggs-Per-Recruit increase is not substantial for the size options given (< 1%, Table 5). However the PDT is concerned about the development of fisheries on small yellow eels and sees the inclusion of options to increase the minimum size as a means to prevent this fishery from further developing. The glass eel fisheries have long targeted the newly recruited young-of-the-year eel to sell to the Asian market for eel culture. In 2011-2012 the ASMFC Eel Technical Committee received reports of new dealers offering to buy pigmented eels of larger size (age-1+) than glass eels. New fisheries that target pigmented juvenile eels in Maine and South Carolina and presently legal sizes (>6 inches) in other states could create significant enforcement challenges and undermine regional conservations efforts. This option would also meet the overall goal of reducing mortality on all life stages and has potential to increase future yield in commercial fisheries. The PDT recommends 10 to 11 inch minimum size limit. Additionally, the PDT requests that the Law Enforcement Committee comment on the need for consistent size regulations between the commercial and recreational fisheries.

Table 5. Expected increase in Eggs-Per-Recruit with the associated change in minimum size for yellow eels.

Minimum Size (inches)	% Change Eggs Per Recruit
8	0
9	0.0113
10	0.0113
11	0.262
12	0.262

Table 6. Percent of the fishery (by number) for New Jersey, Delaware, Maryland, and Florida that would be illegal under the proposed increases in minimum size.

Size Limit	NJ	DE	MD	NC	FL
8"		0%	0%	0%	
9"	0%	2%	1%	0%	
10"	1%	9%	3%	1%	
11"	3%	24%	14%	7%	0%
12"	6%	44%	34%	36%	0%

Option 3 – Gear Restrictions

Under this option states and jurisdictions would need to implement gear restrictions in their commercial yellow eel fisheries. The benefit of effective gear restrictions is that smaller eels

are not landed, thus eliminating the need for harvesters to handle these fish or enforcement having to measure fish. It is likely that the gear restrictions will not protect out-migrating silver eel because silver eels don't actively pot. No gear requirements are sought to exclude larger eels from pots at this time because only a low number of silver eels are caught in pot fisheries. Also since there is size overlap between yellow and silver eels the smaller silver eels would not likely be protected by gear restrictions (males are commonly shorter than females). Another consideration in requiring gear modifications is the cost to the fishermen to modify existing gear. Any gear restrictions that are instituted should be monitored for effectiveness.

The size of eels that are retained in pots depends on a number of variables but the principal one is the size of the mesh. Requiring the use of escape panels of the appropriate mesh size for a targeted minimum length (correlated to girth) could control the size of eels retained in eel pots. Maine, Maryland, Potomac River Fisheries Commission, and South Carolina have a mesh size requirement of ½ x ½ inch mesh or an escape panel constructed of ½ x ½ inch mesh. Florida and New York (marine) currently require mesh of 1 x ½ inches. North Carolina and Virginia require escape panels. Their escape panels are constructed of 1 x ½ inch wire mesh and must be at least 4 x 6 inches (North Carolina) and 4 x 4inches (Virginia). Georgia requires pots to be constructed of 1 ½ x ½ inch mesh.

Sub-option 3a – Status Quo
Under this sub-option states would be required to maintain their current mesh size restrictions.

Sub-option 3b – ¾ by ½ inch minimum mesh size
Under this sub-option states would be required to implement a restriction on the mesh size used in eel pots. States would have to require, at a minimum, the use of a 4 by 4 inch escape panel constructed out of mesh size of at least ¾ by ½ inch mesh. The implementation of this sub-option should allow for smaller eels to escape. However, there is no information on harvest reductions of smaller yellow eels this sub-option would achieve.

Sub-option 3c – 1 by ½ inch minimum mesh size
Under this sub-option states would be required to implement a restriction on the mesh size used in eel pots. States would have to require at a minimum the use of a 4 by 4 inch escape panel constructed of a mesh size of at least 1 by ½ inch mesh.

In North Carolina, Hutchinson (1997) demonstrated a reduction in the percentage of small yellow eels harvested using escape panels (1 x ½ inch, Table 7). Escape panels (1 x ½ inch) reduced the percentage of yellow eels less than 9 and 10 inches in total length harvested from eel pots by 31% and 43%, respectively, when compared to eel pots constructed of ½ x ½ inch mesh (no escape panel). Escape panels (1 x ½ inch) reduced the percentage of yellow eels less than 11 and 12 inches in total length harvested from eel pots by 45% and 37%, respectively, when compared to eel pots constructed of ½ x ½ inch mesh (no escape panel).

Implementing an escape panel (1 x ½ inch) requirement would reduce the number of small yellow eels (less than 10 inches) harvested coast wide. Refer to Table 6 for the percent of catch, for states with available data, by size.

Table 7. Reduction in the percentage of small yellow eels harvested using escape panels (1 x ½ inch, n = 3,957) and no escape panels (n=8,105) (Hutchinson 1997).

Inches	% of catch no escape panel	% of catch with escape panel	Reduction in eels harvested at the given sizes
Less than 8	-	0.03%	
Less than 9	0.16%	0.11%	31%
Less than 10	1.25%	0.71%	43%
Less than 11	13%	7%	45%
Less than 12	58%	36%	37%
12 to 31	42%	64%	-

Option 4 – Coastwide Quota

Under this option yellow eel harvest for states and jurisdictions with a yellow eel fishery will be regulated annually through a quota system. Examples for quota management are described in the following sub-options.

Sub-option 3a – Historical Average (1980-2011)

Under this sub-option, yellow eel landings will be managed through a quota system, with allocation based on the average landings from 1980-2011. This period was chosen as it includes a range of years that captures a more productive time in the fishery as well as years for which reliable data is available.

Under this sub-option, the annual quota would be set at 1,481,529 pounds, with allocation and change from current landings specified in Table 8. If a jurisdiction exceeds its allocation, the amount in excess of its annual quota will be deducted from the jurisdiction's allowable quota in the following year. The states of New Hampshire and South Carolina have minimal reported landings during this time period. The PDT recommends a minimum quota set at 2,000 for these two states to provide a small quota that would be sufficient to cover any directed or bycaught landings. Quota transfers between states may be considered.

Sub-option 3b – Historical Average (1990-2011)

Under this sub-option, yellow eel landings will be managed through a quota system, with allocation based on the average landings from 1990-2011. This period was chose as it includes the most current years for which reliable data is available.

Under this sub-option, the annual quota would be set at 1,117,734 pounds, with allocation and change from current landings specified in Table 9. If a jurisdiction exceeds its allocation, the amount in excess of its annual quota will be deducted from

the jurisdiction's allowable quota in the following year. The minimum allocated quota was fixed at 2,000 pounds; if a state's proposed quota under any of the sub-options was less than this amount it was automatically set at 2,000 pounds. This provides those states a quota that would be sufficient to cover any directed or bycaught landings without creating an administrative burden. Quota transfers between states may be considered.

Sub-option 3c – Current Average (2002-2011)
Under this sub-option, yellow eel landings will be managed through a quota system, with allocation based on the average landings from 2002-2011. This period was chosen because it is based on of landings which more accurately reflect the current distribution of the fishery.

Under this sub-option, the annual quota would be set at 859,309 pounds, with allocation as specified in Table 10. If a jurisdiction exceeds its allocation, the amount in excess of its annual quota will be deducted from the jurisdiction's allowable quota in the following year. The minimum allocated quota was fixed at 2,000 pounds; if a state's proposed quota under any of the sub-options was less than this amount it was automatically set at 2,000 pounds. This provides those states a quota that would be sufficient to cover any directed or bycaught landings without creating an administrative burden. Quota transfers between states may be considered.

Sub-Option 3d – Harvest Reductions
Under this option states and jurisdictions the annual quota would be reduced by 20, 30, 40, and 50%. The baseline used for determining the quota reduction could be one of the following:

1. 1980 – 2011 harvest average
2. 1990 – 2011 harvest average
3. 2002 – 2011 harvest average

Under this sub-option, the annual quota could be set between 432,654 and 1,186,023 pounds, with allocation as specified in Tables 8, 9, and 10. If a jurisdiction exceeds its allocation, the amount in excess of its annual quota will be deducted from the jurisdiction's allowable quota in the following year. The minimum allocated quota was fixed at 2,000 pounds; if a state's proposed quota under any of the sub-options was less than this amount it was automatically set at 2,000 pounds. This provides those states a quota that would be sufficient to cover any directed or bycaught landings without creating an administrative burden. Quota transfers between states may be considered.

Option 5 – Reporting Requirements
Under this option states and jurisdictions with a commercial yellow eel fishery will be required to implement a trip level ticket system for dealer and harvester reporting. The PDT believed this system will be essential for quota monitoring. Cross referencing between dealer and fishery trip level reporting should be conducted to ensure accuracy.

Table 8. Proposed quota allocations, in pounds, by state under Sub-Options 3a and 3d. The proposed quota listed under Sub-Option 3a is based on that states average harvest from 1980 to 2011. The proposed quotas listed under Sub-Option 3d show the 20%, 30%, 40%, and 50% reductions from the Sub-Option 3a quota. Also shown is the recent harvest by state (average landings from 2009 – 2011) for comparison. The fishery is not currently managed by a quota. Note: The minimum allocated quota was fixed at 2,000 pounds; if a state's proposed quota under any of the sub-options was less than this amount it was automatically set at 2,000 pounds.

	Sub-Option 3a and 3d Proposed Quota Allocations					**Recent Harvest (Average 2009-2011)**
	3a	**3d - 20% reduction**	**3d - 30% reduction**	**3d - 40% reduction**	**3d - 50% reduction**	
Maine	28,519	22,816	19,964	17,112	14,260	6,755
New Hampshire	2,000	2,000	2,000	2,000	2,000	99
Massachusetts	10,257	8,206	7,180	6,154	5,129	621
Rhode Island	6,485	5,188	4,539	3,891	3,242	3,673
Connecticut	9,790	7,832	6,853	5,874	4,895	221
New York	57,034	45,627	39,924	34,220	28,517	15,761
New Jersey	169,512	135,610	118,659	101,707	84,756	119,447
Delaware	130,274	104,219	91,192	78,164	65,137	72,972
Maryland	282,622	226,098	197,835	169,573	141,311	484,138
PRFC	208,982	167,186	146,287	125,389	104,491	48,543
Virginia	365,664	292,531	255,965	219,398	182,832	92,945
North Carolina	178,643	142,914	125,050	107,186	89,322	82,270
South Carolina	2,000	2,000	2,000	2,000	2,000	18
Georgia	8,743	6,994	6,120	5,246	4,372	103
Florida	21,010	16,808	14,707	12,606	10,505	14,571
Total	1,481,529	1,186,023	1,038,270	890,517	742,765	48,543

Table 9. Proposed quota allocations, in pounds, by state under Sub-Options 3b and 3d. The proposed quota listed under Sub-Option 3a is based on that states average harvest from 1990 to 2011. The proposed quotas listed under Sub-Options 3d show the 20%, 30%, 40%, and 50% reductions from the Sub-Option 3b quota. Also shown is the recent harvest by state (average landings from 2009 – 2011) for comparison. The fishery is not currently managed by a quota. Note: The minimum allocated quota was fixed at 2,000 pounds; if a state's proposed quota under any of the sub-options was less than this amount it was automatically set at 2,000 pounds.

	Sub-Option 3b and 3d Proposed Quota Allocations					**Recent Harvest (Average landings from 2009-2011)**
	3b	**3d - 20% reduction***	**3d - 30% reduction**	**3d - 40% reduction**	**3d - 50% reduction**	
Maine	24,576	19,660	17,203	14,745	12,288	6,755
New Hampshire	2,000	2,000	2,000	2,000	2,000	99
Massachusetts	6,632	5,306	4,642	3,979	3,316	621
Rhode Island	8,569	6,855	5,999	5,142	4,285	3,673
Connecticut	5,942	4,753	4,159	3,565	2,971	221
New York	12,527	10,021	8,769	7,516	6,263	15,761
New Jersey	133,591	106,873	93,514	80,154	66,795	119,447
Delaware	132,100	105,680	92,470	79,260	66,050	72,972
Maryland	314,432	251,546	220,102	188,659	157,216	484,138
PRFC	155,912	124,729	109,138	93,547	77,956	48,543
Virginia	221,539	177,231	155,077	132,923	110,770	92,945
North Carolina	83,357	66,686	58,350	50,014	41,679	82,270
South Carolina	2,000	2,000	2,000	2,000	2,000	18
Georgia	2,000	2,000	2,000	2,000	2,000	103
Florida	13,756	11,005	9,630	8,254	6,878	14,571
Total	1,117,734	894,987	783,614	672,240	560,867	48,543

Table 10. Proposed quota allocations, in pounds, by state under Sub-Options 3c and 3d. The proposed quota listed under Sub-Option 3c is based on that states average harvest from 2002 to 2011. The proposed quotas listed under Sub-Options 3d show the 20%, 30%, 40%, and 50% reductions from the Sub-Option 3c quota. Also shown is the recent harvest by state (average landings from 2009 – 2011) for comparison. The fishery is not currently managed by a quota. Note: The minimum allocated quota was fixed at 2,000 pounds; if a state's proposed quota under any of the sub-options was less than this amount it was automatically set at 2,000 pounds.

	Sub-Option 3c and 3d Proposed Quota Allocations					**Recent Harvest (Average 2009-2011)**
	3c	**3d - 20% reduction**	**3d - 30% reduction**	**3d - 40% reduction**	**3d - 50% reduction**	
Maine	14,358	11,486	10,051	8,615	7,179	6,755
New Hampshire	2,000	2,000	2,000	2,000	2,000	99
Massachusetts	3,073	2,458	2,151	2,000	2,000	621
Rhode Island	2,360	2,000	2,000	2,000	2,000	3,673
Connecticut	2,000	2,000	2,000	2,000	2,000	221
New York	7,001	5,601	4,901	4,201	3,501	15,761
New Jersey	125,607	100,485	87,925	75,364	62,803	119,447
Delaware	104,854	83,883	73,398	62,912	52,427	72,972
Maryland	335,105	268,084	234,574	201,063	167,553	484,138
PRFC	87,010	69,608	60,907	52,206	43,505	48,543
Virginia	87,627	70,102	61,339	52,576	43,814	92,945
North Carolina	74,969	59,975	52,479	44,982	37,485	82,270
South Carolina	2,000	2,000	2,000	2,000	2,000	18
Georgia	2,000	2,000	2,000	2,000	2,000	103
Florida	9,528	7,622	6,670	5,717	4,764	14,571
Total	859,309	688,647	603,316	517,985	432,654	48,543

Option 6 – Two Week Fall Closure

Under this option, states and jurisdictions would be required to close their directed yellow eel pot/trap fishery for two consecutive weeks between September 1st and October 31st. The state or jurisdiction may specify when the closure occurs, however it must occur after the estimated start of each state's silver eel migration. All eel pots/traps, as defined by the state, must be removed from the water during this two week closure. A limited fall closure will result in a reduction in yellow eel landings as most American eels are landed in the fall. Refer to Table 11 for estimates of average monthly harvest by state. Although silver eels have a low susceptibility to eel pots, the dominant eel fishing gear, a limited fall closure will also allow more silver eels to escape to spawn. Time of out migration for silver eels is given in Table 12.

Table 11. Percentage of commercial yellow eel harvest, by state, for the months of September, October, and November that was caught in pots or traps. All percentage calculations are based on the average harvest from all gears from 2009 – 2011.

	September	October	November	Average Harvest from 2009 – 2011 for All Gears
Maine	5%	0%	0%	6,755
New Hampshire	10%	0%	0%	99
Massachusetts	4%	3%	0%	621
Rhode Island	19%	21%	2%	3,573
Connecticut	24%	17%	0%	221
New York	10%	17%	3%	15,761
New Jersey	23%	27%	6%	119,447
Delaware	21%	30%	8%	72,972
Maryland	9%	19%	8%	484,138
Virginia	21%	30%	12%	92,945
North Carolina	13%	38%	24%	82,270
South Carolina	0%	0%	0%	18
Georgia	0%	0%	0%	103
Florida	0%	0%	11%	14,571
Total				893,491

4.1.3 Silver Eel Fisheries

Option 1 – Status Quo

Under this option the current regulations will remain in place.

Option 2 – Seasonal Closure Restrictions

Under this option states and jurisdictions would be required to implement no take of eels during the fall from any gear type other than baited traps/pots (e.g. fyke nets, pound nets and

weirs). These gears may still be fished, however no retention of eels is allowed. These gears specified have the highest rate of capture of silver eels. It is believed that most silver eels do not respond to baited traps/pots. Time of out migration for silver eels is given in Table 12. The goal of this option is to reduce or phase out the harvest of silver eels as well as reduce pressure on yellow eels. Refer to Table 13 for the average commercial harvest by month and state. If the outmigration period cannot be determined then prohibition on landing eels from the gears specified above will occur from from September 1st through December 31st. If adopted, the PDT recommends that all states implement a closure from September 1st to December 31st in order to provide the greatest conservation benefit.

Table 12. Expected or known periods of silver eel out-migration by state and jurisdiction. Black shading indicates periods of silver eel out-migration.

State	Sep	Oct	Nov	Dec
ME	■	■	■	
NH	■	■	■	■
MA	■	■	■	■
RI	■	■	■	■
CT		■	■	
NY		■	■	
NJ		■	■	
PA	UNKNOWN			
DE	■	■	■	
MD		■	■	■
DC			■	■
PRFC			■	■
VA			■	■
NC	UNKNOWN			
SC	UNKNOWN			
GA	UNKNOWN			
FL	UNKNOWN			

Table 13. Percentage of commercial yellow eel harvest, by state, for the months of September, October, November, and December that was caught in gears other than pots or traps. All calculations based on the average harvest from 2009 – 2011.

	September	October	November	December	Average Harvest from 2009 – 2011 for All Gears
Maine	0.00%	0.00%	0.00%	0.00%	6,755
New Hampshire	0.00%	0.00%	0.00%	0.00%	99
Massachusetts	0.00%	0.00%	7.73%	0.00%	621
Rhode Island	0.00%	0.07%	14.47%	0.00%	3,573
Connecticut	0.00%	0.00%	0.00%	0.00%	221
New York	1.33%	0.83%	3.66%	0.17%	15,761
New Jersey	0.12%	0.65%	0.27%	0.05%	119,447
Delaware	0.00%	0.00%	0.00%	0.00%	72,972
Maryland	0.00%	0.01%	0.17%	0.00%	484,138
Virginia	0.07%	0.28%	0.10%	0.16%	92,945
North Carolina	0.00%	0.02%	0.00%	0.00%	82,270
South Carolina	0.00%	0.00%	0.00%	0.00%	18
Georgia	0.00%	0.00%	0.00%	0.00%	103
Florida	0.00%	0.00%	0.00%	0.00%	14,571
Total					893,491

4.2 RECREATIONAL FISHERIES

Although recreational harvest of eel is believed to be low compared to commercial harvest, reductions in all sectors are warranted given the depleted nature of the stock. The following options are not mutually exclusive and can be implemented in combination. Additionally, if the commercial minimum size limit changes under Option 2 of Section 4.2.1, the American Eel Plan Development Team requests that the ASMFC Law Enforcement Committee comment on the need for consistent size regulations between the commercial and recreational fisheries.

Option 1 - Status Quo

There is currently a 50 fish per day per angler creel limit in place under the FMP. Two jurisdictions (Maryland and D.C.) have a lower creel limit in place. Two states (Georgia and Florida) do not have any possession limits in place due to the fact that no recreational fishery is known to occur. While recreational harvest of American eels has been anecdotal in South Carolina with most fish released, the state recently passed legislation enacting a 50 eel per day per angler creel limit with a six inch size minimum restriction.

Option 2 - Reduce recreational bag limit
Given the interest to have all fishery sectors contribute to conservation measures under Addendum III, and the expectation that a recreational daily bag limit of 50 eels is excessive, this option proposes to required all states and jurisdictions to reduce the daily recreational bag limit to 25 fish per day per angler creel. This measure would also apply to crew members involved in party/charter (for-hire) employment, for bait purposes during fishing. The current size limit as specified under the FMP in six inches. Most eels caught recreationally are for use as bait, especially for striped bass. Harvest from the recreational fishery is believed to be low.

Option 3 – Party/Charter (For-Hire) Exemption
Under this option, party/charter (for-hire) activities would be exempt from the 25 fish per day bag limit. Crew members involved in for-hire employment would still be subject to the current 50 fish per day bag limit and six inch size minimum for bait purposes during fishing, as specified under the American Eel FMP.

5. IMPLEMENTATION SCHEDULE

States must implement the provisions of this Addendum not later than the following dates:

XX-XX-XXXX:	States must submit detailed plans to implement this Addendum for approval by the American Eel Technical Committee (TC).
XX-XX-XXXX:	The Technical Committee presents their findings regarding the implementation plans to the Management Board.
XX-XX-XXXX:	States with approved management programs shall begin implementing Addendum.

6. LITERATURE CITED

Goodwin, K.R., and P.L. Angermeier. 2003. Demographic characteristics of American eel in the Potomac River drainage, Virginia. Transactions of the American Fisheries Society 132(3):524–535.

Haro, A.J., and W.H. Krueger. 1988. Pigmentation, size, and migration of elvers (*Anguilla rostrata* (Lesueur)) in a coastal Rhode Island stream. Canadian Journal of Zoology 66(11):2528–2533.

Hutchinson, 1997. Evaluation under commercial fishing conditions the effectiveness of the mandated eel pot grading panel on the North Carolina American eel. North Carolina Department of Environment, Health, and Natural Resources, Division of Marine Fisheries Grant Program. Grant No. FRG-95-105. Contract No. M-6028.

Appendix I. Commercial American Eel Regulations by state or jurisdiction

State	Size Limit	License/ Permit	Reporting	Seasonal/ Time Closure	Gear Restrictions	Area Restriction	Other
ME	6"	Specific license	At end of season. Harvester reporting. Pounds/month, pots fished, and days fished.	Coastal and inland yellow eel fishery - None. Inland weir fishery - July 15 - Nov 15	**Coastal yellow eel fishery** limited to pot or hoop nets. An eel pot is a cylindrical or rectangular trap with funnels that is baited. It is 50 cubic ft or less in volume and made of wire or slatting no smaller than ½ inch square measure. A hoop net is a stationary cylindrical net fitted with mesh measuring ½ inch or greater stretch measure, has a max diameter of 6 ft, and is 18 ft or less in length from the cod end to the hoop that forms the mouth; it may have wings/leads attached to the mouth.		
	6"	Specific license	End of season. Harvester reporting. Pounds/month, pots fished, and days fished.		**Inland Yellow Eel fishery** limited to pots only. An eel pot is a cylindrical or rectangular trap with funnels that is baited. It is 50 cubic ft or less in volume and made of wire or slatting no smaller than ½ inch square measure (same as for coastal waters).		
	6"	Specific license	At end of season. Harvester reporting. Pounds/month, days fished, and pounds/weir/day.		**Inalnd silver eel fishery** Limited to eel weir, a structure placed in a river, stream or brook, designed to entrap migrating fish, that exceeds more than 1/3 of the wetted width of the channel. If constructed of netting, the min mesh shall not be larger than 3/8-bar mesh (3/4 in stretch mesh); if constructed of metal/wood, the slat or vertical bars shall have a min, unobstructed opening of not less than ½ in.		
	None	Specific license	At end of season. Total pounds/month, pounds/net by month. Dealer reporting.	Open seaon - noon March 22 through noon May 31; closed periods - Tues noon to Wed noon and Sat noon to Sun noon	It is unlawful for a person to fish for or take elvers by any method other than by dip net, elver fyke net or Sheldon eel trap. License holders are issued for one or two pieces of gear.	Middle 1/3 of waterway cannot be blocked	Lottery system for elver licenses not renewed or revoked in the previous year. License capped.
NH	6"	General commercial saltwater license and wholesaler license.	Monthly reporting with daily information. Pounds landed, hours or days fished. Harvester reporting.	None		downstream portions of fishways are closed October 2 - June 14	50/day for bait. Gear restrictions in freshwater.
MA	6"	General commercial license. Specific endorsement for eels. Registration for dealers with purchase record requirement	Trip level harvester reporting (pounds/pot/night) submitted monthly.		No person shall take or attempt to take eels by any contrivance other than by nets, pots, spears, or angling.		Nets, pots, spears, and angling only. No nets or traps in coastal rivers from February 15th through June 15th with mesh openings < 1/8 inch. Each of 52 coastal towns has its own regulations.

State	Size Limit	License/ Permit	Reporting	Seasonal/ Time Closure	Gear Restrictions	Area Restriction	Other
RI	6"	Commercial fishing license.					
CT	6"	Commercial license.	Harvest recorded daily, reported monthly to DEP, including catch and effort data. Dealer reporting.	From April 1st to June 15th (inclusive), fyke, trap and pound nets shall not be used in the main body of the Connecticut River.	Fish pots or fish traps shall be not more than 72 inches in length, width, or height. Scap nets or scoop nets may have a mesh of any size, except that for the taking of American shad such nets shall have a mesh size of not less than five inches when stretched.		In the marine district a commercial fishing license is not required to take, for personal use only, eels by the use of: (1) cast nets; (2) minnow traps not more than 20 inches long and 15 inches in diameter; (3) scoop or scap nets not more than 36 inches in diameter; (4) umbrella nets not more than 4 feet in length by 4 feet in width; (5) seines not more than 30 feet in length; and (6) not more than 2 eel pots.
NY	6"	Commercial harvester license and dealer license.	Trip records, harvester and dealer, reported at end of season		It shall be unlawful to use eel traps or pots in the waters of the marine and coastal district for commercial purposes with mesh sizes smaller than 1 inch by 1/2inch unless such pots contain an escape panel that is at least 4 inches square with a mesh size of 1 inch by 1/2 inch located so that the panel is on a side, but not at the bottom of the trap or pot.Eel pots shall not be more than 6 feet long, nor more than 12 inches in diameter if round, nor more than 12 inches square if in square form. The aperture or mouth of any eel pot shall be not more than 2 inches in its greatest diameter. Fixtures or wings of any kind attached to or used in connection with eel pots is prohibited. An eel weir shall consist of not to exceed two wings or leaders fastened to an eel trap; no eel trap shall have attached thereto more than one weir; the length of each weir shall be determined by the department; and the use of weirs of a greater length than specified in the license is prohibited. Eel weirs and eel pots shall not be constructed, set or used in any manner so as to unduly obstruct the natural flow of water or interfere with the free passage of boats. The use of eel weirs, the lengths of which are less than three eights of an inch apart, is prohibited. All fish, except eels, taken in an eel weir or an eel pot, shall be immediately returned to the water.	The taking, possessing, sale or exposure for sale of eel from the Harlem R., East R., Hudson R., and its tributary waters upstream from the river to the first falls or barrier impassable by fish, from the Federal dam at Troy south to the Battery, NY City, Lake Ontario and the St. Lawrence R. and their tributaries upstream to the first barrier impassable by fish is prohibited, except that eels may be possessed only less than 14 inches in length and greater than 6 inches in length, for use or sale as bait.	
NJ	6"	License required.	Mandatory daily trip level and dealer transaction reporting. Miniature fyke net (eel pot) license holders required to report monthly.		Pot diameter not to exceed 16 inches if cylindrical or 201 square inches in cross section if any other configuration. Mesh no smaller than 3/16 inch bar inside measurement.	Commercial eel fishing is restricted to tidal waters.	Use of two pots is permitted for taking killifish or eels for bait, without a license, provided they are not sold or used for barter

State	Size Limit	License/ Permit	Reporting	Seasonal/ Time Closure	Gear Restrictions	Area Restriction	Other
PA	NO COMMERCIAL FISHERY						
DE	6"	A commercial eel fishing license is required to take and sell 25 or more eels per day or to fish more than two eel pots per day.	Harvesters report monthly on catch by area, effort and weight		"Commercial eel fishing gear" shall include the following items: (1) A fyke net or hoop net of a diameter not exceeding 30 inches when more than 1 such net is being fished by a person; (2) Eel pots when more than 2 such pots are being fished by a person; (3) Any seine net with a mesh size of less than 1 inch and greater than 100 feet in total length; and (4) A minnow trap when more than 2 such traps are being fished by any person. It shall be unlawful for any person to fish, set, place, use or tend any fish pot in the tidal waters of this state unless said fish pot has two escape vents placed in the parlor portion of said pot which complies with one of the following minimum sizes: 1.375 inches by 5.75 inches; or a circular vent 2.5 inches in diameter; or a square vent with sides of 2 inches, inside measure. Pots constructed of wooden lathes must have spacing of at least 1.375 inches between one set of lathes.	It shall be unlawful to fish for eels for the purpose of initially selling such eels in nontidal waters within the State unless authorized to do so by the Department.	(h) "Noncommercial eel fishing gear" shall include the following items: (1) A fyke net or hoop net of a diameter not exceeding 30 inches when only 1 is in use by a person; (2) Eel pots when 2 or less pots are being fished by a person; (3) A seine net less than or equal to 100 feet in length; (4) A cast net; (5) A lift net or umbrella net less than or equal to 5 feet in diameter; (6) A dip net less than or equal to 3 feet in diameter; (7) Spear, arrow or gigs; (8) A minnow trap when less than 2 are being fished by a person; (9) Hooks and lines when an individual places, sets or tends 3 or less separate lines with any 1 line having no more than 3 hooks attached (double and treble hooks counted as 1 hook).
MD	6"	Licensed required.	Monthly reporting with daily information (lbs. landed, gear type, and amount by area)		An eel pot shall be constructed of wire having a mesh size not less than ½ inch square when the wire mesh is unstretched. 7. An eel pot constructed with mesh smaller than ½ inch by ½ inch shall have an escape panel installed in an exterior wall of the retention chamber made of ½ inch by ½ inch mesh measuring at least 16 square inches.	Commercial fishing is prohibited in non-tidal waters.	Limited entry exists for new commercial fisherman.
DC	NO COMMERCIAL FISHERY						
PRFC	6"	License required.	Each commercial fisherman is required to file daily harvest reports for each gear type used.		No eel pot shall exceed ten (10) feet in length or have a mesh size less than ½ inch by ½ inch.		

State	Size Limit	License/ Permit	Reporting	Seasonal/ Time Closure	Gear Restrictions	Area Restriction	Other
VA	6"	A license is required to harvest finfish for commercial purposes by fish or eel pots, and there are several license categories, each with a fee depending on the number of pots fished.	All registered commercial fishermen and holders of seafood landing licenses are required to report daily harvest to VMRC monthly.		The minimum mesh size allowed in eel pots is ½-inch by ½-inch. Rectangular, square, or cylindrical eel pots must contain at least one unrestricted 4-inch by 4-inch escape panel consisting of ½-inch by 1-inch mesh.	The use of any type of fixed fishing device, fish pot, or eel pot in an area extending 250 yards from either span of the Chesapeake Bay Bridge Tunnel is unlawful.	Bait limit of 50 eels/day.
NC	6"	Standard Commercial Fishing License for all commercial fishing		Seasonal closures.	Mesh size restrictions on eel pots.		Bait limit of 50 eels/day.
SC	None	License for commercial fishing and sale. Permits by gear and area fished.	Monthly reporting, regardless whether fish were caught or not	Fyke nets shall be set only between sunset and sunrise, and all such nets shall be removed from such waters between sunrise and sunset	Dip net or fyke net only. Any permitted dip net can only be operated by the permittee without any mechanical assistance. Maximum of 10 fyke nets may be set per license holder. Fyke nets with wings not exceeding ten (10') feet in length and fourteen (14') feet in depth; with the distance from throat to cod end not to exceed twenty (20') feet. Maximum bar mesh for any portion of the nets shall not exceed one-eighth (1/8 '") inch square; and all fyke nets must be set with the cod end upstream from the wings.	Nets may not be set within 200 feet of another net	Limited entry in glass eel fishery. Capped at 5 licenses.
	6"			.	Pots and baskets not to exceed two (2') feet in diameter and four (4') feet in length with bar mesh of not less than one-half (1/2 '") inch square and throat opening not to exceed two (2'") inches in any direction. Each such pot or basket shall be tagged and marked in accordance with Section 50-5-110, Section 50-19-2910, and Section 50-19-2920, with the cost of each tag being one ($1.00) dollar.		
GA	6"	Personal commercial fishing license and commercial fishing boat license. Harvester/dealer reporting.					Gear restrictions on traps and pots. Area restrictions.
FL		Permits and licenses.	Trip level submitted monthly				Gear restrictions.
* For specifics on licenses, gear restrictions, and area restrictions, please contact the individual state.							

Appendix II. Recreational regulations for American eel.

State	Size Limit	Possession Limit	Other
ME	6"	50 eels/person/day	Gear restrictions. License requirement and seasonal closures (inland waters only).
NH	6"	50 eels/person/day	Coastal harvest permit needed if taking eels other than by angling. Gear restrictions in freshwater.
MA	6"	50 eels/person/day	Nets, pots, spears, and angling only; mesh restrictions. Some of the 52 coastal towns have local regulations.
RI	6"	50 eels/person/day	
CT	6"	50 eels/person/day	
NY	6”	50/eels/person/day	Additional length restrictions in specific inland waters.
NJ	6"	50 eels/person/day	
PA	6"	50 eels/person/day	Gear restrictions.
DE	6"	50 eels/person/day	Two pot limit/person.
MD	6"	25/person/day limit	Gear restrictions.
DC	6"	10 eels/person/day	Five trap limit.
PRFC	6"	50 eels/person/day	
VA	6"	50 eels/person/day	Recreational license. Two pot limit. Mandatory annual catch report. Mesh size restrictions on eel pots.
NC	6"	50 eels/person/day	Gear restrictions. Non-commercial special device license. Two eel pots allowed under Recreational Commercial Gear license.
SC	None	None	Gear restrictions and gear license fees.
GA	None	None	
FL	None	None	Gear restrictions.

** For specifics on licenses, gear restrictions, and area restrictions, please contact the individual state.

Appendix III – Fish Passage Recommendations for American eel

The fragmentation of habitat and blockage of upstream and downstream migrations is a major area of concern for American eels. Traditional fish passage is not effective for upstream migration of juvenile American eels, presumably due to velocity barriers. While low-head weir and pool fishways may allow juvenile eel passage, it is likely that most Denil and Alaskan Steeppass ladders are not passable. Eel Passage structures often vary in design via substrate type, slope and length. However, eel passage is relatively new practice in the US, and additional investigation is needed on standard design criteria and quantitative metrics of passage success. Eel passage structures should only be deployed after evaluating the potential for eels to pass the present impediment and the possibility of removing the impediment. If an eel passageway is necessary, the design should initially focus on the size range of eels below the impediment and the specific location where an eel pass can suitably attract eels. With this information, designs can progress towards selecting water supply for the eel pass, the choice of having a monitoring tank, and structural dimensions for the eel pass and associated hardware. Recently some strides have been made in upstream eel passage structures (see ASMFC 2011 American Eel Passage Workshop Proceedings, *in prep*.). With these considerations, the PDT recommends that each jurisdiction actively seeks opportunities to improve upstream eel passage through obstruction removal and deployment of eel passage structures.

Downstream passage of out migrating eels is seen as more difficult than upstream migrations issues, as the results of passage through a hydroelectric project can often be mortality of mature, fecund individuals. Downstream mortality rate is often highly variable and is depended on dam configuration, turbine type, and operational conditions. Generally turbine strikes positively relate to eel length, putting larger female silver eels at particular high risk. Light barriers, louver screens, high flow bypass and generation shut downs during predicted migration windows have all shown promise but there are few quantitative studies showing the level of effectiveness. Important gains in eel survival and recruitment could be realized through widespread reductions in downstream passage mortality of silver eels. The PDT recommends that each jurisdiction identify opportunities to work within the FERC review process and with non-FERC dam owners to improve downstream eel passage.

Appendix IV. Current State Fish Passage Considerations.

FERC Guidelines

Under section 401(a)(1) of the Clean Water Act (CWA), the FERC may not issue a license for a hydroelectric project unless the State water quality certifying agency has issued water quality certification for the project or has waived certification. Certification (or waiver) is required in connection with any application for a Federal license or permit to conduct an activity which may result in a discharge into U.S. waters. Any conditions of the certification become conditions of the license.

Section 18 of the Federal Power Act states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe. The Commission's policy is to reserve such authority in a license upon the request of either designated Secretary.

Pursuant to section 10(j)(1) of the FPA,the Commission, when issuing a license, includes conditions based on the recommendations of Federal and State fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, for the protection and enhancement of fish and wildlife and their habitat affected by the project.
The Commission makes a preliminary determination of whether the recommendations are consistent with the FPA or other applicable law. If there is a preliminary inconsistency determination, the agency in question is invited to meet with the Commission staff to try to resolve the matter prior to action on the license application

For example:
On August 31, 1999, Northeast Generation Services Company (NGS)1 filed an application for a single new license, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),2 for the continued operation and maintenance of the existing 105.9-megawatt (MW) Housatonic Project. The Housatonic River flows southward 149 miles through western Massachusetts and Connecticut before reaching Long Island Sound. The watershed drains some 2,000 square miles consisting of rugged terrain in the north, and rolling hills and flat stretches
of marshland in the south.

FWS made 28 recommendations in this proceeding, of which the Commission staff preliminarily determined that five were not consistent with the FPA or other applicable law. Based on comments filed by Interior and others on the Draft EIS, and
additional staff analysis, it was determined that three of the five recommendations are not within the scope of section 10(j), and the Final EIS recommends that they be included in the license. The two remaining inconsistencies are Interior’s recommendations to operate the Falls Village and Bulls Bridge developments in a run-of-river mode year-round. The EIS found that year-round run-of-river operation would disadvantage recreational users and businesses associated with whitewater boating, and would cost NGS about $108,000 in lost generation. The EIS recommended that these developments be operated in run-of-river mode during the spring, and in peaking mode from July through March to benefit the whitewater-

boating community and reduce economic impacts to NGS. This issue was however mooted by Connecticut DEP's water quality certification, which requires run-of-river operation at these developments year round.
The Licensee shall, in a manner approved by the U.S. Fish and Wildlife Service (Service) and the Department, design, construct, operate, maintain and monitor the effectiveness of upstream and downstream American eel passage facilities. The Licensee shall implement the American eel passage effectiveness monitoring plan when the facilities are place in operation. The Licensee shall, in a manner approved by the Service and the Department, design, construct, operate, maintain and monitor the effectiveness of upstream and downstream anadromous fish passage facilities that are capable of excluding the passage of sea lamprey. The Licensee shall implement the anadromous fish passage effectiveness-monitoring plan when the facilities are placed in operation.
The Licensee shall, in a manner approved by the Service and the Department, develop a plan to assess the impact on the littoral-zone community due to impoundment fluctuations associated with normal operations (excluding emergency or maintenance draw downs). The assessment will analyze impacts on aquatic resources such as fish, mussels, wetlands and wildlife that inhabit the littoral-zone of Lake Lillinonah. The results of the assessment will be presented in a report and submitted to the Department and the Service. If the Department and the Service determine that significant adverse impacts occur during normal operations, the Licensee will implement corrective actions to mitigate the impacts.

Maine

Permitting Agency: Maine Dept of Environmental Protection
(http://www.mainelegislature.org/legis/statutes/38/title38ch5sec0.html)
*Initial Approval: (*38 §636. Approval criteria)
The department shall make a written finding of fact with respect to the nature and magnitude of the impact of the project on each of the considerations under this subsection, and a written explanation of their use of these findings in reaching their decision.

B. Whether the project will result in significant benefit or harm to fish and wildlife resources. In making its determination, the department shall consider other existing uses of the watershed and fisheries management plans adopted by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources

D. Whether the project will result in significant benefit or harm to the public rights of access to and use of the surface waters of the State for navigation, fishing, fowling, recreation and other lawful public uses

Minimum Flow Requirements if Hearing is Sought: (38 §840. Establishment of water levels)

4. Evidence. At the hearing, the commissioner shall solicit and receive testimony, as provided by Title 5, section 9057, for the purpose of establishing a water level regime and, if applicable, minimum flow requirements for the body of water. The testimony is limited to:

A. The water levels necessary to maintain the public rights of access to and use of the water for navigation, fishing, fowling, recreation and other lawful public uses;

C. The water levels and minimum flow requirements necessary for the maintenance of fish and wildlife habitat and water quality

New Hampshire
Permitting Agency: NH Dept of Env. Services
http://des.nh.gov/organization/divisions/water/dam/permit_dam.htm
No guidelines for fish passageways: See
http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-L-482.htm
Statute regarding inspection and erection of dams: See
http://www.gencourt.state.nh.us/rsa/html/L/482/482-9.htm

Massachusetts
Massachusetts
Permitting Agency: Massachusetts Division of Marine Fisheries
Authorization and management of fish passage for sea-run fish: M.G.L Chapter 130, Sections 1 and 19.
Fishway Construction Permit: 322 CMR Sections 7.01 (4(f)) and (14(m)).

Rhode Island
Permitting Agency: Dept. of Env. Management
http://www.dem.ri.gov/
Impact Minimization: Rhode Island's Freshwater Wetlands Act (R.I. Gen. Laws Section 2-1-18 et seq.) and Water Pollution Act (R.I. Gen. Laws Section 46-12-1 et seq.) require the Director to protect freshwater wetland values and water quality, respectively. It is important for the dam owner to recognize the Director's responsibilities under these laws and to plan his/her repair projects to minimize any negative impacts to freshwater wetlands and water quality values. In particular, the dam owner must:

> (A) Minimize the impacts from lowering the water elevation in a reservoir during a repair project, such as by installing a temporary cofferdam. This is necessary to reduce detrimental impacts to fish and wildlife associated with the wetland environment and to reduce loss of aquatic vegetation that serves as wildlife habitat. In the event that a dam owner is unable to install controls to maintain water in the reservoir to assist in protecting fish and wildlife habitat, the dam owner must specifically inform the Director of this situation and document in writing why water is not proposed to be maintained upstream of the dam during the repair activity. Efforts must be made to avoid drawdowns between April 15 to July 1, and to avoid significant drawdowns between October 15 and March 15.
> (http://www.dem.ri.gov/pubs/regs/regs//compinsp/dams07.pdf)

Connecticut
Permitting Agency: Dept. of Energy and Env. Protection
www.ct.gov/deep
Permits for Construction: (b) The commissioner or his representative, engineer or consultant shall determine the impact of the construction work on the environment, on the safety of persons and property and on the inland wetlands and watercourses of the state in accordance with the provisions of sections 22a-36 to 22a-45, inclusive, and shall further determine the need for a fishway in accordance with the provisions of section 26-136, and shall examine the documents and inspect the site, and, upon approval thereof, the commissioner shall issue

a permit authorizing the proposed construction work under such conditions as the commissioner may direct.

New York
Permitting Agency: Dept of Env. Conservation
www.dec.**ny**.gov/
6.1.1 §608.8 Standards
The basis for the issuance or modification of a permit will be a determination that the proposal is in the public interest, in that:

(c) the proposal will not cause unreasonable, uncontrolled or unnecessary damage to the natural resources of the state, including soil, forests, water, fish, shellfish, crustaceans and aquatic and land-related environment. (http://www.dec.ny.gov/regs/4438.html)
For existing dams, when they are inspected: Conditions causing or requiring temporary or permanent adjustment of the pool level include: Requirements for recreation, hydropower, or water fowl and fish management (p. 27, http://www.dec.ny.gov/docs/water_pdf/damguideman.pdf)

Pennsylvania
Permitting Agency: Dept. of Env. Protection, Bureau of Waterways and Engineering
http://www.portal.state.pa.us/portal/server.pt/community/waterways_engineering/10499
Requirements for Permit: (d) An application for a permit shall be accompanied by information, maps, plans, specifications, design analyses, test reports and other data specifically required under this chapter and additional information as required by the Department to determine compliance with this chapter.

(x) *Impacts analysis.* A detailed analysis of the potential impacts, to the extent applicable, of the proposed project on water quality, stream flow, fish and wildlife, aquatic habitat, Federal and State forests, parks, recreation, instream and downstream water uses, prime farmlands, areas or structures of historic significance, streams which are identified candidates for or are included within the Federal or State wild and scenic river systems and other relevant significant environmental factors. If a project will affect wetlands the project description shall also include:

(http://www.pacode.com/secure/data/025/chapter105/chap105toc.html)
Reviewing Permit: (b) In reviewing a permit application under this chapter, the Department will use the following factors to make a determination of impact:

(4) The effect of the dam, water obstruction or encroachment on regimen and ecology of the watercourse or other body of water, water quality, stream flow, fish and wildlife, aquatic habitat, instream and downstream uses and other significant environmental factors.

(5) The impacts of the dam, water obstruction or encroachment on nearby natural areas, wildlife sanctuaries, public water supplies, other geographical or physical features including cultural, archaeological and historical landmarks, National wildlife refuges, National natural landmarks, National, State or local parks or recreation areas or National, State or local historical sites
§ 105.121. Fishways.

Upon the request of the Fish and Boat Commission, the permittee shall install and maintain chutes, slopes, fishways, gates or other devices that the Fish and Boat Commission may require under 30 Pa.C.S. § § 3501—3505.
§ 105.244. Protection of fish life.
A low flow channel and habitat improvement device will be required when, in the opinion of the Fish Commission, it is necessary to provide satisfactory channel for maintenance of fish.

New Jersey
Permitting Agency: Dept. of Env. Protection
http://www.state.nj.us/dep/
For new dams: (d) No person may construct a dam in any waterway of this state which is a runway for migratory fish, without installing a fish ladder or other approved structure to permit
the fish to pass the dam in either direction (see N.J.S.A. 23:5-29.1).
1. This provision is applicable to dams of any size.
2. The Department will determine whether a stream is currently a runway for migratory fish, during the review of the dam permit application. Applicants should consult the Division of Fish and Wildlife in this matter prior to finalizing the application.
(http://www.nj.gov/dep/damsafety/docs/standard.pdf)

Delaware
Permitting Agency: Dept. of Natural Resources and Environmental Control
http://www.dnrec.delaware.gov
No guidelines for new dams or fish passageways

Maryland
Permitting Agency: Dept of the Environment
http://www.mde.state.md.us
For existing dams: 5. Pool levels are sometimes adjusted for recreation, hydropower, or waterfowl and fish management. (p. 47,
http://www.mde.state.md.us/programs/Water/DamSafety/GuidelinesandPolicies/Documents/www.mde.state.md.us/assets/document/damsafety/MD%20Dam%20Safety%20Manual%201996.pdf)
Dam in a Recreational Park: The Lake Waterford Dam was repaired in 1993. A new principal pipe spillway along with a concrete ogee spillway were installed to safely pass the 100-year storm. In addition a cement bentonite slurry wall was installed and a fish passage was constructed to access the upstream spawning areas.
No guidelines for new dams or fish passageways

Virginia
Permitting Agency: Dept. of Conservation and Recreation, Virginia Soil and Water Conservation Board
http://www.dcr.virginia.gov/stormwater_management/index.shtml
No guidelines for new dams or fish passageways: See
http://www.dcr.virginia.gov/dam_safety_and_floodplains/documents/dsregs.pdf

North Carolina
Permitting Agency: Dept. of Env.and Natural Resources
http://portal.ncdenr.org
For existing dams: 5. Pool levels are sometimes adjusted for recreation, hydropower, or waterfowl and fish management.
(http://portal.ncdenr.org/c/document_library/get_file?uuid=6968a202-c971-40ef-9efb-40883a9f9bd8&groupId=38334)
No other guidelines for new dams or specifically concerning fish passageway.

South Carolina
Permitting Agency: Dept. of Health and Env. Control, http://www.scdhec.gov/
No guidelines for new dams or fish passageways.

Georgia
Permitting Agency: Dept of Natural Resources, http://www.gadnr.org/
No guidelines for new dams or fish passageways.

Florida
Permitting Agency: Dept. of Env. Protection -
http://www.dep.state.fl.us/water/mines/damsafe.htm
No guidelines for new dams or fish passageways.