Atlantic States Marine Fisheries Commission

American Eel Management Board

May 12, 2014
11:45 a.m. – 12:45 p.m. & 1:45 – 3:45 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. O'Connell)*	11:45a.m.
2.	Board Consent • Approval of Agenda • Approval of Proceedings from February 2014	11:45 a.m.
3.	Public Comment	11:50 a.m.
4.	Update on 2014 Maine Elver Fishery Management Measures *(T. Stockwell)*	12:00 p.m.
5.	Technical Committee Report *(S. Eyler)*	12:20 p.m.
6.	Consider Draft Addendum IV for Public Comment *(K. Taylor)* **Action**	12:30 p.m.
	Break from 12:45 – 1:45 p.m. for Lunch	
7.	Elect Vice-Chair *(T. O'Connell)* **Action**	3:40 p.m.
8.	Other Business/Adjourn	3:45 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
May 12, 2014
11:45 a.m. – 12:45 & 1:45 – 3:45 p.m.
Alexandria, Virginia

Chair: Tom O'Connell Assumed Chairmanship: 5/14	Technical Committee Chair: Sheila Eyler (USFWS)	Law Enforcement Committee Representative: Fessenden
Vice Chair: Vacant	Advisory Panel Chair: Martie Bouw	Previous Board Meeting: February 6, 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 February 2014 Board 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. 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. Update on 2014 Maine Elver Fishery Management Measures (12:00 – 12:20 p.m.)

Background

- At the October Meeting, Maine agreed to meet with industry and report back to the Board in February options for a 25-40% reduction of glass eel catch from 2013 harvest for the 2014 season.
- At the February meeting, the Board approved a conservation equivalency request for Maine for the 2014 fishing year, which implemented an 11,749 pound annual quota, penalties for exceeding quota, a swipe card system that will keep track of reported landings as each fisherman sells his or her catch to a licensed dealer, and a 10 week season.

Presentation

- Review of 2014 Maine Glass Eel Fishery by T. Stockwell

5. Technical Committee Report (12:20 – 12:30 p.m.)

Background

- At the October Meeting, the Board directed the Technical Committee and Stock Assessment Subcommittee to update key indices from the 2012 Benchmark Stock Assessment for American Eel, as well as landings data through 2013.
- The Technical Committee (TC), Stock Assessment Sub-Committee and Plan Development Team worked to review the assessment indices and landings with data from 2011, 2012, and 2013.
- Based on the analysis of the recruitment indices, the TC found no change in the updated young of the year (YOY) surveys from the benchmark assessment, with the exception of one survey in Goose Creek, SC.
- The YOY indices were only one factor in the determination of the depleted stock status for American eel, so therefore there is no recommended change in the conclusions of the benchmark assessment and the TC recommends that the depleted stock status is still warranted **(Supplemental Material).**

Presentation

- Technical Committee Report by S. Eyler, Chair

6. Draft Addendum IV for Public Comment (12:30 – 3:40 p.m.)

Background

- The Board initiated the development of Draft Addendum III in August 2012 in response to the 2012 Benchmark American Eel Stock Assessment, which found the American eel population in U.S. waters is depleted. Draft Addendum III for Public Comment included a range of options for the commercial glass, yellow, and silver eel fisheries, as well as the recreational fishery.
- In August 2013, the Board approved some of the measures from Draft Addendum III (predominately the commercial yellow eel and recreational fishery management measures) and split out the remainder of the management measures for further development in Draft Addendum IV.
- The Board directed the PDT to develop Draft Addendum IV to include, but not limited to, a coastwide glass eel quota, adequate monitoring requirements, adequate enforcement measures and penalties, transferability, timely reporting, silver eel measures (for NY DE River only), and a criteria to issue a state scientific permit for all life stages **(Briefing Material).**

Presentation

- Review of Draft Addendum IV by K. Taylor

Board Actions for Consideration

- Approval of Draft Addendum IV for Public Comment

7. Elect Vice-Chair

8. Other Business/ Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

AMERICAN EEL MANAGEMENT BOARD

Crowne Plaza - Old Town
Alexandria, Virginia
February 6, 2014

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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INDEX OF MOTIONS

ATTENDANCE

Board Members

Pat Keliher, ME (AA)
Terry Stockwell, ME, Administrative proxy, Chair
Rep. Walter Kumiega, ME (LA)
Doug Grout, NH (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
G. Ritchie White, NH (GA)
Paul Diodati, MA (AA)
William Adler, MA (GA)
Jocelyn Cary, MA, proxy for Rep. Peake (LA)
Robert Ballou, RI (AA)
Rick Bellavance, RI, proxy for Sen. Sosnowski (LA)
David Borden, RI, proxy for B. McElroy (GA)
David Simpson, CT (AA)
Lance Stewart, CT (GA)
James Gilmore, NY (AA)
Pat Augustine, NY (GA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Chris Zeman, NJ, proxy for T. Fote (GA)
Leroy Young, PA, proxy for J. Arway (AA)
Loren Lustig, PA (GA)
Mitchell Feigenbaum, PA, proxy for Rep. Vereb (LA)
Roy Miller, DE (GA)
John Clark, DE, proxy for D. Saveikis (AA)
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)
Rob O'Reilly, VA, proxy for J. Bull (AA)
Kyle Schick, VA, proxy for Sen. Stuart (LA)
Louis Daniel, NC (AA)
Bill Cole, NC (GA)
Ross Self, SC, proxy for R. Boyles, Jr. (AA)
Patrick Geer, GA, proxy for Rep. Burns (LA)
Spud Woodward, GA (AA)
Jim Estes, FL, proxy for J. McCawley (AA)
Derek Orner, NMFS
Mike Millard, USFWS
Martin Gary, PRFC
Bryan King, DDOE

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

Ex-Officio Members

Joe Fessenden, Law Enforcement Committee Rep.
Sheila Eyler, Technical Committee Chair
Marty Bouw, Advisory Panel Chair

Staff

Robert Beal
Toni Kerns
Kate Taylor
Mike Waine

Guests

Wilson Laney, USFWS
David Ommanney, American Eel Farm, NC
Dick Stone, American Eel Farm, NC
Brandon Muffley, NJ DFW
Kelly Denit, NMFS
Kevin Chu, NOAA
Arnold Leo, E. Hampton Baymens Assn
Joseph Gordon, PEW
Katherine Denel, PEW
Aaron Kornbluth, PEW
Gordon Myers, NC Wildlife Resources Comm.
John Pedrick, ASMFC Am. Eel Advisory Panel
Sally Campen, Global Guardian Trust
Sean Doyle, DC Fisheries
Darryl Young, Maine Elver Fishermens Assn.
Greg Blackster, MEFA
Bill Sheldon, Kennebec Glass Eels
Raymond Kane, CHOIR
Jeffrey Pierce, Maine Elver Fishermen Assn.
Matt Dana, Passamaquoddy Indian Nation
Clayton Sockebosin, Passamaquoddy Indian Nation
Corey Hinton, Passamaquoddy Indian Nation
John Banks, Penobscot Indian Nation
Glori Gayster, Delaware Valley Fish Company

The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crown Plaza Hotel Old Town, Alexandria, Virginia, February 6, 2014, and was called to order at 8:00 o'clock a.m. by Chairman Terry Stockwell.

CALL TO ORDER

CHAIRMAN TERRY STOCKWELL: Good morning, everybody. I'll convene the American Eel Management Board to order.

APPROVAL OF AGENDA

As usual we have a lot of business to conduct in an hour and a half, so we're going to tee right off on the approval of the agenda. Are there any additions, changes or suggestions? Seeing none; I'll consider the agenda approved.

APPROVAL OF PROCEEDINGS

The proceedings from our October 2013 Meeting; are there any changes, additions or modification? Seeing none; I'll consider the proceedings approved.

PUBLIC COMMENT

We're going to segue directly into public comment for items that are not on the agenda. I would like to remind the public that these will be limited to three minutes apiece. First I have Bill Sheldon.

MR. BILL SHELDON: My name is Bill Sheldon. I'm an eel buyer from both Maine and South Carolina. A lot of talk goes on about the Maine Glass Eel Fishery, and I'd like to just give you a quick update on the South Carolina Glass Eel Fishery. There are only ten fishermen in South Carolina. They're all restricted to fish on one river.

Last year I bought eels from five of the ten fishermen. Two of the other five weren't fishing; the other three sold to someone else. I can speak from what I know; the five people that I bought eels from. Those five fishermen; I bought 3,000 pounds of fingerling eels and 200 pounds of glass eels. Through Addendum III it is now illegal to possess or catch or sell fingerlings.

South Carolina; this ban on black boys or fingerlings was a concession that the fishery gave in order to keep the fishery from closing, as I understood it; but the way it has turned out the state of Maine caught 18,000 pounds of glass eels and around 500 pounds of fingerlings. The ten South Carolina fishermen are sacrificing probably 90 percent of their fishery by not being able to harvest and keep the fingerlings. We don't target the fingerlings.

It is just the geography of the river and the amount of current in the river. When you set your fyke net to catch glass eels, it fills up with black boys or fingerlings. Now that last year that was no problem because we could sell them. One fisherman in particular caught a thousand pounds of those, and I bought them all from him.

They're not as expensive as the glass eels but they were worth a hundred dollars a pound to him; so he made a hundred thousand dollars just on the fingerlings. Now, what I'd like to see is the South Carolina people allow the ten licensed South Carolina fishermen, now that the fingerlings are banned, to at least fish other than the Cooper River where all ten men are now restricted to fishing.

I'm hoping in the future the South Carolina people – after looking at the figures of what is taking place on the Cooper River, I don't see any sense of us catching and returning to the river 90 percent of the harvest when all we have to do is go to another river and we wouldn't catch that ratio of fingerlings to glass eels.

Every time I approached South Carolina about allowing us to fish other rivers, number one, I did that because I wanted to get to places where there were more glass eels; but now that we can't harvest the fingerlings, it is more important than ever to go to another river. What they always told me was the ASMFC doesn't want us to expand our fishery.

With quotas looming in the future for South Carolina for this next year, I'm just giving the

board a heads up that if South Carolina comes and says that we would like to expand our territory that we're allowing the fishermen to fish, that wouldn't necessarily increase the harvest at all. It is still only ten licensed fishermen.

I'm hoping that the board would see fit to allow South Carolina, in light of the catch ratio of fingerlings to glass eels, would at least allow those ten South Carolina fishermen to fish elsewhere. My thought was when they apply for their license, they could indicate I want to fish the Santee River or I want to fish the Myrtle Beach Area. That way the law enforcement would at least know where each of the ten fishermen are.

One other point I might add is that Maine has had to give up 33 percent of our catch. South Carolina, through this Addendum III, it winds up that it is going to be giving up 90 percent of their current catch. I'd just like to make the point that if requests are made of this board to give other states or other individuals a quota, I don't think that would be very fair in light of Maine and South Carolina both taking serious cutbacks in their fishery; and for the board to approve additional quota for anyone or any state, I just don't feel is warranted. Thank you.

CHAIRMAN STOCKWELL: Just for your clarification; that would be board action in Addendum IV, which has not been – we're not here today so thank you for your comments. I've got Mitchell next.

MR. MITCHELL FEIGENBAUM: Mitchell Feigenbaum. I just want to inform the commission of some exciting news. In August of 2014 at the American Fish Society Meeting there is going to be a day or two devoted solely to an International Symposium on Eels. Although the focus is going to be on the American eel, the symposium is going to include panelists from all over the world updating the scientific community about the status of stocks worldwide.

As you recall in our benchmark stock assessment for eel that was recently completed – in fact, I think it is the very last paragraph of the peer-reviewed document that talks about the fact that at this symposium we're going to have an unprecedented opportunity for Canadian managers to work with U.S. managers to help get a better handle on this fishery and to take steps in the direction of joint management of the fishery.

Now, it has been years since we saw the Great Lakes Commission's Initiative to try to create a working agreement between the two countries. This commission wrote a letter several years ago endorsing that; but as far as I know there has really been no formal action taken by either the Canadian or the U.S. Government to formalize a relationship between the two countries with regard to the management of eel.

What is really happening – and I think it is kind of nice – there is like really an organic movement among the scientific community to forge this alliance whether or not it has the official backing of government or not. I understand that our own Kate Taylor is on the steering committee of that symposium as well as Laura Lee.

I am looking forward to being an active participant at that symposium as well. If we come back at the spring meeting, perhaps there will be some motions at that time in which this commission can really endorse the work of that symposium. I'll just close my remarks by noting this same symposium took place in the early 2000's.

It was the results of that symposium that led the scientists at that meeting to issue what was basically an international declaration of concern regarding eel stocks. That is what has led to so much of the work that we've been seeing in both countries to just get a better understanding and a tighter management of the fishery.

That symposium was given a title and the title was "Eels on the Edge"; reflecting the concern of the organizers that the eel might be headed towards an endangered status. I'm happy to report that the symposium this year is being titled "Eels Climbing Their Way Back Up the

Ladder?" While that is certainly not suggesting conclusively that the eels have made their comeback.

It does reflect the understanding, the recognition and the mood of the scientific community that all indications of stock declines at least have been – you know, we clearly have reached the bottom. As our prior technical committee chairman said two meetings ago, the stocks are clearly rebuilding although the technical committee feels they'd like to see them building a little faster.

Anyway, we have reason for optimism and I hope that this commission will get behind Kate and Laura's participation in the symposium and anything else we can do to assert this commission's profile in that forum I think would be helpful; because ultimately this is the agency, this is the commission that is managing eels in the U.S.; and, therefore, it should have one of those more high-profile voices at that symposium. Thank you.

CHAIRMAN STOCKWELL: Thank you. I have no other names on the signup list. Does anybody else from the public wish to speak on items not on the agenda? Jeffrey Pierce.

MR. JEFFERY PIERCE: Chairman Stockwell, thank you for recognizing me, and the American Eel Board. I put a letter on everybody's desk this morning showing the FERC-licensed dams. This commission has done great work on recognizing that hydroelectric facilities are a threat to all river-directed species.

I wanted to thank you for all that hard work you have done. I hope a lot of this follows through with Addendum IV. If you look at the hydroelectric facilities that are on this map, that is not all the impediments. There are more hydroelectric facilities and non-FERC-licensed dams, like 29 times the number of all river-directed fishermen out together. That is a really conservative number. I ask you when you look at reductions and stuff, we're just looking for a little more help with having the impediment owners and the non-FERC-licensed and FERC-licensed dams working with their communities to make it a truly green energy. I thank you for your time.

UPDATE ON 2014 MAINE ELVER FISHERY MANAGEMENT MEASURES

CHAIRMAN STOCKWELL: Is there anybody else from the public that wishes to speak? Seeing none; our next agenda item is an update on the 2014 Maine Elver Fishery Management Measures. To refresh everyone's memory, at our fall meeting in Georgia there was a motion to move to postpone action on Draft Addendum IV until the 2014 spring meeting and task the technical committee and stock assessment subcommittee to update the landings and key indices for 2013.

In the interim, Maine will meet with industry and report back to the board of a 25 to 40 percent reduction of glass eel catch from the 2013 harvest for the 2014 season and report back at the winter meeting. I'm going to turn it over to Pat Keliher to report out to the board what Maine has done since we all met in Georgia.

MR. PATRICK C. KELIHER: Thank you, Mr. Chairman, and thanks for the update based on the annual meeting. The state of Maine held two open meetings with the elver industry as well as having direct meetings with dealers and the harvester organization to discuss the future of the elver fishery in the state of Maine.

After those meetings and after further consultation with our scientific staff, we are moving forward with a hard total allowable catch – a reduction from last year, excuse me, from the 18,076 pounds that were landed in 2013 and moving forward with a 35 percent reduction in harvest, which will equate to 11,749 pounds.

As I discussed at the meeting in Georgia, we will be monitoring this quota with a new electronic swipe card system. This swipe card system will be one of the first of its kind. It is literally old technology being used for a new purpose. We are going to be changing the

regulations that we've already put in place regarding the swipe card system before the conversation started from weekly reporting to daily reporting.

The daily reporting; all dealers will be required to upload all of this data at 2:00 p.m. to allow my landings' staff to monitor that basically real-time landings' data starting that afternoon to correct problems going into the next day. This quota that I have mentioned will be broken down into both non-tribal and tribal. The non-tribal harvest will be allocated by individual fishing quotas.

The process by which we will use to determine the individual fishing quotas is still being developed; but we are the very least going to be using a three-year history. The approval of the individual fishing quota needs to come from the legislature. My existing authority allows me to manage fisheries by quota by not by individual quota.

We are in the process of dealing with the legislature on a myriad of changes in law, including the individual quota; and are actually going to move the swipe card system from current regulations that deal with civil penalties into the chapter of law where all of our other elver laws reside, making them criminal penalties. It continues to be a work in progress.

The tribal harvester quota; we have four federally recognized tribes within the state of Maine, the Penobscots, Passamaquoddies, Maliseets and Micmacs. We are in negotiations with all of these tribes at this time to make a determination on what their allocation will be as well as whether they will use the individual quota system or whether they will fish under a hard TAC.

Their quota, though, will also be followed and managed with our swipe card system. That is an important point I don't want to be lost. We're working cooperatively with the tribes right now. I feel like we've resolved a lot of the issues with the Passamaquoddies that led to some conflicts last year. Those talks continue to move along and we're very hopeful that we will have success.

In any event, success or not, we will be able to again manage that quota closely. The quota will also have buffers within it and will have payback provisions for the following year. We're looking at a 10 percent buffer, shutting down when reach that. We're looking at for anybody that will be fishing under an individual fishing quota; a 5 percent overage of that quota will mean an automatic loss of license for the following year.

We're in continuing negotiations with the legislature for a restitution concept which seems to have some growing support where any harvester who overfishes his quota will have to pay restitution equal to the value of the eels caught over and above the individual's quota. We believe that will be a very strong deterrent for ensuring people do not go over the quota. With that, Mr. Chairman, I would be happy to answer any questions, but I do have a motion dealing with conservation equivalency if the time is right.

CHAIRMAN STOCKWELL: Why don't you hold the motion, Pat, and see what we have for questions. I do want to reiterate for the board that there are a lot of balls still in the air and to underscore this is a work in progress. Dennis.

MR. DENNIS ABBOTT: To Pat, understanding that you're dealing with the legislature and having been involved in the legislature; I was wondering if you have any idea about the probability of passage of all your suggestions and what the timetable might be. Will you have laws in effect for this season? Maybe Walter can answer.

CHAIRMAN STOCKWELL: Yes; I would like to turn to Representative Walter Kumiega, who is co-chair of our Marine Resource Committee.

REPRESENTATIVE WALTER KUMIEGA: Thank you for the question. We've had a public hearing on the bill. We have had one work session on it and we have another one next Wednesday. I think the bill is largely taking

shape, and I don't see any problems, but you know the process. I feel pretty good about getting it wrapped up for the most part on the 12th. It has got an emergency preamble so it will take effect as soon as it is signed. I think we have worked out most of the legislation to enable this plan.

MR. KELIHER: I think it is important to point out that if the legislature cannot come to more than two-thirds of consensus and it does not pass under an emergency, we would be in a situation of status quo regarding state laws, penalties and other issues associated with the fishery. That said, though, I will still be able to put in place the quota. I just would not be able to manage it on an individual basis. The swipe card system would still be used.

We've put the swipe card in place under regulation to ensure that we would have it in place in case the legislature was not able to – we were not able to pass it by two-thirds with the emergency preamble. Even with the legislature failing to be able to act, we feel comfortable that we can manage the quota in a way that we will not go over.

In doing so, what we refer to in the department as Plan B where we would take emergency action and take many additional days out of the fishery to slow it down; to monitor the quota; probably take fishing areas out of play, includes taking sides of the rivers and only allowing fishing on one side of the river; and using those types of input controls to slow the fishery down while we monitor the catch.

MR. PATRICK AUGUSTINE: Pat, a question would be could you clarify again how you would deal with the tribal group in the case you just explained? I understand the non-tribal, but could you clarify it just a little bit?

MR. KELIHER: As sovereign governments, we are meeting with them on an individual basis. We do track the catch, Pat, by license type. Out of the 18,000 pounds that we reported for 2013, 2,500 pounds were landed by the tribes. We have broken that out tribe and are negotiating with them right now on what their quota will be going into the next fishing season.

MR. ROBERT BALLOU: Pat, can you just briefly review the penalty provisions that the state has enacted to address illegal harvest?

MR. KELIHER: All penalties are now criminal; so that gives us the ability to have arrest powers on the river and deal directly with the illegal activity as far as non-licensed fishermen. That still remains our biggest problem. The lure of the quick buck is still there. I believe we had in-state roughly 200 summonses last year for fishing without a license.

We were able to successfully prosecute the majority of those with the exception of the tribal issues because of a notice issue that was raised by the district attorneys. On the licensed harvester side, we have a two strikes and you're out rule. It is also criminal – any fishing in closed areas, fishing on closed days, all of those issues or all those penalties would be criminal.

I will say, though, because we have a two strikes and you will lose lifetime privileges, the compliance rate among licensed fishermen has suddenly skyrocketed because nobody wants to lose their license. We feel very good that we're in a very good place with the licensed fishermen.

Just quickly, Mr. Chairman, the reason we want to go in the direction of an individual fishing quota is because we believe it will be beneficial to the states to the south to help slow down – you will never eliminate it, but to slow down the illegal harvest from the other states. We think the idea of an individual fisherman having 20 pounds and wanting to make as much money on that 20 pounds as he can is much less likely to receive eels and want to sell eels that have been illegally taken from another jurisdiction or frankly from the state. We believe that will be very beneficial.

MR. PAUL DIODATI: And I think you, too, for that report, Pat. I just wanted to ask about that 11,000-plus pound quota. I'm having trouble putting it in context to what your historic landings have been like over the past five or six

years. You mentioned the 2013 landings. I don't know if Kate has a table or something that we can take a look at. I'm wondering how does that relate to your most recent past in terms of landings and how did you determine that reduction was the place to be?

MR. KELIHER: We're envisioning this, Paul, as literally probably a two-step reduction, knowing that there will be additional actions taken by this board. We last year harvested the 18,000. The year before we were at 20,000, which was close to our all-time high. The year before that we were at 8,000 pounds.

I would say on average we fluctuate historically between 8 to 10 or 11,000, but I'm going by memory here. Is that our landings? Yes; so you see by that chart those lows are usually reflecting either incredibly bad weather years; and they're usually associated with a very bad price. Those landings are driven by high points in price. When the landings go up, that is when all the license holders activate, and that was definitely true for 2012 and 2013.

MR. G. RITCHIE WHITE: Mr. Chairman, I would like to commend the state of Maine for taking all the actions they have taken. Certainly, we hope that lessens some of the law enforcement issues that we've had; and it sounds like it should help quite a lot. I also want to make sure that we keep in mind the level that the technical committee recommended for a maximum amount of harvest and that we still have quite a long ways to go to get the harvest down towards that level. Thank you.

MR. THOMAS O'CONNELL: I appreciate Paul's question; I was looking for the same information. I think it's likely that in May the board is going to go back and start discussing again what the yellow eel regulations should be in setting quotas. I know that there has been a good intent to reduce our landings to a lower level than the stock assessment period. I just want to point out where we're ending up with glass eels because we're going to have a very important discussion in May about setting limits for yellow eel. Thanks.

DR. LOUIS B. DANIEL, III: Yes, I, too, was very impressed with the approach that Maine has taken on this. I'm intrigued with the swipe card proposal and would be very interested in getting more information on that in the future if it gets implemented and wish you success in your legislature.

I just think that we need to make sure that when we're reviewing this in future; I think we need some metadata associated with these landings. I am intrigued by the expected extreme variability in annual recruitment and how those landings may be influenced by year class strength but also significant weather events as well as the price. It would be interesting to look at how those landings vacillate with those variables associated as well. I think that might give us a little better view, because it is not surprising to me the fluctuation in the landings. Very nicely done by the state of Maine, in my opinion.

MR. LOREN W. LUSTIG: Mr. Chairman, I likewise want to commend Maine for the report and the initiatives. In particular I wanted to speak in support of the restitution initiative that I believe you mentioned. Certainly, we've seen that all across the United States with a variety of species, not the least of which our own Pennsylvania Game Commission is asserting itself in relationship in elk and trophy whitetail deer and very successfully thereof. Thank you.

CHAIRMAN STOCKWELL: Are there other questions for Pat? Seeing none; do you have a motion, Pat.

MR. KELIHER: We asked Kate to take the concept of a conservation equivalency to the technical committee to discuss a change to allow us to have a little bit more flexibility with our negotiations with the tribes. **I would move the acceptance of a 2014 conservation equivalency request to allow the State of Maine to suspend the use of input controls currently used, which include license and gear caps, to manage the glass eel harvest and move to the use of an output control or a total allowable catch provision with buffer and payback provisions. I believe Kate has that.**

CHAIRMAN STOCKWELL: Is there a second to this motion? Seconded by Pat Augustine.

MR. AUGUSTINE: And I would like it on the record, Mr. Chairman, to say for discussion purposes. I want to hear more about it. It sounds intriguing.

CHAIRMAN STOCKWELL: Okay, before I go to the board I would like to turn to Sheila for comments from the technical committee.

TECHNICAL COMMITTEE

MS. SHEILA EYLER: The technical committee did review the proposal from Maine for the elver harvest for 2014 and we are very supportive of the quota management process that they have proposed. We are encouraged by the enforcement measures that are going to be put in place. We think that is very useful and will be useful in the future.

The only thing the technical committee did want to point out – and that is something that Mr. White also pointed out – is that based on the stock assessment information that we had that was completed with data through 2010, the level of harvest that is being currently proposed for Maine is about twice as much as what was the average for the landings in the years that were used for the stock assessment. It is significantly higher yet than what we had evaluated. I just want to point that out from the technical committee perspective.

CHAIRMAN STOCKWELL: Thank you, Sheila. Are there comments or questions? Pat, do you have a followup?

MR. KELIHER: I just want to reiterate that all of my conversations with the industry to date; I have made sure to make it very clear that this is going to be a two-step reduction process; that the state harvesters should not anticipate that this board will just stop here as far as reductions. I think that is, again, important to note.

CHAIRMAN STOCKWELL: And it is within the range that was approved by the board at our meeting. Ritchie.

MR. WHITE: I guess I don't quite understand the need for this. Does this board control the method of harvest?

MR. KELIHER: The current fisheries management place dictates the number of licenses as well as the number of pieces of gear. There will be no change from the state license side to increases licenses or gear type. The flexibility I'm looking for is to deal specifically with the Maine tribes. The conversations that we're having specifically with the Passamaquoddies are dealing directly with an expanded use of one gear type. They would like to expand their licenses as well as shifting over to a dipnet-only fishery. Right now I don't have the flexibility to do that because of the provisions that are in place.

MR. ABBOTT: Mr. Chairman, regarding the motion, why is it necessary, Pat, for us to suspend the use of input controls? Why couldn't we just add what you want to in the second part of the motion?

MR. KELIHER: Because I don't know what those numbers are yet; and, honestly, I'm just looking for the flexibility. The conversations that we're having with the Passamaquoddies are to go to unlimited dipnet licenses. They issued 575 licenses, which included a very large number of fyke nets within the fishery last year. We don't expect that number to jump much beyond the 575; but in order to ensure we don't end up clogging the rivers with a tremendous amount of fixed gear, we came to a provisional agreement that they would switch to dipnet only.

REPRESENTATIVE KUMIEGA: There is a representative from the Passamaquoddy tribe here if the board would like to hear his perspective. His name is Corey Hinton.

CHAIRMAN STOCKWELL: Corey, before we go to you, we'll take questions from the board.

MR. ROY MILLER: Pat, I wonder if you could give us an idea of what you're thinking about when you said that this is the first step in the process. What level of reduction are you

thinking about for the second step of the process?

MR. KELIHER: Roy, I think it is recognized by the state of Maine that through the addendum process this board will move to take action based on the technical committee's advice to lower the quota for the glass eel harvest within the state of Maine and likely South Carolina among many other things.

I think the reason we at the last meeting asked for a delay was to ensure that we include as much new information that would be available to help guide the technical committee's advice before we got there. When I say it is a step-down approach, I am definitely referring to the addendum process that we will be moving forward with.

MR. ROB O'REILLY: Mr. Chairman, I'm in that same neighborhood in the step-wise process here. I just couldn't recall exactly from the previous meeting whether a little over 5,233 was the recommendation of the technical committee. I know that is through 2010; but throughout the day I think the idea of what the technical committee has said many times no additional harvest was where an assessment was done through 2010.

I think it is encouraging to hear there will be a step-down at some point; and I guess the details of how that occurs really have to be unveiled. I think what Louis had to say about the metadata clearly includes some price elements that Pat mentioned; so I'm not sure how we look at that as well and how difficult that might be for Maine in the future given the trend from 2012 and 2013 compared to 2011 even, which was about 8,500 pounds. Again, I think a lot of us have centered on the same idea.

CHAIRMAN STOCKWELL: Are there other comments? David.

MR. DAVID V.D. BORDEN: Pat, in regards to the payback provisions, the way you characterized it at least my understanding was the individuals hold the responsibility to pay back any overages? How do you characterize that in terms of the state; and I will give an example. Let's say the state went over the allocation that is being discussed by 2,000 pounds due to illegal activity. If that was subsequently discovered, would the state also incur a payback for that type of activity?

MR. KELIHER: Right now we believe all illegal eels are being captured through the dealer reporting. The dealer reporting that 18,000 pounds shows a difference – excuse me; we show a difference of nearly 4,000 pounds between harvester and dealer. Now a lot of that is because of non-reporting and other issues that we're having from the harvester side.

It is another one of the reasons that we're moving forward with the swipe card system. The payback provision as we see it would be just that. Well, let me back up, Dave. With the understanding that we're going to go to a step-down, wherever we ended up for the following year, we believe that the reduction would need to be made and then the overage would have to come from that moving forward.

If it is found through law enforcement activities or other means that we did not capture a significant amount of elvers related to the state of Maine, I think we would have to be open to a discussion of how we would resolve that. We do take it very seriously as far as the enforcement issues associated with this. I hope it is evident to everybody that the law changes we have made shows that we're very serious about this. I think anything that would not be captured through any of our reporting, again I would be open for discussion on how to try to resolve it.

CHAIRMAN STOCKWELL: Are there any further comments from the board? Seeing none; Corey.

MR. COREY HINTON: Thank you very much for the opportunity to speak here. Thank you very much to Representative Kumiega for inviting me to speak on behalf of the Passamaquoddy tribe. My name is Corey Hinton. I am a Passamaquoddy citizen and the

representative who has been asked to speak on behalf of the tribe here this morning.

I would like to say that the motion, which is generally asking for flexibility to move from an input to an output structure of management, is something that the tribe adopted in the 2013 season. Last year we adopted a total tribal total allowable catch of 3,600 pounds. We believe at that time, based on the science that we had and the combination of that science of our traditional knowledge, that an output system – and quite frankly measuring what is coming out of the river versus what is going into the river as far as a gear and the number of people is a more efficient way of ensuring protection of the resource.

We're encouraged to see that this body continues to move towards an output structure. This motion appears to be a definite step in that direction. We hope that the addendums that are being considered and will move along over the next few months will continue to move in that direction. As we've implemented our plan on a tribal level, we've done so under the authority of our reserved treaty fishing rights that were initially recognized going back to the 17th and 18th Century and were subsequently recognized in Congress.

It is through that inherent sovereignty that we have continued to manage our fishery in a sustainable way and made the policy decision to move towards an output structure as we've discussed here today. I would also like to thank Commissioner Keliher and the state of Maine for the ongoing productive and good faith negotiations that we've been in.

I've been in several of these meetings and I understand how difficult some of these issues are that we're grappling with. I recognize that in the state of Maine the pressure is particularly acute; and I think the commissioner deserves a lot of credit for balancing quite frankly some difficult pressures coming from a few different angles.

We've continued our discussions as recently as yesterday afternoon; and we are I think really on the cusp of what will be a tremendous accomplishment as far as instilling and ensuring productive and robust management measures; but also as far as setting a precedent for positive tribal/state relations as it relates to resource management.

Another thing that I'd like to touch on while I have the floor is the technical committee, when I last spoke before this body – I believe it was in the spring meeting of 2013 – there was a recommendation made by several members that there be Passamaquoddy representation in some capacity with this board; perhaps not on an advisory level but maybe on the technical committee level.

I would like to say that we've continued those discussions with the U.S. Fish and Wildlife; and that although we obviously have some other issues to deal with in the immediate, we look forward to submitting a resume and a possible candidate to sit on that technical committee to lend an indigenous-based perspective to the policy recommendations that this body considers. With that, I would again just like to thank all of you for the opportunity to be here today. I would like to thank all of your for your continued work to protect this resource which is so incredibly important to the Passamaquoddy people. Thank you.

CHAIRMAN STOCKWELL: Thank you. Is there anybody else from the audience who like to speak to the motion on the board? Okay, coming back to the board, Bob.

MR. BALLOU: Mr. Chairman, I'm supportive of the motion, but I have a couple of questions that are technical in nature. The first, through you to Kate, does the addendum allow for conservation equivalency requests such as the one being offered today by the state of Maine?

MS. KATE TAYLOR: Yes; the FMP does allow for conservation equivalency requests.

MR. BALLOU: Thank you for that; so then my followup is should the motion be framed in that context, that this is a request for conservation equivalency by the state of Maine? It may be

necessary but as I look at this and I see "as presented today", it doesn't seem to really provide the context that we might benefit from down the road as we look back on the action that we seem about to take. Thank you.

CHAIRMAN STOCKWELL: Paul, did I see your hand up?

MR. DIODATI: Just a question about procedure; so once this action is taken on this motion, will there be a follow-up motion to discuss the quota proposal that Maine has presented? I'm trying to recall where we left off the discussion at our annual meeting and what type of actions we're expected to take today relative to Maine's 2014 fishery. I know that this sets the administrative procedures that you need to move forward, but we still have the details of the quota itself.

CHAIRMAN STOCKWELL: Well, I'd be looking to Bob for guidance here, but the motion that was made and adopted by the board at the October meeting was that Maine would report back to the board a reduction between 25 and 40 percent; and this 35 percent reduction is within that range. My sense is that we don't need further board action, but I'm going to consult with Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: At the annual meeting the steps taken by Maine or the commitment made by Maine at that meeting to take the 25 to 40 percent reduction was really a voluntary step by the state of Maine. That was part of the negotiation as Addendum IV wasn't moving as fast as some of the board members had liked; and there was some concern that what was going to happen with the 2014 glass eel fishery in Maine.

At that point the state of Maine volunteered to take the reduction between 25 and 40 percent. I think this is really just an update on the voluntary action taken by the state of Maine to provide some buffer for this board while they complete the work on Addendum IV. I don't think any additional action is needed by the board.

CHAIRMAN STOCKWELL: So with that clarification, this motion on the board would give Maine the flexibility to implement this; and certainly the board can expect a full report at our spring meeting. Doug.

MR. DOUGLAS E. GROUT: Mr. Chair, I would like to ask Pat the terminology here is to suspend. Is this for an indefinite period or is this for a fixed period?

MR. KELIHER: No; the motion on the board is a little different than the way I read it because I did read it as a request for a 2014 conservation equivalency request. We're anticipating this is for one year with the additional changes that should be noted in the new addendum.

CHAIRMAN STOCKWELL: So check the board, Doug, and I think this addresses your question as well, Paul. Are there other comments or questions? Seeing none; why don't we have a caucus?

(Whereupon, a caucus was held.)

CHAIRMAN STOCKWELL: **I will read the motion on the board: Move to allow the state of Maine to suspend the use of input controls currently used, license and gear caps, to manage the glass eel harvest and move to the use of an output control with buffer and payback provisions as presented today as a 2014 conservation equivalency request. Motion made by Commissioner Keliher and seconded by Mr. Augustine.**

Is everybody ready? Okay, those who support the motion on the board please indicate so**. It is unanimous; nineteen, zero, zero**. Thank you all very much. We going to move on to the technical committee report; Kate. Paul.

MR. DIODATI: Mr. Chairman, I guess it is still not quite clear to me what is it in the plan or in this discussion that documents – without a motion; what is it that sets that quota? It seems to me that we need something that incorporates all of the things that the commissioners presented in terms of the compliance measures, the quota for 2014, in order to set the benchmark

for 2014? Otherwise, I'm not sure what the agreement is. It doesn't seem well constituted to me.

CHAIRMAN STOCKWELL: I'm going to shoot from the hip here and say that if the state of Maine comes back without fulfilling a single one of these, we don't expect to have an elver fishery. It is a commitment from the state on a voluntary basis to implement all these measures and report back to the board a full implementation of the measures that we've proposed here today. If you feel that a motion is necessary, I'd be open to one.

MR. DIODATI: I just think in order to institutionalize it, otherwise we'd be going back to the minutes for me to recall what it is that the commissioners said was going to happen. I think I trust the voluntary actions of Maine and I realize that, but I think we need to somehow have the thing documented.

CHAIRMAN STOCKWELL: Are you prepared to make in on the fly, Pat, or do you want to move on to the technical committee and report and draft a motion during that?

MR. KELIHER: I think I can make it on the fly. The good representative knows I'm good at winging it in front of his committee, so I'll try it here. **I would move the acceptance of a 35 percent reduction from 18,076 pounds to 11,749 pounds. Any overages would be paid back the following year; but after the quota would be set through the addendum process, so we would pay back – any overages paid back the following year would be in addition – any overages would be paid back the following year would be a reduction set for the 2015 season.** Does that capture that?

CHAIRMAN STOCKWELL: Are you seconding it, Pat? Paul, does this capture it? Are there any board comments to the motion on the board? Doug.

MR. GROUT: Just to put in 35 percent reduction for 2013; this applies to the 2014 season; and it applies to the state of Maine.

CHAIRMAN STOCKWELL: Mike, you might want to reference the 2013 for the 18,076. Is that clear enough for you, Doug?

MR. GROUT: Yes.

CHAIRMAN STOCKWELL: Pat, are you okay with that? Tom.

MR. O'CONNELL: Just for clarity; so let's say that we do go through an addendum process and had that in place for the 2015 season and the glass eel quota for Maine is less than what was in place in '14; how does that payback provision apply? Will it come off of the new lower quota?

CHAIRMAN STOCKWELL: That is my read, yes. To follow Pat's comments here, this is a step-down process here. We're anticipating that Addendum IV is going to give us something significantly less than where we are at right now. Whatever that ends up on through the final vote of this board on Addendum IV, the reduction will be from that amount. Are there any final comments? Walter.

REPRESENTATIVE KUMIEGA: I just want to say that the way I presented this to the Marine Resources Committee was that if we fail to enact measures to properly manage the 2014 season, that it would be our last elver season knowing what the sentiments here were. I think the committee got that and understands the seriousness of this process.

CHAIRMAN STOCKWELL: Okay, is there a need to caucus? I'm going to read the motion on the board. **The motion is to move the acceptance of the 35 percent reduction from 2013 harvest of 18,076 pounds to 11,749 pounds for the 2014 season in Maine. Any overages would be paid back the following year with a reduction in the 2015 season.** Motion made by Commissioner Keliher and seconded by Mr. Augustine. Those who support the motion on the board please indicate so. **The motion carries nineteen, zero, zero.** Thank you. Is there any further business? Paul.

MR. DIODATI: All of this discussion has to do with a directed fishery; and there are some great

new compliance measures that the state of Maine is putting in place; but it doesn't seem that we have talked very much about one of the issues that we're all concerned about; and that is that illegal fishing for elvers.

At some point I would love to see staff put together an archive of the current rules state by state that deal with noncompliance fishing or illegal fishing, if there is any proposed legislation, for instance, to increase penalties, what are the penalties. I know that in the Commonwealth of Massachusetts we're going through a legislative process right now that would increase penalties to a very significant level, first offense, that sort of thing. I would like to see some kind of appendix of that for us to review.

CHAIRMAN STOCKWELL: Great suggestion, Paul. We will have it included in our spring briefing materials. Is there any further business on Maine's 2014 fishing year? Okay, Sheila, are you taking the lead? Thank you.

TECHNICAL COMMITTEE UPDATE ON DRAFT ADDENDUM IV BOARD TASKS

MS. EYLER: I am just here to give an update on the technical committee's tasks that were assigned for Addendum IV that we're going to address in the spring meeting. Just to give the board an update of where we are, the technical committee has met a couple of times to discuss some of the things that we need to address for Addendum IV.

One of the first items that we were dealing with was updating indices. We were requested to see if we could update any indices from the 2012 stock assessment in time for this May meeting. We are able to update the harvest data through 2013, which might be available to use for quota development. We will also be able to update the end-of-the-year survey through 2013.

Although we don't have the results yet, it looks like some states have had very good years, some states have had poor years and some states are kind of on status quo; so I don't if that is going to be real conclusive at this point, but we will have the full results in May when that meeting comes around. At this time we will not be doing any updates to the 10-, the 20- or the 30-year indices that we used in the stock assessment. We just don't have the resources or the time to do that by the May meeting. Does anyone have any questions on the indices?

We can move on to the review. We were requested to review European and Canadian eel fishery management. We have taken some preliminary review of how they're managing their fisheries in both Europe and Canada and how that compares to what we have enacted in the ASMFC process or at least considered. Initially it looks like a lot of the management measures taken in both Europe and Canada are similar to things that we have considered here or enacted here in the U.S. Again, we'll have a full report on that in the May meeting.

CHAIRMAN STOCKWELL: Are there any questions for Sheila? Rob.

MR. O'REILLY: Mr. Chairman, my hand went up a little late with the last set of questions. I'm always interested to find out what the technical committee has in terms of progress on some type of validation with the elvers and other life stages. Each time I ask that question it grows in maybe some confidence on the part of the technical committee that this is getting closer to having some use within an assessment. I think the idea here is a lot of states have waited to see what type of fruit is borne from the surveys that have been in place for many years for elvers and want to see how that is used and that it is used. I'm wondering what the prognosis is lately.

MS. EYLER: I think with the young-of-the-year surveys, that the information hasn't been terribly conclusive. There is an increasing or decreasing trend there; so I don't know that there is much more information to gain from that. And even with the updates of the past couple of years, it is really not showing a marked change anyway. I don't know that I can answer your question any further than that.

MR. DIODATI: As far as the review of European and Canadian eel fisheries management methods, I imagine that for some details they are similar, but the stark difference that I would think is what is driving the glass eel economy here in the United States; and that is that Europe has banned the exports of glass eels. In this review I would like to see some of the associated impacts with that measure in Europe; and I would like a clear demonstration of the shifts of the pressure on the markets that have come here to the U.S. Most importantly, I would like to see some type of legal review that maybe our director might need our attorney to do to explore whether or not the commission has the authority to prohibit exports of glass eels from the U.S.

CHAIRMAN STOCKWELL: Paul, Marty might have an answer to your question.

MR. MARTY BOUW: Paul, the reason now what is going on in Europe is that about 40 percent of the eel farms are going out of business because of the amount of glass eels they have caught and they put into the plants. They brought so much eels on the market now that the prices tumbled to next to nothing.

We're going to have a big problem with the wild eels this spring for price factors. The glass eels that were not exported has all gone into the actual farms up in Europe and they have grown way, way too many eels right now. That is what the result is of not exporting them to China. China did get 60 tons of European glass eels however they did it.

MR. DIODATI: I guess that is the kind of report that – that is the type of information that could be incorporated into the technical committee's report.

MS. EYLER: We can work on that.

CHAIRMAN STOCKWELL: Are there other questions for Sheila? You've got one more?

MS. EYLER: Yes. The final thing is the life cycle survey that we were tasked to try to develop. We have assessed the surveys that are currently in place that we were aware of with the technical committee; and there is not currently a survey that would really constitute a life cycle survey that is being done in the U.S.

There are different surveys for yellow eels or glass eels or even silver eels that are done and could be used as part of a life cycle survey, but we really would have to add more to that to have a full complete life cycle survey. There are some complications in conducting a life cycle survey especially in big river systems. I think one of the biggest limitations is trying to collect silver eels in a big system. It is very difficult to do that in a timely fashion. We're going to work on some methodology and a sampling framework, and we will be able to present that again at the May meeting.

MR. RUSS ALLEN: Not really a question, but I just wanted to let you guys know that New Jersey is attempting to do some life cycle surveys on the river systems where we already have glass eel data. We will be getting to do some yellow eel work this summer and then move that into the silver eel migration and hopefully do this for a few years and hopefully get some information for this board. Thank you.

MR. O'REILLY: Mr. Chairman, I'm on the same subject as before. It would be very beneficial to Virginia to know the merits or the cost benefit of continuing with the elver surveys. Budgets are not what they used to be, as everyone knows; and it is something that after 13 or 14 years I suspect there is a lot of inter-annual variability in this data.

They don't seem to be useful in the assessment process after all this time. There is a standing technical committee recommendation not to increase harvest at any life stage, but at the same time there is really not very good information on the utility of these data in areas where there is not any type of fishery on that particular life stage going on.

I would hope that the technical committee could come back at some point and reassure the states that these compliance elements, which is what they are, are valuable in some respect other than

just to get an idea that there is really not much there, the trend isn't there. They seem to be up; they seem to be down. In this day and time there has to be a cost-benefit approach to this, and that is what I'm asking.

MR. KELIHER: Sheila, I want to build a little bit on what Lance Stewart brought up at the meeting in Georgia, which is this concept of recognizing different systems or coastal drainages and how each drainage is very different when it comes to American eel and their life cycle. In Maine we have many drainages that in the spring attract large quantities of glass eels, but we know there is very little to no yellow eels within that system just because of the amount of habitat that is about it. Is this something that the technical committee has looked at or could look at as far as looking at habitat type or the size of a drainage to rank them to the importance of eels. It may be a way to focus glass eel harvest into drainages that don't have tremendous benefit to the overall population.

MS. EYLER: I think we recognize that every watershed is different; and with the life cycle survey, this has been a large component of the discussion is that evaluating big river systems such as the Potomac River compared to small coastal river system that has very little habitat means a very different thing for eel survival and production. This is something that we're considering with this survey at this point.

CHAIRMAN STOCKWELL: Are there any further questions for Sheila? Okay, seeing none, we're moving on to our next agenda item, the American Eel Farm Aquaculture Request. Kate.

AMERICAN EEL FARM AQUACULTURE REQUEST

MS. TAYLOR: The American Eel Farm has submitted a request to the chairman for a glass eel allocation. The chairman has requested the technical committee review the proposal. The proposal is for 750 pounds of glass eels from the state of North Carolina. The American Eel Farm plans to grow out the glass eels to market size, to nine inches.

It is expected that this can be accomplished in about 190 days, with the estimated production to be around 110,000 pounds per year. This would constitute upwards of 800,000 juvenile eels. Their expected timeline for harvest would be that one-third could be harvested within the first five months and the second could be harvested within seven months and the remainder harvested within ten months from the facility.

Within the proposal that was presented, they had suggestions that they would be reporting harvest of their catches that would be allowed and also expressed their willingness for restocking of any eels into the rivers as well as any other requirements that would be stipulated under the permit by the state of North Carolina. The technical committee did review this request and I will allow the technical committee to review their comments.

MS. EYLER: As Kate said, we did review the request from the American Eel Farm. The technical committee really felt that the level of harvest that was being requested in that proposal was at a level similar to a current elver fishery or glass eel fishery in South Carolina; so we really looked at it as a new fishery.

Because we were looking at it as a new fishery, the technical committee really is in opposition of that. It is against what the stock assessment recommended from 2012. At this point the technical committee does not support the new fishery or the level of harvest that is being requested by the American Eel Farm at this time.

The proposal that was given to us did not have scientific information for us to evaluate as far as the merit goes for the information it would provide to us to use in a potential future stock assessment. The question came to us what kind of information if a scientific collection permit were to be granted would we like to see as a technical committee to be put into that permit as a requirement.

These are some things that the technical committee thought would be useful information to be collected if permit were granted by the board or by the state. We would definitely like this proposal to be involved in a life cycle survey once that gets developed by the technical committee; either completing the entire life cycle survey or at least participating in a component of that survey to get additional information to support that survey.

At the very least we would like see collection of catch and effort data by location and any environment data that would be associated with that harvest. We would also like to see some harvest restrictions put in place that might include some non-fishing days or cap the total amount of harvest that could come from a particular river system or having gear restrictions or even partial releases of restocking.

Any restocking that would happen, particularly if it was for an aquaculture venture and those eels were held in a facility, the technical committee would like to review any stocking proposal that would come out of that. We have some concerns about stocking fish that have been held in a facility. We do have some other considerations.

There was some concern that the impacts with additional glass eel harvest might impact current yellow eel fisheries, and so some socio-economic impact should be considered when granting any collection permit, especially this size. We are also getting similar requests. I have gotten requests myself of folks wanting to do scientific collection for this reason, some for aquaculture, some just to find glass eels in different places along the coast. The decision by the board made on this today will actually impact other requests that might come up in the future. That's all I had.

CHAIRMAN STOCKWELL: Thank you, Sheila. Are there questions or comments? Bill.

BOARD DISCUSSION OF AMERICAN EEL FARM AQUACULTURE REQUEST

MR. WILLIAM A. ADLER: Mr. Chairman, a couple of things. First of all, I don't know if it is a money issue or why the aquaculture grow-out couldn't buy these eels from the areas that are still harvesting them. It might be that the price is too high, low, whatever. That is one thing; but I didn't know why you couldn't buy the 750 from one of the other ones. The other one I am concerned about is the fact that if this gets approved, just as she said, we're going to have the other states line up to do the same? That would be my concern here.

DR. DANIEL: I don't know how you want to handle this, but I think maybe providing you some background on the request and at the same time addressing some of the technical committee's concerns may be a way forward and then questions, Mr. Chairman, if that suits you.

CHAIRMAN STOCKWELL: Yes, if you can provide an overview here and then we will build off of that.

DR. DANIEL: Let me just refresh everyone's memory as to the annual meeting. This request came from me for the American Eel Farm. There were some discrepancies, I guess for lack of a better term, in the request on how large the eels would be and whether or not the facility had the capacity or the capability to raise these up to our legal size limit of nine inches.

Soon after the Georgia meeting, Mr. Allen contacted me. He has contacted several experts around the world and has provided quite detailed information on his new understanding on the capacity of his facility and indicated then to me that he could now raise these eels up to the minimum size at least and be able to offer those for sale.

I did not feel comfortable as the chairman of the commission restating the request; and so I talked with the chairman of the board and asked if he would accept the request from the American Eel

Farm. He agreed with the stipulation that it would be run through the technical committee and they have given it their review. Mr. Dick Stone, who many of you know as retired from the National Marine Fisheries Service, is a contractor for Mr. Allen. He has some statements that he would like to make on behalf of the petition for inclusion.

My primary feeling on this is that one of the reasons, perhaps not the only reason, but one of the reasons that the request was voted down in Georgia was because of the appearance that it was really a ruse for an elver fishery. I think many of the folks around the table spoke to that effect; and I think the record is pretty clear that was a major concern.

Whether additional concerns exist, we will hear in a few minutes; but my comfort level with at least the ability to now raise the eels up to a legal size resolved one of the major conflicting factors in the decision in Georgia. So now the question comes up, well, what if everybody jumps in line to do the same thing? Well, that was not my concern.

What I'm asking for or what we were asking for was the authority to grant a scientific collecting permit. I have absolutely no problem with any and all of the suggestions from the technical committee in terms of what would be included in that scientific collecting permit to see if this operation would work.

But it is a one-year request; that was my intent with any future allocations of glass eels having to come through the upcoming addendum; and so if we decide there is not going to be any glass eel fishing or it is going to be reduced to such a level that North Carolina and everybody gets a 50-pound quota – I mean, what, South Carolina is getting ready to go down to 70 pounds?

Our quota will be what our quota will be, but I want to make it absolutely clear that I in no way, shape or form intended for this to take away from my existing traditional yellow eel fishery. I know we've had a lot of discussion about some kind of conversion factor of yellow eels to glass eels and that kind of thing.

We may or may not ever get there; but if we do head in that direction to where – and I think I'm speaking for all the states – if we're going to do any conversion of a traditional yellow eel catch to a new glass eel fishery, that is going to have to have full discussion in public comments and meetings to give the traditional eel fishermen an opportunity to comment. That is sort of where we are.

I can't speak to the technical aspects of the farm itself; and I believe there are folks that could if there are questions. If it would satisfactory, Mr. Chairman, if we could allow Mr. Stone – I think he has got a statement that he would like to make on behalf of the American Eel Farm. I would be to answer any questions and I'm sure they would on their request.

CHAIRMAN STOCKWELL: Thank you, Louis. Before we go to Mr. Stone, I want look to the board; and are there any questions to Sheila on the technical committee's report? Paul.

MR. DIODATI: I guess the type of thing that I'd be looking for here is to have a better understanding of the public benefits from moving towards this type of development. For instance, I heard that there would be a willingness to do some stocking at some point. From all of our earlier discussion about glass eel harvest, I'm told that natural mortality is quite high; something on the order of 90 percent.

If a production facility like this took 750 pounds – are we still talking about that range – which is I guess a few million glass eels or so; and if the science suggests that only 150,000 of those reach an older age and this program was willing to reduce that mortality to such a degree that they can stock out 300,000 at that age, then this is a benefit that you end up putting eels into production without reducing the wild population. In fact, you may even enhance it. That is the kind of technical analysis and information that would be valuable to me in being able to make a proper decision.

MS. EYLER: Yes; we had some considerations with restocking. Two things in particular came

up with that within the technical committee discussion. One is the potential for introducing disease that might be spread from an aquaculture facility back into the wild. Some states have regulations on disease spread and taking aquaculture fish and putting them back out.

The second thing that we've found with some work that we're doing right now in the Susquehanna River is that putting eels in at very high densities alters the sex ratio. That is a major concern. If you're going to stock a whole bunch eels and they're going to be males and they're only to grow to 300 millimeters and then leave; that is not necessarily what you're looking for in those systems either. It is going to alter life history of those fish when you restock them back into the system.

One other thing I wanted to point out with the North Carolina request in particular is that the young-of-the-year survey has not been completed in that state for some years now; and so the request of 750 pounds, we don't have any survey to really gauge that by or how much that really is for that particular watershed or even within the state. That is another concern of the technical committee.

MR. BORDEN: Mr. Chairman, I would like to ask the staff a question. This is the first time I have served on the Eel Board in a long time, so I'm a little bit out of the loop on the process. Are there specific provisions of the plan that control how state agencies issue scientific collection permits?

MS. TAYLOR: No; aquaculture harvest or scientific collection permits is not detailed within the plan. However, given that the harvest is for commercial purposes, the state of North Carolina requested review and to go through the board at the annual meeting; and so this is a continuation of that.

MR. BORDEN: Okay, thank you very much. I guess I just make the observation that I think there is going to be a lot of additional interest in this. I think as Paul Diodati just said, I think there are some intriguing aspects of this that actually could be beneficial if we construct it that way. I think that the plan at some point we should about developing specific criteria on this issue and including those in a plan; so that we don't just do this ad hoc.

MR. ADLER: Mr. Chairman, I would like to ask Louis; if he said it was one year – I know that they are requesting this as a per year – I don't think a one-year thing would be beneficial to the company because then they'd have to come back the next year to see if they can get it again. Maybe Louis could explain. They want it every year. I am not against this necessarily, but I just have these questions on this thing.

DR. DANIEL: Well, my understanding is that from the discussions that we had before the annual meeting was that this would be for this upcoming season. The reason that the request came in was so that could get jump started. They've got the facility; it is up and running; it is ready to go.

They're ready to put the eels in the facility, but yet there was no mechanism to do that until Addendum IV is approved. My understanding and I think many of the board's understanding is that once Addendum IV is adopted, it will address this issue. Whatever the quota might be and however that allocation would be would be handled through Addendum IV and not through this specific scientific collecting permit request.

Mr. Chairman, can I ask a question or basically clarify a question from the technical committee? You're right, the bridge net survey, which is North Carolina's primary survey to collect elvers and provide information on elver abundance, has been in limbo for the last several years. We have secured the funding to get those samples sorted and try to get that information.

One of the interesting factors of this is to find out just that information. I have a very capable staff that has made efforts to collect glass eels through a glass eel survey, and we have not been real successful. My hope is that if we had those folks out looking as hard as folks would be looking, we might be able to find out exactly where those eels are in our area of jurisdiction.

While I've got the mike, Gordon Myers is here. He is from the Wildlife Resources Commission. He is their executive director. His jurisdiction is in the inland waters where a lot of these elvers would be fishing, and there would be no fishing allowed in those inland waters under this permit. It is all coastal waters, most of which are dead-end systems.

I am not really sure yet what the impacts of this harvest would be, but I want to make sure the technical committee is aware that we're very interested in trying to find these things and provide as much of a life history/life stage study as we possibly can; and this was just sort of our first stab at trying to find that information.

CHAIRMAN STOCKWELL: Okay, before we go to Mr. Stone and discuss the merits of this request; are there any further questions for Sheila? John.

MR. JOHN CLARK: I was just curious whether the technical committee got any economic data on this proposal. All I've seen is that they're planning to take 750 pounds of glass eels and turn them into nine-inch eels, but that seems like taking a very valuable input and turning it into something that is not very valuable. How does this pay for itself? Thanks.

MS. EYLER: There is an economic part of the proposal. We did review that as the technical committee; we looked at the scientific merit of that proposal only.

CHAIRMAN STOCKWELL: Do you have a question, Marty?

MR. BOUW: Yes; this is a verification. On the AP of the commission, I have talked to some of the fishermen right now in North Carolina; and they think it is pretty unfair and that everything goes through a public comment and they have to abide by all the rules and get knocked down for everything that is possible that we all have been deciding over here; and yet somebody else can just walk through the backdoor and say, well, we'll take part of your livelihood away. They don't get no benefit at all.

The people that work every day in the fishery, they have no benefit of this deal at all. I think if this should be done, it should be done through the public comment and that everybody else can decide what is going to happen and then get a study. If it goes to public comment and they agree that they should have that permit, I'm not against aquaculture. It is 75 percent of my business.

CHAIRMAN STOCKWELL: Do you have a question, Pat, because we segueing into –

MR. AUGUSTINE: Yes, thank you, Mr. Chairman. Sheila, you did list what the group would have to do and provide you in order to be considered to have this aquaculture facility up and running. Would you consider the likelihood of they developing the protocol with you to do that, that there might be a likelihood that they would be allowed to run that facility?

I'm not talking about where the eels are coming from. I'm talking about the protocol that you put up there that was lacking in the document that we received to make an assessment of. You talked about the protocol for life cycle and the rest of that sort of thing; the likelihood that they could develop with the technical committee the protocol to do that; would that seem reasonable if they were to buy the eels?

MS. EYLER: If they were to buy the eels that they could complete the life cycle survey?

MR. AUGUSTINE: Yes; if that was part of their total process? As I understand it, they want to buy glass eels to start the process but somewhere along the line – when I had talked to Mr. Allen, he had talked about the possibility of doing some of this; and then all of a sudden the dollar signs came up in everybody's eyes because we were going to produce – 90 or 95 percent of the elvers are going to grow out to six to nine inches and they're going to have 110,000 pounds of food and they're going produce these eels for the market.

So it just went from some research, again the permit, that there was going to be a possibility of putting some back in for rebuilding the stock;

but that all got lost. And everybody I think – I know in my case I had looked at from a standpoint of it is aquaculture. If it would work with eels or whatever it happens to be; is it doable and does it make sense.

If I put it in perspective, the facility itself – it is a gorgeous facility. Maybe it should be growing tilapia; I don't know. But if it is set up for growing eels, if they developed the protocol with you, if they could prove that there would be some research value to this and life cycle for down there in that area; is that doable?

If it is not doable, I think we really have to know that no matter what they do, it is not doable, and I think that would end it. I went to get as black and white on that as I can because this group is hanging out there waiting for us to make some kind of decision.

On the one hand, it appears we've led them a little bit because aquaculture would be good. On the other hand, they have led us a little bit because they have been very aggressive in pushing this on us. It is almost like you had a blank point answer on that.

CHAIRMAN STOCKWELL: Do you have a quick answer, Sheila, or is that something that we wrap into our discussion?

MR. AUGUSTINE: Yes, no, indifferent, whatever.

MS. EYLER: I think that we could work with them to collect some scientific information that might be useful, right.

MR. AUGUSTINE: Thank you for that; and I hope Mr. Stone will take that comment when he makes his pitch.

CHAIRMAN STOCKWELL: Okay, Mr. Stone, we're going to go to you and then we're going to come back to the board.

MR. DICK STONE: Thank you, Mr. Chairman and Eel Board Members. I'm Dick Stone and I'm here to present this particular request for the state of North Carolina and the American Eel Farm. I appreciate the opportunity to be here today to support the North Carolina request for a permit to use a controlled harvest of up to 750 pounds of glass eels in North Carolina coastal waters.

These glass eels will be used to grow out at a state-of-the-art aquaculture facility located in Trenton, North Carolina, as part of an effort to establish a viable eel aquaculture facility in the U.S. and to better understand our North Carolina glass eel population in the eel life cycle. This operation would be conducted under a North Carolina Division of Marine Fisheries scientific and educational collection permit.

The permit conditions would include timely harvest reporting, timing of the glass eel migration, catch per unit of effort and the potential for translocation of a portion of the glass eels upstream of impediments in the river system where they are collected to enhance future yellow/silver eel populations.

Using the practice of translocation and restocking that is used extensively in Europe here in North Carolina should reduce the component of natural mortality, that you've talked about, that is very high for glass eels and eliminate any potential problem of sex differential with glass eels grown out in high densities and then released.

Also, this harvest could provide the North Carolina part of the glass eel monitoring the ASMFC would like to see from each state. It is exciting to think about the potential of a domestic eel farm using local catch to supply local markets and in the future processed local product to fill domestic, ethnic market needs that now require imported product.

This is a very large business worldwide. The NOAA Aquaculture Mission states it is important to encourage this type of initiative and job creation in a sound scientifically portable manner. Speaking of science, we would envision multiple sites, multiple sampling sites initially in North Carolina river basins.

And then if this is allowed to continue as a scientific investigation, after two years selecting two sites with abundant glass eel populations for static sampling locations to fulfill the state requirement to monitor glass eel and elver young-of-the-year life stages, this will be a good opportunity to assess in North Carolina the annual recruitment of each year's cohort, which is unknown.

As the Eel Management Plan states, data from a young-of-the-year abundance survey could provide a barometer with which to gauge the efficiency of management actions. As you and the board know from the letter and attachment I sent, there should be no question about the capability of the American Eel Farm to do the job.

The facility and equipment within it is state of the art in a facility that can grow out eels to market size. This domestic operation gives us an opportunity to conduct needed data collection and limited harvest in a highly monitored and verifiable setting while provided needed jobs in Jones County, North Carolina.

I believe it is important to encourage this type of initiative and job creation in a sound scientifically supporting manner. We envision this as a five-year scientific study, but obviously as Louis has said we would get permission for one year to start with. Our sampling data collection protocol will be developed with Garry Wright, the North Carolina representative on the Eel Board's Technical Committee and the technical committee itself.

We can meet all those conditions posed by the technical committee, and we'd love to try to do that. Mike Frinsko, a North Carolina State University Area Aquaculture Agent, and other scientists and students would be working with us on the production side of the American Eel Farm. I don't see that there would be any economic impact on other fisheries from the work that we want to do.

As a matter of fact, if we do get to move some of these glass eels upstream, there probably would be more yellow eels for the fishermen in North Carolina to harvest. I, Louis Daniel, Rick Allen and our expert on fish farm operations from Denmark, David Ommanney look forward to discussing this with you and would be happy to answer any questions that anyone may have on this request and hope it can have favorable review during this meeting. Thank you very much, Mr. Chairman.

CHAIRMAN STOCKWELL: Thank you. Dennis and Ritchie and Pat and then let's consider the merits of this request. We're running late on time and we still have more action to go.

MR. ABBOTT: Thank you, Mr. Chairman, and thank you for your patience in dealing with this issue. A question for Sheila; very simple from a layman like myself; what scientific information would you get from taking a glass eel that is this big, a couple inches long, to growing it to nine inches in an aquarium tank and then selling it some months later? I fail to see the true scientific value in such an endeavor. Am I wrong or right in my thoughts?

MS. EYLER: I think the information that we would be interested in is the information in actually collecting the glass eels before they get into the facility. Once they're in the facility, I don't know that there is much that is useful for the technical committee as far as management goes.

MR. ABBOTT: Thank you; that is what I wanted you to say.

MR. WHITE: I'm going to make a motion that is not directly to this application; but if it passes it may frame how we go forward on this application. Move to include the following in draft addendum IV: define the criteria to issue a state scientific permit for all life stages; define the maximum amount of eels that could be harvested and sold under a scientific permit without board approval; define the minimum amount of eel that could be harvested and sold under a scientific permit with board approval. If I get a second; I would like to speak to it.

CHAIRMAN STOCKWELL: Second by David Borden.

MR. WHITE: First off, this is a Pat Augustine motion because I had this concept and Toni wordsmithed it, so thanks for the assistance, Pat. In reading and looking at this application and hearing the technical committee's report, it is clear to me that this 75 pounds is going to be harvested and there is not scientific information being produced that the technical committee is in favor of. I think instead of dealing with these on a one-by-one basis, let's get a policy in place so that any application that comes in can be treated equally at the same time and the same set of regulations. Thank you.

CHAIRMAN STOCKWELL: Are there comments on the board? Pat.

MR. KELIHER: I think I can support the motion. I was having a lot of time just kind of thinking through the process of using a scientific collection permit for the use of a commercial aquaculture venture; and that is really where I was having my problems. I'm supportive of the overall process.

We've been approached in the state of Maine for similar type of work. My angst again lies with scientific collection permits for the use of a commercial venture. I think at least this motion starts to frame a little bit better for the states how a state could move forward and at what level before we start to get into issues.

I think to Sheila's point, the issues of science associated with an aquaculture facility, they're just not there in my mind. My biggest concern with this facility is the bio-security issues that were raised by the technical committee.

CHAIRMAN STOCKWELL: Rob, you had your hand up?

MR. O'REILLY: Yes. It is not confluent with this motion. It was a question about what Mr. Stone presented.

CHAIRMAN STOCKWELL: Let's stay with the motion for the time being. Paul.

MR. DIODATI: I guess I wasn't prepared for this motion. It seems to me does this suggest that it short-circuits the ability of this board to deal with this request; is that what this does? Are we going to be able to deal with this request today or does this motion suggest that it will be delayed until Addendum IV is established with the criteria for this?

CHAIRMAN STOCKWELL: My sense is we could do either; but I would ask the maker of the motion of his intent.

MR. WHITE: The intent is not to require this application to come under this; but I think if this passes, I would certainly encourage us to then have this application wait until we figure these out to see if it falls within the technical committee's recommendation.

MR. DIODATI: Well, I would support this motion, but I felt that we're dealing with a specific agenda item. I still have questions about that. I would like to respond to some of the things that we've talked about in terms of benefits from scientific research, the biohazards that might be associated with this particular project, so it seems to me that this motion is kind of in the way of that. I just want to make sure that we have an opportunity. If we want to deal with this motion, Mr. Chairman, that is great, but I want to make sure that we have an opportunity to still deal with the business that was in front of us.

CHAIRMAN STOCKWELL: A process point, Dennis?

MR. ABBOTT: Yes; recognizing Paul's angst, I think if you care to you could make a motion to postpone to time definite. It could be an hour or two or just table this temporarily while you deal with your subject. As we stand right now, this is in the hands of the chairman to be dealt with as long as it is there on the board.

CHAIRMAN STOCKWELL: What is your pleasure, Paul?

MR. DIODATI: This isn't my issue, **but I'd be glad to make a motion to postpone until we**

deal with the agenda item – until we complete our business with the agenda that was in front of us before the motion was made; so that might be however long it takes.

CHAIRMAN STOCKWELL: Are you seconding that, Rob?

MR. O'REILLY: I will second that; and also I would like to add that I'm just a little concerned about the motion with the scientific permit. Typically, I don't know how other states have these, but scientific collection permits are not for commercial purposes.

This is a venture and I assume that this proposal was more geared to look at science in terms of what the facility does, how it grows out the eels, those types of aspects; where we should be looking at the eel component here more than anything else and not on any sale or commercial part of it with a scientific permit.

CHAIRMAN STOCKWELL: Okay, the table is not debatable is let's move the motion. **Those who support the motion to table until a decision is made on the aquaculture proposal from North Carolina made by Mr. Diodati and seconded Mr. O'Reilly; those who support the motion on the board please indicate so. The motion carries 19, zero, zero. This motion is tabled.** Louis; back to North Carolina.

DR. DANIEL: Yes; let's get the discussion going here**. I will make a motion that we accept the American Eel Farm request and that all of the provisions requested by the technical committee for the SCP be included in the permit requirements and that it be for the 2014 season.**

CHAIRMAN STOCKWELL: Motion made by Dr. Daniel; seconded by Loren. Paul.

MR. DIODATI: On the scientific merits of the proposal, we've talked a little bit about that. It is my feeling that if a project like this – there are a lot of reasons why do these kinds of jobs. In the Commonwealth of Massachusetts we have several where we do shad and rainbow smelt in a very similar fashion; but one of the merits is that you might be able to get a food product locally without transportation costs involved.

Making it environmentally friendly in terms of the carbon footprint, there is the food safety issue that I think is important to this country these days. Developing aquaculture is a priority for the nation; but the most important thing to me in terms of the eel populations is that if a project like this can move forward and demonstrate that it could be done so without any net loss to natural populations is critical to me.

Now, translocating these fish could be problematic, but in my view that is a critical part of this if you want to call it experiment. I know the technical committee has raised issues about that as did the commissioner from Maine; and I share those concerns. If disease or genetic mixing becomes a problem, we need to know that.

If this is done in Europe and other places of the world and if we could do that and if we can demonstrate how many larger eels need to be transported and restocked in order to get no net loss to the population, I think that is extremely valuable. You can essentially have created a fishery, a grow-out and a restocking that has no net loss to the population and there are benefits to the public and to the company that is involved.

I would like to see that kind of operation in my state if that works. Those are the kinds of measurements that I'd like to see in terms of the science part of this. Could that actually be accomplished and could it be accomplished with enough profit to be viable? If those measures could be built in, then I would view this as an important science experiment and I would support the motion.

MR. DAVID SIMPSON: Well, I appreciate all the effort that has gone into this. Plain and simply if we do this, we're opening the floodgate to every individual and every state using this work around to quota-based management and management in general. We have an addendum where we're going to

consider potentially glass eel fisheries, how we're going to manage eel fisheries state to state, whether we may allow glass eel fisheries in other states than Maine and South Carolina, and it should simply wait for that time.

To call this research and scientific collection; it would be precedent setting to my experience that someone would ask for what might be a million and a half dollars worth of product to conduct research. As Rob alluded to, Connecticut could not issue a scientific collector's permit for such an activity. It is simply the motivation isn't science; the motivation is profit. I just think this activity like all of our other activities needs to wait until we have an addendum and it falls under the normal flow of commission business to manage fisheries.

MR. ABBOTT: Mr. Chairman, I obviously don't like this motion and am tempted to modify the motion to a motion that would allow all states to conduct the same operation as suggested by the state of North Carolina. Their aquaculture operation is taking 6 percent of what the state of Maine harvests.

If each state had one proposal and was taking 6 percent at 750 pounds, we would be up to harvesting about the same as the state of Maine would. We have two real issues here. I don't anyone debates or has problems with the aquaculture portion of it. I think the real issue is about using a scientific go-around to harvest 750 pounds of eels, which the technical committee says is something that we shouldn't doing. I cannot support this motion. Thank you.

MR. O'REILLY: I just think the timing is wrong. I know a lot of effort has been put into this. I think without a doubt, I think that ventures do occur. One occurred in Virginia about 15 years ago; it didn't work out. It was a little bit different in terms of the expected life stage that would be marketed.

This might be a little more solid, obviously, in its goals, but here we have Maine talking about a 35 percent reduction from the 2013 harvest and a step-down from that which would be added on to whatever the technical committee and board give as a final amount. I guess I heard that South Carolina will have a lowering as well.

I haven't heard anyone mention that we're still waiting to hear the fate of the species of what the U.S. Fish and Wildlife Service decides; and that is coming up. It keeps getting closer. I just think that it sort of goes against everything that we're trying to do based on what went through 2010 with our assessment, the advice of the technical committee and has there really been great improvement since 2010.

I haven't heard that so I think I also share the idea that on an aquaculture basis, that is fine; but on the overriding species and stock status question, it is not. Yesterday in the executive committee we talked a little bit, as Louis had mentioned, about certain aspects as we go forward. What we also probably should have talked about a little bit more was this designation that came around later on in the Policy Board where we looked now at overfished possibly be determined as depleted.

I was very uncomfortable originally knowing that with the eel assessment what we were left with was depleted. We didn't have a biological reference point that we're all used to with other fish species; but now I see that maybe depleted is a lot stronger than I had originally thought; and that is the case with the eel stocks. Thank you.

DR. MIKE MILLARD: Mr. Chairman, I, too, am going to speak in opposition to the motion for a couple of reasons. One I was hesitant to even bring up but Mr. O'Reilly just brought it up, and that is the ESA listing that is currently under deliberation in my agency. That alone would cause me as a Fish and Wildlife Service representative to essentially be unable to support increased harvest.

But more importantly, I come from an agency that has a long history of hatchery-based stocking restoration efforts. Unfortunately, the list of shiny success stories is much shorter. When I see that stocking from this effort is thrown up to mitigate or offset the additional harvest or trap and truck or these sorts of

measures; again, there is a long history of how these work in terms of restoration or how they don't work.

To me it doesn't make sense to use that to create a problem, increased harvest, and then say you're going to fix it with a remedy that we know is inferior and doesn't work. The much simpler solution is don't create the problem in the first place; don't let the increased harvest occur. Thank you.

CHAIRMAN STOCKWELL: Is there anybody else from the board who wishes to speak?

DR. DANIEL: I appreciate the discussion and you all have heard the issue now at two meetings. I just want to make sure it is clear that the scientific collection permit was really the only avenue I had to move forward with for this request. I understand the angst and concern from some over that.

We have had situations in the past where we have done scientific collecting permits that generated a lot of fish, and we had to have some mechanism to be able to dispose of those fish; and so there are certain circumstances where we do allow folks to sell their product. I agree with Rob's comment and Sheila's that really the primary data for stock status and stock assessment is what happens prior to the eels going into the facility. There is a lot of interest, though, in North Carolina, through North Carolina State University primarily and others, on the science of aquaculture. While that doesn't fit into the stock status of the stock assessment, it is considered one of our sciences that we are interested in and promote.

CHAIRMAN STOCKWELL: Is there anybody else from the board that wishes to speak to the motion on the board? Seeing none; we're running late and I'm not going to go back out to the audience, so, board, please caucus.

(Whereupon, a caucus was held.)

CHAIRMAN STOCKWELL: Okay, move to accept the American Eel Farm request and that all of the provisions requested by the TC be included in the permit requirements for the 2014 season. Motion made by Dr. Daniel and seconded by Mr. Lustig.

Those board members who support the motion on the board, please indicate so; those that are opposed; any abstentions; any null. **Okay, the motion fails one, seventeen, zero, one**. We have got a motion tabled. Dennis.

MR. ABBOTT: **I'd like to make a motion to remove the previous motion from the table that Ritchie White offered.**

CHAIRMAN STOCKWELL: **Is there an objection to removing the tabled motion. Seeing none; the motion is back on the table.** Dave.

MR. SIMPSON: Yes; I think this now is a good question. It didn't seem necessary six months ago or so, but I do think it is a more general question that goes beyond the Eel Board; so I think it is something that should be dealt with more generically at the Policy Board level.

DR. DANIEL: Dave took the words out of my mouth. This is a great idea. It would be very helpful for the states to have this ability to be able to know where in the threshold that you don't have to come to the board and threshold where you do. I agree; I think this is an excellent motion, but I would like to see it universal for all of our plans and maybe that is a really good effort that we can pursue over the next year.

MR. GROUT: I think the process would be appropriate to go through the Policy Board. Although I think if we approve the general concepts of this, we still would have to come back to each board to determine the specific maximum amounts of a species that will be appropriate for this.

Clearly, there are things within this specific motion that are species-specific and would be different for each species. Again, I agree with the process of going to the Policy Board to see if we want to move forward with something like that. Clearly, if we do that, it probably would

delay implementation of Addendum IV or we would not be including it in Addendum IV. We would have to do it in a separate addendum.

MR. O'REILLY: If this would conclude with something going through the Policy Board and then there was an ASMFC guidance to the states about this, that might be something that could be looked at in Virginia. Virginia has a law that guides scientific collection permits, and they definitely don't have anything about commercial enterprise in that law. I'm not discouraging this type of approach. I'm just saying it might have to be a legislative situation not only in Virginia but other states as well.

MR. DIODATI: I could approve this motion today because I think there is a pressing need for us to address this with American eels. On the other hand, I understand that this would be of tremendous value to give guidance to all of us in terms of dealing with our other plans. I suspect if it gets to the Policy Board we would ask our Management and Science Committee to take a look at it and probably craft the type of measure that we'd want more generically. That is how I'd like to see it go; deal with this today and get our Management and Science Committee to look at this for us. I don't know if we can do that here or in the Policy Board.

EXECUTIVE DIRECTOR BEAL: In talking about the timing, if nothing else, we've got a little bit of a timing problem. The Policy Board has already met; but I think the reality is this is a coast-wide board. It is the same people that sit on the Policy Board. If this group feels that asking the Management and Science Committee to take this on and report back to the Policy Board on general guidelines and thoughts and moving forward with a scientific permit guidance that can be applied to individual FMPs, I think that is a reasonable request for the Management and Science Committee and Policy Board. I don't want to speak for the chair, Louis Daniel, or Doug Grout, the vice-chair, but I think I can work with them between and the May meeting and make sure they're comfortable with that moving forward.

CHAIRMAN STOCKWELL: Is the board comfortable with this approach? Is there any further discussion of the motion on the board? Ritchie.

MR. WHITE: I agree with the direction this is going. Just quickly to address Rob's concern, a state can always be more conservative; so if this was passed, it doesn't mean a state would have to allow the selling under a scientific permit.

MR. BOUW: Just to give you an update on the European glass eel, they caught 16 pounds last year in one river and this year they caught 3,000 kilos in the same river. They caught the full quota of 30,000 pounds in four days. That is the update of the elver situation in Europe right now.

CHAIRMAN STOCKWELL: Is there any further discussion on the motion on the board? Okay, to the motion on the board, those who support it please indicate so. **The motion is unanimous; it carries nineteen, zero, zero, zero.** Is there any further business on this issue?

OTHER BUSINESS

Is there any other business to come before the board? I do have one. A reprepresentative from the Penobscot Nation, John Banks, would like to speak to the board for just a few minutes, please. We're running way, way over time.

MR. JOHN BANKS: Thank you very much for the opportunity to comment today. I will be very brief. This is my first foray into the Atlantic States Marine Fisheries Commission; and I'm just starting to understand the process. I appreciate your forbearance. My name is John Banks. I'm the Natural Resources Director and a member of the Penobscot Indian Nation in Maine.

My tribe has inhabited the area of the Penobscot Watershed we say since time immemorial; but the archeologists tell us that it has only been 10,000 years. The Penobscot Watershed is Maine's largest watershed and we have been the stewards of that watershed for a very, very long time. We have imposed many conservation

measures throughout that long period of time and continue that up into today.

We intervene in all of the FERC relicensing procedures. We have recently completed a major river restoration project that involved the removal of the two lowest main stem dams in the Penobscot River Watershed. As Commissioner Keliher mentioned, we are a sovereign nation. I'm not an attorney but our attorneys tell us that we do what is referred to as reserved treaty fishing rights within our traditional territory.

We have voluntarily worked cooperatively with the state of Maine in the various legislation dealing with the elver harvesting. Through that process we're asking for a reasonable level of harvest and we are proposing additional conservation measures. We're working with the state voluntarily mainly for two reasons. One, I like Pat Keliher; I enjoy working with him.

I think we share a similar conservation ethic with the state of Maine. The second reason we're choosing to work voluntarily with the state of Maine on elver management is that we don't like to spend a lot of attorneys' fees if it is not necessary. When you get into these legal battles about fishing rights and so forth, it can be very expensive; and we don't like to spend our scarce resources on legal fights if it is not necessary.

With that, I just also wanted to add that I'm very pleased that this commission is moving toward a life cycle survey as recommended by the technical committee. As I mentioned earlier, we get involved in all of the FERC hydro relicensing proceedings; and we're aware of the tremendous impact that these hydroelectric dams have on the various life stages of the American eel. So, with that, again I thank you for the opportunity to comment.

ADJOURNMENT

CHAIRMAN STOCKWELL: Thank you. Is there any further business to come before the board? Seeing none; this meeting is adjourned.

(Whereupon, the meeting was adjourned at 10:15 o'clock a.m., February 6, 2014.)

Atlantic States Marine Fisheries Commission

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

This draft document was developed for Management Board review and discussion. This document is not intended to solicit public comment as part of the Commission/State formal public input process. Comments on this draft document may be given at the appropriate time on the agenda during the scheduled meeting. If approved, a public comment period will be established to solicit input on the issues contained in the document.

ASMFC Vision Statement:
Sustainably Managing Atlantic Coastal Fisheries

May 2014

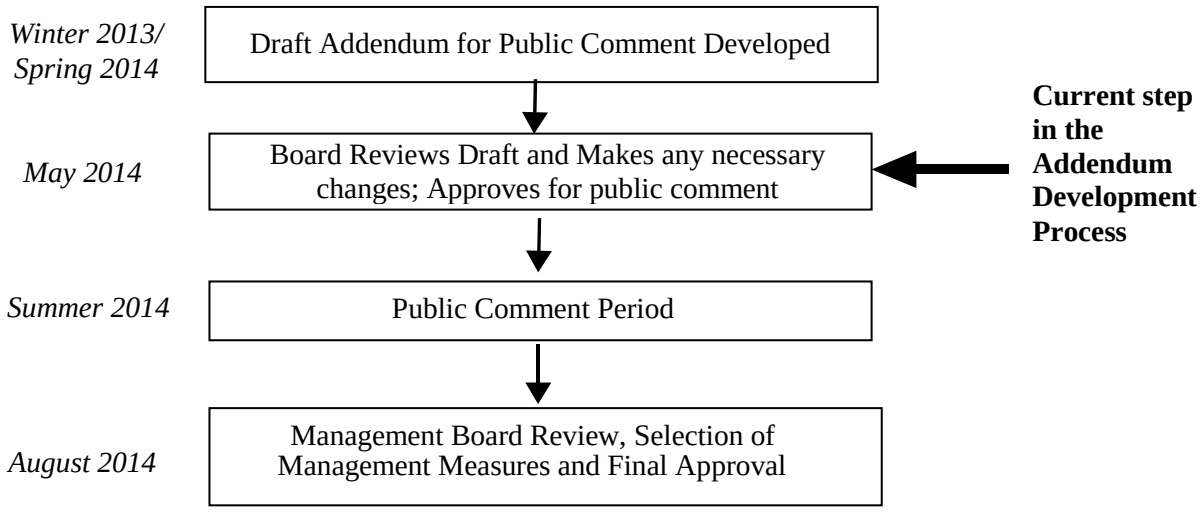
PUBLIC COMMENT PROCESS AND TIME LINE

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 XXX. 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 IV 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 (Board) initiated the development of Draft Addendum III in August 2012 in response to the 2012 Benchmark American Eel Stock Assessment, which found the American eel population in U.S. waters is depleted. The assessment found 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. Draft Addendum III included a range of options for the commercial glass, yellow, and silver eel fisheries, as well as the recreational fishery. In August 2013, the Board approved some of the measures from Draft Addendum III (predominately the commercial yellow eel and recreational fishery management measures) and split out the remainder of the management measures for further development in Draft Addendum IV. This Draft Addendum proposes additional management measures for the commercial glass, yellow, and silver eel fisheries. No additional changes to the recreational fishery are proposed in this Draft Addendum. The goal of Draft Addendum IV is to reduce overall mortality and increase conservation of American eel stocks. Specifically, the management options under consideration are:

Commercial Glass Eel Fisheries Management Options
Option 1 – Status Quo
Option 2 – 2014 Management Measures
Option 3 – Closure of the Glass Eel Fisheries
Option 4 – Glass Eel Quota
Option 5 – Quota Overages
Option 6 – Quota Underages
Option 7 – Aquaculture Quota
Option 8 – Aquaculture Permitting
Option 9 – Reporting Requirements
Option 10 – Monitoring Requirements

Commercial Yellow Eel Fisheries Options
Option 1 – Status Quo
Option 2 – Yellow Eel Quota based on Landings
Option 3 – Weighted Yellow Eel Quota
Option 4 – Quota Overages
Option 5 – Quota Transfers
Option 6 – Catch Cap

Commercial Silver Eel Fisheries Measures
Option 1 – Status Quo
Option 2 – Extension of Sunset Provisions
Option 3 – Effort Reduction/Time Closures
Option 4 – License Cap

Sustainable Fishing Plans for American Eel

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1. INTRODUCTION

The Atlantic States Marine Fisheries Commission (Commission) has coordinated interstate management of American eel (*Anguilla rostrata*) from 0-3 miles offshore since 2000. American eel is currently managed under the Interstate Fishery Management Plan (FMP) and Addenda I-III to the FMP. Management authority in the exclusive economic zone (EEZ) from 3-200 miles from shore lies with NOAA Fisheries. The management unit is defined as the portion of the American eel population occurring in the territorial seas and inland waters along the Atlantic coast from Maine to Florida.

2. BACKGROUND

2.1. STATEMENT OF THE PROBLEM

The Commission's American Eel Management Board (Board) initiated the development of Draft Addendum III in August 2012 in response to the 2012 American Eel Benchmark Stock Assessment, which found the American eel population in U.S. waters is depleted. The assessment found 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. Draft Addendum III for Public Comment included a range of options for the commercial glass, yellow, and silver eel fisheries, as well as the recreational fishery. In August 2013, the Board approved some of the measures from Draft Addendum III for Public Comment (predominately the commercial yellow eel and recreational fishery management measures) and split out the remainder of the management measures (commercial glass and silver eel fisheries) for further development in Draft Addendum IV. At that time, the Board directed the American Eel Plan Development Team (PDT) to develop Draft Addendum IV to include, but not limited to, 1) a coastwide glass eel quota, 2) adequate monitoring requirements, 3) adequate enforcement measures and penalties, 4) transferability, and 5) timely reporting. The goal of Draft Addendum IV is to reduce overall mortality and increase overall conservation of American eel stocks.

2.2. LIFE HISTORY

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 at random to the coasts of North America and the upper portions of South America by ocean currents. Leptocephali are then transformed into glass eels via metamorphosis. 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 eels settle in fresh, brackish, and marine waters; where they undergo pigmentation, subsequently maturing into yellow eels. Yellow eel can metamorphose into a silver eel (termed *silvering*) beginning at age three and up to twenty-four years old, with the mean age of silvering increasing with increasing latitude. Environmental factors (e.g., food availability and temperature) may play a role in the triggering of silvering. 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). However, this is thought to vary by latitudinal dispersal. Actual metamorphosis is a gradual process and eels typically reach the silver eel stage during their migration back to the Sargasso Sea, where they spawn and die.

Eels 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.

2.3. STATUS OF MANAGEMENT

American eel occupy a significant and unique niche in the Atlantic coastal reaches and tributaries. Historically, American eels 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. Fishermen, resource managers, and scientists postulated a further decline in abundance based on harvest information and limited assessment data during the 1980s and 1990s. This resulted in the development of the Commission's Interstate Fishery Management Plan (FMP) for American Eel, which was approved in 1999. The FMP required that all states maintain as conservative or more conservative management measures at the time of implementation for their commercial fisheries and implement a 50 fish per day bag limit for the recreational fishery. The FMP also required mandatory reporting of harvest and effort by commercial fishers and/or dealers and specific fisheries independent surveys to be conducted annually by the states.

Since then the FMP was modified three times. Addendum I (approved in February 2006) established a mandatory catch and effort monitoring program for American eel. Addendum II (approved in October 2008) made recommendations for improving upstream and downstream passage for American eels. Most recently, Addendum III (approved in August 2013) made changes to the commercial fishery, specifically implementing restrictions on pigmented eels, increasing the yellow eel size limit from 6 to 9 inches, and reducing the recreational creel limit from 50 fish to 25 fish per day.

2.3.1. INTERNATIONAL MANAGEMENT

Despite data uncertainties with European eels and American eels in Canada, both the European Union and the Department of Fisheries and Oceans Canada have taken recent management actions to promote the rebuilding of local stocks.

2.3.1.1. EUROPEAN MANAGEMENT

While American and European eels (*Anguilla anguilla)* are two separate species, the spawning grounds and early life history habitats are believed to overlap. Therefore oceanographic changes could influence both stocks. Currently, the European eel stock is considered severely depleted (ICES, 2013). Major fisheries occur in the Netherlands, France, Sweden, and the United Kingdom, with total 2012 commercial harvest in the EU estimated at 5.2 million pounds and recreational harvest estimated at 1.1 million pounds (Figure 1; ICES,

2013). In 2007, the European Union (EU) passed legislation which required EU countries to develop and implement measures to allow 40% of adult eels to escape from inland waters to the sea for spawning purposes. In addition, beginning in 2008, EU countries that catch glass eel (defined as juvenile eels less than 4.7 inches long) were required to use 35% of their catch for restocking within the EU and increase this to at least 60% by 2013.

To demonstrate how they intend to meet the target, EU countries were required to develop national eel management plans at river-basin level. To date, the European Commission has adopted all plans submitted by 19 EU countries, plus a joint plan for the Minho River (Spain/Portugal). Management measures implemented though these plans vary from country to country, but are similar to most management measures considered or implemented in the U.S. The management measures include:

- Seasonal closures
- Size limits (11 – 21.6 inches)
- Recreational bag limit (2 - 5 fish/angler/day)
- Gear restrictions (banning fyke nets, increasing mesh size)
- Reducing effort (e.g. by at least 50%)
- Prohibiting glass, silver or all commercial fishing
- Commercial quotas
- Implementing catch and release recreational fisheries only
- Reducing illegal harvest and poaching
- Increasing fish passage
- Restocking suitable inland waters with glass eels

In 2013 the International Council on the Exploration of the Seas (ICES) completed an evaluation on the implementation of the national management plans (ICES, 2013a). ICES concluded that, given the short time since implementation, restrictions on commercial and recreational fisheries for silver eel has contributed the most to increases in silver eel escapement. The effectiveness of restocking remains uncertain (ICES, 2013a). ICES advises that data collection, analysis, and reporting should be standardized and coordinated to facilitate the production of stock-wide indicators to assess the status of the stock and to evaluate the effect of management regulations.

In response to the evaluation, European Parliament passed a resolution in September 2013 requesting the European Commission present new legislation to further conserve European eel populations. The new law must close the loopholes allowing the continued overfishing and illegal trade; evaluate current restocking measures and their contribution to eel recovery; require more timely reporting on the impact of eel stock management measures; and require member states that do not comply with the reporting and evaluation requirements to reduce their eel fishing effort by 50%. The European Commission's new legislative proposal, which is expected to be presented in Summer 2014, must aim to achieve the recovery of the stock "with high probability".

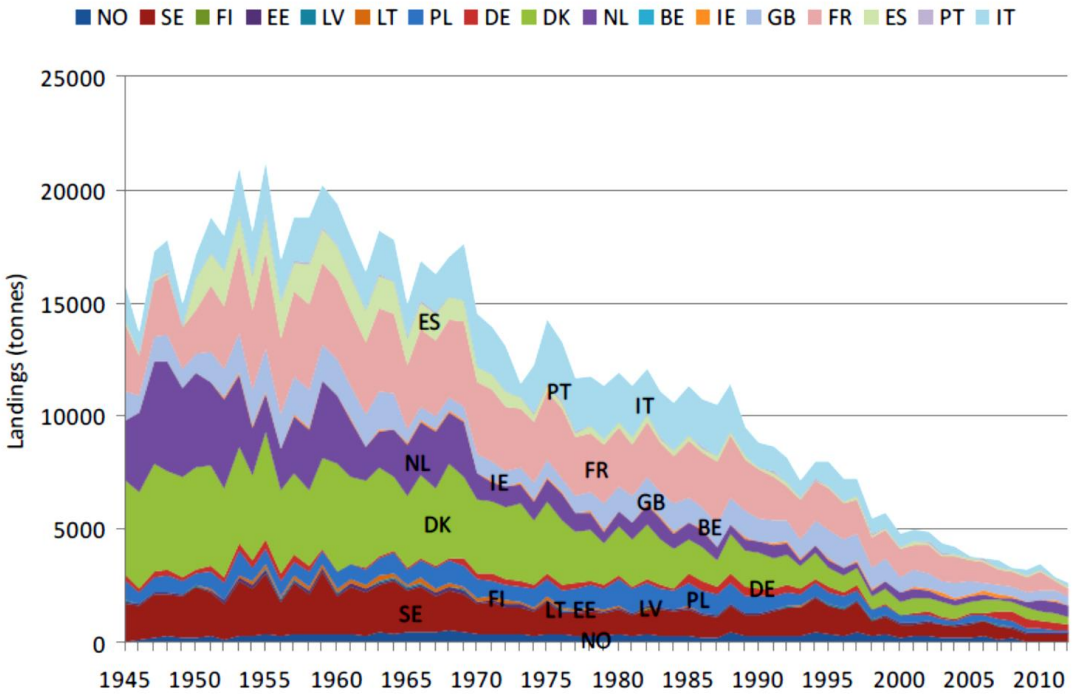

Figure 1. Total landings of European eel (all life stages) from 2013 Country Reports (Note: not all countries reported). NO = Norway, SE = Sweden, FI – Finland, EE = Estonia, LV = Latvia, LT = Lithuania, PL = Poland, DE = Germany, DK = Denmark, NL = Netherlands, BE = Belgium, IE = Ireland, GB = Great Britain, FR = France, ES = Spain, PT = Portugal, IT = Italy. *From ICES, 2013a.*

In November 2013, ICES completed an update on European stock status to provide management advice for the 2014 fishing year (ICES, 2013b). The update found that annual recruitment of glass eel to European waters has increased over the last two years, from less than 1% to 1.5% of the reference level in the "North Sea" series, and from 5% to 10% in the "Elsewhere" series[1], which may or may not be the result of the regulatory changes (Figure 2). However, despite recent increases, production of offspring is very low and there is a risk that the adult stock size is too small to produce sufficient amount of offspring to maintain the stock (ICES, 2013b). The biomass of escaping silver eel is estimated to be well below the target (ICES, 2013b). ICES continues to recommend that all anthropogenic mortality affecting production and escapement of silver eels should be reduced to as close as possible to zero, until there is clear evidence of sustained increase in both recruitment and the adult stock. The stock remains critical and urgent action is needed (ICES, 2013b).

2.3.1.2. CANADIAN MANAGEMENT

American eel are widespread in eastern Canada, but there are dramatic declines throughout its range, including Lake Ontario and the upper St. Lawrence. Although trends in abundance are highly variable, strong declines are apparent in several indices. The American eel was

[1] The North Sea series are from Norway, Sweden, Germany, Denmark, Netherlands, and Belgium. The Elsewhere series are from UK, Ireland, France, Spain, Portugal, and Italy.

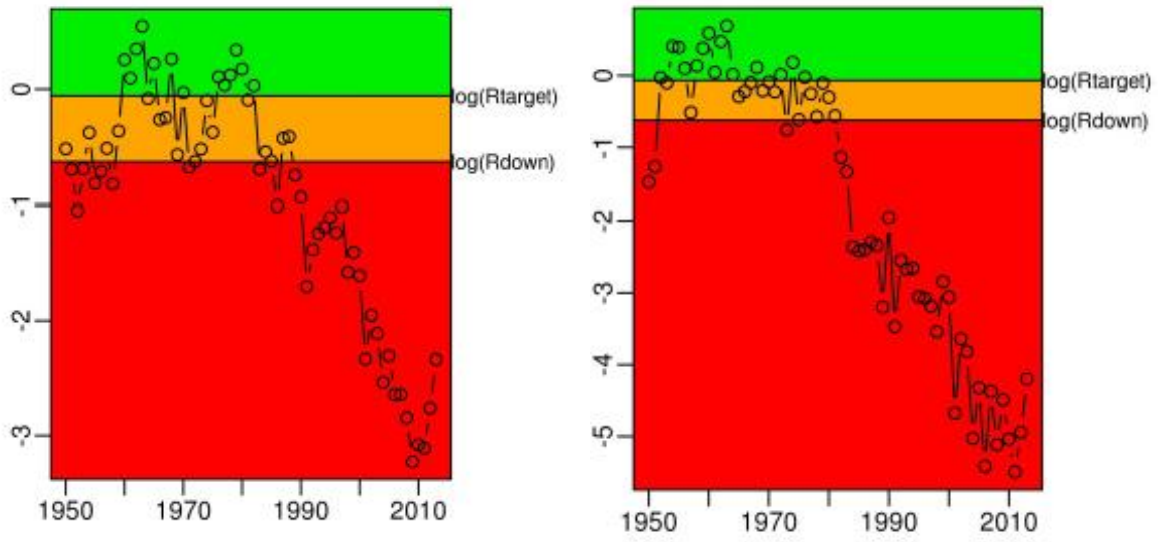

Figure 2. Trends in recruitment ("Elsewhere", left, and "North-Sea", right) of European eels with respect to healthy zone (green), cautious zone (orange) and critical zone (red). *From ICES, 2013b.*

first assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 2006 and was designated as a species of "Special Concern." The status was re-examined by COSEWIC in 2012 and it was recommended to list the species as Threatened under the Canadian Species at Risk Act (similar to the U.S. Endangered Species Act). A National Management Plan for American Eel in Canada was developed by the Canadian Eel Working Group which specifies short and long term goals for recovery (DFO, 2010). One of the short-term goals of the plan is to reduce eel mortality from all anthropogenic sources by 50% relative to the 1997-2002 average. Long-term management goals include rebuilding overall abundance of the American eel in Canada to its mid-1980s levels.

Canadian commercial yellow and silver American eel fisheries occur in New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador, and Québec (Figure 3). Fishing occurs in both fresh and marine waters, but many rivers and coastal habitats remain unfished. Elver fisheries in Canada occur only in Scotia-Fundy and the south coast of Newfoundland. Overall total reported American eel landings in Canada declined through the early 1960s, increased to a peak in the late 1970s, and have since declined to the lowest level in recent history (Cairns et al, 2014). Winter recreational spear fisheries of yellow eels also occur in the Southern Gulf of St. Lawrence.

Recent management measures to meet the goals of the National Management Plan have included:

- Minimum size limits raised to 20.8 inches (Gulf region), 13.75 inches (Maritimes region) and 11.8 inches (southwestern New Brunswick, Newfoundland and Labrador)
- Reduction to seasons
- Area closures
- Buyouts of licenses
- Glass eel fisheries are not permitted in areas where fisheries exist for larger eels
- Enforcement of regulatory definitions on fyke nets

- Measures to reduce high grading
- License caps, limited entry, and license reductions
- Gear restrictions, including a 1" x ½" escapement panel
- Quota reductions, including 10% cut in glass eel fisheries

The first large-scale eel stocking experiment occurred in the Richelieu River, a tributary to Lake Champlain, in 2005. Since then, a total of seven million elvers have been stocked in Canadian waters. Stocking initiatives can be considered as a potential threat because their effects are uncertain, manifestation of some effects may only be apparent years after, and because of the documented negative effects of stocking of on other fish, particularly salmon (COSEWIC, 2012). Continuing habitat degradation, especially owing to dams and pollution, and existing fisheries in Canada and elsewhere may constrain recovery (COSEWIC, 2102).

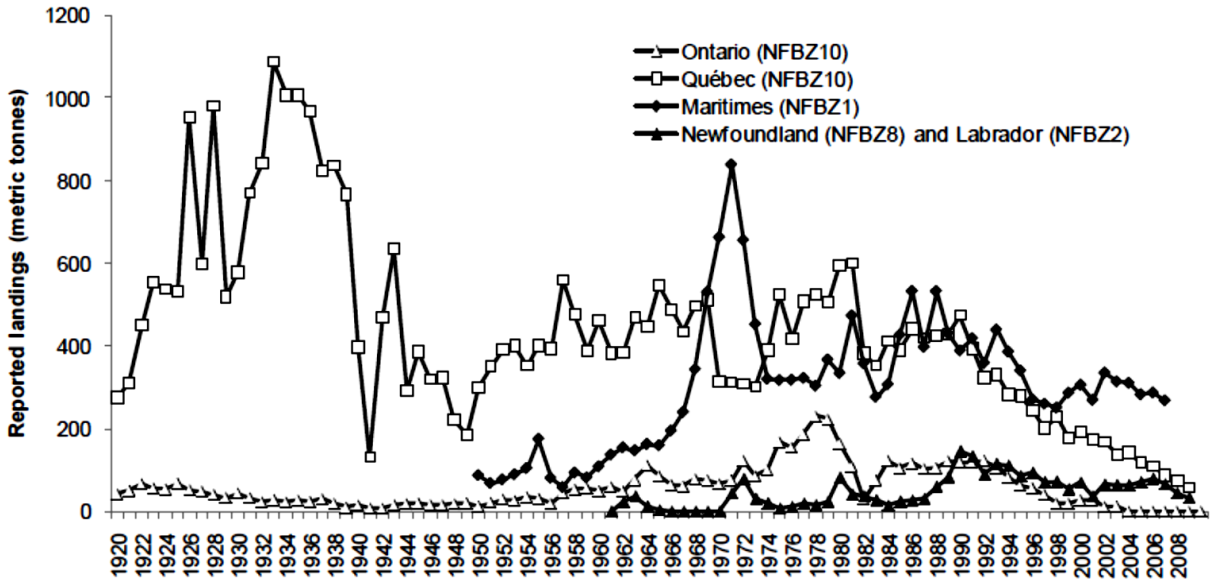

Figure 3. Reported landings of all life stages from Quebec, Ontario, the Maritime Provinces, and Newfoundland and Labrador from 1920 – 2010. *From COSEWIC, 2012.*

2.3.2. ENDANGERED SPECIES ACT CONSIDERATION

American eel were petitioned for listing as threatened under the Endangered Species Act (ESA) in April 2010 by the Center for Environmental Science, Accuracy, and Reliability (CESAR, formally the Council for Endangered Species Act Reliability). The U.S. Fish and Wildlife Service (USFWS) published a positive 90 day finding on the petition in September 2011, stating that the petition may be warranted and a status review will be conducted. CESAR filed a lawsuit in August 2012 against USFWS for failure to comply with the statues of the ESA, which specifies a proposed rule based on the status review be published within one year of the receipt of the petition. A Settlement Agreement was approved by the court in April 2013 and requires USFWS to publish a 12-month finding by September 30, 2015. The USFWS previously reviewed the status of the American eel in 2007 and found that, at that time, protection under the Endangered Species Act was not warranted.

The five factors on which listing is considered include:

1. Present or threatened destruction, modification, or curtailment of its habitat or range;
2. Over-utilization of the species for commercial, recreational, scientific, or educational purposes;
3. Disease or predation;
4. Inadequacy of existing regulatory mechanisms; and
5. Other natural or manmade factors affecting its continued existence.

2.4. STATUS OF THE STOCK

The Benchmark 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 (ASMFC, 2012). The stock is considered depleted, however no overfishing determination can be made at this time based solely on the trend analyses performed (ASMFC, 2012). The ASMFC American Eel Technical Committee (TC) and Stock Assessment Subcommittee (SAS) 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.

In 2014 the TC and Stock Assessment Subcommittee (SAS) completed an update of the young of the year (YOY) indices included in the benchmark stock assessment. The FMP requires states and jurisdictions with a declared interest in the species to conduct an annual YOY survey for the purpose of monitoring annual recruitment of each year's cohort. The benchmark assessment included data only through 2010. Since that time some states have heard anecdotal information about increased recruitment as well as recorded evidence of increased recruitment in their fisheries independent YOY surveys.

Based on the update of the YOY indices, the TC found no change in the YOY status from the benchmark assessment with the exception of one survey in Goose Creek, SC (Table 1). YOY trends are influenced by many local environmental factors, such as rainfall and spring temperatures. While some regions along the coast have experienced high catches in 2011, 2012, and/or 2013, other regions have experienced average or lower catches. For example in 2012, Rhode Island and Florida had below average counts, with Florida having its lowest catch of their time series; New Hampshire, New York, Virginia, and Georgia had average counts; and Maine, Connecticut, New Jersey, Delaware, and Maryland had their highest YOY catches on record. The TC stresses high YOY catches in a few consecutive years do not necessarily correspond to an increasing trend since the YOY surveys can fluctuate greatly. Additionally, due to the limited extent of sampling, trends at the state level may not be reflective of what is actually occurring statewide or coastwide. The YOY indices were only one factor in the determination of the depleted stock status for American eel, so

therefore there is no recommended change in the conclusions of the benchmark assessment and the depleted stock status is still warranted.

Region	State	Site	SA Result	Update
Gulf of Maine	ME	West Harbor Pond	NS	NS
	NH	Lamprey River	NS	NS
	MA	Jones River	NS	NS
	MA	Parker River	NS	NS
Southern New England	RI	Gilbert Stuart Dam	NS	NS
	RI	Hamilton Fish Ladder	NS	NS
	NY	Carmans River	NS	NS
Delaware Bay/ Mid-Atlantic Coastal Bays	NJ	Patcong Creek	NS	NS
	DE	Millsboro Dam	NS	NS
	MD	Turville Creek	NS	NS
Chesapeake Bay	PRFC	Clarks Millpond	NS	NS
	PRFC	Gardys Millpond	NS	NS
	VA	Brackens Pond	NS	NS
	VA	Kamps Millpond	NS	NS
	VA	Warehams Pond	NS	NS
	VA	Wormley Creek	NS	NS
South Atlantic	SC	Goose Creek	NS	↓
	GA	Altamaha Canal	NS	NS
	GA	Hudson Creek	NS	NS
	FL	Guana River Dam	NS	NS

Table 1. Results of the Mann-Kendall trend analysis applied to 2012 Benchmark Stock Assessment (SA) and updated YOY indices developed from the ASMFC-mandated recruitment surveys. Trend indicates the direction of the trend if a statistically significant temporal trend was detected (P-value < α; $\alpha = 0.05$). NS = not significant.

2.5. 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. Yellow eels were harvested for food historically, today's fishery sells yellow eels primarily as bait for recreational fisheries. From 1950 to 2012, U.S. Atlantic coast landings ranged from a low of approximately 664,000 pounds in 1962 to a high of 3.67 million pounds in 1979 (Figure 4). After an initial decline in the 1950s, landings increased to a peak in the 1970s and early 1980s in response to higher demand from European food markets. In most regions, landings declined sharply by the late 1980s and have fluctuated around one million pounds for the past decade. The value of U.S. commercial yellow 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.

State reported landings of yellow/silver eels in 2013 totaled 907,671 pounds which represents an 17% decrease (~187,000) in landings from 2012 (1,104,429 pounds). Since 2000, yellow eel landings have increased in the Mid-Atlantic region (NY, NJ, and MD) with the exception of Delaware and the Potomac River. Additionally, yellow eel landings have declined in the New England region (ME, NH, MA, CT) with the exception of Rhode Island. Within the Southern region, since 2000 landings have declined in North Carolina but increase in Florida. In 2013, state reported landings from New Jersey, Delaware, Maryland, and Virginia each totaled over 8,000 pounds of eel, and together accounted for 86% of the coastwide commercial total landings.

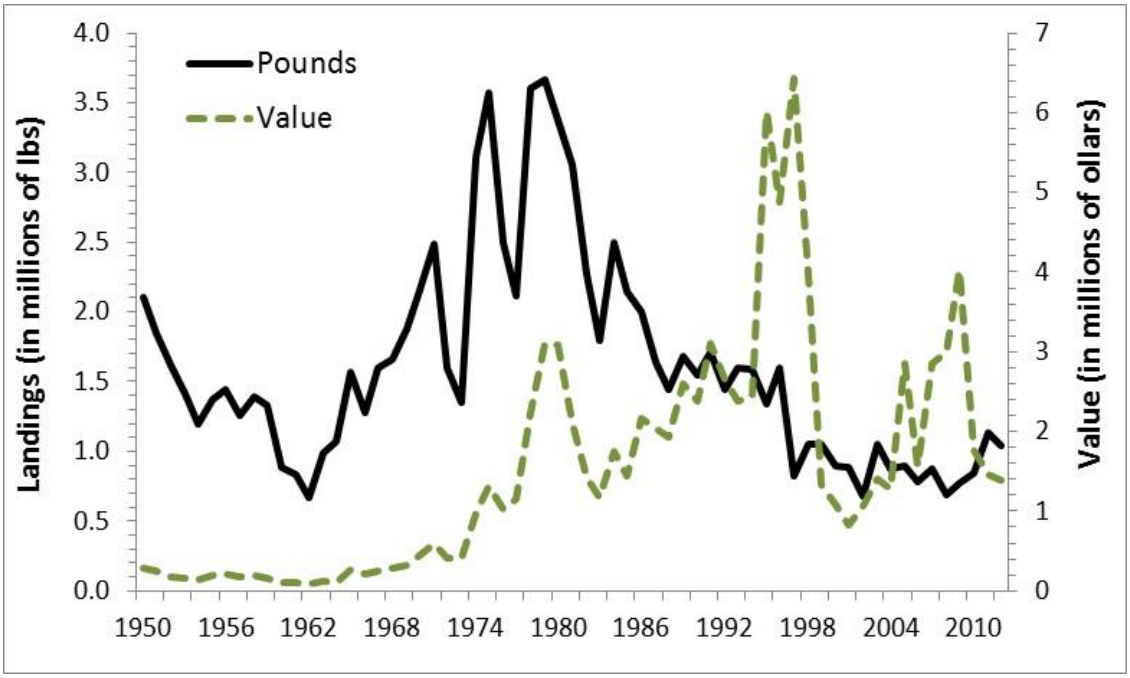

Figure 4. Total commercial landings of yellow eels and value along the U.S. Atlantic Coast, 1950–2012.

Glass eel fisheries along the Atlantic coast are prohibited in all states except Maine and South Carolina. In recent years, Maine is the only state reporting significant harvest. Harvest has increased the last few years as the market price has risen to more than $2,000 per pound, although in 2014 prices were recorded between $400 and $650 per pound. Glass eels are exported to Asia to serve as seed stock for aquaculture facilities. Landings of glass eels in 2012 were reported from Maine and South Carolina and totaled 22,215 pounds.

Because eel is managed by the states and is not a target species for the NMFS, landings information for states that rely on the NMFS estimates may be underreported. In addition, at least a portion of commercial eel landings typically come from non-marine water bodies. Even in states with mandatory reporting, these requirements may not extend outside the marine district, resulting in a potential underestimate of total landings. Despite concern about the level of under reporting, reported landings are likely indicative of the trend in total landings over time.

3. MANAGEMENT OPTIONS

It is important to emphasize the 2012 American Eel Stock Assessment was a benchmark or baseline assessment that synthesized all available fishery-dependent and independent data yet it 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 a priority 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 4). 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 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.

The implemented provisions will be considered a compliance requirement and are effective upon adoption of the Addendum or as specified by the Board. Management measures include all mandatory monitoring and reporting requirements as described in this Section.

3.1 COMMERCIAL FISHERY MANAGEMENT OPTIONS

The 2012 American Eel Stock Benchmark Stock Assessment recommended mortality should be reduced on all life stages. Therefore, this draft addendum proposes a suite of management options to reduce overall mortality that may be used in combination in order to maximize the conservation benefit to American eel stocks. If new regulations are implemented by the Management Board through this addendum, these regulations will be implemented in combination with the regulations as specified under Addendum III, unless otherwise approved by the Board. States /jurisdictions shall maintain existing or more conservative American eel commercial fishery regulations, unless otherwise approved by the Board.

3.1.1. GLASS EEL FISHERIES MANAGEMENT OPTIONS

The following options apply to the glass eel fisheries operating 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 prohibit the development of glass eel fisheries in the remaining states and jurisdictions. Addendum III restricts the development of pigmented eel fisheries in states that allow glass eel harvest.

Option 1 – Status Quo
Under this option the current regulations for glass eel fisheries as specified under the FMP and Addenda I-III will remain in place.

Option 2 – 2014 Management Measures
Under this option, the current 2014 fishing regulations for glass eel fisheries in Maine and South Carolina will be required to be maintained. In 2014 Maine pro-actively implemented new regulations to manage the glass eel fishery through output controls (quota management) instead of input control (gear and licenses restrictions). The state worked with industry and tribal representatives to develop a quota that was a 35% reduction from 2012 landings. South Carolina made no changes to their management program for the 2014 glass eel fishing season. Less conservative management measures than those in place in 2014 will require approval by the Management Board. States may always implement more conservative management measures.

The PDT commends Maine Department of Natural Resources for implementing a quota system to management the glass eel fishery. Quota management provides a more reliable method to track mortality, increases accuracy of harvest data, and reduces opportunities for illegal harvest. However, the PDT notes that the 2014 quota was reduced from the 2012 landings, which were the highest landings on record. This still represents an increase from average landings in the past decade (2004 – 2013) and the baseline year of 2010 (last year included in the benchmark stock assessment) from which a reduction was recommended. Further reductions may be warranted. Quota allocation and levels are subject to Board revision or update as a result of a new benchmark stock assessment or other information on stock status. The Board may choose to implement this option for one or both applicable states (i.e. for only Maine, only South Carolina, or for both states.)

In 2014, Maine regulations included, but were not limited to:
- 11,749 pound annual quota
- Individual tribal and non-tribal quotas
- Penalties for exceeding quota (license suspension for a year for a first offense and permanent revocation for a second offense; mandatory fine of $2,000 for anyone who continues to fish after reaching his or her quota.)
- A swipe card system to track catch from harvester to a licensed dealer
- Set-aside of up to 10% to prevent exceeding the overall quota
- March 22 start date with a 10 week season [2]

In 2014, South Carolina regulations included, but were not limited to:
- A maximum of 10 individuals are issued permits with approved gears
- A limit on gear and operation per permit
- Fishing allowed in only specific areas
- Monthly effort and harvest reporting

The PDT recognizes that harvest in South Carolina may be drastically reduced beginning in 2014 as a result of Addendum III which prevents landing of pigmented eels in the glass eel fishery. In 2013, glass eel account for ~23% of the total catch. If landings of glass eels in South Carolina exceed 500 pounds in 2014, the Board will consider additional management restrictions.

[2] In 2014 the season began later than March 22nd as a result of the time needed to implement the new regulations.

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.*

	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	20,764	$38,760,490	<5,000	<$2,500,000
2013	18,076	$32,926,991	<5,000	<$2,500,000

Option 3 – Closure of Glass Eel Fisheries
Under this option no glass fisheries will be allowed to operate within state and jurisdictional waters.

Sub-Option 3a – Immediate Closure
Under this sub-option all glass eel fisheries will close upon final approval of the addendum.

Sub-Option 3b – 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.

Option 4 – Glass Eel Quota Based on Landings
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. The PDT cautions that recent research by Carruthers et al (2014) has found that methods to set catch limits at or above the average of recent catches has led to some of the highest probabilities of overfishing. Additionally, the PDT cautions the use of data outside of stock assessment period (2011 - present), especially when taking into account the market influences on landings and unprecedented level of illegal harvest in recent years. The Board may choose to implement this option for either one or both states (i.e. for only Maine, only South Carolina, or for both states) or different sub-options for each state (i.e. Sub-option 4b for Maine and Sub-option 4a for South Carolina).

Sub Option 4a – Average Landings from 2004 - 2013
Under this option, glass eel landings will be managed through a quota system, with allocation based on the average landings from 2004 - 2013. The annual quota would be set at 8,257 pounds, with 97% (8,008 pounds) allocated to Maine and 3% (250 pounds) allocated to South Carolina (Table 3). This period was chosen as it includes harvest from recent years and it includes the time period covered by the 2012 American Eel Stock Assessment. However, the PDT cautions the use of data outside

of stock assessment period, especially when taking into the market influences on landings and unprecedented level of illegal harvest in recent years. The Board has the ability to re-visit quota allocation through subsequent addenda.

Sub Option 4b - 20% reduction from 2004 - 2013 landings average
Under this option, glass eel landings will be managed through a quota system, with allocation based on the average landings from 2004 - 2013. The annual quota would be set at 6,606 pounds, with 97% (6,406 pounds) allocated to Maine and 3% (200 pounds) allocated to South Carolina (Table 3). This period was chosen as it includes harvest from recent years and it includes the time period covered by the 2012 American Eel Stock Assessment. The Board has the ability to re-visit quota allocation through subsequent addenda.

Sub Option 4c - 2010 Landings
Under this option, glass eel landings will be managed through a quota system, with allocation based on the landings from 2010. The annual quota would be set at 3,397 pounds, with 93% (3,158 pounds) allocated to Maine and 7% (239 pounds) allocated to South Carolina (Table 3). 2010 was chosen as it was terminal year in the 2012 American Eel Stock Assessment. The Board has the ability to re-visit quota allocation through subsequent addenda. This is the preferred PDT option.

Table 3. Proposed quota allocations (in pounds) for Maine and South Carolina.

	Sub-option 4a: Average 2004 - 2013 Landings	**Sub-option 4b: 20% reduction**	**Sub-option 4c: 2010 Landings**
Maine	8,008	6,406	3,158
South Carolina	250	200	239
Total	8,257	6,606	3,397

Option 5 – Quota Overages
This option is only applicable if quota management is chosen (Option 4 of this Section).

If a quota system is implemented in a state, the Board may choose to implement a mechanism to address quota overages. The sub-options are not mutually exclusive and may be considered in combination.

Sub-Option 5a – Equal Payback
If overages occur, the state will be required to deduct their entire overage from the quota the following year, pound for pound.

Sub-Option 5b – Quota Overage Tolerance
Given the low quota amounts, administrative requirements to monitor the quota, and the environmental factors that influence harvest levels a tolerance of up to 5%

overage would be allowed without payback. If a state exceeds the quota by more than 5% the entire amount must be paid back. It is not intended that the 5% overage allowance would be utilized every year. Consistent overages (e.g. 3 or more years in a row) would require management action. The quota overage tolerance can be re-visited through Board action.

Option 6 - Quota Underages
This option is only applicable if quota management is chosen (Option 4 of this Section).

If a quota system is implemented, the Board may choose to implement a mechanism to address quota underages. An inability to utilize all or a significant portion of a quota in a given year could be a result of declining spawning stock biomass, but it could also be the results of unfavorable weather patterns and oceanographic conditions which alter glass eel migration to state waters where fisheries exist.

Under this option, up to 25% percent of the unused quota may be added to the states quota the following year. Any quota that is rolled over can only be used in the year following the underage and cannot be carried over for any additional years.

For example: A state has a quota of 500 pounds. 100 pounds were unused in 2012. In 2013, the state's quota will be 525 pounds (500 pounds allocated plus 25 pounds rolled over).

Option 7 – Aquaculture Quota
This option is only applicable if quota management is chosen (Options 2 or 4 of this Section).

Under this option, the Board may choose to allocate a percentage of the total quota for approved aquaculture purposes. This amount would first be deducted from the total glass eel quota (as specified under Options 2 or 4), then the remainder of the quota would be distributed as specified under the option. Requests for quota by aquaculture facilities must be submitted to the Board Chair by July 1st of the preceding year. Requests must include: pounds requested, location of harvest, method of harvest, dates of harvest, prior approval of any applicable permits necessary to harvest, capacity of the facility the glass eels will be held, description of husbandry methods, description of the markets the eels will be distributed to, and timeframe for the request (up to three years). Approval of aquaculture quota requests will be determined by the Board by September 1st. Approval of a request does not guarantee approval of a request in future years. Eels produced from aquaculture operations that were harvested under an approved aquaculture permit may not be sold until they reach the legal size in the jurisdiction of operations, unless otherwise specified.

Example: The Board approves Sub Option 4a (Average Landings from 2004 – 2013) for both Maine and South Carolina and also approves a 10% aquaculture quota. The glass eel quota would be set at 8,257 pounds, with 10% first allocated to aquaculture requests (825 pounds) and the remaining 7,432 pounds distributed to Maine (97%, 7,209 pounds) and South Carolina (3%, 222 pounds).

Option 8 – Aquaculture Permitting
Under this option any harvest of glass eels for commercial aquaculture purposes must be collected under an approved Aquaculture Permit issued by the states or jurisdiction the collection will occur in and subject to any monitoring and reporting requirements as specified by the jurisdiction. Since it is not possible at this time to propagate American eels in captivity, continual harvest of American eels under a research or scientific permit for commercial aquaculture purposes is not recommended by the TC.

Option 9 – Reporting Requirements
Under this option states with a glass eel fishery would be required to implement daily trip level reporting with daily electronic accounting to the state for harvesters and dealers in order to ensure accurate reporting of glass eel harvest. This type of system would be essential for quota monitoring accuracy given the sharp increase in market value and rise in illegal harvest. Increased dealers license requirements would also help address the underreporting problem by preventing people who lack a long-term interest from entering into the fishery.

Option 10 – Monitoring Requirements
Under this option states or jurisdictions with a commercial glass eel fishery must implement a fishery independent life cycle survey covering glass, yellow, and silver eels within at least one river system. The development of life cycle surveys was one of the main recommendations from the 2012 benchmark stock assessment. If possible and appropriate, the survey should be implemented in the river system where the glass eel survey (as required under Addendum III) is being conducted. This survey would include but not be limited to collecting the following information: fisheries independent index of abundance, age of entry into the fishery/survey, biomass and mortality of glass and yellow eels, sex composition, age structure, prevalence of *A. crassus*, and average length and weight of eels in the fishery/survey. Survey proposals will be subject to TC review and Board approval.

3.1.2. YELLOW EEL FISHERIES MANAGEMENT OPTIONS

Currently commercial yellow eel fisheries operate in all states with the exception of Pennsylvania and the District of Columbia. Management measures selected by the Board in Addendum III went into effect January 1, 2014. These measures included a 9 inch minimum size limit for both the commercial and recreational fishery and a ½ by ½ inch minimum mesh requirement for the commercial fishery.

Option 1 – Status Quo
Under this option the current regulations for yellow eel fisheries as specified under the FMP and Addenda I-III will remain in place.

Option 2 - Yellow Eel Quota based on 2010 Landings
The use of quotas will provide a flexible management system that will be able to respond to fluctuations in market conditions while providing a quantifiable conservation benefit to the species. Under this option yellow eel harvest for states and jurisdictions with a yellow eel fishery will be regulated annually through a quota system. The coastwide quota is set at the

2010 harvest levels. This year was chosen as the baseline as it represents the last year of data that was included in the benchmark stock assessment and the assessment recommends reducing mortality from this level. Allocation to states and jurisdictions is based on the average harvest from 2011 – 2013 as a way to maintain the current distribution on fishing effort along the coast. The PDT cautions that recent research by Carruthers et al (2013) has found that methods to set catch limits at or above the average of recent catches has led to some of the highest probabilities of overfishing. Additionally, the TC does not recommend implementing a coastwide quota above the 1998-2010 average harvest (907,671 pounds). States or jurisdictions will need to ensure that their monitoring and reporting requirements are sufficient to prevent repeated overages. The Board has the ability to re-visit quota allocation through subsequent addenda

The PDT recommends the following criteria be applied to increase equity in the distribution of the quota:

1. States be allocated a minimum allocated quota fixed at 2,000 pounds in order to provide all state's a quota level sufficient to cover any directed or bycatch landings without creating an administrative burden. The 2,000 pounds quota is not expected to promote a notable increase in effort in the fishery.
2. No state is allocated a quota that is more than 10,000 pounds above its 2010 harvest.
3. No state or jurisdiction is allocated a quota that is more than a 15% reduction from its 2010 harvest.

The following sub-options detail the proposed quota allocations:

Sub – Option 2a: No Reduction

Under this sub-option, yellow eel landings will be managed through a quota system, with the total quota based on landings from 2010 and the allocation to states based on the states average harvest from 2011 - 2013. Under this sub-option, the annual quota would originally be set at 978,004 pounds (2010 landings, Table 4). After allocation of the quota, New Hampshire, Massachusetts, Rhode Island, Connecticut, South Carolina, and Georgia qualify for the 2,000 pound allowance (PDT Criteria #1 above). Additionally, the New York, Maryland, and Virginia quotas would exceed 10,000 pounds and therefore would be reduced accordingly (PDT criteria #2 above). Lastly, the North Carolina and PRFC quotas represents a 54% and 22% reduction, respectively, and therefore would be increased accordingly (PDT Criteria #3 above). **The resulting quota would then be set annually at 971,027 pounds. This represents a 0.7% decrease from 2010 landings coastwide**.

Sub-Option 2b: 10% Reduction

Under this sub-option, yellow eel landings will be managed through a quota system, with the total quota based on landings from 2010 and the allocation to states based on the states average harvest from 2011 - 2013. Under this sub-option, the annual quota would originally be set at 880,203 pounds (2010 landings with a 10% reduction, Table 4).

After allocation of the quota, New Hampshire, Massachusetts, Rhode Island, Connecticut, South Carolina, and Georgia qualify for the 2,000 pound allowance

(PDT Criteria #1 above). The New York quota would exceed 10,000 pounds and therefore would be reduced accordingly (PDT criteria #2 above). Additionally, the New Jersey, PRFC, and North Carolina quota represents an 18%, 30%, and 58% reduction, respectively, and therefore would be modified accordingly (PDT criteria #3 above**). The resulting quota would be set annually at 938,351 pounds. The resulting quota represents an actual 4.1% decrease from 2010 landings coastwide.**

Table 4. Quota options under the no reduction, 10% reduction and 20% reduction scenarios. Gray boxes represent states which qualified for Criteria #2. Black boxes represent states which qualifies for Criteria #3.

	2010 Landings	Allocation	Option 2a: No Reduction	Option 2b: 10% Reduction	Option 2c: 20% Reduction
Maine	2,624	0.5%	4,580	4,122	3,664
New Hampshire	80	0.01%	2,000	2,000	2,000
Mass	277	0.04%	2,000	2,000	2,000
Rhode Island	4642	0.2%	2,000	2,000	2,000
Connecticut	164	0.2%	2,000	2,000	2,000
New York	13,220	4.2%	**23,220**	**23,220**	**23,220**
New Jersey	107,803	10.1%	98,764	**91,633**	**91,633**
Delaware	68,666	6.9%	67,527	60,774	**58,366**
Maryland	511,201	56.2%	**521,201**	494,813	439,834
PRFC	57,755	4.6%	**49,092**	**49,092**	**49,092**
Virginia	78,076	9.5%	**88,076**	83,537	74,255
North Carolina	122,104	5.8%	**103,788**	**103,788**	**103,788**
South Carolina	2		2,000	2,000	2,000
Georgia	103	0.1%	2,000	2,000	2,000
Florida	11,287	1.7%	16,360	14,724	13,088
Total	978,004	100%	971,027	937,701	868,939

Sub-Option 2c: 20 % Reduction

Under this sub-option, yellow eel landings will be managed through a quota system, with the total quota based on landings from 2010 and the allocation to states based on the states average harvest from 2011 - 2013. Under this sub-option, the annual quota would originally be set at 782,403 pounds (2010 landings with a 20% reduction). After allocation of the quota, New Hampshire, Massachusetts, Rhode Island, Connecticut, South Carolina and Georgia qualify for the 2,000 pound allowance (PDT Criteria #1 above). The New York quota would exceed 10,000 pounds and therefore would be reduced accordingly (PDT criteria #2 above). Additionally, the New Jersey, PRFC, and North Carolina allocated quotas are each more than a 15% reduction from their 2010 landings and therefore would be modified accordingly (PDT criteria #3 above**). The resulting quota would be set annually at 869,673**

pounds. The resulting quota represents an actual 11% decrease from 2010 landings coastwide.

Option 3 – Weighted Yellow Eel Quota

The use of quotas will provide a flexible management system that will be able to respond to fluctuations in market conditions while providing a quantifiable conservation benefit to the species. Under this option yellow eel harvest for states and jurisdictions with a yellow eel fishery will be regulated annually through a quota system. The coastwide quota is set at the 2010 harvest levels. This year was chosen as the baseline as it represents the last year of data that was included in the benchmark stock assessment. Allocation to states and jurisdictions is based on a weighted distribution. The three highest landings from the period 2004 – 2013 were averaged and then weighted at 30%. This was combined with the average landings from 2011 – 2013, which was weighted at 70%. The 2004 - 2013 period takes into account the most current distribution on fishing effort as well as captures a more productive time in the fishery in some regions and incorporates the potential that each state's eel fishery had demonstrated over the past decade. The PDT cautions that recent research by Carruthers et al (2013) has found that methods to set catch limits at or above the average of recent catches has led to some of the highest probabilities of overfishing. Additionally, the TC does not recommend implementing a coastwide quota above the 1998-2010 harvest (907,671 pounds). States or jurisdictions will need to ensure that their monitoring and reporting requirements are sufficient to prevent repeated overages. The Board has the ability to re-visit quota allocation through subsequent addenda.

Sub – Option 3a: No Reduction Weighted Quota

Under this sub-option, yellow eel landings will be managed through a quota system, with the total quota based on landings from 2010 and the allocation to states based on a weighted average (70% to the average landings from 2011 – 2013 and 30% to the average of the three highest landings in the period 2004 – 2013). Under this sub-option, the annual quota would originally be set at 978,004 pounds (2010 landings). States would be allocated a minimum quota fixed at 2,000 pounds in order to provide all state's a quota level sufficient to cover any directed or bycatch landings. **The resulting quota would then be set annually at 983,419 pounds (Table 5). This represents a 0.55% decrease from 2010 landings coastwide.**

Sub – Option 3b: 10 % Reduction from Weighted Quota

Under this sub-option, yellow eel landings will be managed through a quota system, with the total quota based on landings from 2010 and the allocation to states based on a weighted average (70% to the average landings from 2011 – 2013 and 30% to the average of the three highest landings in the period 2004 – 2013). Under this sub-option, the annual quota would originally be set at 880,203 pounds (2010 landings with a 10% reduction). States would be allocated a minimum quota fixed at 2,000 pounds in order to provide all state's a quota level sufficient to cover any directed or bycatch landings. **The resulting quota would then be set annually at 885,877 pounds (Table 5). This represents a 9.4% decrease from 2010 landings coastwide.**

Sub – Option 3c: 20 % Reduction from Weighted Quota

Under this sub-option, yellow eel landings will be managed through a quota system, with the total quota based on landings from 2010 and the allocation to states based on a weighted average (70% to the average landings from 2011 – 2013 and 30% to the average of the three highest landings in the period 2004 – 2013). Under this sub-option, the annual quota would originally be set at 782,402 pounds (2010 landings with a 20% reduction). States would be allocated a minimum quota fixed at 2,000 pounds in order to provide all state's a quota level sufficient to cover any directed or bycatch landings. **The resulting quota would then be set annually at 788,515 pounds (Table 5). This represents a 19.4% decrease from 2010 landings coastwide.**

Table 5. Quota options under the no reduction, 10% reduction and 20% reduction scenarios based on weighted landings.

	2010 Landings	Allocation	Option 3a: No Reduction	Option 3b: 10% Reduction	Option 3c: 20% Reduction
Maine	2,624	0.8%	8,251	7,426	6,601
New Hampshire	80	0.01%	2,000	2,000	2,000
Massachusetts	277	0.2%	2,000	2,000	2,000
Rhode Island	4,642	0.3%	2,530	2,277	2,024
Connecticut	164	0.2%	2,275	2,048	2,000
New York	13,220	3.9%	38,067	34,261	30,454
New Jersey	107,803	10.5%	102,635	92,371	82,108
Delaware	68,666	8.1%	78,940	71,046	63,152
Maryland	511,201	51.8%	506,376	455,738	405,101
PRFC	57,755	5.9%	57,555	51,800	46,044
Virginia	78,076	9.2%	90,127	81,114	72,102
North Carolina	122,104	7.3%	71,435	64,291	57,148
South Carolina	2	0.01%	2,000	2,000	2,000
Georgia	103	0.1%	2,000	2,000	2,000
Florida	11,287	1.7%	17,228	15,505	13,782
Total	978,004	100.00%	983,419	885,877	788,515

Option 4 – Quota Overages

This option is applicable only if quota management (Options 2 or 3 of this section) is chosen.

If a quota system is implemented, the Board may choose to implement a mechanism to address quota overages. If overages occur, the state will be required to reduce their following year's quota by the same amount the quota was exceeded, pound for pound. For states that qualify for the automatic 2,000 pound quota, any overages would be deducted from the 2,000 pound allocation. The PDT strongly recommends implementation of a payback mechanism if quota management is approved.

Option 5 – Quota Transfers
This option is applicable only if quota management (Options 2 or 3 of this section) is chosen.

Under this option any state or jurisdiction implementing a commercial quota for American eel, with the exception of states that receive the automatic 2,000 pound quota, may request approval from the Board Chair or Commission Chair to transfer all or part of its annual quota to one or more states. States that receive the automatic 2,000 pound quota would not be eligible to participate in these transfer management measures. The TC does not recommend allowing quota transfers for a "depleted" species. If the harvest is less than the quota, then the TC recommends the reminder benefit conservation efforts and not be transferred.

Requests for transfers must be made by individual or joint letters signed by the principal state official with marine fishery management authority for each state involved. The Chair will notify the requesting states within ten working days of the disposition of the request. In evaluating the request, the Chair will consider: if the transfer would preclude the overall annual quota from being harvested, the transfer addresses an unforeseen variation or contingency in the fishery, and if the transfer is consistent with the objects of the FMP. Transfer requests for the current fishing year must be submitted by December 31 of that fishing year.

The transfer of quota would be valid for only the calendar year in which the request is made. These transfers do not permanently affect the state-specific shares of the quota, i.e., the state-specific shares remain fixed. Once quota has been transferred to a state, the state receiving quota becomes responsible for any overages of transferred quota.

Option 6 – Catch Cap
Under this option the commercial yellow eel fishery would be managed under a catch cap. The coastwide catch cap is based off the 2010 harvest levels. This year was chosen as the baseline as it represents the last year of data that was included in the benchmark stock assessment and the assessment recommends reducing mortality from this level. States and jurisdictions would be allowed to fish until the cap is reached. Once the cap or threshold is reached, all states and jurisdictions would be required to close all directed fisheries and prohibit landings. The TC does not recommend implementing a catch cap above the 1998-2010 harvest (907,671 pounds).

One of the benefits of a catch cap could be that it reduces the administrative and legislative burden of implementing a state specific quota system (as described in Option 2 above) while still controlling the total amount of fishing mortality that is occurring annually. Additionally, a coastwide catch cap does not require a specific allocation by state or jurisdiction, which can be problematic due to the fluctuations in landings as a result of environmental and market conditions. However, the PDT notes that under this system states and jurisdiction would still need timely reporting, most likely daily, in place to ensure that that the cap was not exceeded. Additionally, if the cap was exceeded then the only payback mechanism (i.e. reducing the total coastwide cap in the subsequent year) would equally impact all states involved in the fishery even if the overage was largely the result of one state (e.g. possibly due to late reporting or not closing the fishery in a timely manner). A mortality cap may

promote a derby style fishery, which could possibly flood the market and drive down prices. Lastly, implementation of a mortality cap could result in early coastwide closures and eventual elimination of historic and profitable fisheries that are prosecuted later in the year (i.e. in the winter months, Figure 5).

Sub-option 6a – 2010 harvest level
Under this option the mortality cap would be set at 978,004 pounds (2010 landings). States and jurisdictions will be required to close their directed fisheries and prohibit landings once 95% of the cap is reached. The PDT notes that this represents an increase from 2013 landings and may not contribute to reducing mortality at all life stages. If the cap is exceeded in the fishing year, then the cap will be reduced the following year by the same amount the quota was exceeded, pound for pound.

Sub-option 6b – 10% reduction
Under this option the mortality cap would be set at 880,203 pounds, which is a 10% reduction from 2010 landings. This represents a 0.3% decrease from 2013 landings. If the cap is exceeded in the fishing year, then the cap will be reduced the following year by the same amount the quota was exceeded, pound for pound.

Sub-option 6c – 20% reduction
Under this option the mortality cap would be set at 782,403 pounds, which is a 20% reduction from 2010 landings. This represents an 11% decrease from 2013 landings. If the cap is exceeded in the fishing year, then the cap will be reduced the following year by the same amount the quota was exceeded, pound for pound.

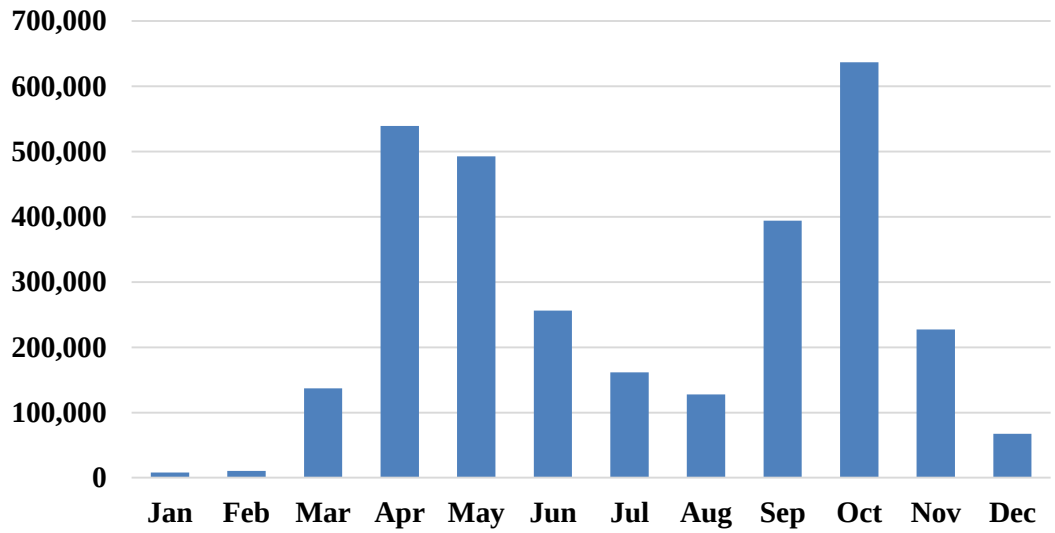

Figure 5. Average (2010 – 2012) commercial yellow eel landings (in pounds) by month coastwide.

3.1.3. SILVER EEL FISHERIES

The following proposed measures apply only to the commercial weir fishery in the New York portion of the Delaware River and its' tributaries. New York was granted a one year extension from the requirements as specified under Section 4.1.3 of Addendum III:

> *Section 4.1.3: States and jurisdictions are required to implement no take of eels from September 1st through December 31st from any gear type other than baited traps/pots or spears (e.g. fyke nets, pound nets, and weirs). These gears may still be fished, however retention of eels is prohibited. A state or jurisdiction may request an alternative time frame for the closure if it can demonstrate the proposed closure dates encompass the silver eel outmigration period. Any requests will be reviewed by the TC and submitted to the Board for approval.*

The American Eel Benchmark Stock assessment found that "fishing on … out-migrating silver eels could be particularly detrimental to the stock, especially if other sources of mortality (e.g., turbine mortality, changing oceanographic conditions) cannot be readily controlled." Conservation efforts on earlier life stages will only delay mortality and provide limited additional benefit to stock health if harvest occurs at later stages.

Option 1 – Status Quo

Under this option the current regulations will remain in place and the one year extension granted to New York would expire at midnight on December 31, 2014. At that time the regulations as specified under Section 4.1.3 in Addendum III would go into effect.

Option 2 – Extension of the Sunset Provision

Under this option the sunset provision could be extended by a timeframe as specified by the Board.

Option 3 – Effort Reduction / Time Closure

Under this option the state of New York would be required to implement no take of eels in the Delaware River and its tributaries within New York from August 15th through September 30th from any gear type other than baited traps/pots, or spears and weirs (e.g. fyke nets and pound nets). Refer to Table 6 for a summary of the average landings (2003 – 2012) of American eel by month from the weir fishery in the Delaware River and its tributaries.

Table 6. Average American eel landings (2003 – 2012) by month from the weir fishery in the Delaware River and tributaries.

Month	Average Landings (pounds)
July	139
August	1,005
September	2,574
October	1,653
November	2

Option 4 – License Cap
Under this option, the Delaware River weir fishery would be limited to those permitted New York participants that fished and reported landings anytime during the period from 2010 – 2013. Refer to Figure 6 for the number of licenses issued annually and the number of active participants in the fishery. Once issued, licenses are not eligible for transferability. Only one license can be issued per participant. This would result in a reduction of licenses and the eventual closure of the fishery.

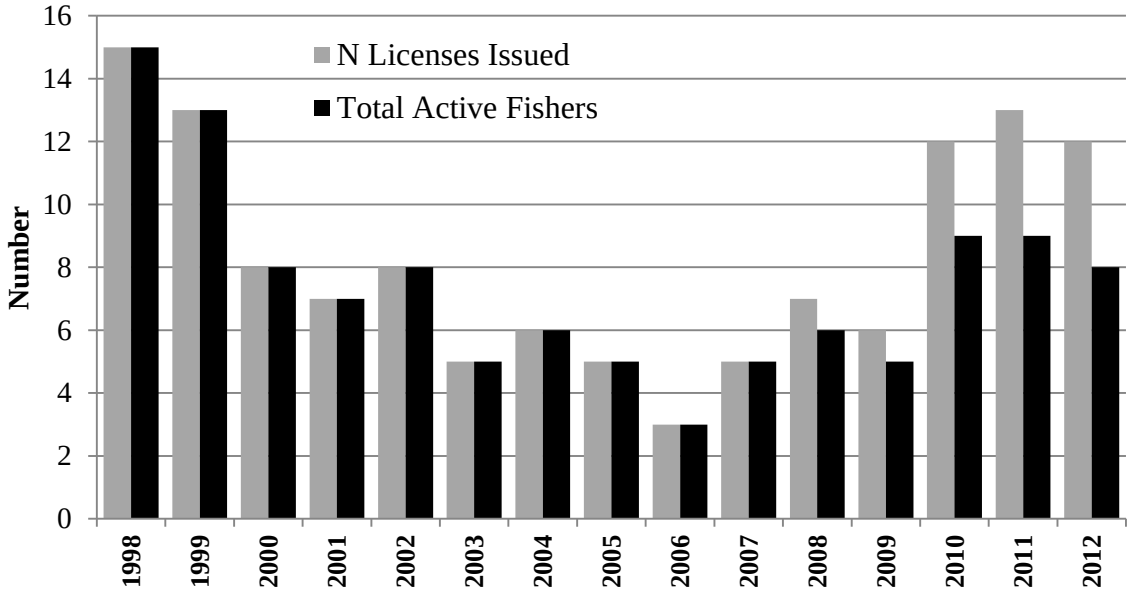

Figure 6. The number of licenses and active or reporting fishermen in the American eel weir fishery in the Delaware River and its tributaries from 1998 – 2012.

3.1.4. STATE SPECIFIC SUSTAINABLE FISHERY MANAGEMENT PLANS FOR AMERICAN EEL

Under this option states or jurisdictions may petition the Board to allow for a state specified Sustainable Fishery Management Plan for American Eel. The basis for this program is the American Shad and River Herring Sustainable Fishery Management Plans as specified in Amendments 2 and 3 to the Shad & River Herring FMP. This approach has also been used to manage eel fisheries by river basin in Europe. However, the TC cautions that the American shad and river herring plans, as well as the European eel management plans were initiated recently and it is difficult to evaluate the effect of their implementation at this time. The preferred sustainable fishery management plan for eel would have the same supporting eel population information as the life cycle surveys proposed in Option 10 of Glass Fisheries.

This plan would allow for a specific alternative management program than is currently required under the FMP, Addendums I or III, or any management measures approved in Draft Addendum IV. States and jurisdictions are allowed to petition the Board for an alternative management program, per Section 4.4 of the FMP. This option is not meant to

replace Section 4.4 of the FMP, rather it provides guidance on a specific type of alternative management that the states can request.

Under this option, states or jurisdictions would be allowed to manage their American eel fishery (glass, yellow, or silver) through an alternative program to meet the needs of their current fishermen while providing conservation benefit for the American eel population. The state specific Sustainable Fishing Plans (Plan) will require that:

1. States or jurisdictions must be able to assess, with some level of confidence, the status of eel abundance and current level of mortality (e.g. fisheries, natural, and other man-made) that is occurring on the American eel populations within their jurisdiction.
2. Once adequately documented, states or jurisdictions will be allowed to allocate their fishing mortality to any American eel fishery (glass, yellow, or silver) even if the state does not currently participate in that fishery (i.e. a state would be allowed to open up a glass eel fishery if they did not currently have one due to the restrictions of the FMP). This could be applied for commercial, recreational, aquaculture industries and/or research set-aside purposes.
3. States would be allowed to increase the fishing mortality rate provided it is offset by decreases in other mortality (e.g. though habitat improvements, increased fish passage, reduced turbine mortality, etc.) and there is an overall net gain to conservation (i.e. overall mortality is reduced, spawner escapement increases, etc...).

The format of the plan is as followed:

1. Current regulations
2. Proposed change to regulations (e.g. request for fishery, fish passage restrictions, water quality improvements, etc...)
3. Description and supporting information on eel abundance and current mortality within state or jurisdiction
    a. Fishing mortality (including but not limited to commercial, recreational, sustenance, and bycatch)
    b. Natural mortality (including but not limited to predation, disease, and
    c. Other man-made mortality (including but not limited to fish passage, turbines, habitat degradation, and pollution)
    d. Indices of abundance, age and size structure, and life cycle population metrics
4. Timeline for implementation of regulations, monitoring programs, or other activities
5. Description of conservation benefits of proposed regulatory changes or habitat improvements
6. Description of adaptive management program to monitor and evaluate success of proposed regulatory changes or habitat improvements

If states or jurisdictions are unable to assess the current level of mortality and abundance with certainty, and the Board chooses to adopt quota management for at least one fishery, then a state would be allowed to develop a SFP to request a transfer of quota from one fishery to another (e.g from yellow to glass) based on the life history characteristic inherent to that area (e.g. state, river, or drainage). If states are allocated a minimum 2,000 pound quota, they will not be eligible for this transfer provision. The petitioning state must include

in their Plan scientific analysis that the transfer will not increase overall eel fishing mortality, overall mortality, or reduce spawner escapement, with some level of confidence.

SFPs are subject to TC and LEC review and Board approval. It is recommended that SFPs be submitted by June 1st of the preceding fishing year in order to provide enough time for review, but may be submitted at any time. Transfer-only SFPs must be submitted by June 1st of the preceding fishing year. SFPs will initially be valid for only one year. After the first year of implementation the TC will evaluate the program and provide recommendations to the Board on the overall impact of and adherence to the plan. If the proposed regulatory changes or habitat improvements cannot be assessed one year post-implementation, then a secondary review must occur within three to five years post-implementation.

If states use habitat improvements and changes to that habitat occurs in subsequent years, the Commission must be notified through the annual compliance report and a review of the SFP may be initiated. The TC recommends that states or jurisdictions not be allowed to use habitat restoration projects or fish passage construction completed prior to a specified time to be determined by the TC (e.g. when the FMP was approved, when the stock assessment was accepted, the most current year, etc...) for mortality offset purposes in sustainable fisheries plans. Any requests that include a stocking provision would have to ensure stocked eels were certified disease free according to standards developed by the TC and approved by the Board.

4. LAW ENFORCEMENT RECOMMENDATIONS

The ASMFC Law Enforcement Committee has previously weighted in on the enforceability of proposed American eel management options based on the *Guidelines for Resource Managers on the Enforceability of Fishery Management Measures (July 2009).* These Guidelines rated management strategies using standard terms as follows, from least to most enforceable: Impossible, Impractical, Difficult and Reasonable.

The LEC concluded that status quo measures for all eel fisheries is impractical for enforcement, specifically for the glass eel fishery given the enforcement challenges associated with the prosecution of the glass eel fishery in those states currently closed to harvest of glass eels. A significant amount of illegal harvest of glass eels continues outside the two states where harvest is currently allowed, and illegally harvested eels are being possessed and shipped via those two states. State and federal enforcement agencies are tasked to thwart the illegal harvest and export with reduced staff and resources. Given the monetary value of glass eels and the ability to move illegally harvested eels via legal shipments, enforcement agencies do not have, and are unlikely to obtain the resources necessary to effectively monitor and control a limited glass eel harvest.

The LEC finds that a quota system would be difficult to enforce because of the variety of management strategies associated with quota implementation, enforceability depends largely on how quota systems are managed. Increased complexity of quota systems will generally reduce enforceability. The enforcement of time/area closures for the silver eel fishery is considered reasonable.

The LEC reports continuing illegal harvest of glass eels or elvers in the two states where some legal harvest is permitted, and in a number of states where any harvest of eels below a minimum size is prohibited. This is not unexpected given the high dollar value associated with the fishery. Enforcement agencies are dedicating resources to monitor and enforce regulations through stepped up patrols, coordination with local enforcement authorities, and by communicating the importance of glass eel cases to judiciary officials. Specific changes to regulations or statutes that would enhance field enforcement and/or penalties are encouraged, and those that have been implemented (in Maine, for example) have improved the outcome of arrests and convictions. Because of the cross-state nature of illegal glass eel harvest, strengthening of extradition or bail provisions for criminal violations would enhance the deterrent effect of enforcement actions.

5. COMPLIANCE

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.

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