

Atlantic States Marine Fisheries Commission

American Eel Management Board

*October 27, 2014
11:00 a.m. – 6:00 p.m.
Mystic, Connecticut*

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*) 11:00 a.m.
 2. Board Consent 11:00 a.m.
 - Approval of Agenda
 - Approval of Proceedings from August 2014
 3. Public Comment 11:05 a.m.
 4. Review of North Carolina's Proposed Addendum III Regulations **Action** 11:15 a.m.
 5. Technical Committee Report on Board Tasks (*S. Eyster*) 11:30 a.m.
 6. Draft Addendum IV for Final Approval **Final Action** 11:50 p.m.
 - Review of proposed options (*K. Taylor*)
 - Working Group Recommendations (*T. O'Connell*)
 - Consider final approval of Addendum IV
- Lunch Break from 12:30 – 1:30 p.m.*
7. Other Business/Adjourn 6:00 p.m.

The meeting will be held at:
The Mystic Hilton, 20 Coogan Boulevard, Mystic, Connecticut (860) 572.0731

Atlantic States Marine Fisheries Commission

MEETING OVERVIEW

American Eel Management Board Meeting

October 27, 2014

11:00 a.m. – 6:00 p.m.

Mystic, Connecticut

Chair: Tom O'Connell Assumed Chairmanship: 5/14	Technical Committee Chair: Sheila Eyler (USFWS)	Law Enforcement Committee Representative: Fessenden
Vice Chair: John Clark	Advisory Panel Chair: Martie Bouw	Previous Board Meeting: August 7, 2014

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 August 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. Review of North Carolina's Proposed Addendum III Regulations (11:15 a.m. – 11:30 a.m.) ACTION

Background

- The Board approved Addendum III in August 2014, which required all states to implement a ½ x ½ inch mesh requirement (or escape panel) in eel pots/traps in the commercial yellow eel fishery. The Board also approved an increase in the minimum size to 9 inch minimum size for the commercial yellow eel fishery (which approximately corresponds to the ½ x ½ inch mesh restriction). State or jurisdictions with more conservative regulations at the time of approval are required to maintain those regulations unless approved by the Board.
- At the time of approval, the state of North Carolina had a 1 x ½ inch mesh escape panel requirement in place. North Carolina requests consideration to become less restrictive with their regulations and implement the minimum requirements as specified by Addendum III (i.e. change their requirements from a 1 x ½ inch escape panel to a ½ x ½ inch escape panel) in their commercial yellow eel fishery.
- Analysis provided by North Carolina and included in Draft Addendum III for Public Comment shows that with a 1 x ½ inch mesh escape panel, approximately 7% of the catch is comprised of eels less than 11 inches in length. For pots with ½ x ½ inch mesh, approximately 13% of the catch is comprised of eels less than 11 inches in length.

Presentation

- Review of Regulations by Dr. Daniel

Board Actions for Consideration

- Approve North Carolina yellow eel regulations

5. Technical Committee Report on Board Tasks (11:30– 11:50 a.m.)**Background**

- At the August Board meeting, the Board tasked the TC to: 1) review the recommendations on quota options in Draft Addendum IV, 2) review potential for misidentification of other species of eels with American eels, and 3) respond to public comment written by Dr. Steve Cadrin and submitted by the American Eel Sustainability Association.
- The TC met via conference call in September to review the Board tasks (**Supplemental Material**).

Presentation

- Technical Committee Report by Sheila Eyler, TC Chair

6. Draft Addendum IV for Final Action (8:20 a.m. – 12:00 p.m.) FINAL ACTION**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.
- In May the Board approved Draft Addendum IV for Public Comment (**Briefing Material**). Public hearings were held all states with the exception of Pennsylvania, D.C., Georgia and Florida. In August the Board reviewed the public comment and draft options and directed a working group to develop recommendations based on TC guidance (**Supplemental Material**).

Presentation

- Review of Draft Addendum IV by K. Taylor
- Review of Working Group Recommendations

Board Actions for Consideration

- Approve Addendum IV

7. Other Business/ Adjourn

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

**Crowne Plaza - Old Town
Alexandria, Virginia
August 7, 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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SILVER EEL MOTIONS

1. **Approval of Agenda by Consent** (Page 1).
2. **Approval of Proceedings of May, 2014** by Consent (Page 1).
3. **Main Motion: Move to implement a license cap of nine annual permits for the New York Delaware River weir fishery** (Page 21). Motion by James Gilmore; second by Terry Stockwell.
4. **Motion to Amend: Move to amend to limit those permitted participants that fished and reported landings from 2010 to 2013 without transferability** (Page 26). Motion by Adam Nowalsky; second by Loren Lustig. Motion carried (Page 27).
5. **Move to cap the harvest at 3,000 pounds** (Page 28). Motion by Rep. Miner; second by Bob Ballou. Motion declared out of order (Page 29).
6. **Main Motion as Amended: Move to implement a license cap of nine annual permits for the New York Delaware River weir fishery and limit to those permitted participants that fished and reported landings from 2010 to 2013 without transferability.** Motion failed (Page 29).
7. **Move to implement a license cap of nine annual permits for the New York Delaware River fishery and limit to those permitted participants that fished and reported landings from 2010 to 2013** (Page 29). Motion by Louis Daniel; second by Terry Stockwell. Motion carried (Page 30).

YELLOW EEL MOTIONS

8. **Main Motion: Move to approve Option 5A and Option 6 for the yellow eel fishery** (Page 30). Motion by Tom O'Connell; second by Rob O'Reilly.
9. **Motion to Substitute: Move to substitute Option 1 status quo** (Page 31). Motion by Adam Nowalsky; second by James Gilmore. Motion failed (Page 32).
10. **Motion to Amend: Move to amend Option 5A to read option 5 with a 5% reduction** (Page 34). Motion by Thomas O'Connell; second by Martin Gary. Motion failed (Page 37).
11. **Motion to Amend: Move to amend to approve Option 4A with Option 6** (Page 37). Motion by Adam Nowalsky; second by James Gilmore. Motion fails (Page 39).
12. **Motion to Amend: Move to amend to base quotas on 2010 harvest as reduced by 5% for a total allowable quota of 929,104 pounds with a 2,000 pound minimum allocation added** (Page 40). Motion by Louis Daniel; second by Rick Bellavance. Motion failed (Page 41).
13. **Motion to Amend: Move to amend for Option 8A** (Page 41). Motion by John Clark; second by Rep. Kumiega. Motion failed (Page 41).
14. **Motion to Amend: Move to amend Option 5A to Option 2A with a 15% reduction** (Page 42). Motion by Thomas O'Connell; second by Louis Daniel. Motion failed (Page 47).
15. **Move to postpone further action on this addendum until the October meeting** (Page 47). Motion by Dennis Abbott; second by Terry Stockwell. Motion carried (Page 48).
16. **Move to give working group guidance that the yellow eel quota meet the TC's recommendation (907,671 pounds)** (Page 48). Motion by Douglas Grout; second by David Simpson. Motion carried (Page 52).
17. **Move to adjourn** by consent (Page 55).

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)	Russ Allen, NJ, proxy for D. Chanda (AA)
Rep. Walter Kumiega, ME (LA)	Leroy Young, PA, proxy for J. Arway (AA)
Doug Grout, NH (AA)	Loren Lustig, PA (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Rep. Mike Vereb, PA (LA)
G. Ritchie White, NH (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Paul Diodati, MA (AA)	Bernie Pankowski, DE, proxy for Sen. Venables (LA)
Dan McKiernan, MA, Administrative proxy	Russell Dize, MD, proxy for Sen. R. Colburn (LA)
William Adler, MA (GA)	Thomas O'Connell, MD (AA)
Rep. Sarah Peake, MA (LA)	Bill Goldsborough, MD (GA)
Robert Ballou, RI (AA)	Rob O'Reilly, VA, Administrative proxy
Mark Gibson, RI, Administrative proxy	Kyle Schick, VA, proxy for Sen. Stuart (LA)
Rick Bellavance, RI, proxy for Sen. Sosnowski (LA)	Catherine Davenport, VA (GA)
David Borden, RI (GA)	Louis Daniel, NC (AA)
Rep. Craig Miner, CT (LA)	Ross Self, SC, proxy for R. Boyles, Jr. (AA)
Lance Stewart, CT (GA)	Patrick Geer, GA, proxy for Rep. Burns (LA)
James Gilmore, NY (AA)	Jim Estes, FL, proxy for J. McCawley (AA)
Emerson Hasbrouck, NY (GA)	Derek Orner, NMFS
Adam Nowalsky, NJ, proxy for Asm Andrzejczak (LA)	Sherry White, USFWS
	Martin Gary, PRFC

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

Ex-Officio Members

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

Staff

Robert Beal	Mike Waive
Toni Kerns	Mark Robson
Kate Taylor	

Guests

Wilson Laney, USFWS	Bob Vanasse, Saving Seafood
Steve Meyers, NOAA	Dick Stone, N. Carolina
Brandon Muffley, NJ DFW	R.I. Clayton, Connecticut
David Sikorski, CCA	Arnold Leo, E. Hampton Baymens Assn
Rob Eckhart, CRG	Donald Lajevic, USCG
Dieter Busch, Crownsville, MD	Mike Jarben USCG
Raymond Kane, CHOIR	Deb Hahn, Assoc. F&W Agencies
Glori Gayster, DVF	Robert Brooks, Chelmsford, MA
Steve Cadrin, AESA	Jeffrey Pierce, Maine Elver Fishermen Assn.
Devon Jones, AESA	Angela Young, Maine Elver Fishermen Assn
Patrick Paquette, AESA	Darryl Young, Maine Elver Fishermen Assn
Forest Nohr, AESA	

The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel Old Town, Alexandria, Virginia, August 7, 2014, and was called to order at 8:00 o'clock a.m. by Chairman Thomas O'Connell.

CALL TO ORDER

CHAIRMAN THOMAS O'CONNELL: Good morning! My name is Tom O'Connell. I am from Maryland and will be chairing the American Eel Management Board Meeting today. Everybody should have an agenda. As you will see, the major focus of today's meeting is to take final action on Draft Addendum IV.

Before we get into the agenda, I just want to kind of lay out a few procedures and ground rules for today's meeting. We expect it to be a lengthy meeting, so it is good to set forth some ground rules. The first I'll mention is that I'm going to chair the meeting up until the point of the draft addendum discussion. Given Maryland's interest, Bob Beal is going to take over as chair at that point.

When we get into public comments, I will remind the public that we have had extensive public hearings and public comment opportunities on the draft addendum; so if you would like to speak during the public comment at the beginning of the meeting, I would ask that you keep your comments brief and succinct to the board and that they not be related to the addendum.

I know that there is a couple of people who want to provide some public comments on kind of the overall status of eels and we will allow a brief opportunity for that. Those individuals from the public that want to make comment on specific actions that are being decided today in the addendum, I have spoken with Bob Beal, our executive director, and he will allow public comment as time allows.

If you want to make a comment, wait until a motion is made and seconded and deliberated by the board; and if time allows, Bob will make

some time available for the public to comment on those items. Also, in talking to Bob, when we get into deliberations and we have motions being made, we're going to try to utilize our meeting rules where Bob will ask for those who want to speak in favor and in opposition of the motion; and we will try to go one for and one against.

We will give everybody an opportunity to speak once and if time allows a second opportunity. Hopefully, those procedures, as was well done by Doug Grout with striped bass, will help us along and get through this meeting today.

APPROVAL OF AGENDA

CHAIRMAN O'CONNELL Going forward in regards to the agenda, we'll be asking for an approval of the agenda, but I will note a couple of changes if the board approves.

One is Item Number 4, elect a vice-chair, we did cover that at the last meeting and John Clark was elected vice-chair; and we're not going to let him off the hook that quickly. We will remove that from the agenda. We will substitute in that spot an update from the U.S. Fish and Wildlife Service, Sherry White, who would like to provide the board an update on the status of the Fish and Wildlife Service review of the eel listing petition. I think that's timely to do at that point before we get into the draft addendum discussion.

I understand that Representative Vereb would like to add an item under other business in regards to the nine-inch minimum size and half inch by half inch mesh size in regards to tolerance. Is that correct, Representative Vereb?

REPRESENTATIVE MIKE VEREB: Yes, it is; thank you.

CHAIRMAN O'CONNELL: Welcome to the Atlantic States Marine Fisheries Commission. We appreciate having you here and look forward to discussing these issues with you today. Are there any other changes to the agenda? Seeing none, the agenda with those changes will stand approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN O'CONNELL: Approval of our proceedings from the May 2014 meeting; are there any comments or suggested changes to our proceedings from May? Seeing none; those will stand approved.

PUBLIC COMMENT

CHAIRMAN O'CONNELL: The public comment period, I know we have at least a couple of people signed up to speak. Those who would like to speak, in case you didn't sign up, can you give me a show of hands so we can just gauge the amount of time that we need. All right, it looks like we have about three. I would ask that you keep your comments to three minutes and try to avoid getting into the specifics of the draft addendum. As I mentioned, that will be a later agenda item. We have Dr. Steve Cadrin. Would you like to come up and introduce yourself for the record?

DR. STEVEN CADRIN: Good morning and thanks for the opportunity to comment. I am Steve Cadrin. I am a Professor of Fisheries Oceanography at the University of Massachusetts-Dartmouth School for Marine Science and Technology. I'm an expert in stock assessment and stock identification. Currently I chair the International Council for the Exploration of the Seas Strategic Initiative on Stock Assessment Methods. I've published two books on stock identification methods.

With 25 years of experience in fisheries science and management, I appreciate the challenge that you face in managing sustainable eel fisheries. I'm speaking today as a consultant for the American Eel Sustainability Association. In that capacity, I've thoroughly reviewed the commission's 2012 stock assessment of American eels as well as the peer review panel report and related documents.

I submit that the association's position on eel science and management is technically sound and entirely consistent with the commission's peer review panel report. In summary, the American eel stock is depleted; but because of

limited data available for a stock assessment, the overfished status is unknown.

Although the stock is depleted, the population trajectory appears to be stable or increasing. Many stock indicators and the review panel's preferred model suggests substantial stock increases since the 1990's; and, of course, that 2012 stock assessment did not include management actions that were taken last year, but are expected to further increase and promote the stock recovery.

The association suggests that the most appropriate general approach, without getting into the details of the amendment, is to enforce the recently imposed management measures to promote stock rebuilding. The upcoming American Fisheries Society Meeting on Eels in Quebec City and the prospect of a trans-boundary stock assessment promise to provide a more comprehensive evaluation of the entire population and a more reliable basis for fishery management. Until an international assessment of the entire American eel population is available, it appears that current management measures are sufficient to continue stock rebuilding. Thank you very much.

MR. DIETER BUSCH: Good morning! My name is Dieter Busch. I am the retired Chief of the Lower Great Lakes Fish and Wildlife Program. I also have some experience with this commission as having been the ISFMP Director for a few years starting in 1999. I was the first author of the American Eel Management Plan.

I did not know at that time when I took on the assignment as a volunteer working for the Fish and Wildlife Service that there was a plan development team; so I did prepare the first draft pretty much by myself with my office staff. One of the things that I added into the plan based on my research experience on the Lower Great Lakes was an assessment of the young of the year.

Knowing the difficulty in identifying the age of eels, it is very hard to get a good population estimate; but as glass eels are pretty much uniform in age, I put that in, realizing sampling

methods would be difficult. This has been an ongoing program. In comparing it to what we did the Lower Great Lakes, we used index stations.

They became valuable over time, but then we were able to follow the year class of fish like perch and walleye from young of the year to yearlings and even two year olds in yellow perch and yearlings in walleye; and then put that into the commercial database where we had a year class analysis from the commercial landings, we were able to correlate the strength of the YOYs with the actual contribution to the commercial fishery at better than 0.95 over all those years.

That program is still ongoing even though the actual methodology has been somewhat changed. I wanted to make a comment about the Great Lakes Fish Commission. I noticed that it is very good to coordinate with other agencies; but I wanted to make clear that the Great Lakes Fish Commission doesn't have the word "state" in its name. It is not a management agency.

It is an umbrella agency to provide money and guidance to the management agencies, which are still done by the states individually and by the province on Ontario. This is according to the constitution; and that is the way it is, and it would be wonderful to coordinate with for research purposes because they do have money and they have expertise.

Now, doctors have the Hippocratic Oath to guide them, which nowadays comes down to something as simple as do no harm. Research managers have the Public Trust Doctrine, which requires managers of public resources to regulate the public fishery so as to prevent the destruction of the fishery in perpetuity.

Keeping that in mind, that applies to all the states and all the agencies that manage the resources, whether directly or indirectly; but then in the commission's sustainable category, management will be based on science and the goal is to protect and enhance the abundance of American eel inland and territorial waters, et cetera. I won't keep on reading this.

In looking at this and knowing when the plan was put together that the population was down to about 1 percent of the historical levels, that plan should have really been a restoration plan and not a management plan. It was already down the tubes. What we have seen from the Canadians and so on and also a publication that I recently provided that is in your briefing documents is that stocking is not really a tool that can be used for eels because they're very complex.

The range of eels is so different – I mean, striped bass management is child's play compared to managing American eel. I was really wondering about the disconnect between what is in Addendum IV and what will be happening to you guys if they are listed as a threatened species. I listened to the presentation yesterday about sturgeon and the difficulty in managing that endangered species, which again is child's play compared to what eel would be if they are listed.

Inland managers are not going to appreciate if the species is listed. Let's be honest, if they are listed, it means you failed. You have not done what you're supposed to do under the Public Trust Doctrine. You have not protected the species and Big Brother is going to come and tell you what to do. The impact and pain is going to be so much greater than you really appreciate at this time, even though you know it. Compared to the sturgeon, listing of American eel will be really a different ballpark. Thank you.

MR. JEFFREY PIERCE: Thank you, Mr. Chair and the American Eel Board. The Maine Elver Fisherman Association has worked long and hard with the Maine Department of Marine Resources. I would just like to add we support the state of Maine and their representatives here today. When we get to other business, I have something I would like to bring up. Thank you.

CHAIRMAN O'CONNELL: Thank you, Jeff. All right, the next item on the agenda is an update from the U.S. Fish and Wildlife Service on the American Eel Listing Petition.

**UPDATE ON THE AMERICAN EEL
LISTING PETITION**

MS. SHERRY WHITE: Thank you, Mr. Chairman. I'm Sherry White, the Assistant Regional Director for Fisheries in the northeast region for the Fish and Wildlife Service. I would like to give you an update on where we are with regard to the petition on eel listing. The Service continues to review new information since the 2007 not warranted 12-month finding.

We're currently compiling a summary report discussing the species' biology and threats. The report will be sent out for peer review in October. Right now the list of peer reviewers is being refined, but it is our intent to release the biological species report to ASMFC's American Eel Technical Committee for peer review.

We really appreciate the technical expertise the technical committee brings on American eel. In addition to the report, the Service will also hold a webinar in October with all of the affected range states to review the report's information; and then we will revise the report based on feedback we get from the peer reviewers and from the states and use this revised report as the basis for making the ESA listing recommendation. We are required by September 30, 2015, to submit the 12-month finding to the Federal Register. Thank you.

CHAIRMAN O'CONNELL: Thank you very much. Any questions for Sherry? Louis.

DR. LOUIS B. DANIEL, III: It is not a question but just a comment to thank the Fish and Wildlife Service for including our technical committee as the peer reviewer. I think that is great step forward; and I certainly appreciate making that effort.

**CONSIDERATION OF DRAFT
ADDENDUM IV
REVIEW**

CHAIRMAN O'CONNELL: That's a good point and we do appreciate that. Any other

questions or comments on this item? Okay, we're going to move into Draft Addendum IV for Final Review and Kate Taylor is going to provide a review of the addendum.

MS. KATE TAYLOR: As you know, the board initiated back in August 2012 Draft Addendum III in response to the American eel stock assessment. Under Addendum III, the board passed a nine-inch minimum size for the commercial and recreational fishery; the half by half inch commercial mesh requirement with a three-year phase in; the 25-fish recreational bag limit with an exemption for charterboats; pigmented eel restrictions and silver eel restrictions; and then initiated Draft Addendum IV as the second phase in response to the stock assessment.

As you know, the stock assessment was completed back in 2012 and found that the American eel populations in U.S. waters is depleted. Moving into Draft Addendum IV, the draft addendum only contains options for the commercial fishery's management program, does not contain any options for the recreational fishery, and most options are not mutually exclusive.

Beginning with the glass eel fishery, Option 1 is the status quo. As you know, glass eel fisheries operate in Maine and South Carolina, and this would allow the continuation of those fisheries as explained under our FMP. Option 2 is 2014 management measures. In 2014 the state of Maine instituted a quota just over 11,000 pounds for their glass eel fishery. This would just institutionalize those requirements for the state of Maine. The state of South Carolina continued as was required under our FMP.

Option 3 is a closure of the fishery; and this could either be an immediate closure or a delayed closure at a timeframe specified by the management board. Option 4 was a quota based on landings. These quota options, as you'll see here in the table, are lower for the state of Maine than what they had in place for 2011. For 2014 the landings range from 8,000 pounds to just over 3,000 pounds for the state of Maine and

between two and 250 pounds for the state of South Carolina.

Option 5 is to address quota overages should the board elect quota management, Option 4, of this section; and it just simply says that if an overage occurs, the state would be required to deduct the overage from their quota the following year pound for pound. Option 6 is a glass eel harvest allowance based on stock enhancement programs.

This was an option added in by the management board at the last meeting. It specifies that any state can request an allowance for harvest of glass eels based on stock enhancement programs that are implemented after January 1, 2013. These stock enhancement programs must show a measurable increase in glass eel passage and/or glass eel survival.

An example of these types of programs include habitat restoration projects, fish passage improvements or fish passage construction. Under this option there are three sub-options for a harvest cap so that if a state does implement any restoration program; that conservation total, there would be a harvest cap on the fishery that would be allowed under that conservation total. Those harvest caps are 5 percent, 10 percent and 25 percent of the conservation benefits.

Option 7 is an aquaculture quota. Under this option the board may choose to allocate a percentage of the total quota for approved aquaculture purposes. Under this option the aquaculture quota that is specified by the board would be first deducted from the total glass eel quota as specified potentially under Option 2 or Option 4 of this section; and then the remainder of the quota would be distributed to the states of Maine and South Carolina as it is specified in the percentages under those options.

Option 8 kind of goes along with that. It is for aquaculture permitting. It specifies that any harvest of glass eels for commercial aquaculture purposes must be collected under an approved aquaculture permit issued by the states the collection will occur in and subject to any monitoring and reporting requirements.

Option 9 would require daily trip level reporting with electronic accounting to the state for harvesters and dealers to ensure accurate glass eel reporting. Option 10 would require any state or jurisdiction with a commercial glass eel fishery to implement a full life cycle survey covering all glass, yellow and silver eels within at least one river system in the state.

Moving into the yellow eel fishery options, Option 1 is the status quo; the regulations as I specified earlier under Addendum III. Options 2 through 5 deal with yellow eel quota. This first option here is what we call an adjusted yellow eel quota. It takes the allocation base years from – and all of the quota options in the document’s beginning total is the 2010 harvest level at just over 978,000 pounds.

This first option is an adjusted yellow eel quota. It takes the allocation percentages to the states. It is based on the state’s average harvest from the years 2011 to 2013; and then it uses a filtering method to buffer any increases from the 2010 harvest or decreases from the 2010 harvest. Under that option there is the no reduction option, which just uses the 2010 harvest level; and then there is a reduction of 10 percent and the 20 percent from that level.

The majority of the harvest – as is seen here in this table and also in the following tables I’ll present, the majority of the harvest will be in the Mid-Atlantic area and decreases as you go northward and southward. The second quota option in the addendum is an adjusted yellow eel quota. It is the same method as used in Option 2, except the allocation base years go back to 2002, so it is 2002 to 2012; and again there is a no reduction, a 10 percent reduction and a 20 percent reduction option.

Option 4 is just a yellow eel quota. It takes the highest three landings from the years of 2000 to 2010 and averages those and then distributes the allocations to the states based on that percentage. Again, the majority of harvest occurring in the Mid-Atlantic region and decreasing as you go north and south.

CHAIRMAN O'CONNELL: 2000 to 2010?

MS. TAYLOR: I'm sorry; it is the average period from 2004 to 2013. The last option here is the weighted yellow eel quota option where the average landings from 2004 to 2013 were averaged and then weighted at 30 percent and then combined with the average landings from 2011 to 2013, which were weighted at 70 percent. Again, there is a no reduction, a 10 percent reduction and a 20 percent reduction option.

Moving out of the quota allocation options, Option 6 deals with overages should the board choose to elect quota management. Under this option the state would be required to reduce their following year's quota by the same amount the quota was exceeded pound for pound. Option 7 would allow for quota transfers; and so if a state exceeded its quota, it would be allowed to request a transfer of quota from another state that was not exceeding their quota that year.

States that received the automatic 2,000 pound quota would be eligible to participate in these transfers. Option 8 is a catch cap; and under this option it is based on the 2010 harvest levels, so that 978,000 pound level. States and jurisdictions would be allowed to fish until this cap is reached. There would be no allocation to the states.

Once the cap or threshold is reached, then all states and jurisdictions would be required to close all directed fisheries and prohibit landings. Under this option, it does control the amount of mortality without needing the difficult options of allocation. However, the technical committee points out that you would still need timely reporting.

There would be no state-specific payback mechanism. It could promote a derby-style fishery; and there is the potential loss of the historic fall and winter fisheries. As you see here in the table, which is in the addendum, there is a substantial amount of harvest that does occur in the fall in September through October and decreasing through November. The three

sub-options here are again the 2010 harvest level and a 10 and a 20 percent reduction from that.

Moving into the silver eel fishery measures, under Addendum III essentially all silver eel fisheries were prohibited. There was no take from any gear other than baited pots, traps and spears from September 1 through December 31. The state of New York within the Delaware River and its tributaries was granted a one-year exemption from the requirements under Addendum III.

Under the status quo option here, the current regulations would remain in effect and essentially the one-year exemption would expire for New York on December 31, 2014; and that fishery would be shut down. Option 2 would be an extension of the sunset provision; and this would be at a timeframe specified by the management board.

Option 3 essentially cuts the fishery in half. It would allow for no take of eels between August 15 through September 30 and from any gear type other than baited pots, traps, spears and weirs; so essentially the fishery would only be allowed to occur during August 15 through September 30, which the table provided here shows it is about half the landings; a little bit more.

Option 4 is a license cap; and under this option the weir fishery in the Delaware River would be limited to those permitted New York participants that fished and reported landings anytime during the period from 2010 to 2013; and those licenses would be transferable. The last section of the document deals with the state sustainable fishing plans.

Under these programs, it provides a framework for conservation equivalency. States and jurisdictions would be allowed to manage their American eel fishery through an alternative program to meet the needs of their current fishermen while providing conservation benefits for American eels.

The first plan that is provided in the document is a fishing mortality plan. Under this plan, the

states must be able to assess with some level of confidence the status of abundance and level of mortality that is occurring within their jurisdictions; and then once documented, the states would then be allowed to allocate their fishing mortality to any American eel fishery even if the state does not currently participate in that fishery or for aquaculture or research purposes.

States would be allowed to increase the fishing mortality rate provided it is offset by decreases in other mortality through the development of habitat and restoration programs, for example, and that there was an overall net gain to conservation. The second plan contained in the document is an aquaculture plan.

Under this plan, states and jurisdictions would have the option to develop a plan for aquaculture purposes. States would be allowed to maximum of 200 pounds of glass eels annually from within their waters for use in domestic aquaculture facilities, provided that they can objectively show that the harvest will occur from a watershed that minimally contributes to the spawning stocks of American eel.

The last plan contained in the document is a transfer plan. If the board chooses to elect quota management and states are unable to assess the current level of mortality and abundance with certainty as explained in the fishing mortality plan, then a state would be allowed to develop this FMP to request a transfer of quota from one fishery to another; for example, from the yellow to a glass eel fishery based on the life history characteristics inherent to that area. That presents my report on Draft Addendum IV. Thank you, Mr. Chairman.

CHAIRMAN O'CONNELL: Thanks, Kate, and well done. Are there comments or questions on the draft addendum before we get a summary of the public comment? Bob.

MR. ROBERT BALLOU: Thank you, Mr. Chairman, and thank you, Kate, for that summary. I was a bit confused by the characterization of Option 4 under yellow eels in the document. I must admit your presentation

just now kind of compounded my confusion. It looks to me that Option 4 is essentially identical to Option 3 in that it bases allocation on the average of the three highest years 2002 through 2012.

The difference is that Option 4 does not provide those buffering provisions. Otherwise, they're the same; and so the way it is labeled here yellow eel quota based on 2010 and then you look at the way Option 3 is labeled, it just seems awkward. It is the same option, but it is just one has the buffering and the other doesn't; am I correct in that?

MS. TAYLOR: Yes, that is correct.

CHAIRMAN O'CONNELL: Are there any other questions for Kate? All right, seeing none, Kate, if you could provide a summary of the public comments.

SUMMARY OF PUBLIC COMMENT

MS. TAYLOR: The public comment period ran from May 30 to July 17. In total there were 177 people in attendance at all of the public hearings. There was attendance at every single public hearing. There were 62 individual written comments and 18 comments received by groups or organizations; and a form letter also prompted 24 letters.

Moving into the public hearing summary, there were 14 public hearings held in 12 states. All states held a public hearing with the exception of Pennsylvania, D.C., Georgia and Florida. As I mentioned there 177 people in attendance. Seventy-four were at the two public hearings in Maine. There was one public hearing and an informational session in New York which yielded 22 people. There were 17 people at the public hearing in Maryland. Those drew the high numbers. I'd also like to count the countless state staff that attended the public hearings and assisted in the process.

Moving into the public comments on glass eels, the majority of comments that were received were in support of Option 10, monitoring; and Options 1 and 2, the status quo and the 2014

management measures. I would just like to not that there was considerable confusion on the differences between Options 1 and 2 under the glass eel section. Many commenters used these two options interchangeably and likely they should be considered together.

The majority of opposing comments were directed at Option 7, the aquaculture quota; Option 3, the closure; and Option 4, any additional quota management measures. For yellow eels, the majority of comments were in support of the status quo. Opposing comments were directed at any options pertaining to quota management. Commenters suggested alternative regulations, including a one by half-inch mesh requirement, limited entry and requiring eel-specific licenses.

Under the silver eel options, the majority of comments received were in support of Option 2, an extension of the sunset provision, but no timeframe was specified by any of the commenters. With regards to the sustainable fishing plans, only comments in support of including the SFPs in the addendum were received. There was no opposition that was voiced.

Just general comments that were also provided at the public hearings focused on the need for habitat restoration, to increase access to habitat, the issues and concerns over turbine mortality, concerns over poaching and illegal harvest in states without a fishery, the need for increased enforcement and fines to help combat poaching and illegal harvest. Comments were received that the stock is not declining; that there is concern for underreporting or inaccurate landings' records which the quota will be based on; and the need for more data collection.

Additionally, there were comments provided that the Stock Enhancement Program, Option 6 under the glass eel fishery, should go back to 2009 and not 2011; that the regulations for the half by half inch mesh requirement and the nine-inch minimum size under Addendum III are unclear and inconsistent and a tolerance was needed; that there should be more done to tie restoration into management measures; that if

overages are allowed, then underages should also be allowed. This was an option that was removed by the board before the document went to public comment. Additionally, any glass eel harvest licenses should be given to yellow eel fishermen first.

Moving into the written comments that were received, focusing here now on the individual comments, the majority of comments that were received were in favor of Option 1 and Option 2. Six comments were in favor of and four comments were opposed to a closure of the glass eel fishery. One comment supported and three were in opposition to an aquaculture quota for the glass eel fishery.

Moving into the yellow eel fishery, three comments were opposed to any type of quota management for the yellow eel fishery; and there was one comment in support of the status quo. One comment was in support of Option 4C under quota management and one comment was in support of Option 5C. One comment was in support of the catch cap. For the silver eel fishery, three comments were in support of an extension on the sunset provision and the time closures. There were two comments in support of the license cap and one comment in support of the status quo. There were two comments that specifically addressed the SFPs and were in support of specifically the aquaculture plan.

There were numerous groups that provided public comments on Draft Addendum IV; and that was provided in the written comment summary and presented here. Under the group comments for the glass eel fishery, nine organizations were in favor of a closure of the glass eel fishery with two organizations in support of an immediate closure and three in support of a delayed closure.

There were six organizations supporting the reporting requirements and the monitoring requirements. Five were in favor of enacting quota management based on the 2010 landings and also allowing a quota transfer along with that quota management measure. Two organizations were in support of and one organization was opposed to the 2014

management measures, Option 2. There was one organization that expressed opposition to allowing quota overages and also the stock enhancement program. There was one organization in support of and one organization opposed to the status quo.

Under the yellow eel fishery, three comments were in opposition to any type of quota management. Three groups were in support of the status quo. There were six organizations that were supporting of quota management, specifically for selected Option 4, the 20 percent reduction, as their preferred alternative.

Under the silver eel fishery, comments on the silver eel options were about evenly distributed between the status quo, Option 2, Option 3 and Option 4. Under the SFPs, there were two comments in support of the state sustainability plans. There was a table provided in the written summary document that details all of the individual, group and public hearing comments.

I'm sorry, the additional comments that were received in the written comments, there was concern over the depleted population. Individuals and groups stressed that eels are an important part of the ecosystem. The impact of hydropower dams and the lack of downstream passage access was a concern. There was concern over illegal harvest and poaching.

There was just general requests for protection of glass eels; statements that the glass eel fishery provides an important economic opportunity in the state of Maine; that more research is needed to understand American eel life history and biology; that the commission should consider a half by one inch mesh requirement; that all fisheries should be closed; that fyke nets are negatively impacting river herring spawning runs; that the impact of horseshoe crab restrictions has already decreased landings; that states need more flexibility in management; that the commission should consider a commercial season for the yellow eel fishery, closed from May to June, and that water quality is an issue.

There was one form letter, as I mentioned, that was received in support of the American Eel

Farm and specifically Section 3.1.4 under the Sustainable Fishing Plan's Aquaculture Plan. These form letters included comments on the economic importance of this facility and also the potential benefits through stock and monitoring that this facility could provide. Thank you, Mr. Chairman.

CHAIRMAN O'CONNELL: Thank you, Kate. Are there any questions on the public comment summary?

ADVISORY PANEL REPORT

CHAIRMAN O'CONNELL: All right, we're going to move into the Advisory Report. You should have received a handout this morning, and Marty is going to provide an overview of that.

MR. MARTY BOUW: The American Eel Advisory Panel met on July 18, 2014, to review the Draft Addendum IV for public comment. The AP reviewed the options contained in the draft addendum and received an overview of public comments submitted at the public hearings. Since the public comment period closed on July 17, a review of the written comments was not available for the AP review.

The proposed glass eel fishery options; there was support by some members for the status quo and Option 2, 2014 measures. Comments provided expressed that Maine had enacted measures this year to address rampant poaching, which were tremendously successful. The board should consider seeing how these measures continue to address the problem and make changes as needed.

One commenter originally supported the closure, but with the measures Maine enacted this year to address rampant poaching, no longer supported as closures. The commenter also expressed that there is more work to do. There was support by some members for Option 4C, 2010 quota, with a phased-in approach; timeframe and re-evaluation as specified by the board.

Two commenters stated that the allocation amount under this option would be too small to

keep the fishery going and cause its eventual closure and were in opposition to all sub-options under Option 4, quota management. There was some support for Option 6, Stock Enhancement Programs, with additional comments provided requesting that the enhancement programs that could be considered go back to January 1, 2010, or January 1, 2011.

There were comments in opposition to Option 7, aquaculture quota, as it took away from current fishermen. Comments also provided pointed out that Option 9, reporting requirements, were already in place in Maine. There were comments provided that expressed there needs to be an increase in the requirements and verification when exporting eels.

The AP suggested that the commission work with the U.S. Fish and Wildlife Service to increase monitoring requirements of exports. There was unanimous support for Option 10, monitoring requirements. The proposed yellow eel options; two people were in support for the status quo. Commenters expressed that sufficient has not passed to see the effects of Addendum III.

Two people were opposed to Options 2 through 5, quota management, as this was seen as too much of a burden to the fishermen. One person was in support of Option 4B, 10 percent reduction; and one person was in support of Option 4C, 20 percent reduction. Two people were opposed to Option 7, quota transfers, mostly due to inclusion of states that receive the 2,000 pound allocation. One person commented that they do not support the arbitrary 2,000 pound minimum allocation at all.

Silver Eel Fishery; two commented in support of the status quo. One person commented in support of Option 4, license cap. The state sustainable fishing plans; aquaculture plan; there was one comment that the amount should be higher than 200 pounds in order to make it economical. Fishery monitoring plan; there was one comment on how states would be able to provide all the required information if the stock is considered data-poor stock.

Other comments: Four people commented that they were in favor of a license cap or limited entry for the yellow eel fishery to keep participation stable and not promote latent effort from returning. One person suggested that a separate eel license should be required in all states. There was a comment that a tolerance is needed, suggested 5 percent under nine inches) to address the differences between the nine-inch minimum size and the half by half inch mesh requirements under Addendum III.

Comments were expressed that overfishing isn't the problem and that the commission should work with its partners to address the real problems to the stock, such as turbine mortality and habitat quality issues. There were comments provided that the commission needs to wait and see what effect Addendum III has.

Some members point out that there are big loopholes in the exportation chain for glass eels and that there needs to be verification by a U.S. Fish and Wildlife Service official on all outgoing shipments. One member suggested that the commission work with MSC to certify the fishery to help show sustainability of the yellow eel fishery and increase price. That's it for my part of it.

TECHNICAL COMMITTEE REPORT

CHAIRMAN O'CONNELL: Are there any questions on the AP Report? Seeing none; we'll move on to the technical committee report.

MS. SHEILA EYLER: The technical committee had a conference call last week to discuss the public hearing comments. Most of the technical committee members did attend their state public meetings. The technical committee just wants to remind the board that we continue to support the recommendations of the stock assessment that came out in 2012, which recommends a reduction of harvest at all life stages.

The only other issue that the technical committee wanted to bring up at this meeting was that they have some reservations about the sustainable fishery management plans identified in Section 3.1.4. I think the technical committee

generally supports the idea of these plans being developed, but they have some reservations on the implementation of the plans and the practical components of that within their state.

They're also unclear of what criteria exactly would be used to evaluate those plans. The way the technical committee sees it is all the plans, including the transfer plan and the aquaculture plan, require an understanding of mortality rates between life stages; and right now we don't have that information available to us. It would require some additional scientific study to get that information.

With the transfer plan, you still need to demonstrate that there is an overall eel mortality and spawner escapement benefit to the population or at least that it remains unchanged. For the aquaculture plan you need to demonstrate that the harvest minimally contributes to the spawning stock of the American eel. We still need to understand what mortality rates are between the life stages and we haven't been able to do that to this point. That concludes the technical committee update. Thank you.

CHAIRMAN O'CONNELL: Are there questions? Louis.

DR. DANIEL: Just remember there are no dumb questions. How do you identify a glass eel? How do you know if it's an American eel or if it's myrophis or if it's some other species of eel?

MS. EYLER: I'm not exactly sure how they identify those in the field, especially for the southern populations where you have different species coming in. There is a way to do it. You can count vertebrae to identify the different species, but in the field I don't know that the folks are doing that.

DR. DANIEL: I was thinking about that. When we did a bunch of work in South Carolina, we would catch glass eels but we never identified them to species. We just assumed they were myrophis, which is the speckled worm eel or

something like that. We would catch quarts full of these things in a 50-meter section of creek.

It started getting me to wonder how do we know that these glass eels that are being harvested up and down the coast are American eels as opposed to some of the many other types of eels. Your comment that maybe in the southern regions it is more likely to see something other than an American eel, I agree; but I don't know what other species of eels migrate into northern climes. It is an interesting quandary; and I just was curious if there was some understanding that a certain percentage of the glass eel harvest is actually American eels or not. I just didn't know.

MS. EYLER: The technical committee hasn't set up any percentages life stage of what they think the different species would be.

MR. G. RITCHIE WHITE: Mr. Chairman, a question for the technical committee. I received a technical report last night from Dr. Cadrin, and I wondered if the technical committee had received that and had reviewed it? I guess I would also like to add that for myself, anyway, it is not helpful to get a lot of detailed information the night before. It certainly I think would help those that are trying to provide information to us to get it to the commission by the deadline that the commission has set forward. Thank you.

MS. EYLER: The technical committee has not received that report or reviewed that report.

MR. ROB O'REILLY: This is not directed at the technical committee conference call, but it is something that I've also been wondering about for a while. I think Dr. Cadrin by presenting a succinct summary of his information was helpful to me but also reinforces what I've been thinking about.

I've never understood exactly the context of depleted and specifically how depleted is the American eel stock and what type of expectation is there to be able to know whether depletion improves an improvement in the level of depletion, stays the same, how is that all going to work out?

That would help me go through this process because the information in Dr. Cadrin's paper indicates that, yes, there is no overfished situation or overfishing. I think he ascribed a value judgment essentially to the overfished, but it was concluded by the peer review panel that there is depletion. If I missed it, I just don't think I heard some quantification of what that means, "depleted", and how we're going to know when the stock is not depleted. Thank you.

MS. TAYLOR: When the stock assessment was sent to the peer review, it did have benchmarks in there originally. Those were developed through our depletion-based stock reduction model; and those were not accepted by the peer review panel, the depleted status. As it was discussed at the policy board yesterday, the definitions between the different stock determination labels, the depleted status was given in light of the fact that the stock assessment committee and the technical committee had seen historical declines in the population. There was concern; but since there were no benchmarks of fishing mortality to specifically say whether the stock was overfished or overfishing was occurring, the depleted label was given to the American eel stock.

MR. O'REILLY: I think I do understand that and I'm just wondering how do we monitor a change in that label of depleted. There will be another stock assessment at some point. It will obviously have to have some improvements compared to the stock reduction analysis; and is that what the technical committee is thinking for the future, that there will be improvements; another benchmark perhaps someplace, new models, new ways to assess this depleted status?

MR. TAYLOR: There is continued work on the DB-SRA Model. A stock assessment has not yet been scheduled for American eel, but the technical committee did review an update of the young of the year, which was presented at the last meeting, so is monitoring and will continue to do so at the direction of the management board.

LAW ENFORCEMENT REPORT

CHAIRMAN O'CONNELL: Seeing on other hands raised; we will move on to the Law Enforcement Report by Joe.

COLONEL JOE FESSENDEN: I am going to defer the report to Mark Robson, our law enforcement coordinator.

MR. MARK ROBSON: The Law Enforcement Committee has provided written comments in the past on both Addendum III and for this addendum as well. In light of the public comment period, we were asked to convene a teleconference call, which we did on July 29. We had 15 representatives of the Law Enforcement Committee and a couple of other enforcement representatives from the participating agencies and states on that call.

Kate reviewed some of the provisions of Addendum IV and some of the issues that were coming up and asked us to provide some additional comments if we had any for the consideration of the board. I'll do that as quickly as I can. Of course, in previous meetings of the Law Enforcement Committee, we have heard reports and very good reports on the status of the changes that Maine made in their enforcement efforts and in their quota management controls.

Once again, members of the Law Enforcement Committee complimented the state of Maine on their efforts and the success that they've had in reducing in violations and increasing compliance. Particularly the neighboring states to Maine, we're appreciative of those efforts. However, at least in the case of the representative from Massachusetts, neighboring states and other states, and particularly Massachusetts, are still experiencing some illegal harvest activity even with these somewhat lower prices this year in the market.

Illegal harvest activity in neighboring states or other states besides Maine and South Carolina are still continuing to occur and cases are being made. In respect to the possible provision of allowing – I forget the technical name of the

option, but the one that would provide for opening selected waters, I think that would be the way to describe it, there was just a caution particularly from a state where you might have already a fairly small or limited law enforcement staff, particularly for coastal waters; that if you have a management program that starts opening up selected water bodies while remaining water bodies in that state or jurisdiction remain closed, you're kind of doubling the amount of enforcement effort that is required both for the areas that are now open; and in addition to that you have to continue to redouble your efforts for enforcement in that remain closed.

So if you have limited staffing and enforcement out there on the water or in the field, you have to keep that in mind if you implement that kind of a limited opening provision. We were asked to discuss a little bit the tolerance issue because we have been told that question had come up. As a reminder, the Law Enforcement Committee has weighed in on this before when we were discussing the minimum size change for yellow eel.

I think our bottom-line message was measuring eels is not easy in the field for officers. This is really a problem for a large quantity harvest; so if you have the potential for an officer to encounter a large number of a particular species, then that makes size measurement even more challenging for the officer and a great more time involved in dealing with a particular case or a potential violation.

I think we pretty much stated we really preferred looking at something like gear control; and that's why we like the idea of the mesh size, controlling a minimum size. I believe our comments in the past were also that you certainly could have both. You could have a size limit of nine inches and you also would have that gear limitation to control the minimum size. Actually that can be effective because you then have a tool that the officer can use both on the water and at the dock.

However, they kind of like the idea of using more or less your gear control as your controlling mechanism. It is certainly a little

easier than measuring eels. In discussing the possibility of adding a tolerance to the minimum size, the response was that it would even more complicate the issue of enforcing a minimum size requirement; and again particularly with a large quantity harvest where you can't look at a percentage tolerance in terms of weight.

They can't do that; and so if you have a situation where there is a percentage tolerance for smaller sizes, essentially the officer has to – and Chief Fessenden can clarify this if I don't get right – but essentially that requires in a stop or if a suspected large number of fish are under that size limit, you basically have to sample that entire catch and determine whether or not they have exceeded their tolerance.

This, of course, adds a great deal more effort and it also complicates the possible prosecution of these cases. They're not really supportive of adding that size tolerance. It would certainly complicate enforcement of the size requirement. There was discussion about the possible aquaculture program. We really aren't able to comment specifically on whether that presents any particular problem for enforcement.

Obviously, we deal with aquaculture issues all the time with other species where there might even be breed stock collected from the wild; but it would certainly necessitate careful monitoring and accountability if glass eels are taken out of the field to be used for brood stock in aquaculture operations. The careful monitoring and accountability would really control whether there would be any enforcement problems or not.

We would really need to keep an eye on that and see if there were any potential impact on export monitoring and control, which is currently being done primarily by the U.S. Fish and Wildlife Service. That would include my remarks unless Chief Fessenden has any further remarks, Mr. Chairman.

COLONEL JOSEPH FESSENDEN: I would just like to restate the fact to the experience we had back last year in Maine in the 2014 season. In 2013 we had 289 elver violations. Most of

those were unlicensed fishermen. This year we only had 39 violations. The steps we have taken and working with our federal partners, certainly the U.S. Fish and Wildlife Service, working with them and working with the states from Florida to Maine, I think we have done a heck of a job getting this fishery under control. I just see enforcement and compliance improving as we go along.

CHAIRMAN O'CONNELL: Thanks, Joe. We do acknowledge and appreciate those efforts in Maine that were briefly summarized by Terry yesterday. Marty, did you have a question?

MR. BOUW: Yes. Regarding the change of size or the tolerance, I think a tolerance would be a bit easier than changing the total mesh size. That would put a lot of fishermen out of business, to start with, for the next five years. You would lose probably about 45 percent of your fishery. As measuring eels, it is quite easy.

You just use some novocaine or clove oil and you knock them right out and they come right back in a couple of minutes. I would suggest as aquaculture, why can't the commission think about why can't they buy the glass eels for the aquaculture; let the state that wants to put the aquaculture in perspective, why can't they say, well, we will match it halfway with the price and buy the glass eels from Maine and give Maine the extra bit of quota. Then you can control it.

If you're going to start going into glass eel fishing in every different state, it is going to be very tough to control. As far as the yellow eel is concerned, I think for what the fishermen are going through right now, everybody shows concern about the stock of the eels. Well, the eels are being in better stock – to be on the water for 33 years and going to the fishermen every year, the stock is better than it ever has been, but the fishermen are not. There are very few fishermen down there that are restarting tomorrow; so I think the commission should really consider to find out what is going to be left of the actual effort in the fishery. It is very important. Thank you.

CHAIRMAN O'CONNELL: Are there questions for the Law Enforcement Report? John.

MR. JOHN CLARK: I just want to comment on one statement that Marty made. Clove oil is not approved by the FDA to use for any eels that would be sold as food; so that is not a way you can knock them out legally.

MR. BOUW: They have the new one. I call it clove oil, but they have the new isoeugenol, yes.

MR. LOREN W. LUSTIG: I would like to express my appreciation regarding the efforts especially in Maine for law enforcement. The numbers that you specified are dramatic; 289 violations the previous year down to 39. I was wondering about the tools that could be specified for how that reduction occurred. I thought about perhaps severity of fines or confiscation of gear or loss of fishing licenses for the next year of fishing. Could you help us understand what tools really helped to make for such dramatic numbers? Thank you.

COLONEL FESSENDEN: That's a good question. We got great support from our legislature. This has been a very public, high-profile issue in the state of Maine. Natural resources are very important to us up there and certainly American eels were in the news all the time. As a result of that, the legislature supported and basically criminalized all violations; significant \$2,000 minimum fines and up to a year in jail. Our commissioner has the authority to suspend licenses. At the beginning of the season we suspended about 15 licenses. Some of these people were high-line fishermen. It certainly got the attention of the fishermen.

In addition to that, it was kind of unintentional on our part, but the Maine Revenue Service got involved in looking at some of the landing reports and taxation issues. Some cases were made by the Maine Revenue Service and it made the news. We worked an agreement with the tribes, with the Passamaquoddy in particular. It made a big difference.

The year before we had a lot of tribal issues. This past season we had hardly any. We didn't have any issues at all with the tribes in Maine. There are four tribes approved for elver fishing. So, a combination of a lot of outreach and working with the industry, a lot of meetings, we were successful. We got support from the courts.

I think it all came together – I know the U.S. Fish and Wildlife Service conducted an investigation. I can't comment on what took place; that is still pending or still underway. Certainly, the Law Enforcement Committee, there was great coordination from Florida to Maine within our committee. Most of the meetings we had; we had a closed session for the meetings and discussed a lot of the enforcement issues. I think we were pretty well unified, especially in New England, but the whole Mid-Atlantic Coast included to be successful in our enforcement. A lot of information going back and forth from the states, and it was quite successful.

MR. JAMES J. GILMORE, JR.: I have a question for Mark. I think a lot of us know what it is like to sample and measure eels and understand under that large number it is almost impossible. If you were to subsample that, is that something that would still be defensible for your enforcement case or is that something that you really make it stick in court?

COLONEL FESSENDEN: What we have done in other species; we have developed a protocol to do subsamples and they're effective. I think at the end of the day if we end up with a tolerance, I think law enforcement needs to get together and develop a protocol for sampling. Certainly, this chemical that Marty referenced is probably something we'd have to use.

REPRESENTATIVE SARAH K. PEAKE: I'm not sure what comments you can offer given your previous comments about ongoing investigations. I, too, applaud the efforts in Maine as a reduction from 289 to 39; but we continue to see in Massachusetts – and specifically on Cape Cod, I'm thinking about since I read the Cape Cod Times daily – a

number of incidents of poaching, people being arrested.

We made efforts in the legislature this year. The governor has just signed into law a bill that updates our fines so the punishment can fit the crime given what the price of the eels are, the glass eels. If things have tightened up in Maine, I guess my fundamental question is these folks who come down to the Herring River in Harwich or in Mashpee and are illegally harvesting these glass eels; where are they finding a market and how do we close that last bit of the funnel, I guess, that these – they must be finding a market someplace.

COLONEL FESSENDEN: It is under investigation by the U.S. Fish and Wildlife Service. This is my opinion; I suspect the market isn't in Maine anymore. Through the swipe card system, you have got to have a harvester be part of that sale and swipe a card. It is a highly controlled system. I'm thinking that there probably is a market outside Maine.

It could be close to the airports where they're shipped. They are exported out of New York, but some of the larger airports, who know, but I suspect that market may exist outside of Maine. That is something that really the federal government and the states within that jurisdiction need to deal with.

MR. WILLIAM A. ADLER: If I may, Joe, other than the license monitoring and taking the licenses away, what other of the possible measures like, I'll just say size limit but I mean any of those is law enforcement able to enforce now other than the license stuff.

COLONEL FESSENDEN: Well, we have a lot of conservation – like, for example, closed periods. We close our fishery two days a week, 48 hours, and certainly that is something that is very enforceable. We have forty or so officers that are out there checking those areas to make sure the nets are open; a very high compliance rate.

We have another regulation – for example, you can't dip for elvers while standing in the water.

That is one of the regulations we have in place. It is as a result of basically the riverbeds getting trampled by a lot of fishermen. For example, our officers are down there and we're monitoring those types of regulations pretty successfully. We've got a lot of stuff in addition to suspensions and fines and all that. There are a lot of conservation laws that have been put in place to protect the resource and protect the property owners and such.

REPRESENTATIVE CRAIG A. MINER: Mr. Chairman, I had a similar, I guess, comment or question as Representative Peake. When I think about the value of the fishery, legally the value of the fishery and then can only imagine the value of the fishery illegally, you almost have to believe that there is a pretty significant export market in this country that we've yet to figure out.

I wonder when the Law Enforcement Committee shares its information whether they've reached the point where even amongst dealers in other states there might be a universal swipe card system where we might get a better handle on what is coming in from outside the country and what is leaving the country because it just seems this is such a valuable commodity that it is worth the risk. That's why I think we saw what we saw just in the state of Maine. I don't know if you have a comment on that.

COLONEL FESSENDEN: When we started talking about the swipe card system, we pulled this together in like six weeks. I was a little leery of whether or not we were going to have a lot of glitches and connectivity and a bunch of different issues, IT issues. There were probably less than ten issues total with the system – breakdown of the system. It is amazing how well it worked.

This next season we're going away from supplemental buyers, which means somebody is buying off a truck or out of a truck, and we're going to require them to buy from a fixed facility so they have connectivity. They have their swipe card up online when they're purchasing elvers, and that should improve the system even more. I am a big believer now in

law enforcement with the quota management by using that type of activity to process some stuff.

It was amazing how effective it was, especially the daily reporting of quota. We have access to reporting records. One of the big changes that occurred in 2013 – prior to 2013 in the state of Maine law enforcement could not look at landings' data unless we had probable cause a violation had been committed. It wasn't available to law enforcement. Commissioner Keliher at the time went to the legislature and got great support from the legislature and gave the marine patrol the authority to look at landings' data.

Actually in April of 2013 – I've been in law enforcement since 1975. I have been a coastal warden for a long time. The first time I ever looked at landings' data in my whole career was in April 2013 and what an eye opening. The harvester and dealer reports were not matching up, way off; in some cases 40 or 50 percent off.

When we got hold of those records and we got a line on those records, we actually hired an investigator in Maine and focused on our landing records. You would not believe the difference in reporting, the improvement that has made. You've got to have good data going in. I think at least for the 2014 season and probably 2013 the data is much improved over what had been going in for the last ten or fifteen years.

That is my opinion, but I really think the fact that law enforcement has access to landing records and takes some time with them and compare them with the dealer records, you can make some cases. Once you make those cases and you suspend those licenses and those people are out of business, that sends quite a message to the rest of the fishermen and dealers to pay attention.

REPRESENTATIVE MINER: I guess the other part of that question was has there been any discussion within the Law Enforcement Community about duplicating that process even in states where there is no harvest potential and yet there is a market? We have lawful markets

in other states that clearly indicate to me that we have that commodity moving.

When I hear Representative Peake talk about some of the issues they have, I think of Logan and Bradley. There are airports in very close proximity to these water courses, movement in and out. Was there any discussion about other states looking at a very similar process even though they don't have a harvest potential they have a market potential?

COLONEL FESSENDEN: Well, we discussed our program a little bit at the May meeting, the spring meeting, at the Law Enforcement Committee. We're going to talk again about it this fall in Mystic. This is probably going to be my last meeting, but I'm certainly a big proponent of it; so I'm going to go over the swipe card system and do a review of it.

I think at the end of the day we need to – on the export of these eels, that has to be electronically tracked, The chain of custody, so to speak, from harvest to export, that needs to be done electronically, and we need to do that with the U.S. Fish and Wildlife Service. They have inspectors. We've been in touch with the inspectors.

They're very competent people; they work hard. I think we could work out a system. It is going to take some time, but I think it can be done. The volume is what gives us a big advantage. We're talking millions of pounds of fish; we're talking thousands of pounds of fish and not huge numbers and big money. I think we can work out a system down the road for export. That is the big case.

REPRESENTATIVE WALTER A. KUMIEGA, III: I just want especially for my legislative colleagues but anybody; as far as the enforcement and if you want the chapter of laws that we've enacted, you're welcome to them. There was a lot of back and forth between wardens in the field and Joe and the legislature as far as things that were contributing to illegal activity that we had to define, like how to make it a crime for somebody who is acting as a

lookout for a poacher to be able to be prosecuted, things like that that cropped up.

We realized there was nothing on the books that could allow that person to be fined. It took a few years to really get this chapter written, but it is pretty extensive. If you want to look at it or you want to copy it word for word, that's fine with us.

MR. WHITE: As you remember, New Hampshire had a tremendous amount of violations in the previous year; and this last year we had zero. Our legislature also raised fines substantially and also a second offense now is a felony. The one issue that we have is the degree of effort has not gone done, so part of zero is the amount of effort that law enforcement is putting into making sure that nothing is going on.

We're still expending a lot of resources to make sure of that. And then a question for Joe; does Maine track the ownership of eels until it leaves the state? In other words, do you track it when the dealer buys it and then if that dealer in turn sells to somebody else; is that tracked in Maine or can someone own eels legally that you're not tracking in Maine?

COLONEL FESSENDEN: Every dealer transaction requires the dealer to provide a harvester list to accompany the sale. It is not done electronically, but there is a list. In the end those eels have to be exported and the U.S. Fish and Wildlife Service is requiring the harvester list to accompany the dealer export.

MR. DAVID SIMPSON: I wondered, Joe, when you were describing the swipe card system, which I think has a lot of merit and a lot of potential in other fisheries; I was wondering how you dealt with or do you have instances where fishermen also act as dealers; and then how do you deal with the sort of cross-check that the fisherman/dealer report system provides?

COLONEL FESSENDEN: Well, we do have dealers that have harvester licenses; and it's a totally separate transaction. They go out and fish and come in and they swipe their own eels.

Those eels have to be accounted for. We have authority to go in and do on-site inspections; and we did a few of those.

We went in and actually weighed out the eels in the tanks that are coming back over the road by truck to make sure they verified those slips that are required to be there with the dealers. It worked well. It is certainly something to discuss. Down the road if it became a problem, I wouldn't be surprised we'd probably make a recommendation to remove the harvester from having a dealer license. Right now it is still legal in Maine. It worked okay.

MR. RICK BELLAVANCE: Mr. Chairman, just for the board's information – I'm putting my ACCSP hat on here for just one second – recognizing the success that Maine had with their swipe card project, the ACCSP is funding through Massachusetts a swipe card project as well to develop software that will be available to all the different partners. The hope is that not just for eels but other species as well, quota-based management, especially small quotas, the swipe card technology will work to make everybody more efficient. I just wanted to pass that along.

MR. DAN McKIERNAN: Joe, I think it is really commendable that you guys have developed this system that is so modern and appears really efficient and effective. I do have one question. Do you think in the long run it may be valuable to have the harvesters recording their information in a logbook that could also be inspected by enforcement? I understand your program, if a harvester doesn't sell the product, that it doesn't necessarily get recorded anywhere; or if a harvester opts to delay selling and waiting for prices to go up, some of those elvers could die and you've lost that.

One of the concerns I have in the long term about the single ticket swipe card system is we lose that second check. In most instances there is no love lost between harvesters and dealers, so you get this two independent datasets that often give you a chance to corroborate what is going on. Do you think that in the long run to really

tighten it up even better, you would consider a logbook?

COLONEL FESSENDEN: Well, actually, we still have a harvester logbook, and they're required to be filed by the tenth of the month. For example, if they fished in April, by May 10 the harvester logbook comes in and in addition to the electronic report that comes in from the dealer. We had a few dozen fishermen that went over their quota – and when I say "over their quota", under two pounds over their quota – and we're investigating those cases.

One of the ways to investigate it is wait for their harvester logbook to come in and compare it with the dealer records. In every case the dealer records were accurate; and at the end of the day the harvester admitted going over 1.25 pounds or whatever it might have been. The harvester logbook is still required, and that is a daily catch. If they hold their elvers, they've got a daily catch report, where they fished, the type of gear they used and all that.

MR. McKIERNAN: If I could follow up, I totally understand that, but I'm suggesting a logbook that is carried at all times; and so you would inspect a VTR. For instance, you and the federal agents inspect the vessel trip report because the boat is coming into port and needs to make sure that they fill that out in real time. It is just that extra layer.

COLONEL FESSENDEN: Well, we were concerned about people holding eels for a higher price; and that happened. That was fairly common. I'm not sure about the loss that resulted as people were holding eels; but the price started out low and went up to over a thousand dollars a pound towards the end of the season and some people did hold eels. That may be a good way to get around that.

CHAIRMAN O'CONNELL: All right, I don't see any other hands up; so we're going to move forward. It was a really good discussion and lot of lessons to be learned that we can apply back in our states with issues like that. The next item on the agenda is consider final approval of Addendum IV.

Before I hand over the chairmanship to Bob Beal, I just want to remind the procedures we're going to use for anybody that came in late. When we get a motion on the table and seconded, Bob is going to try to balance the discussion between those support and those that oppose and give everybody an opportunity to speak one; and if time allows, a second bite at the apple.

In looking at the strategy to get us through the addendum, without any objections I've suggested that Bob begin with silver eels, move down to yellow eels and then glass eels and then the state-specific sustainable fisheries management plans. Based upon the length of these discussions, we may take a break at some point. Any objection with that strategy? All right, Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Thank you, Tom, I appreciate the introduction and setting the ground rules so you look like the tough guy and not me. In addition to the ground rules that Tom gave, I think the public comment is going to be a little bit tricky in that we've had a number of public hearings up and down the coast. Kate summarized that very well, so we're going to limit public comment.

We may allow a little bit after motions are up on the board and the board members and commissioners have had a chance about those, we may allow one or two comments for some of the motions. Most of that depends on the time that we have. With that and following the guidance from Chairman O'Connell, I will go ahead and start with silver eels.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Before I do that, Representative Vereb asked to be recognized to make a few general comments on eel management. Again, welcome to the commission, Representative Vereb, and the floor is yours.

COMMENTS BY REPRESENTATIVE VEREB

REPRESENTATIVE VEREB: Thank you, Mr. Chairman, I'm glad to be here. It is my privilege to represent a suburban district outside of Philadelphia and to have been appointed by the Pennsylvania Speaker of the House to serve as a commissioner with you. It is great to be out of Pennsylvania for a few days with a fractured budget going on.

The decisions today are important for the fishery, the people of Pennsylvania and the citizens of the United States. Regulation comes at an economic cost. If the species were under imminent threat, I could agree additional restrictions would be warranted. The objective data doesn't show me that the population is threatened.

To the contrary, that there are positive signs American eel is continuing to rebuild from 2007 when U.S. Fish and Wildlife concluded that the American eel was neither threatened nor endangered. As many of you have seen, young-of-year recruitment has been strong in recent years with five states reporting record high young-of-year recruitment in 2012 versus only one low.

When eels get access to new habitat such as when dams like the Emory Dam on the Rappahannock are removed or eel passage is developed like on North Carolina Power's Roanoke Rapids Dam, eels quickly expand into that habitat in large numbers. The 2012 stock assessment DB-SRA Model, which is a catch-based model, shows biomass increased 41 percent in the last 15 years.

While the model doesn't address the eel biomass not subject to fishing pressure such as most all freshwater and the majority of marine habitat, the 15-year trend is undeniably positive. Fisheries and Oceans Canada have published a Comprehensive Eel Fishing Atlas which showed that only 6 percent of the most desirable marine eel habitat is being fished in the Atlantic Canada.

Most recently I understand that the 2013 Cote Genetic DNA Study of Eels from twelve U.S. states and five Canadian provinces estimated the number of American eels reproducing each year might be on the order of 50 to 100 million eels. The 2014 Dr. David Cairns' Fisheries and Oceans Canada Population Study estimated just North American Marine Habitat contained over 147 million yellow eels.

With a biomass of over 4,200 metric tons with a ten-year average fishing mortality of only 1.5 percent, I don't see how the American eel could be under imminent threat from global warming. In 2007 U.S. Fish and Wildlife Report noted that the eel evolved 52 million years ago and identified many species-preserving traits, including panmixia. When eels evolved, sea temperatures were 22 degrees Fahrenheit warmer than they are today with no glaciers or icecaps on either the North or South Pole.

As American eel ranges from Brazil to Greenland, it tells me the species is extremely adaptable to different temperatures. Frankly, it seems that if we are concerned about global warming, American eel is one of the last species we should be worried about. Fishing pressure at 1.5 percent of the biomass doesn't seem to be the main issue.

The number of yellow eel fishermen has been declining. U.S. yellow eel harvests have been relatively steady, averaging 940,000 pounds a year for the last 16 years. Maryland's Department of Natural Resources reported that before the Conowingo Dam was built, the annual harvest from the Susquehanna River was approximately 1 million pounds, which exceeds the average annual harvest of the last 16 years for the entire U.S.

Last year this body passed Addendum III, which introduced coast-wide commercial fishing restrictions, raising the minimum size 50 percent, from six inch to nine inch; introducing a coast-wide minimum gear mesh size of one-half inch by one-half inch; restricting fishing to baited pots to essentially eliminate the targeting of spawning silver eels heading out to the

Sargasso Sea to breed; and eliminating the fingerling for pigmented eel harvest.

One small modification to these new rules seems necessary. Since a small number of eels less than nine inches in length cannot escape through a one-half inch by one-half inch mesh and it is not economical to measure every live, squirming eel, there should be a tolerance like that provided for the pigmented eels to be fair to the fishermen and improve enforceability.

The downside of cutting back on commercial fishing is hurting people's livelihood. We cannot regulate in a vacuum. Fishing enables jobs which puts food on family tables and roofs over their heads. It provides American consumers food to eat or a trade surplus if shipped overseas. Fishing also generates taxes for public services, funding for research and funding for this and other regulatory bodies.

We are all here to do the best for our citizens subject to maintaining a sustainable fishery. With no clear species' threat, favorable trends and just one year ago passing Addendum III implementing significant new commercial fishing restrictions, it seems to me the right thing to do is to see how those measures work before adding anymore fishing restrictions, especially if fishing might account for only 1.5 percent of the mortality.

Accordingly, I am in favor of status quo for yellow eel but adding a tolerance for nine-inch minimum size; status quo for glass eels with 2014 management measures; and approval of the fishing-mortality-based plan in Section 3.1.4; to encourage states to reduce overall mortality through providing greater access to the habitat, which is the central issue eel is facing.

Lastly, I would like to thank my proxy to this board, Mitchell Feigenbaum, who could not attend today due to a recent surgery, who consistently demonstrates an outstanding understanding of the American eel industry and eel biology; who is open to communication and consideration to others to share knowledge and opinions and his willingness to recuse himself from votes when asked after a fair presentation

of the facts to the decision-makers and who has also demonstrated to me an ethical and fair-minded approach like that I rarely see in my eight years in legislative service. There should be no question the Speaker and myself fully support my proxy. I thank you for your time and consideration.

EXECUTIVE DIRECTOR BEAL: Thank you, Representative Vereb; and on behalf of the board we want to extend Mitch a speedy and full recovery and send him our best.

CONSIDERATION OF SILVER EEL

OPTIONS

EXECUTIVE DIRECTOR BEAL: Any questions for Representative Vereb on his comments? All right, seeing none, I think we jump in silver eels. We are going to start with that one since it has the fewest options and maybe we can make some progress and feel good about ourselves. That's up to you, Jim, no pressure.

MR. GILMORE: First I'd like to thank Kate for the hearing she did in New York. I'm sure up and down the coast she did an outstanding job with some ornery folks and was very professional, so we appreciate that effort. I think the easiest way to do this is maybe I'll put a motion up; and then if I can explain it, that might be a little more efficient.

We got varying support over the four options, so what we're going to do is try to go with Option 4. **I would move to implement a license cap of nine annual permits for the New York Delaware River Weir Fishery.** If I can get a second to that, I'll explain that.

EXECUTIVE DIRECTOR BEAL: Is there a second; Mr. Stockwell, thank you. Jim.

MR. GILMORE: We went over the numbers and all those public comments; and again we got varying support for all the different options. We back to maybe the intent of the addendum. We looked at the license cap option; and currently

there are sixteen weirs on the Delaware that are not fished every year.

We typically issue for the time period and for the last four years have issued anywhere from twelve to thirteen permits. However, only nine of them have been actively fished each year. This year is not on the chart, but that again it was nine of them that were fished. Again, this is a relatively small harvest. Even though it is classified as a silver eel, many of them are actually yellow eels that are taken.

If you looked at some of the earlier charts, we're looking at a harvest of somewhere in the vicinity of three to six thousand pounds annually. Based upon that and again with the pending listing whatever next year, we decided this would be a good move at this point in time to kind of limit the fishery down to what the active fishermen was. I think that was the intent to maintain that historic fishery but put some controls on it.

EXECUTIVE DIRECTOR BEAL: Questions of the maker of the motion or comments on the motion? Yes, Bob.

MR. BALLOU: To Jim or perhaps Kate, because it was Kate who mentioned during her presentation that under this option the licenses would be transferable; but I don't see that in the addendum. I'm wondering about that and thinking about whether or not that should be part of this motion or not, and I'd like Jim's comments on that.

MR. GILMORE: Well, at the last meeting it was actually listed in the option that they would not be transferable, so we took that out. The understanding was that they would be transferable. We could put that in, but again that was I think pretty well understood that these would be transferable.

MR. BALLOU: So my struggle or the issue that occurs to me is if I understand the core principles of this addendum, it is to reduce fishing mortality; base those reductions on the terminal year of the assessment, which is 2010, and focus particularly on glass and the silver eel

life stages. I believe that is stated fairly specifically in the introduction.

I'm just wondering how this addresses that principle in the addendum; how would this measure with regard to silver eels reduce mortality using the 2010 base year? It looks to me like it sort of locks in status quo. I guess with nine licenses it looks like it is about what it was in 2010; so in that sense it sort of locks things in, but I don't see where the reductions would occur.

EXECUTIVE DIRECTOR BEAL: Jim, do you want to comment on that?

MR. GILMORE: It came from two points, Bob. If you look at the potential harvest, the last few years we haven't had it, but it has been increasing. We have had up to – again, each year we issue twelve, so we cut that by 25 percent, the actual potential fishing that could go on. Secondly, if you look at the magnitude of the fishery; again we're talking a few thousand pounds relative – you start looking at the yellow eel fishery, a million pounds on the coast, so it is very small.

I don't know the best way to characterize it, but it is again a historic fishery that is a very small harvest relative to the coast-wide population. We're thinking of keeping it at nine makes sense. It keeps it at that lower limit. Again, it allows the fishery to continue up until we see more information on, first, the ESA listing; because if that happens, that is going to change the whole plan; and again what is happening in terms of recovery in the fishery, so it seems to be a reasonable approach at this point.

MR. ADAM NOWALSKY: Was there any discussion or consideration for combining that license cap with any time closures as well?

MR. GILMORE: The time closures; we had a lot of discussion on it because if you look at it, it seems very simple in terms of – it was a 50 percent reduction in harvest; but the way the fishery is prosecuted and the way it works actually is very weather dependent. It really

varies quite a bit if you get the wrong weather patterns over year.

Essentially the way it works is that you need the exact amount of rainfall that washes the eels out; so that is why the variability is so much because some years you just don't get the rainfall and other years you do. Quite frankly, if you did what you think is a 50 percent closure by stopping the fishery in September, but you've got all of those rainfalls, you could actually get a much higher harvest. It really didn't seem a way to stabilize the harvest so we didn't go with that.

EXECUTIVE DIRECTOR BEAL: Adam, do you have a follow-up?

MR. NOWALSKY: Yes, I did. And just in terms of the nine licenses, the licenses that were depicted under Option 4 in the addendum where it showed up to nine people fishing, it was those nine individuals? It wasn't a case of from 2010 to 2012. Even though there was no more than nine licenses issued in a year, that wasn't twenty total fishermen over that time period? The licenses were issued to the same people so the intent here is to issue these licenses to those people?

MR. GILMORE: I don't know the exact number, but generally it was the same guys; but remember there are sixteen weirs, so there were some changes in individuals that were in the fishery but there was a core group that are back every year; so there may be a couple of changes each year. Again, the cap will control overall harvest.

MR. McKIERNAN: I have a question on how this silver eel allowance actually is related the yellow eel harvest; because later in this discussion we're going to have some yellow eel catch limits. The particular proposal is for effort limitations on gear; so my question is do the eels that are harvested by these weirs get tallied into what otherwise would be yellow eels?

EXECUTIVE DIRECTOR BEAL: Kate, can you take a shot at that?

MS. TAYLOR: The PDT was aware of that; and for these regulations, the eels would be counted towards their silver eel fishery and not for their yellow eel fishery. I believe that was the determination by the PDT.

MR. McKIERNAN: Even though historically they may not have teased out yellow versus silver in this historical data?

MS. TAYLOR: It was mostly due to the fact they knew where these specific landings were coming from and so it would not be counted to the remainder of the state landings since it was a specific allowance for a fishery.

MR. McKIERNAN: To follow up; does that mean when I look at New York's annual landings, the past silver eels weren't in there?

MS. TAYLOR: That harvest is actually included in there; but that was because it was not possible to tease it out.

MR. McKIERNAN: So why would we add it in the future, then; why wouldn't we include it?

MS. TAYLOR: The board can specify that if they would like that to be included with New York's harvest should they choose a quota management system.

MR. CLARK: I'm sorry, Mr. Chairman, I don't have a question; I have a comment so I'll just wait until the questions –

EXECUTIVE DIRECTOR BEAL: Okay, other questions? Rob.

MR. O'REILLY: This may have been said earlier, I'm not sure, but the table in the addendum goes through 2012; and it indicates eight active licensees. I was wondering about 2013. That may have been something that you said. Then also from Adam's question, this suggests that you would have already had to have landed during that four-year period, 2010 to 2013, in order to be one of the eligible licensees. Are both those something you can let me know?

MR. GILMORE: Yes, Rob, in 2013 we had nine and actually in 2014 we have nine again that were requesting permits, and all of those reported landings.

MR. NOWALSKY: Following up on Rob's comment, the option as specified in the addendum puts in that timeframe. Our discussion has led us to believe that the nine annual permits that we're discussing here would likely be the same people that were permitted in 2013 and 2014; so should we specify here that those nine annual permits would be those that are currently permitted; so that should those people decide to get out of the fishery moving forward, that it wouldn't allow for somebody else to take one of those weir licenses moving forward, or is the intention to allow someone else to take over one of those weir licenses should one or more multiple of existing permittees leave the fishery?

MR. GILMORE: The intent is to allow that transferability. Remember, we have sixteen participants in the fishery; so we'll have to come up with some kind of a lottery system, an annual change to that, so the idea is that we would fix it at nine and they would transferable to other fishermen if they either decided not to fish that year or if they wanted to get out of the fishery.

EXECUTIVE DIRECTOR BEAL: So, Jim, it would not necessarily be the same nine individuals that were permitted in 2013 and 2014?

MR. GILMORE: That is correct.

EXECUTIVE DIRECTOR BEAL: Any other questions? Seeing no other questions, let's go into comments on the motion and try to go for and against. I will start with John; and he will set the pace and we'll see what the next comment will be.

MR. CLARK: I'm opposed to this. I'd rather see us go with the extension of the sunset provision. I realize this is a small fishery; it is a traditional one. I know at our hearing our eelers were like why would you pick on this little fishery; but it is a silver eel fishery. Not only is

it a silver eel fishery; it is a silver eel fishery on the largest undammed river on the east coast.

Being that is the case, I would not like to see this fishery continued. These are indicative of a situation we see with the eels where we seem to have – even though it is all one breeding population, we almost seem to have two different things going on where the eels that stay in the estuaries and marine environment seem to have stable populations while those eels heading up into rivers, the further up they go it seems that we have much more evidence of declines in these populations.

I think, as we've stated in this and Bob mentioned, we really do want to give maximum protection to silver eels. These are eels that we know will escape the Delaware River. They've already silvered up. They've lived their life in freshwater. They will tend to be bigger than the estuarine-spawning eels. I would like to see them escape.

I would think, though, that we do have a nice long dataset from New York, and I wonder if it would be possible under the sunset provision to maybe give a chance to develop something where this fishery could continue as a data-gathering one much as the American Shad Fishery at the Lewis Haul Seine New Jersey operates where the states of the Delaware Basin pay to have that fishery continue just to get the data. I mean there could be something in there given that it is a traditional fishery. I don't know how realistic that is, but just to let these silver eels escape I think is important. Thank you.

EXECUTIVE DIRECTOR BEAL: Is there a comment in favor of the motion on the board? Seeing none; other comments in opposition? Doug.

MR. DOUGLAS E. GROUT: Originally this was an option that I could see myself supporting until the concept that these would be transferable was put in there. That's essentially maintaining the current effort in the fishery. If there was some provision that there was going to be some

kind of decline over time, even if it wasn't immediate, so I'm opposed to this right now.

I could potentially support this if there was some kind of provision where we went down to seven permits or five permits. I know that would put Jim in a difficult position picking who it would be, but at this point I can't support this motion.

EXECUTIVE DIRECTOR BEAL: I'm going to put our technical committee chair on the spot for a moment if Sheila doesn't mind. Can you comment on the value of the data generated by this fishery and the potential future value of that data if, as John Clark suggested, an experimental fishery of some sort were to continue.

MS. EYLER: For silver eel fisheries we don't have much information from the technical committee's perspective for data to look at. This collection method is a source of data that we could use if we were to do life cycle surveys particularly in the Delaware River; and it could provide very useful information.

If this fishery goes away completely, we don't have access to a silver eel fishery either in the Delaware or any other river on the east coast. For fishery agencies to develop a weir fishery or some other effective means to collect silver eels would be very difficult, if possible at all. I think the technical committee could support at least from a data collection perspective like the Lewis Haul Seine Survey something similar to that.

EXECUTIVE DIRECTOR BEAL: Other comments on the motion on the board? Jim.

MR. GILMORE: Just to John's comment; that was sort of like our other option was to look at that extension; and we got into two problems. First off, you realize that with the option we went with, we're going to limit the licenses down to nine. If we go with that other one, it could go back up and it could back up higher, to sixteen, because we didn't have a limit on the number of permits, so we actually could increase harvest with that.

Secondly, what would the date be that you would think we would stop doing this if we keep

kicking this down the road and do this year after year after year? I initially was going to put in that option with a three-year timeframe, but I thought that actually wouldn't do any reduction so that is why we went with the license cap. We thought it would provide some level of restriction in the harvest.

EXECUTIVE DIRECTOR BEAL: Other comments on this motion? Bill Adler.

MR. ADLER: I'd like to ask whether or not if something like this would go along, if there are limits on the nets in there or the limits on the seasons or the time periods that might be reduced with the nine people that are operating and that contributing to some type of a decrease in the catch. I don't know what their rules are in New York on how many nets they can have or when they can fish, but is there a way that if they were allowed the nine that they could cut back on the nine guys or they cut back in another way and thus it would up being a reduction.

EXECUTIVE DIRECTOR BEAL: Jim, can you respond to that?

MR. GILMORE: Again, if you put in the seasonal restriction; a seasonal restriction works if you've got the fish present for that time period and it is present that you can capture it all times. That is not the way this fishery works. It could be not available for several weeks at a time. The seasonal restriction may either kill the fishery or increase harvest, so it doesn't really work for this fishery.

MR. SIMPSON: I'm opposed to this motion. I think every other state around the table on the east coast has made that commitment to conserve silver eels. It is sort of one of the cornerstones of the eel plan. I think we know the experience of making one exception. Right from the eel benchmark assessment fishing on out-migrating silver eels could be particularly detrimental to the stock.

We've been telling each other that for years now. I don't see why we should be making an exception for this one system that may be

particularly valuable. I don't really buy the argument that we should let this fishery continue so that we get the data. On that logic we should all have fisheries that we could get more data. I think that's counterproductive.

I also thought I heard earlier that there was some uncertainty whether what they were catching was all silvers, all yellow, so I'm not sure that there is any intensive monitoring that would provide the silver eel specific data that we're looking for. My preference is to let this sunset and have some consistency up and down the coast on silver eel conservation.

EXECUTIVE DIRECTOR BEAL: I had Bob Ballou and Adam so we're starting to recycle comments and questions, but go ahead, Bob.

MR. BALLOU: I just wanted to note my concerns with this motion as presented and it is for the reasons already stated. It is such a blanket allowance for a continuation of the silver eel fishery; granted, a small-scale fishery; granted, great historic aspects to it. I have seen these weirs and I have seen the operation, so I'm aware of what we're talking about here.

I do feel that if there was just something added that provide for some sort of reduction or attenuation of these captures, I'd be more comfortable with it. That could be issues such as non-transferability of the permits or some sort of a reduction from the 2010 levels; but I just don't see that in this motion. For that reason I'm not supportive.

MR. NOWALSKY: I'm going to make a motion to amend this motion to include that those limited would be those permitted participants that fished and reported landings from 2010 to 2013. If I can get a second and if I can speak briefly to it, I will. Thank you.

EXECUTIVE DIRECTOR BEAL: Is there a second to that motion; Loren, thank you. Adam, go ahead.

MR. NOWALSKY: I think the concern around the table here is that over time our goal with this

provision originally was to allow those who had historically been involved in the fishery to continue to do so. I think that with this amendment it would allow those who have been fishing to continue to do so, but it would give us some confidence that over time, as those people exited the fishery, no one else would then enter the fishery and would then put all the states on a level playing field.

EXECUTIVE DIRECTOR BEAL: Adam, I think Kate has a question just to make sure that we're on the same page as what you're suggesting here.

MS. TAYLOR: Just to be clear, you would actually like it to read how it is actually written under Option 4, the license cap, to those limited who are permitted participants that fished and reported landings during the time period and that those would not be transferable, which that number could originally be higher than nine permits?

MR. NOWALSKY: No, that is not correct. It would move to amend that add the sentence that I did; so it would basically be Option 4 as it exists with a cap of nine. The entire option, if this amendment went through, then the motion to come before the board would read, "Move to implement a license cap of nine permits for the New York Delaware River Weir Fishery, limited to those who had been permitted participants that fished and reported from 2010 to 2013." That would be the intent of the final motion to come before the board.

MS. TAYLOR: And would those licenses be transferable or not transferable?

MR. NOWALSKY: As written, it would not include transferability.

MS. TAYLOR: As it is written, it is not addressed, so it would allow transferability.

MR. NOWALSKY: **I would offer that as it is written on the board without including it, that it would not include transferability; and it would be a friendly amendment to include to my own motion at this point.** Since nobody

else has spoken to it, I think I can still go ahead and change it, if Mr. Lustig agrees, without transferability.

EXECUTIVE DIRECTOR BEAL: Loren, are you okay with that? He is shaking his head yes, so thank you. Jim, go ahead.

MR. GILMORE: Okay, we're back to the last meeting. I may have to rely on some of the comments that were made by our legislator from Pennsylvania. The reason we took transferability out was that we were supposed to try and reduce harvest. If this goes through, we will eliminate this fishery.

It will eventually go away and it will be a 100 percent reduction in this fishery, which I think was not the intent of it. At least if you go back to the original Addendum III and IV, it was reduce harvest and not to eliminate fisheries. I can work with some lower number, but not allowing transferability will eventually end the fishery.

EXECUTIVE DIRECTOR BEAL: I had Leroy and then John Clark. We're commenting on the motion to amend, please.

MR. LEROY YOUNG: I was going to ask Jim basically the same question that Adam proposed here; and that is was the intent that the transferability would only be to those that already have licenses in this time period from 2010 to 2013. Was that your original intent or not?

MR. GILMORE: No, again, this is a generational fishery so they have kids. A lot of these guys are old and they've got kids that are already in the fishery that want to get their permits. Again, it is a small number, but it is still something that is generational.

EXECUTIVE DIRECTOR BEAL: John, do you have a comment on the motion to amend?

MR. CLARK: I don't think I was very clear about explaining when I said allow to go on as an experimental fishery that it would be releasing the silver eels after we had taken data

from them. As I said, I was just using the Lewis Haul Seine as an example of how we've done that. I just thought that this is – as Jim said, it is a traditional fishery. here is great data that could be gotten there; but if we can just do something to ensure that most of those silver eels escape, that would be I think a win-win situation where we're getting data, the eels are getting out and the tradition could continue but in a different way.

EXECUTIVE DIRECTOR BEAL: Other comments on the motion to amend? I think we've talked a fair amount about it. Why don't we have a 30-second caucus and then we'll vote on the motion to amend. I will read it in as the caucus is going on. The motion is move to amend to limit those permitted participants that fished and reported landings from 2010 to 2013, without transferability. Motion by Mr. Nowalsky; second by Mr. Lustig.

All right; does anyone need more time to caucus? All right, those in favor of the motion to amend please raise your right hand; those opposed like sign; any abstentions; any null votes. We've got a null vote from Maine. **The motion carries nine votes in favor, eight in opposition and one null vote. Now we have an amended main motion to tackle.** Are there any other comments on the main motion as amended? I think there has been fair amount of dialogue on that. Tom.

MR. O'CONNELL: Just real quickly; I was just reading through the public comments that were submitted; and really observing the generational style of this fishery, it is concerning that fourth generation children will not be allowed to continue this fishery into the future. I would have rather seen some type of limitation on the harvest than limiting the transferability.

MR. McKIERNAN: I'm sorry if this is off topic, but my previous question I think is relevant. If we approve permits going forward, we haven't discussed what quota they're going to take. I just think it is kind of an incomplete issue, but I'm willing to let the motion be voted on.

EXECUTIVE DIRECTOR BEAL: The board has the option of making a motion that includes a quota should they choose to do that. Dave Simpson.

MR. SIMPSON: I think that's exactly it; that goes to the chase. I don't know how many silver eels we're going to catch with nine permits. It could be a hundred thousand pounds; it could be ten pounds. I don't know and this motion does nothing to regulate that. I would like some assurance. I don't what the number should be; but a thousand pounds, something so we know what the removals of the silver eel life stage may be going into the future.

EXECUTIVE DIRECTOR BEAL: Just for reference, I'm not suggesting this is the right number or anything, but 5,000 pounds has been the average from 2010 to 2012, so that is the ballpark that the fishery has been operating in. I'll move on and, Dave, you can think some more; you look like you're pondering.

MR. KYLE SCHICK: I think at this point in time, since this has not been determined an endangered species, to eliminate a fishery would be premature. I think if we get some reading down the line that the facts have changed and become an endangered species, then I think the situation will take care of itself. I think limiting fishing is important. We already discussed this transferability in the past and we were going to allow it. Now all of a sudden we're changing. I just think that it is too restrictive.

REPRESENTATIVE KUMIEGA: A question for Jim; can this fishery be operated similar to what Maine does with the fyke nets where they harvest X number of days per week and allow passage? Can weirs be left open so that eels can pass like two days a week and you harvest five days a week?

MR. GILMORE: I don't think it will work because, again, it is based upon rainfall events. If you have a lot of rainfall, yes, you will probably get a higher harvest. If you have no rainfall, you'll have no harvest. It doesn't work like that because they've indicated they can go for sometimes in the fall two to three weeks

without a rainfall; and then all of a sudden they get their entire capture in a six-hour period. I don't think that will work.

EXECUTIVE DIRECTOR BEAL: All right, other comments? I think we've talked about this a fair amount. Yes, Adam.

MR. NOWALSKY: I'm not sure how we would consider a quota-based option since this addendum did not propose any quotas for silver eels. It basically focused only on closures and license caps; so I don't know how we could actually consider a specific number here today without having had any comment on that.

EXECUTIVE DIRECTOR BEAL: I've got one hand in the audience. I said we'd go there briefly. We are running tight on time. This was supposed to be the easy one. Arnold, very briefly, and then we're going to vote on this motion.

MR. ARNOLD LEO: Arnold Leo; I represent the fishing industry of the Town of East Hampton. I just want to make the comment that it is very disturbing the lack of flexibility here in this approach, which will end a very small traditional fishery which lands an extremely small percentage of the total eel harvest. I think that it is the wrong way to go to close out small traditional fisheries that are not having a significant impact on the spawning stock. Thanks.

DR. DANIEL: I'm not at all happy with the without transferability language. If we vote this down, can we start over?

EXECUTIVE DIRECTOR BEAL: That's where we would be.

DR. DANIEL: Okay, so we could do something "without transferability" if we vote this down?

EXECUTIVE DIRECTOR BEAL: Yes, I think you're starting over.

DR. DANIEL: I'm in opposition to the motion, then.

EXECUTIVE DIRECTOR BEAL: All right, anyone in favor? I think we need to get back to our parliamentary process here or we're going to be here all night. Representative Miner.

REPRESENTATIVE MINER: I just wanted to clarify it. I think the language now includes without transferability; so to the last speaker's point, I guess he is looking for something that doesn't have that in there; is that correct? I would like to think that there is a way to take what we currently have in this language and demonstrate some reduction in the take. If I understood correctly, the historical data seems to show that there were about 5,000 pounds harvested in that fishery; is that correct?

EXECUTIVE DIRECTOR BEAL: That is the average from 2010 to 2012.

REPRESENTATIVE MINER: And what I think I heard was that data that might be available through this fishery could have great value in what we are attempting to do, which is manage this species, **so I would like to propose an amendment that we put a cap on the amount of the take at 3,000 pounds.**

EXECUTIVE DIRECTOR BEAL: We've got a new motion to amend. Is there a second to capping the harvest at 3,000 pounds; Bob Ballou. Adam Nowalsky commented earlier that the notion of a quota for the silver eel fishery wasn't directly included in the draft addendum. It was referred to under Option 3 the reference level of harvest; so it is probably up to the comfort level of the board whether you think you have a sound understanding of what the public would feel about a quota. As Adam said, it is not a specific question that went out to the public. We're getting bogged down on this one, I think. David Borden.

MR. DAVID V.D. BORDEN: Mr. Chairman, if I understand you correctly, a quota was not included. If it is not included, I don't see how the board can consider it unless they want to send the document out to public hearing again. There has to be some opportunity for the public to comment on this.

While I've got the mike, I would just like to go on the record to say that I'm very sensitive to Jim Gilmore's comments about this being a historic fishery; but I remind everybody that if you read through all of the critiques that we've heard here, particularly Dr. Cadrin's comments, there is sufficient scientific uncertainty with this issue that what we really need is better science to make better decisions.

I'm pretty confident that what is going to happen here is over the next few years there will be a really focused effort to get better science, do better model runs, that type of thing, and all of these issues, including this one, will be back before the board and then we will tweak those management measures based on the up-to-date science. I view almost every action we're going to take today as temporary until we get better science. Thank you.

EXECUTIVE DIRECTOR BEAL: I think everything is temporary, Dave, the way all fisheries management goes. Adam, and then we need to move on.

MR. NOWALSKY: Yes, Mr. Chairman, as a point of order I think it would be appropriate just for the chair to rule clearly for us whether this motion is in order at this point on the 3,000 pounds for us to move forward.

EXECUTIVE DIRECTOR BEAL: I would argue that since it was not a specific question in the public comment document, it probably should not be considered by this board. I don't think there is a good public record on what the public thought about a quota, so I would argue that this is not appropriate. **I would declare this motion out of order; is that more clear? That's clear; all right, we will declare this motion out of order.** We're back to the main motion, which is the nine permits without transferability and it has to be the same folks that reported landings in 2010 to 2013 to get those permits. Dan.

MR. McKIERNAN: Could you explain the consequence of this failing?

EXECUTIVE DIRECTOR BEAL: If this fails, we've got a clean slate and we don't have any guidance for silver eels. I think if the board wants to revert back to Addendum III, which is a closure of this fishery at the end of this calendar year, they should probably make a motion to affirm that decision. Without that, we've got nothing for silver eels right now. Louis.

DR. DANIEL: But, Mr. Chairman, would it be out of order to do the motion and address the "without transferability" issue or would that be considered out of order? I'm just asking because my intent, Dan, would be to make a motion to do exactly what is on the board except omit the two words "without transferability" in order to allow the fishery to continue.

EXECUTIVE DIRECTOR BEAL: I think for cleanliness, your intention is clear. Everyone has heard that. Let's vote on this motion; and if this fails, then we will go directly to Dr. Daniel and we will go from there. Any other comments? Seeing none; a 30-second caucus. I will read the motion while the states are caucusing.

The motion as amended, implement a license cap of nine annual permits for the New York Delaware River Weir Fishery and limit to those permitted participants that fished and reported landings from 2010 to 2013, without transferability. **All right, those in favor of the amended motion please raise your right hand; those opposed like sign; abstentions, two abstentions, the federal services; any null votes. Delaware is a null vote. The motion fails; four in favor, ten opposed, two abstentions and one null vote.** Dr. Daniel, I said I would go to you so you're up.

DR. DANIEL: I would like to make a motion that we implement a license cap of nine annual permits for the New York Delaware River Weir Fishery and limit to those permitted participants that fished and reported landings from 2010 to 2013.

EXECUTIVE DIRECTOR BEAL: Is there a second to that motion; Terry Stockwell, thank you. I think we've talked this out. I'm not sure

additional dialogue will change anyone's mind on how they want to vote on this issue. Kate has a question.

MS. TAYLOR: Just for clarification, Dr. Daniel, is this would any participant have to be someone who initially fished and reported landings from 2010 to 2013 or with the transferability could it go to someone who did not meet that criteria in the future?

DR. DANIEL: The latter.

EXECUTIVE DIRECTOR BEAL: So, Louis, somebody that did not land or did not report down the road would be eligible to have one of these permits transferred to them in the future?

DR. DANIEL: Correct.

EXECUTIVE DIRECTOR BEAL: So the 2010 to 2013 is essentially a limitation on who receives the original nine permits and then we go from there. All right, other comments or needed conversation? Terry and then John.

MR. TERRY STOCKWELL: Mr. Chairman, I just would like to reiterate David Borden's comments. We have a pending listing. We're going to have another stock assessment I'm sure before these participants are finished fishing. This board is going to readdress the measures on all of our life stages within a few years; and I have comfort with this motion on the board.

EXECUTIVE DIRECTOR BEAL: Anyone opposed to this motion who wants to make a comment? David.

MR. SIMPSON: I need to be clear on the point of order thing. First I'll say I thought the quota was in order because we considered a range of alternatives at public hearing from do nothing to close the fishery and limit it to half of that I think or 60 percent of that I thought was in bounds. This one, as I understand it, is the original motion that we amended to include non-transferability. I don't know with that understanding how this is not revisiting the decision to stipulate non-transferability.

EXECUTIVE DIRECTOR BEAL: My thought is that the difference is the original motion did not have the timeframe in it, 2010 to 2013. Any other discussion? All right, caucus, please, 30 seconds. Anyone need additional time for caucusing? All right, seeing none, those in favor of the new motion please raise your right hand; those opposed like sign; abstentions; any null votes, Delaware again. **The motion carries thirteen in favor, four opposed and one null vote.** Anything else to come before the board on silver eels? Dan.

MR. McKIERNAN: It seems logical to me that because the silver eel data appears to lie within the yellow eel data that it ought to come off the yellow eel quota in the future or be part of that. It doesn't make sense for me because I don't think the document talked about having an overall cap on silver eels. It seems like that is where we should get to later in this meeting.

EXECUTIVE DIRECTOR BEAL: If we end up with quota management on yellow eels, let's revisit that issue.

CONSIDERATION OF YELLOW EEL OPTIONS

EXECUTIVE DIRECTOR BEAL: All right, let's move into yellow eels and see if we can make some progress here. There are a number of questions on those motions because I think folks wanted to understand how the fishery worked; but I think we're going to have to stick tightly to the in favor and in opposition to any motion. To get the yellow eel discussion going; are there any motions that the board can focus their discussion on? Tom O'Connell.

MR. O'CONNELL: I move to approve Option 5A and Option 6.

EXECUTIVE DIRECTOR BEAL: Is there a second to the motion to approve Option 5A and 6; Rob O'Reilly, thank you. Tom, do you want to comment?

MR. O'CONNELL: Looking at all the range of options under the quota-based system for yellow

eels, I think Option 5 tries to establish some balance between the historical landings as well as recent landings. It is not the best-case scenario for all states, but I think it is the best balanced option that I can see if the supportive of going with a quota-based management, which does have some problems with administering it. I will note that under Option 5A the total harvest is just a few thousand pounds off from the 2010 landings; and we have already taken some efforts in Addendum III to reduce yellow eel harvest. I will leave it at that for now.

EXECUTIVE DIRECTOR BEAL: Are there any questions specific to what this motion would mean? I think it is pretty straightforward 5A and Option 6 is the payback of any overages. Jim.

MR. JIM ESTES: What reduction did we have with what we did with Addendum III? That kind of would help me know that so I could determine what I think here.

MS. TAYLOR: Addendum III increased the minimum size from six inches to nine inches; so it would just delay the mortality to those larger eels. It also enacted the half by half inch mesh requirement to correspond to that nine inches. We would have to see what that reduction would be, but essentially it would just delay the mortality.

MR. NOWALSKY: I don't have a question. When you're ready to move beyond questions, I am going to move to substitute. If the chair would like to have discussion and questions at this point before we get to that point, that would be –

EXECUTIVE DIRECTOR BEAL: I didn't see any other questions so go ahead with your substitute motion, please.

MR. NOWALSKY: I'm going to move to substitute Option 1, status quo.

EXECUTIVE DIRECTOR BEAL: All right, is there a second to Mr. Nowalsky's motion for status quo; Jim Gilmore, thank you. All right, let's focus our discussion on status quo. Let me

see the hands of folks who would like to comment on the status quo option. John.

MR. CLARK: I think that the quota options that Tom brought up; I worked on some of these with some of the other states and I just think it is very difficult to come up with quotas. I think status quo, the problem there is we don't put any cap, therefore no reduction it. Frankly, I'm not really in favor of anything that is up there right now.

EXECUTIVE DIRECTOR BEAL: That is in opposition to everybody. Anybody in favor of anything? (Laughter) Anybody in favor of the motion that is up on the board? Jim.

MR. GILMORE: Mr. Chairman, a couple of things and they've already been stated. Remember, we're going to have a lot of changes to this. We've instituted that size limit. Once again – and reference menhaden – we're going into quota management without the best data we have. My preference would be to at least do the reductions we have and try to capture some very accurate data over our landings over the next couple of years; and then after the listing comes out and all that settles down, then we can decide what an appropriate is. I have a feeling we're going to be closing fisheries because we really don't have numbers on it. Thank you.

DR. DANIEL: I'm a little concerned about what appears to be sort of a schizophrenic approach here. We just argued in the silver eel fishery that we needed to reduce the harvest; and now we're saying with the yellow eels we don't. I'm trying to make sense of that and that doesn't make a lot of sense to me. I guess as much as I would like to see status quo, it is inconsistent with the intent of the document and what we just did with silver eels.

EXECUTIVE DIRECTOR BEAL: Rob, are you in favor or opposed?

MR. O'REILLY: I'm opposed to the substitute motion. Really, I seconded the motion that is up top, so I'm not going to talk about that right but may have something to do later on as far as a bridge between the two. I have a practical concern about another quota. I can't tell you

how many states are equipped with sufficient harvester reporting.

I realize there will be buyer reporting or dealer reporting for 2015, but this is a process that takes time to develop. Some states do have mandatory reporting, trip tickets, that type of information, and others do not. Another quota could end up along the lines of we didn't know we had that many harvesters, we didn't know we had that many licensees, that many licenses, things that we've heard for other species.

I am in favor of a harvest reduction, but I am wary of what the outcome might be of a quota; but at the same time I think we have to move forward in some sort of step. I'm not ignoring the 2015 September finding that is out there by U.S. Fish and Wildlife Service; and I think we've operated under that premise for several meetings, and so I will speak against the substitute motion.

EXECUTIVE DIRECTOR BEAL: Is there a comment in favor of the status quo motion? Adam.

MR. NOWALSKY: In speaking in favor of the motion, we just went through our Addendum III process with the change in size limit. The goal was to achieve a reduction at that point. We have, as has been discussed in the previous discussion, a number of items that are going to be upcoming that are likely going to cause us to revisit this in the near future.

We also had overwhelming public comment in favor of status quo as well. I think in light of all of those this is the right course of action at this time. I'll just simply also add that with regards schizophrenia on the board in terms of how this may be consistent with the last motions that we did, I would just offer that we were talking about one specific element of the fishery.

It was a very small element of the fishery. I don't think we would be doing anything other than kidding ourselves that element of the fishery was having a substantial impact on the silver eel harvest. I think that issue was more

about just bringing the gear regulations in line with what is going on with the rest of the coast.

EXECUTIVE DIRECTOR BEAL: Anyone opposed to status quo? David.

MR. SIMPSON: Yes, I think through all this process we've been concerned. We expressed concern about the status of this resource and the need to do something to limit harvest or even reduce it.

We've also been advised that what this commission does or doesn't do will weigh in the determination that the Fish and Wildlife Service has relative to listing. I think this would be an unwise move for those who would like to see a fishery continue into the future.

EXECUTIVE DIRECTOR BEAL: Is there anyone on the board that thinks more dialogue on this status quo or not status quo is going to change your mind on whether we should maintain status quo? John.

MR. CLARK: These are very different fisheries we're talking about, the yellow eel fishery and the silver eel fishery. The silver eel, as we mentioned, that's a riverine fishery. That's almost a different subset of eels. The yellow eel fishery is prosecuted in estuarine waters. We have conclusive evidence that these estuarine eels; marine eels do not go into freshwater. They mature at a much younger size. There is not much evidence that there is really a problem with overexploitation of the yellow eel fishery.

Because we did mention that we did want to reduce our overall harvest of yellow eels, I think we can do something. But, when we look at our landings since the fishery's management plan went into effect, we've only gone over a million pounds in the fifteen years that the plan has been effect three times. I think the 2010 landings as a cap on the status quo, which is one of the options in here, would allow us to make sure the yellow eel fishery doesn't grow; but at the same time remove this burden of implementing state-by-state quotas on everybody. It's just my opinion.

EXECUTIVE DIRECTOR BEAL: Let's caucus on the substitute motion, which is for status quo, which would essentially maintain the Addendum III provisions for yellow eel. All right, let's go ahead and vote on the substitute motion. Those in favor of status quo for the yellow eel fishery raise your right hand; those opposed like sign; abstentions; null votes. **The motion fails five in favor, thirteen opposed. We're back to the original motion, which is to approve Option 5A and Option 6 for the yellow eel fishery.** Let me see a show of hands of folks that would like to comment on this motion. Go ahead, Dan.

MR. McKIERNAN: One of the concerns that I have comes from yesterday's discussion where I thought I heard some foreshadowing of the future when some of the states talking about reallocation of fluke quota. We're pretty adamant about wins and losses. I don't want this to happen in American eels because we can manipulate habitat and improve the production of American eels.

I really want it to be on the record that this is not a permanent allocation for a handful of our states that are going to be capped at a 2,000 pound amount into the foreseeable future. Just for an example, if this were to pass, in order for Massachusetts to get from a 2,000 to a 4,000 pound quota, Maryland would get a million pounds from the proposed half million.

I don't think the commission would want to see that. I would like there to be some opportunity for higher quotas without having to expand the entire quota, especially for these states on the lower end. As Jim Gilmore pointed out, a lot of the data collection is really poor. For a state that might only have a few hundred pounds of commercial yellow eel harvest, part of the problem is we think there is yellow eel harvest going on for personal use that may not get into the dealer stream, and so it is not well recorded.

There are two issues here. One is there is underreporting that is problematic; but the other is as we enhance habitat, I would like the states, say New Hampshire and Maine and Massachusetts and Connecticut and Rhode Island that could be capped at some very, very

conservative amounts, to be able to come maybe to the technical committee.

I guess what I'm asking for is would it be possible to get a higher ceiling not on the quota but for, let's say, potential without having to do a full-blown raising of all quotas on the east coast. Could we get a 10,000 pound allowance – we wouldn't go from two to ten until we proved increased passage, you know, habitat enhancement or something. I just don't want to be regretting – I don't want our successors to regret that we have been capped at such a tiny amount going forward forever more.

EXECUTIVE DIRECTOR BEAL: Dan, I think that notion falls more under the state sustainability plans, which is providing evidence your fishery is sustainable and providing evidence of changes in habitat and other conditions that you made to justify a state's quota. In on other ASMFC plans do we have the ability to adjust a state's quota and essentially add fish to Pile A and take them away from State B without the addendum or amendment process. There are quota transfer options in the document as well.

MR. McKIERNAN: Right, but if we were to undergo a massive habitat restoration program like Mike did with one of their rivers, we'd want to be able to go through the technical committee and ask the board for more quota without having to raise the entire east coast quota. That is what I'm getting at.

This is different. This is not a migratory species that is a unit stock and each of us gets our wedge of the pie. This is a species that we as an individual state can seriously enhance the production of the fish in our waters.

EXECUTIVE DIRECTOR BEAL: Well, the way the addendum is written right now, that falls more under the sustainability plan than under these quota management options. I don't think we have the latitude to increase state quotas based on habitat restoration and other things. Under your scenario, without increasing the total quota, your state would receive more eels and

the remaining states would receive less; is that correct?

MR. McKIERNAN: No, only the states that ask for more eels would get it. In other words, if we came in and asked for a 10,000 pound quota in four years because we've taken down a few dams, I would like to have that approved without having to increase the overall eel quota by fivefold, because that's what you're talking about. For us to get to a 10,000 eel quota, how do we get here? Do we have to raise the east coast quota by fivefold?

EXECUTIVE DIRECTOR BEAL: Well, no, I would say if Massachusetts demonstrates under these scenarios – assuming your base level starts out at 2,000 pounds and you make habitat changes to justify your increasing to 10,000 pounds, I think that could be a unique change to Massachusetts should it go through – but it would have to come back through this board. I don't think that necessarily means your habitat improvements affect quotas in other states or total quotas.

MR. McKIERNAN: That's right.

EXECUTIVE DIRECTOR BEAL: Yes. I mean there is always latitude to bring things back to the board through the next addendum process. If your comments are essentially a placeholder that heads-up, we all can affect eel productivity in our states with habitat restoration and we may come back at a later date and ask for some more quota, I think that is duly noted, for sure. Russ, are you in favor or in opposition?

MR. RUSS ALLEN: Opposition. I'm not sure about Option 5 as a whole. I go back to where the subcommittee that we had which developed options for quotas under Option 3, put for those options, and I'm more comfortable with Option 3A and Option 6. We've moved pretty far through the process, so I don't know if that would be okay for a friendly amendment if the maker of the motion and the seconder were into that. If not, I will hear some other comments, but I will probably make a motion to substitute.

EXECUTIVE DIRECTOR BEAL: Rob, I assume you're in favor since you seconded.

MR. O'REILLY: Yes, thank you, Mr. Chairman. I do think a step has to be taken towards harvest reduction. I'm aware there are seven states who have had some magnitude of harvest over the years; and I'm very aware that with the substitute motion that was voted down, that of those seven states there were certainly several that wanted to see the substitute motion pass staying at status quo. I do not favor staying at status quo; but overall I do favor progress.

I still am very concerned about reporting and about a quota and states that really have been challenged by quotas for other species; so it may be that there is something in between a 10 percent reduction and status quo that would sit better with other states not in a compromise manner; but I think that if you look at those seven states, there are probably three different options that would be the preferred option by one or more of those states.

It is not as if we can all line up and say that's our preferred option, so I'm aware of that. I do want to have a harvest reduction at the end of the day. I think we need to be ready for the future stock assessment at the same time. I think we need to be ready for the finding that is going to be provided in September of 2015. I would like to see maybe some other ideas on that motion up there, perhaps.

EXECUTIVE DIRECTOR BEAL: I'm looking for a commenter in opposition to the motion. Dennis.

MR. DENNIS ABBOTT: I have a comment related to Dan McKiernan's earlier comments. Conversely, if we had a coast-wide catch cap and Massachusetts or New Hampshire or any of the New England states having real low numbers desired to increase their quota, then would they have to take that quota from some of the other states who have much higher numbers and resulting in another battle about who is getting what part of the pie?

EXECUTIVE DIRECTOR BEAL: Well, under the catch cap options, it is essentially a coast-wide quota and you catch them when they're available; and when that's landed, you're shut down. If there is more fish available to New Hampshire, your percentage of the total landings would go up, but wouldn't be necessarily an allocation. It is just an opportunity or resulted in a fishing opportunity. I'm looking for folks that support this motion. Tom O'Connell.

MR. O'CONNELL: As the maker of the motion and listening to the board's discussion, I'm getting a strong sense with the purpose of this addendum and the discussion today that keeping the harvest at 2010 levels may not be acceptable. I would like to suggest – I guess I'd have to amend the motion to amend Option 5A to read "Option 5 with a 5 percent reduction".

EXECUTIVE DIRECTOR BEAL: Tom, that is a formal motion to amend?

MR. O'CONNELL: **Yes, and that would put the quota below the 2010 level.**

EXECUTIVE DIRECTOR BEAL: I would rule that in order since it is between the options of no reduction to 2010 and a 10 percent reduction. Is there a second to that motion, the 5 percent reduction; Marty Gary, thank you. Let's focus our conversation now on the 5 percent reduction from the 2010 harvest. Tom, this would retain the Option 6 in the main motion; correct?

MR. O'CONNELL: Correct.

EXECUTIVE DIRECTOR BEAL: All right, thank you. Dr. Daniel.

DR. DANIEL: First I have a question because I had real concerns with 5A, because there are states that actually have their harvest increased. North Carolina saw a 50 percent reduction in their harvest with Option 5A; and that is not good. Am I understanding correctly, Kate, that North Carolina's would be – this motion would mean North Carolina's harvest was 122,000 pounds minus 5 percent?

MS. TAYLOR: Under this option, the North Carolina quota would be the 66,000 number minus the 5 percent.

DR. DANIEL: Yes, look at that table. There are states that increase their quotas by 10,000 pounds. Some have a hundred thousandths of a percent increase. It looks like every single one increases except us; and there is a 50 percent reduction in the North Carolina at Option 5A. I think that is going to cause us some real problems; I mean the commission.

MR. CLARK: Mr. Chair, I think Louis hit the nail on the head with the problem with, first of all, the state-by-state allocations. I think these quotas are just going to be extremely difficult states to manage. If we go to transfers, since a good portion of the harvest comes in the fall and the late fall, it is going to be very difficult for a state to say, well, we have excess quota because they don't know whether their quota is going to be used up by the end of the year. I'm perfectly fine with staying at the 2010 harvest level. I don't think we need to reduce that. I just don't like these quota options. I'm more in favor of a cap. Thank you.

MR. SIMPSON: Could I ask Kate, just to make sure I'm right here; so Option 5A, the total quota is set based on 2010 landings with a little bit of adjustment for a minimum for each state; and then the allocation is based on the three high years of each state from 2004 to 2013; so that is where the difference that Louis is pointing out would come from?

MS. TAYLOR: This 5A option is the weighted quota; so the allocation is based on a weighted average where 70 percent is attributed to the average landings from 2011 to 2013 and 30 percent is attributed to the average of the three highest landings from 2004 to 2013; so that is where that difference comes in, because those two weighted options you add.

EXECUTIVE DIRECTOR BEAL: Bob Ballou, are you in favor or opposed to 5A minus 5 percent?

MR. BALLOU: Opposed.

EXECUTIVE DIRECTOR BEAL: Opposed; go ahead. We'll be looking for someone in favor next.

MR. BALLOU: Mr. Chairman, I believe this might be a question to Sheila. Throughout the document with regard to all of these options there is a sentence that reads the technical committee does not recommend implementing a coast-wide quota above the 1998 through 2010 harvest average, which is 907,671 pounds. Does that remain the technical committee's recommendation? Irrespective of what happened with Addendum III; does that continue to be the technical committee's recommendation with regard to this addendum?

MS. EYLER: Yes; that continues to remain our recommendation.

MR. BALLOU: So my follow is taking that recommendation to heart, I find that there are only six options in this document that would achieve the technical committee's recommendation. They are Options 2C, 3C, 4B, 4C, 5B and 5C.

In addition to that as being a factor governing my position on this issue, additionally I'm concerned about these buffering and weightings and these different formulas that are being applied. It strikes me that Option 4B would be the preferred option because it really doesn't involve much in the way of adjustments or buffering in the way the other options do; so at the appropriate time I would offer that as a substitute motion, Option 4B. Thank you.

EXECUTIVE DIRECTOR BEAL: We can go sort of to the third level; so if you want to amend the motion to amend, you can do that, Bob.

MR. BALLOU: I don't want to complicate things so I'm comfortable allowing this to play out. I'll look to your lead, Mr. Chairman, but I just wanted to signal to the board my feelings on the matter and why I'm going that way. Thank you.

EXECUTIVE DIRECTOR BEAL: Things are plenty complicated so I think we'll just roll with

it. Again, let's comment on the 5 percent reduction from Option 5A. Bob was opposed to the motion on the board; someone that's in favor of the motion. Jim Gilmore.

MR. GILMORE: I'm in favor of the motion and mainly because it is kind of back to when we were trying to do status quo. The data we're looking at is highly variable. Now we're starting to split hairs about if we're getting an increase or decrease, whatever. That's the problem. The data is not very reliable; and if you look at the time series, North Carolina went from a low of 39,000 to a high 122,000. It's all over the place.

I think, Louis, I understand your point; but if you look at your trend, that quota you would get is kind of keeping you at what your relative quota is about the last couple of years; so it seems reasonable on that point. My data is terrible; and I'm looking at I think my 30,000, whatever the hell it is, is below it because I have poor landings. I'm going to have to struggle with that; so at this point I'm willing to support this because at least we can start getting some better data. It is the best we can do at this point in time relative to the landings, which are poor data.

MR. NOWALSKY: I'm opposed. As per my counterpart from New Jersey, we believe another option would be preferable. I believe that this motion on the board right now contemplates a reduction which is substantially different. Before getting into substituting a different option, I think it would behoove us to – even though I'm opposed to this and I plan to make a motion to change the option here; I'm torn, Mr. Chairman, whether to do that now or wait and let this motion go through because it applies this new idea of a 5 percent reduction and whether that's what we really contemplate here. Is it the belief of the board that at this time we're contemplating a specific option or a 5 percent reduction? What is more important to decide right now and what would move us forward do you believe the quickest?

EXECUTIVE DIRECTOR BEAL: Well, I think the board is contemplating the package, the 5

percent reduction and the allocation that's included in Option 5A. If you think a substitute will get us out of this, I'm happy to have it. I think philosophically folks are talking about reductions versus allocation; and everyone is looking at what does this mean to me.

Separating those two things out is pretty tough. I think it's better to vote this up or down and dispense of it with the notion that others may come up with different ideas at the end of this should this not pass. That would be my recommendation moving forward. Rob, are you opposed or in favor? I assume in favor.

MR. O'REILLY: In favor; and one of the main reasons is it brings in recent data from the fishery. Something I haven't heard about, when you look at the haves and have not's running through these options, is should there be an expectation that the effort that has been in this fishery for the last several years is something important when you look at these quotas.

When you dig back to 2000 to 2012, are you really capturing the fishery the way it is now? I think at least for this particular option, the 5A, which has now been halved to 5 percent, you are looking at the current effort in the fisheries, but you're also giving a 30 percent allowance to what happened in the past. I hadn't heard that really expressed before. I'm not sure if the technical committee can respond about that and whether they talked about the importance of the current effort in these quota situations.

EXECUTIVE DIRECTOR BEAL: Any additional comments on the amended motion? Louis.

DR. DANIEL: I don't want to belabor this but to speak to Adam's point, there are other options out there that have a fairer distribution of reductions; and they're not as extreme. I would speak again in opposition to this. Having 2010 as the benchmark that everybody looks at I think is our problem, to Jim's point, but going home with a 50 percent reduction with a lot of other states seeing an increase on that 2010 is going to be extremely difficult to explain. Three provides a much fairer allocation scheme and

distribution. It hits Maryland harder, but I don't know how to get around it.

EXECUTIVE DIRECTOR BEAL: It sounds like Bob Ballou, Adam and Louis are all looking at alternate options. I'm not convinced they're looking at the same alternate options, which makes this a little bit muddy. Tom O'Connell.

MR. O'CONNELL: I look back when we postponed this addendum almost a year ago, I guess, and it was because the options that were available were not treating states fairly, which we're hearing that discussion today. Option 3, which has been referenced – and it sounds like there may be a substitute motion – that would almost half Maryland's harvest from 2011.

We have over 700,000 pounds; so going back home with an Option 3 that is about half of that landings is going to be pretty difficult for us. John Clark and I and the PDT worked hard on trying to find a balance. There is not one option that I think is fair for everybody. If I was looking at Maryland solely, I would be looking at Option 2A.

I think Option 5A takes into account historical and recent landings to not place unfair burden to the fisheries that are happening now. We recently had a paper on climate change and allocations. I think it was at the spring meeting, and it talked about the importance of looking at recent landings. It also talked about the need to reevaluate on a three-to-five-year timeframe, which I'm in support of. **I would ask the board's support for Option 5A with a 5 percent reduction. Thanks.**

EXECUTIVE DIRECTOR BEAL: Any additional discussion on this motion? I think folks know the impact and folks know what will happen should this not pass. We'll get another motion. Go ahead and caucus. **The motion is move to amend Option 5A to read Option 5 with a 5 percent reduction. Motion by Mr. O'Connell; seconded by Mr. Gary.**

All those in favor of the motion to amend please raise your right hand; those opposed to the motion to amend like sign; abstentions, two

abstentions, the federal services; any null votes. **The motion fails; seven votes in favor, nine votes in opposition and two abstentions.** That brings us back to the main motion, which is 5A and Option 6. A number of folks indicated they wanted to make another motion should that fail. I see Adam's hand first.

MR. NOWALSKY: I would like to move to amend to approve Option 4A with Option 6.

EXECUTIVE DIRECTOR BEAL: Motion to amend substituting 4A for 5A in the main motion. Is there a second to having Option 4A – or a motion to amend for 4A; Jim Gilmore is seconding that. As always, I think we have talked about this quite a bit. Folks realize the impacts of these different options. The allocation is different; the overall quota and harvest is different to different states. I don't know if a lot of dialogue on the value of 4A will change anyone's mind. Is there anyone that has to make a comment on 4A? Tom.

MR. O'CONNELL: So 4A would result in a 25 percent reduction for Maryland and would result in a much higher percent reduction from 2011 landings in Maryland. I really don't think that Option 4A is fair. I know it is a better situation for other states, but it is definitely not fair for Maryland given the performance of the fishery. I would ask the board to look at this in a fairer manner across all states and oppose the substitute motion.

MR. WHITE: I'm opposed to this because we're going farther away from the technical committee's recommendation. I support Bob's. We've got to get closer to the technical committee's recommendation and not farther away.

EXECUTIVE DIRECTOR BEAL: The hands in favor of this motion. Dr. Daniel.

DR. DANIEL: Well, really more just a comment. I don't understand the last speaker because both Option 5A and 4A result in a total quota of 983,260 pounds. I'm trying to figure out what is the difference and how we're

moving farther away from the technical committee's guidance by going to 4A.

EXECUTIVE DIRECTOR BEAL: Ritchie, do you want to respond to that?

MR. WHITE: Yes, I was responding to the 5 percent decrease.

EXECUTIVE DIRECTOR BEAL: I heard two comments in opposition to the motion in addition to Louis' question. Any comments in favor of the motion to amend? Bob.

MR. BALLOU: I think Option 4 is the way to go. I certainly appreciate where Tom is coming from. When I look back at Maryland's landings back in the period prior to 2010, Maryland's landings were less than – if I'm reading this correctly – the amount that would be afforded under 4A. So fairness is always in the eye of the beholder and I just want to bring the board's attention to the fact it is not an easy pie to slice up.

I do feel, though – and this is getting to Ritchie's point – that given the technical committee's recommendation that there not be a coast-wide quota that exceeds 907,000 pounds, that Option 4B would be preferable. It would be the same allocation formula, but it would result in total coast-wide quota that would be just under the technical committee's recommendation. Although I'm comfortable with this option; and depending on the way the discussion goes I might be willing to support 4A, but I would be doing so with the understanding that we'd be exceeding the technical recommendation and 4B would therefore be preferable. Thank you.

MR. O'REILLY: I'm opposed on the basis that again this is one of those options that digs into the past a little too heavily; and I'm not sure it is representative of, say, the last three or even five years on a state-specific basis. I think forsaking yield is written all over this option.

MR. CLARK: Even though this is an option that actually would work out for Delaware; I agree that it is not fair. It is not fair to Maryland. As I've mentioned, I just don't think

any of these quotas can be fair to every state. Each time we go to one, you find a state or two states or three states that are not happy with the results. As I've mentioned, I don't see any need to go below the 2010 landings. I think we could probably do that through a cap for the whole coast rather than trying to give states quota. Thank you.

MR. ALLEN: Just to discuss a little bit about recent landings; New Jersey's landings have decreased in recent years due to lack of bait. That has been our major problem; and our fishermen have made that notice to us and others that they can't get horseshoe crabs and it has killed their effort, but the fish are still there.

We feel that an Option 3 or an Option 4 puts us in better tune with what is happening with our fishery more so than looking at the most recent landings, which have gone up in some states because they have the bait and were able to get the eels. I'm in favor of this and moving it forward. I know maybe we could possibly put a 5 percent reduction in there if we need to, if that would help get this through, but I would like to see this move forward. Thank you.

EXECUTIVE DIRECTOR BEAL: Any other comments on 4A as a motion to amend? All right, seeing none, let's caucus; 30-second caucus. All right, those in favor of the motion to amend please raise your right hand; those opposed like sign; abstentions; null votes. **The motion fails; seven votes in favor, eleven in opposition. That brings us back to the main motion again.** Representative Miner.

REPRESENTATIVE MINER: Mr. Chairman, maybe this is not an appropriate observation or an accurate observation, but it seems like what I'm hearing people say is that we're trying to get to a number that demonstrates some conservation without being mathematically punitive to any state. We deal with this a lot in the legislature.

I guess I would ask the staff is there any part of this calculation that could be removed in determining what effect is brought upon one state over another that would level that playing

field somewhat? I think the calculation has a 70 percent component and a 30 percent component. Does changing any one of those diminish the impact to any state that gets penalized?

MS. TAYLOR: It depends on what you are referencing that penalty. Is it the 2010 harvest; is it the 2013 harvest. You have to know what you're referencing against, because the landings do fluctuate greatly on a year-to-year basis.

EXECUTIVE DIRECTOR BEAL: Yes; I think that annual fluctuation in landings is what is making this difficult. When you look back at your high years for a lot of states, there are pretty big impacts for some of these options. When you look at recent versus a little bit later history, there are differing impacts. It is tough.

REPRESENTATIVE MINER: Right, but my question is, is there something that we could look at that shows that if you take one portion of that out of the equation what the effect would be so that around the table, if we look at that number we might come to the conclusion that works.

MS. TAYLOR: Well, for Option 5 it is the weighted yellow eel quota, which 5A here is addressing. The first piece of that puzzle is the highest landing from the period 2004 to 2013, which were weighted at 30 percent. It is somewhat similar to Option 4, which is using the highest relating size from 2002 to 2012.

REPRESENTATIVE MINER: So if I was trying to deal with what I think I'm hearing, if this number became weighted at 70 percent, which might indicate the higher numbers for those that are feeling they're somehow penalized; wouldn't that net the numbers to them to a greater degree and decrease the amount of transfer from states that may have had a higher quota or higher landing number seven or eight years ago?

MS. TAYLOR: Without doing the math, I wouldn't be able to answer that question.

DR. DANIEL: Let's talk about this for a minute. I just can't accept the increases. That's

where I'm having difficulty from the 2010 number. If we were to base our allocation on the 2010 number alone, then there are no increases; and we reduce that by 5 percent and we end up with a quota that is less than Option 5; so we'd have a quota that's 5 percent less than 978 and it maintains relatively what appears to be – for some reason they've used this number 2010; and we've got ourselves in a box here where we're showing folks with huge increases in their quota and other states with huge reductions in their quota. If you just rely on 2010; is that fair and equitable and does anybody look at the 2010 landings and say that won't work for me and you're not getting a huge increase? That is one way to do it.

MR. O'CONNELL: Just to Louis' point, in regards to trying to buffer against increases, that was one of the bases for Option 2A, Option 2, where we tried to establish those buffers – just to point out that option is available. It is the best option Maryland, but I was looking for an option that would satisfy some other states but obviously it doesn't satisfy everybody.

EXECUTIVE DIRECTOR BEAL: All right, we've got a motion on the board for 5A. Some folks obviously have some concerns about that. It seems like any of the options we select we can't make a majority of the board members happy to get a motion passed with a lot of the options that are in here, and it puts us in a spot. Louis, do you have a suggestion? You obviously said 2010 is something that seemed reasonable and Tom has some concerns with that. I don't know if there is a hybrid option that we can come up with on the fly. Would a five-minute break so we can put some heads together?

DR. DANIEL: Well, I'm just asking if there is concern from anybody taking that approach because it actually results in a lower coast-wide quota. It gets us closer to the technical committee's recommendation that I think Bob has mentioned twice. It is a 5 percent reduction over the 2010 landings. It is less than the 5A option. It is less than all the other options and it doesn't result in any huge reductions. If I make that as a motion – I mean maybe I can make that

as a motion. I'll do it. I amend the motion to do just that; and if I can get a second, then we'll have discussion about it.

EXECUTIVE DIRECTOR BEAL: Can you articulate your motion?

DR. DANIEL: I move to base quotas on 2010 as reduced by 5 percent for a total allowable quota of – somebody with a calculator do the math, please – of 978,004 pounds reduced by 5 percent. Yes, that would be your argument. You would get two pounds as opposed to 2,000.

EXECUTIVE DIRECTOR BEAL: All right, Louis, that number is 929,104 pounds.

DR. DANIEL: That is real close to 907, Bob.

EXECUTIVE DIRECTOR BEAL: All right, we've got a lot of hands now. Is there a second to the motion; Rick Bellavance, thank you. Kate has a question and then we'll go the board members.

MS. TAYLOR: Would you still like to see the 2,000 pound minimum in there or would that not be considered?

DR. DANIEL: Yes; give them the 2,000 pounds if that will get them to vote for it. No, the 2,000 can come out of the 5 percent reduction to give folks some flexibility.

EXECUTIVE DIRECTOR BEAL: So no state will have less than 2,000 pounds, but no state will receive less than 95 percent of that 978 number based on their allocation?

DR. DANIEL: Yes.

EXECUTIVE DIRECTOR BEAL: Okay, so it will actually not achieve a full 5 percent reduction but pretty close to it once we do the 2,000 pounds for everybody.

DR. DANIEL: Correct.

EXECUTIVE DIRECTOR BEAL: All right, got it. I've got a lot of hands up. Dan.

MR. McKIERNAN: This seems to me to be the kind of mistake that the board made during the early fluke allocations on the recreational harvest. If anything, because the recreational harvest targets were based on one year, the board created many, many years of conflict between New York and New Jersey. It is the same mistake. You have to average out the years; and I think it is more appropriate to use the options where the years were averaged. I think this would be a mistake.

EXECUTIVE DIRECTOR BEAL: All right, we're going for and against. That was clearly against. Is there a hand in favor of the motion to amend? I'm not seeing any other hands in favor. As I've said a couple of times here, we're talked about these things to death. You guys know what the allocation impacts are and you know what the overall quota impacts are.

Is there any value in continuing discussion on this motion to amend? All right, seeing none, I will read the motion in while the states caucus; so please caucus. Move to amend to base quotas on the 2010 harvest as reduced by 5 percent for a total allowable quota of 929,104 pounds with a 2,000 pound minimum allocation added.

Motion by Dr. Daniel; seconded by Mr. Bellavance. All those in favor of the motion please raise your right hand; those opposed like sign; abstentions; null votes. The motion fails, six in favor, twelve opposed. We're back to the main motion of 5A and 6. I'm not sure if that is going to get anymore traction or not. John.

MR. CLARK: **Bob, could we move to amend and consider Option 8A, which is a catch cap based on the 2010 harvest level.** As we've seen, we can't find any reference period that works for every state at the table. I know there are problems with implementing a cap, but I figured at least at the beginning the board could use that as sort of an upper limit that we want to see the catch go to. If we can't stay under that, we can further action. At this point I don't think any of these quotas are going to work for enough states to get passed. Thank you.

EXECUTIVE DIRECTOR BEAL: Is there a second to that motion; Representative Kumiega, thank you. All right, comments of a notion of a catch cap for the entire coast versus state-by-state shares? Russ Allen.

MR. ALLEN: I would be against this motion. Being in the northern part of the region, I have a feeling a lot of our eels are caught in the fall and this would just kill us. It would just knock us right out. I'm sure that other states that have talked about how they're catching a lot eels in recent years – unless we had some portion in there that said New Jersey can at least get this many eels, I don't see this working for us at all.

EXECUTIVE DIRECTOR BEAL: All right, can I see a hand for a comment in favor of a catch cap? All right, we're in a spot. Seeing no hands that want to comment in favor – Dave Borden.

MR. BORDEN: I'm not in favor.

EXECUTIVE DIRECTOR BEAL: Go ahead and comment, David, if you can get us out of this mess.

MR. BORDEN: Mr. Chairman, I'm not in favor of this motion. Number one, it is going to promote a derby. Number two, any of the northern New England states will be disadvantaged by this. The gentleman just made the point from New Jersey. Unless you set a portion of this quota available to the northern New England states at a specific date, it will all be caught up by the time our fishery starts. Thank you.

EXECUTIVE DIRECTOR BEAL: So we're back to the main motion; actually, no, we do have the motion to amend, John's motion. Let's vote on the motion to amend and then we may regroup after that. Is there a need to caucus? All right, seeing none, those in favor of the motion to amend, Option 8A, please raise your hand; those opposed like sign. I think that was all of them so no abstentions and no null votes, I assume. **All right, the motion fails; two in favor, sixteen in opposition.** Mr. Abbott.

MR. ABBOTT: We seem to be stuck in an endless loop here that is not going to go anywhere. What can we do – I hate to say we should postpone this, but there is no sense in postponing it on the hand if there is no way of getting out of this dilemma. I will ask would it be worthwhile to postpone action on the rest of this amendment until the fall meeting if there is a possibility of coming up with something that is more acceptable to the board?

EXECUTIVE DIRECTOR BEAL: Dennis, what I was going to suggest is a five-minute break since we've been going since 8:00 a.m. and it is 11:20. I was going to talk to the chairman of the board, chair and vice-chair of the commission and we're going to regroup after that, if that is okay with folks around the table. David, do you have a comment before we take that break?

MR. BORDEN: I totally agree with what Dennis just said. I think there might be merit in it. The only reason I say that, I'm not one – I mean those of you that know how I behave down here; I'm not one to postpone action just to drag things out. I'd rather get on with making a decision generally; but it seems to me that there is a lot in play here.

You've got this American Fisheries Society deliberation that's going to take place. There is a possibility there is going to be a lot of new information that is going to be put on the table. Personally I have some serious reservations about the science; and I think some of those reservations will get clarified at those meetings.

I think there is some merit in what Dennis just proposed just because of those discussions. The point that I wanted to raise before we take a break is we're struggling with this, I think, because we've got to reconcile the position of do we want to adhere to the technical advice? The technical advice before us is to cap the landings at 907,671.

Every time we put an option on the table, there are some people that are voting against that option because it exceeds the technical advice; and so it's almost impossible to get a consensus

on this issue. Maybe when we come back we should have a focused discussion of do we want to adhere to the technical advice or not; and if we do, then that is going to eliminate a whole bunch of the options on the table. Thank you.

REPRESENTATIVE MINER: Mr. Chairman, I'm not going to offer this in terms of a motion, but I think if we could focus on Option 5A with a 10 percent reduction in 2010 landings and consider language that says something like no state shall lose more than 25 percent of 2010 allocation – I suspect that buffer is the concern that I'm hearing from some – and still gets closer to the number which the technical committee recommends, which is 978 minus 10 percent. I don't know whether you can run some numbers there and figure it out, but I think that kind of gets you where you need to be.

EXECUTIVE DIRECTOR BEAL: I will see if Kate can do a little spreadsheet magic while we're taking a break and we'll see. Let's take a break; and if Louis, Doug and Tom O'Connell could come up front and we'll chat and we'll figure a way out of the woods here.

(Whereupon, a recess was taken.)

EXECUTIVE DIRECTOR BEAL: Let's have the Eel Board come back to order, please. We'll regroup and try to explain where we are. Thank you for indulging us for that break. We just had a sidebar conversation, which I think was productive. What the leadership has decided to do is take one more crack at the yellow eel fishery. If there is not a motion that's put up and passes right now, we're going to push that back and form a working group that's going to tackle this issue between the two meetings.

We're going to take one more shot at yellow eels and then we'll decide how we can tackle the glass eels. We are pinched for time and I don't want – clearly, the glass eel fishery is a big deal and it is important to a lot of people. I don't want to have that discussion hurried through and folks just voting because they're plane is coming or something like that; so we're going to have to figure that out. First of all let's see if we can

make some progress on yellow eels and I'll go from there. Anyone have a motion? Tom.

MR. O'CONNELL: I would move to amend Option 5A to be Option 2 with a 15 percent reduction. If I can get a second, I'd like to comment on that.

EXECUTIVE DIRECTOR BEAL: That is the hybrid between 2B and C, the 15 percent reduction. Louis, is that a second?

DR. DANIEL: Yes.

EXECUTIVE DIRECTOR BEAL: All right, Kate is doing the math right now to determine what that overall quota would be and we can report that out in a moment. Tom, if you have any rationale, that would be great.

MR. O'CONNELL: I think we've spent over a year on this yellow eel issue; and I don't know how much further along we're going to get with a workgroup if we punt it. I know several of us looked at a wide variety of spreadsheets and weighting averages for historical and recent; and there is not one that fits all states.

Option 2 was established to provide states with a minimum of 2,000 pounds. It doesn't allow any state to receive more than a 10 percent increase from its 2010 landings nor does provide any state more than a 15 percent decrease from 2010 levels. Option 2 was intended to try to level the playing field; and with a 15 percent reduction – and Kate is calculating that – I think it is going to get us at or slightly below the technical committee's recommendation. Thank you.

EXECUTIVE DIRECTOR BEAL: Comments on this motion? David.

MR. BORDEN: I have a question on the specifics. Tom, are you working off of Table 5? What table are you working off of?

MR. O'CONNELL: It's Table 5 and so the numbers would be somewhere between Option 2B and 2C with a 15 percent reduction.

MR. BORDEN: But you just said that no state would suffer more than the 15 percent reduction; is that what you said? What did I miss?

MR. O'CONNELL: Kate can correct me if I'm wrong, but on Page 17 it says that no state or jurisdiction is allocated a quota that is more than a 15 percent reduction from its 2010 harvest and no state is allocated a quota that is more than 10,000 pounds above its 2010 harvest.

EXECUTIVE DIRECTOR BEAL: David, I think the notion is that the percent shares that are used to allocate the quota under Option 2 or the shares were established based on those buffering guidelines, the 10 and 15 percent numbers. Then those state shares will be applied to a 15 percent reduction of the overall quota. Does that make sense?

Coastwide the total quota is going down 15 percent; but the share that each of the states receives will not be – it is buffered so there are not big losses or gains. All right, other comments on 2A? Kate is going to put up what this would mean, but comments while that is coming up. Louis, do you have any background that you want to provide?

DR. DANIEL: No, just I think this is the best compromise we can come up with. I seconded the motion and support the motion and really don't want another working group.

EXECUTIVE DIRECTOR BEAL: Fair enough. Jim Gilmore.

MR. GILMORE: Let me just state this clearly. As I said before, our data is terrible. We know our landings are well above 13,000 pounds. This is the worse deal for New York. If this gets voted up, the states that make out on this – and I think as we had a very low number, I think North Carolina had an excessively high number. We are only going to keep our fishery alive if we're going to be getting transfers from those states that make out on this. I'm a little neutral-like right now, but this obviously is the worse option for New York. We lose big on this unless we get a lot of cooperation from the other states.

MR. BALLOU: I just want to point out that what you just said in response to Dave Borden's question doesn't jive with what the draft addendum says with regard to Option 2. It says that with regard to Option 2 no state or jurisdiction is allocated a quota that is more than a 15 percent reduction from its 2010 harvest.

If you then look at the table, Rhode Island's 2010 harvest was 4,642 and its allocation would be 2,000 pounds. That is a lot more than 15 percent reduction; so there is something not quite right there, and I just want to point that out.

EXECUTIVE DIRECTOR BEAL: Fair enough. Adam, you had your hand up.

MR. NOWALSKY: I think the substantive element of this is a 15 percent reduction. I think that we went through a public comment process that was overwhelmingly in favor of status quo or something less. We had three-plus hours of discussion this morning where there was nothing discussed beyond one of the B options, which was a 10 percent reduction.

Now after a five-minute break, we're going to a 15 percent reduction; the most extreme discussion we have had at any point during this morning. To do that in the face of the public comment and to go home and explain how you have three hours of discussion that contemplated nothing more than 10 percent and now do a 15 percent reduction. I don't see how we could walk out of here and look at the people in the back of the room and say we're making the best decision that we can at this time. I'm staunchly opposed to this.

EXECUTIVE DIRECTOR BEAL: I meant to make one other comment at the beginning or following the break is that Representative Vereb had to head back to Pennsylvania; and he has assigned Doug Huntley as proxy and he has filled out the necessary paperwork. Doug is sitting in for the rest of the meeting. Louis.

DR. DANIEL: To that point, I understand, Adam, what you're saying; but after listening to Dave Borden's discussions and after talking to

folks at the break, I think everyone should feel – I mean, what do we do when we're in that quandary between what the public is asking for and what the technical committee is asking for? That is the reason.

I feel very comfortable now that we're meeting the technical committee's recommendation, and that is our first and foremost responsibility in my mind and opinion. Yes, I'm disappointed that we have to take a hit, but that gets us consistent with the technical committee's recommendation and in the face of a listing of endangered species. I'm looking at a 15 percent reduction in hopes that will secure a finding of not to list these things as opposed to a hundred percent reduction if they do.

EXECUTIVE DIRECTOR BEAL: I've got a number of hands on this side. Rob O'Reilly.

MR. O'REILLY: I understand we're all hoping to resolve this, but I didn't hear any debate or comments or discussion on what Dave Borden had mentioned about the reference to the technical committee; and is that really the objective primarily? We didn't talk about that; that's fine. This is going a little too far.

Virginia, just to speak about my state, would have been very happy with 2A. That didn't even get motioned earlier. We went into 5A. I seconded the Maryland motion; and this just takes a little too far. It obliterates all the efforts, whether they're good or bad, to engineer fairness. Frankly, the original tables we had last year I thought were pretty good; and to arrive at a meeting subsequent to that to find out there had been a workgroup that formed new tables and there were new options and everything else. I don't know how long it goes on, but I think we need another leg of this situation to carry forward, because this is not satisfactory.

EXECUTIVE DIRECTOR BEAL: Is there a commenter in favor? Dennis.

MR. ABBOTT: Mr. Chairman, I think that we should be paying as much attention to the technical committee as we can at all times. That becomes the most important thing. I remind the

folks that regardless of what we hear at public hearings; the public hearings, the information that we get there may not be truly reflective of where we should go. I use an example of horseshoe crabs. I remember we had like 25,000 comments in one direction. We probably had several handfuls in the other direction, but we didn't follow the 20-some thousand because there was a bias – not a bias there; but again we have to look at sound science at the end of the day.

MR. CLARK: Mr. Chair, I agree with Adam and Rob. I don't think this option works out well. I don't understand all of a sudden – after the silver eel discussion when we pretty much ignored the technical committee's advice, all of a sudden now the technical committee's word is something that has to be followed to the letter.

Since the recommendations came out, I think we've seen some good signs especially in the estuarine areas where the eel fishery is prosecuted that this population is in good shape. I don't see the need to take this 15 percent cut. As with every other one of these quota schemes, there are states it does not work for. Thank you.

EXECUTIVE DIRECTOR BEAL: Any comments in favor? Doug.

MR. GROUT: I'll make one last push for this type of a motion. I know this is a difficult task for a lot of the states here. We do have a stock assessment that says we need to take a reduction in harvest in all life history stages because of the depleted status. As has been mentioned, we have a potential listing of these eels; and I cannot agree with any of the comments that I've heard that this eel population, based on the best science, is in good shape.

Our science right now is showing very differently; so I think we've got to, as a commission, take the bull by the horns here and try and come up with a reduction in the yellow eel harvest that will attain at least some reduction in yellow eel harvest. This gets at what the technical committee is recommending. It tries to buffer the reductions as much as you can when you're taking a reduction. I really

hope this board will pull up their straps and try and move forward with this option. I support this option.

EXECUTIVE DIRECTOR BEAL: Any other comments that was in opposition? Mr. Stockwell.

MR. STOCKWELL: This option and a number of the other options that we have voted against has only been because we've been listening to the many comments made by the states that are being most impacted by the measures. I feel this motion is just we're throwing something at the wall at the end of the morning that might stick; it might not.

Dave Borden had a suggestion about deferring final action until October. That is sounding more and more reasonable to me. I'm extremely concerned that the time period that we have; there is very limited ability for the board to address the elvers, which has been to me what the focus of much of Addendum IV has been all about.

The motion I have prepared for glass eels has got seven components, each of which is going to be or could be potentially somewhat controversial. I don't want to rush through it and ruin months and months of work on the part of the technical committee, this board, industry input and come up and make a bad decision on the end. My preference would be to defer action on yellow eels and glass eels until the October meeting. Whether or not a working group is a good idea or not, I don't know, it is not our fishery, but I would support this board regrouping and coming back and making a good decision and not just a decision because it is quarter of twelve.

EXECUTIVE DIRECTOR BEAL: That's fair commentary. What is the pleasure of the board? I think there are some folks in favor of this and there are some folks clearly that have expressed concerns. I think at a minimum, Terry, it might be a good idea if we do at least introduce some of your notions on glass eels and to have that sort seed planted if you think that is appropriate moving forward, but we have to figure out what

we want to do with this yellow eel issue before then. Then we can talk about glass eels. Dr. Daniel.

DR. DANIEL: We just have a lot of disagreement around the table. I agree with Doug's comments in regard to the status of the eels. We're facing a listing. That is serious business. When you start developing your ITP for sturgeon, you will see how serious it is. We've got a technical committee that we all love and support that has recommended a 907,000 pound quota. There are going to be a lot of people, as Dave said, that are not going to vote for motions that exceed the technical committee's recommendation; and I applaud them for that.

I think it is our responsibility to take their advice. If this motion fails, we will develop a working group and regroup and come back in October. If we do that, I would like for that working group – I think we need a motion with a roll call vote that indicates whether or not we support have the working group working only on the 907,000 pound quota, which is the technical committee's recommendation. That would be my suggestion.

EXECUTIVE DIRECTOR BEAL: All right, based on what I've heard, how about this as a plan moving forward. I will ask the board to vote on this motion to amend. Should it pass, we can then vote on the main motion. If that does not pass, we will form a working group to tackle this problem between the two meetings.

I think it is fair to at least give the working group the input from the board of whether they should or should not set the maximum quota at the technical committee's recommended number. I think that is what David Borden has said; and I think Doug and Louis and a number of others have commented that we're mixing a number of things, total quota, allocation and all these different things. I think that is what is confounding the board at this point.

Then depending on the outcome of those two discussions, then I will ask Terry if he wants to introduce any of his ideas on glass eels. If he

doesn't, that's fair and we can talk about that for a little while. We do have a lunch at 12:15.

We can regroup after that if you want, but the South Atlantic Board has some work to do and I'm not convinced this board is going to get a whole lot farther today with a whole lot more time allocated to this. With that game plan, let's go ahead and caucus on the motion to amend, which is Option 2A with a 15 percent reduction. Dennis; question over the game plan?

MR. ABBOTT: Not really, but I'd like to request a roll call on the next vote.

EXECUTIVE DIRECTOR BEAL: Roll call on this motion to amend? Thank you, Dennis. Adam, do you have a question about process?

MR. NOWALSKY: Yes; would you want to give the public any opportunity at this point? We have kind of surpassed most of that today, but I think this is pretty substantive; and a lot of people have travelled a long way at this point.

EXECUTIVE DIRECTOR BEAL: That's probably fair. Are there folks in the audience that want to comment on the yellow eel fishery only, on this motion to amend? Really, where should the yellow eel overall quota be set and allocation? Anyone in the audience have comments on yellow eel; only yellow eel?

All right, seeing none, we've worn them out, too, Adam. **I will read the motion and states caucus, please: Move to amend Option 5A to 2A with a 15 percent reduction.** Motion by Mr. O'Connell; second by Dr. Daniel. Is there a need for additional time to caucus? Seeing none; Kate, roll call, please.

MS. TAYLOR: Maine.

MAINE: No.

MS. TAYLOR: New Hampshire.

NEW HAMPSHIRE: Yes.

MS. TAYLOR: Massachusetts.

MASSACHUSETTS: No.

MS. TAYLOR: Florida.

MS. TAYLOR: Rhode Island.

FLORIDA: Yes.

RHODE ISLAND: No.

MS. TAYLOR: Fish and Wildlife Service.

MS. TAYLOR: Connecticut.

U.S. FISH AND WILDLIFE SERVICE:
Abstain.

CONNECTICUT: No.

MS. TAYLOR: National Marine Fisheries
Service.

MS. TAYLOR: New York.

NEW YORK: Null, n-u-l-l.

NATIONAL MARINE FISHERIES SERVICE:
Abstain.

MS. TAYLOR: New Jersey.

EXECUTIVE DIRECTOR BEAL: **The motion fails.** We've got six in favor, nine in opposition, two abstentions and one null vote.

NEW JERSEY: No.

MS. TAYLOR: Pennsylvania.

**FURTHER ACTION AND GUIDANCE ON
ADDENDUM IV**

PENNSYLVANIA: No.

MS. TAYLOR: Delaware.

EXECUTIVE DIRECTOR BEAL: That brings us to the point and process where I was hoping we could get a signal from the board to the working group. Dennis.

DELAWARE: No.

MS. TAYLOR: Maryland.

MR. ABBOTT: **Well, I'm not sure about that, but I would like to make a motion to postpone further action on this addendum until the October meeting.**

MARYLAND: Yes.

MS. TAYLOR: D.C. (No response) Potomac
River Fisheries Commission.

POTOMAC RIVER FISHERIES
COMMISSION: No.

EXECUTIVE DIRECTOR BEAL: In its entirety, so it would be glass eels, yellow eels, the whole deal?

MS. TAYLOR: Virginia.

MR. ABBOTT: Yes.

VIRGINIA: No.

EXECUTIVE DIRECTOR BEAL: Fair enough. There is a second by Terry Stockwell. Dennis, would that include not getting a sense of the board or sort of direction to the working group on should they consider only options that achieve the technical committee input or would you rather have the working group consider essentially everything is fair game to them?

MS. TAYLOR: North Carolina.

NORTH CAROLINA: Yes.

MS. TAYLOR: South Carolina.

SOUTH CAROLINA: Yes.

MR. ABBOTT: I think after several hours I'm not sure what I would want to recommend. I

MS. TAYLOR: Georgia.

GEORGIA: Yes.

would leave it to you folks to decide what we should be doing.

EXECUTIVE DIRECTOR BEAL: I think there have been a lot of different working groups and other folks have looked at this. We may need to put a little bit of sideboard on it for the working group in fairness to them.

We've got a motion to basically push everything back until the October meeting because folks have put a lot of time into that this morning. Any comments on the motion to postpone until the annual meeting? David Borden.

MR. BORDEN: Mr. Chairman, I can vote for this; but I think if we really want to make progress, we're going to have to have a focused discussion on do we want to meet the technical advice or not. If we want to meet it, we should direct the subcommittee to craft the options to meet that guidance; that's all. It will simplify the subcommittee's task greatly. Thank you.

EXECUTIVE DIRECTOR BEAL: Simplification sounds good. Representative Miner.

REPRESENTATIVE MINER: Mr. Chairman, I would agree with that comment; and I think it would be a mistake for us to leave today without have offered that kind of advice to the working group. I just get a sense that somebody is going to look at this and recognize that we're going to go another three months or whatever it is without any clear direction.

I think if we all knew and they all knew that we were working toward at least a goal of a certain number; how we get there is probably less significant. I don't know whether this could be amended. I'm not even sure it is amendable; but if it could be amended in such a way as to provide that guidance, that is what I'd like to do.

EXECUTIVE DIRECTOR BEAL: What is the pleasure of the board?

MR. STOCKWELL: Separate motion.

EXECUTIVE DIRECTOR BEAL: Separate motion; so we'll vote on this motion with the understanding that after this motion we'll have a discussion on what guidance we should give to the working group; and then we probably need to talk about who is on the working group. With that, is there any opposition to taking that course and postponing any other action until the annual meeting in Mystic, Connecticut, the last week of October? Tom.

MR. O'CONNELL: I'm just curious if we delay action until the last week in October the states' ability to implement rules for 2015; and recognizing if we're doing the quota-based system it may require a little bit more work on the state end.

EXECUTIVE DIRECTOR BEAL: I'm not sure of the implementation timelines for the states, but that is something to consider, probably. All right, with that consideration, is there any opposition to waiting until the annual meeting to give the final answers for yellow and glass eels? Tom is the actual board chair, but I think it makes sense not to go back and visit silver eels if we can avoid it because that took the first two hours. **With that, I don't see any opposition to postpone until the annual meeting.** Is there a motion to provide any guidance to the working group? Doug Grout.

MR. GROUT: I would move to give them guidance with the yellow eel quota and that it meet what the technical committee's recommendation was.

EXECUTIVE DIRECTOR BEAL: Is there a second to that motion; David Simpson, thank you. Comments on that motion? Tom.

MR. O'CONNELL: I'm supportive of this motion. I just wonder if we need to provide similar guidance based upon the technical committee's recommendation to keep glass eel landings at or below 2010 levels and whether that needed to be a separate motion or an amendment with the makers of this motion.

EXECUTIVE DIRECTOR BEAL: Kate is going to comment on the yellow number and then we'll get back to your question, Tom.

MS. TAYLOR: I just want to clarify and make certain that the board will know what is going to be presented at the annual meeting. It will be quota options that do not exceed the 1998 to 2010 average harvest, which is 907,671 pounds; so none of the quota options will exceed that average as recommended by the technical committee?

EXECUTIVE DIRECTOR BEAL: Tom, let's take these issues separately. Since we have not had a lot of discussion on glass eels, I'm not sure that the board has a good sense of what folks would like to do with glass eels. Let's focus this on yellow eels with the 907 number that Kate just mentioned. Any conversation on this motion? John.

MR. CLARK: Bob, just to clarify, you're saying those are the only options that will be considered are options that meet the technical committee's recommendation; we're not going to consider the 2010 landings anymore as a target?

EXECUTIVE DIRECTOR BEAL: That's what the motion is. If you want to provide something different, we can weave that into the motion with a motion to amend. Adam.

MR. NOWALSKY: I fully support the work that the working group would do to develop options around the technical committee's recommendation, but I do not support this board being limited in our decision-making in October to only those recommendations. If that is what this motion means, then I would oppose it.

If the intent of the motion is to develop specific recommendations that meets with favor among multiple states for meeting the technical committee's recommendation, okay; but we have to consider the full range of options here in addition to what we would believe to be better options in October.

EXECUTIVE DIRECTOR BEAL: Mr. Grout, what was your intention as the maker of the motion?

MR. GROUT: My intent was to have this meet what the technical committee's recommendation is. I want to see if there is support for meeting that level. I am going to ask for a roll call on this. If it does not get support, then I have other motions that will be coming forward to try and focus the working group's work here.

EXECUTIVE DIRECTOR BEAL: So, Doug, this would limit the board to – when we get back together in October, this would limit the board to only options that have total quota of 907 or less; is that correct?

MR. GROUT: Correct; and if you want to put that figure in the motion as a friendly amendment, I'm certainly willing to do that.

EXECUTIVE DIRECTOR BEAL: I think, Mike, after the word "quota", if you could put in parentheses "907,671"; that would be great. Rob.

MR. O'REILLY: It's a little bit of a disconnect that I find in that there is a line in the sand. It is 2010. We're talking about a 1998 to 2010 average basis, which to me isn't the same thing as saying don't increase above 2010 levels. If anything, we've got a terminal year. It is not about whether it is higher or lower.

It just is the fact that I'm not sure why we aren't just saying 2010 harvest, which happens to be 978,004. Today we had several moments where board members were saying, well, it is almost close, it is almost close to what the technical committee needs. First of all, I don't find why we're using an average in this consideration when we're not doing that for anything else about a terminal year.

The second thing is I may even have problems with a limitation such as proposed beyond using that average basis, but the limitation that we don't have other choices. I don't think that's a full discussion about the aspects that David

Borden asked about and may be cutting it a little bit short, I think. Thank you.

REPRESENTATIVE KUMIEGA: Can we take a vote today that ties our hands for the next meeting that limits our – you know, can we do that?

EXECUTIVE DIRECTOR BEAL: It's unique. I think one of the general premises of Roberts' Rules of Order is that a body cannot restrict the similar body at their subsequent meeting. This is guidance to the working group. I don't know if it necessarily would be binding that the board couldn't consider another option. It is kind of the best we can do at this hour, I think. It is up to the group. If you're not comfortable with that, then vote accordingly. Tom.

MR. O'CONNELL: Just to follow up on Rob's point, on Page 12 of the document, under glass eels, I interpret the sentence there that the baseline for reductions that is recommended is 2010, the terminal year of the assessment; but for yellow eels it is 2004 to 2013 average landings. I'm just wondering why there is the discrepancy there.

MS. TAYLOR: The technical committee chose for the glass eel, Option C, the 2010 landings, as the preferred and not the 2004 to 2013.

EXECUTIVE DIRECTOR BEAL: And, Tom, is that your question, why the difference?

MR. O'CONNELL: Yes; and why is that different than the technical committee's recommendation to do the average from 2004 to 2013 for the yellow eels.

MS. TAYLOR: The technical committee recommends for yellow eels from 1998 to 2010 based on data availability, but their recommendation was not to use any years after 2010; so it is not including the 2011 through 2013.

MR. ADLER: I don't see where this binds us their recommendation. I think it is saying let's develop another set of things based on this number that will be coming back to the board;

and I don't see where it has thrown out the other things. If we can work with their new set, great, but I don't see where it kicks the other alternatives out.

MR. SCHICK: If we're giving guidance and they're only going to bring back options that are within the technical committee's parameter, then we're going to be sitting here doing the same thing we're doing now. I think we were close with some of these options where if we had a couple of states go the other way, we would have had something here.

I think we should just have the subcommittee look at what we've talked about today, really spread it out and think about it, and we can probably come up with a solution. It may be close to what the technical committee is suggesting; but if we all of a sudden just limit the working committee only to what the technical committee parameters are, I think we're cutting ourselves short.

EXECUTIVE DIRECTOR BEAL: Other comments? There is definitely a difference of opinion around the table about how binding this motion should be; is it just guidance or does it really tie the hands of this board at their next meeting? Dr. Daniel.

DR. DANIEL: My interpretation is really more in line with Mr. Adler's and hope it is in line with the vice-chairman in that we still have 2A, 3, 4, 5, those options. What this motion does is it provides the guidance to the group to solely look at those options that meet the 907,671. It does not mean that this board's hands are tied to only those options. They can select other options; but they need to recognize if they vote for those options, then they're voting contrary to the technical committee's advice. Now if that is not the way it was intended, that is the way I interpret it.

EXECUTIVE DIRECTOR BEAL: Doug, are you okay as the maker of the motion of Louis' interpretation?

MR. GROUT: That's exactly why I used the word "guidance".

EXECUTIVE DIRECTOR BEAL: All right, good, so this doesn't bind the board to using one of the recommendations. It allows them to use all the options, but hopefully that group will be able to come up with some bright ideas to maybe get us out of the woods the next time we take shot at this. Tom.

MR. O'CONNELL: I appreciate the clarification to my question, but I don't feel like I got the question answered. Why is there a different reference period that the technical committee is recommending for glass eels compared to yellow eels?

EXECUTIVE DIRECTOR BEAL: Tom, I think we may need to figure that out between the two meetings if that's okay. It's kind of tricky to do it on the fly here. Yes.

MR. O'CONNELL: Well, just to follow up, because if it is 2010 like glass eels, it changes what this recommendation should be. We're stressing a lot of importance of following the technical committee's advice; and I am not sure why the inconsistency is there.

EXECUTIVE DIRECTOR BEAL: That's fair and is everyone comfortable with sort of the technical committee going back and looking at their notes and figuring out how they ended up here; and if 2010 is appropriate for yellow, then we can provide that guidance to the working group as well. Kate is asking does the board want an average of multiple years or just one terminal year for yellow eels and/or glass eels. I guess that's the advice the board may be looking for from the technical committee; what does the technical committee recommend. Doug.

MR. GROUT: If there is not certainty that 907,671 is actually the recommendation of the technical committee; then maybe we should take it out because it sounds like there is some question here as to whether – because there was a discrepancy between recommending reductions being taken of 2010 and then in the yellow eel using an average that you're going to be taking the reduction off, my intent was to go with the technical committee's recommendation, so –

MS. TAYLOR: The technical committee recommended not using data past 2010; and then their recommendation for using the 1998 to 2010 harvest average was a reduction from that 2010 level, from what I remember.

MR. EMERSON C. HASBROUCK, JR.: I don't know about the other states, but in New York it has only been in the last couple of years where there has been a concerted effort on the part of the state to improve the collection and reporting of eel landings. The landings in New York for the past couple of years are probably more realistic than earlier in that time series.

EXECUTIVE DIRECTOR BEAL: Thanks, Emerson. Let's vote on this motion. **This is guidance to the working group to provide some more options**, hopefully some hybrids and some things that more folks can live with coming back at the October meeting. Dennis requested a roll call vote on this so I will ask Kate to do that.

MS. TAYLOR: Maine.

MAINE: No.

MS. TAYLOR: New Hampshire.

NEW HAMPSHIRE: Yes.

MS. TAYLOR: Massachusetts.

MASSACHUSETTS: Yes.

MS. TAYLOR: Rhode Island.

RHODE ISLAND: Yes.

MS. TAYLOR: Connecticut.

CONNECTICUT: Yes.

MS. TAYLOR: New York.

NEW YORK: Yes.

MS. TAYLOR: New Jersey.

NEW JERSEY: Yes.

MS. TAYLOR: Pennsylvania.

PENNSYLVANIA: Yes.

MS. TAYLOR: Delaware.

DELAWARE: No.

MS. TAYLOR: Maryland.

MARYLAND: Yes.

MS. TAYLOR: District of Columbia. (No response) Potomac River Fisheries Commission.

POTOMAC RIVER FISHERIES COMMISSION: Yes.

MS. TAYLOR: Virginia.

VIRGINIA: No.

MS. TAYLOR: North Carolina.

NORTH CAROLINA: Yes.

MS. TAYLOR: South Carolina.

SOUTH CAROLINA: Yes.

MS. TAYLOR: Georgia.

GEORGIA: Yes.

MS. TAYLOR: Florida.

FLORIDA: Yes.

MS. TAYLOR: Fish and Wildlife Service.

U.S. FISH AND WILDLIFE SERVICE: Yes.

MS. TAYLOR: National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE: Yes.

EXECUTIVE DIRECTOR BEAL: **The motion carries 15** votes in favor, 3 votes in opposition,

no abstentions, no null votes. Is there any other guidance that folks want to provide to the working group; the more the better. Tom, you look reluctant.

MR. O'CONNELL: I'm a little reluctant to make a motion because I'm still left with not understanding why there is an inconsistency with the technical committee's recommendation for the baseline of landings between glass eels and yellow eels. I would at least like to leave here if there is not a motion that the technical committee come prepared to explain what their recommendation is; and if it is different between glass and yellow eels, why, so that the annual meeting we will know what the technical committee's recommendation is. I'm reluctant to make a motion right now, but I would to get that clarification for the next board meeting.

EXECUTIVE DIRECTOR BEAL: Is anyone uncomfortable with just clarifying why the difference from the technical committee's recommendation? All right, seeing none, we'll get that squared away. Rob.

MR. O'REILLY: I'm not uncomfortable but what prevented us from voting for the motion is the fact that the 907,671 is there and we don't think that's the correct value that should be there based on comments given previously.

EXECUTIVE DIRECTOR BEAL: Thanks for clarifying that, Rob. Terry.

MR. STOCKWELL: I will try to provide a little clarification for Tom. The technical committee's advice for 2010 was based on the terminal year of the assessment. The different number that you see on Page 12 of the document reflects part of the discussion that we had at our last meeting when Maine voluntarily implemented the 2014 management measures. We requested that the most recent landings be added into the document so that we could have a fuller range of alternatives.

EXECUTIVE DIRECTOR BEAL: Any other guidance for the working group? Tom.

MR. O'CONNELL: I can appreciate that, but I still don't think that answers the question as to why the technical committee's advice is different. It seems to me that we should consider 2010 the terminal year of the assessment for both or the range of years for both. One concern I do have, if you look at the options for glass eels, there is only one option, and I think that's the closure that would get it below the average landings from 1998 to – I'm losing track of the years here, but the same recommendation for yellow eels. I don't think there are many options in the glass eel options to meet that; and we're going to have the same issue I think when we get to the glass eel discussion at the next meeting.

MR. BORDEN: Mr. Chairman, I think Tom is raising a good question. It is a valid question that ought to be answered. I think the procedure to answer it is have the staff work with the technical committee, develop a written response to his question and circulate it well in advance of the meeting. Thank you.

EXECUTIVE DIRECTOR BEAL: Thanks, David, that seems reasonable. Other thoughts, comments or guidance to the working group? Seeing none, is the board okay with Tom O'Connell as board chair working with Doug Grout and Louis Daniel to form the working group, ensuring that there is representation from all parts of the coasts and different interests in the fishery, yellow eel and glass eel. Yellow eel in particular I think is the focus of this working group. Then we'll go from there. Is everybody okay with that rather than picking people today? All right, good. Terry, do you want to just hold off on the glass eel discussion or is there anything you want to introduce sort of to get folks to chew on for the next three months?

MR. STOCKWELL: I absolutely want to hold off given the time of the day.

EXECUTIVE DIRECTOR BEAL: And I appreciate that and I think everyone else does, too.

MR. BALLOU: Mr. Chairman, I believe staff are planning to attend the meeting in Quebec, if

I'm not mistaken, coming up in a week or two. Will there be a report back to the board on that meeting in October so that we can benefit from whatever information is gleaned from that?

EXECUTIVE DIRECTOR BEAL: We can have staff provide a brief summary of some of the different topics that were talked about. I think there are going to be multiple presentations over – I think there is four days of presentations. There is going to be a lot to digest. I don't think there is going to be the ability to really summarize all those presentations.

We may be able to hit some highlights. The one thing that I've been cautioned about with regard to being too optimistic about the output from that is that a lot of the papers are going to be works in progress and they're going to need to be distilled by the technical committee and possibly feeding into the next benchmark assessment.

It may not be sort of an immediate fix or helps us get out of the woods very quickly. It is reasonable to temper our excitement or our hopes of what may come out of that symposium as to what may have direct benefits to this group; but we will try to give a summary of what happens and the potential uses. Yes, Adam.

MR. NOWALSKY: Is there anything that we could do as a board between and October to foster some review of the glass eel motions – Mr. Stockwell said he had those. I know we're not going to get into them today – so we don't wind up in the same place in October on glass eels. I don't know what the right way to do that would be; but if we've got some motions drawn up which deviate somewhat from the exact motions in the addendum, it would behoove us a board to have some mechanism for generating some discussion about those prior to October.

EXECUTIVE DIRECTOR BEAL: I'd leave that up to Mr. Stockwell if he is willing to share those with either the full board or maybe the working group or some subset. Terry.

MR. STOCKWELL: Thanks, Adam, for your question and thoughts. All the motions are all

options that are in the addendum. There are no hybrids. It is just a combination of different measures that marry together both the sustainable fishery management plan and elver options.

I just reached over to Doug and volunteered for Maine to participate on the working group; and I would feel more comfortable about rolling this out at the working group rather than just sending it out arbitrarily to the full board without any context.

OTHER BUSINESS

EXECUTIVE DIRECTOR BEAL: I think that's it; I hope that's it. Is there anything else to come before the Eel Board? We've got one commenter in the audience and then Doug had his hand up. Doug, before you speak, I know under other business there was a notion of the tolerance in the one half by one half inch mesh size for the traps.

I think we'll postpone that until the annual meeting as well, just so the folks here probably wouldn't give it the discussion that it deserves at this point. Is that what you were going to ask about? You're all set, Doug? All right, thanks. The one comment from the audience; Jeff. There are two.

MR. PIERCE: Thank you, Chairman and American Eel Board; I know it has been a long morning. Under other business, I had circulated a letter this morning asking for an action item for passage and habitat through hydroelectric facilities to be taken up at the next meeting. Listening to the comments at the board today, we all seem to agree the passage is the biggest problem to this species.

As the U.S. Fish and Wildlife mandates – and it is in a number of documents – I would like to see this put into Addendum IV so it has some teeth so the states can actually start acting on this. Right now we've got gums; we don't have teeth; and passage through hydroelectric facilities with guidance from this board would be greatly appreciated. As you see, there are a

number of groups that signed onto this letter. This is really what we need when we start talking about reductions in mortality. This is the biggest problem and let's deal with that. Thank you.

MR. DICK STONE: Mr. Chairman, my name is Dick Stone and I represent the American Eel Farm. I just want to state that I've very disappointed that we didn't have a chance to get to some of these options. I think some of the options such as the state-specific fishery management plan would allow states to get better data; and some of things that have been mentioned here today is the lack of data and how we need more data.

My main concern is that this is the second meeting that I've been to when we haven't really had time for adequate discussion. This discussion is extremely important. Please, for the next meeting maybe we need to allow another couple of hours or whatever, but I just hope that there will be adequate time for discussion. Thank you.

EXECUTIVE DIRECTOR BEAL: Thank you, Mr. Stone. Yes, the annual meeting is shaping up to be two days for striped bass, two days for eels and then we all go home, so everybody get comfortable. I think that's it to come before the board adjourns. There is a rumor going around that Joe Fessenden may be retiring between this meeting and our annual meeting.

I think he is still planning on coming to the annual meeting, but I wanted to publicly thank Joe. If he changes his mind and he doesn't show up at the annual meeting, I wanted to thank Joe for – as he mentioned earlier, he has been in law enforcement since 1975; and I think the bulk of that he has been helping out ASMFC on the Law Enforcement Committee.

He served as the law enforcement advisor to a number of our boards, eel, lobster, striped bass, I think shrimp, maybe herring for a while. He has been here a long time. Help me thank Joe for all the service to the commission and I wish him the best of luck if we don't see him at the annual

meeting, but hopefully we will see you there.
Thank you, Joe. (Applause)

ADJOURNMENT

EXECUTIVE DIRECTOR BEAL: With that,
the board stands adjourned.

(Whereupon, the meeting was adjourned at
12:25 o'clock p.m., August 7, 2014.)

Atlantic States Marine Fisheries Commission

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



*ASMFC Vision Statement:
Sustainably Managing Atlantic Coastal Fisheries*

June 2014

Revised June 20, 2014

Parts of Section 3.1.2 Yellow Eel Fisheries Management Options were revised, including Tables 5-7. Changes are highlighted in yellow.

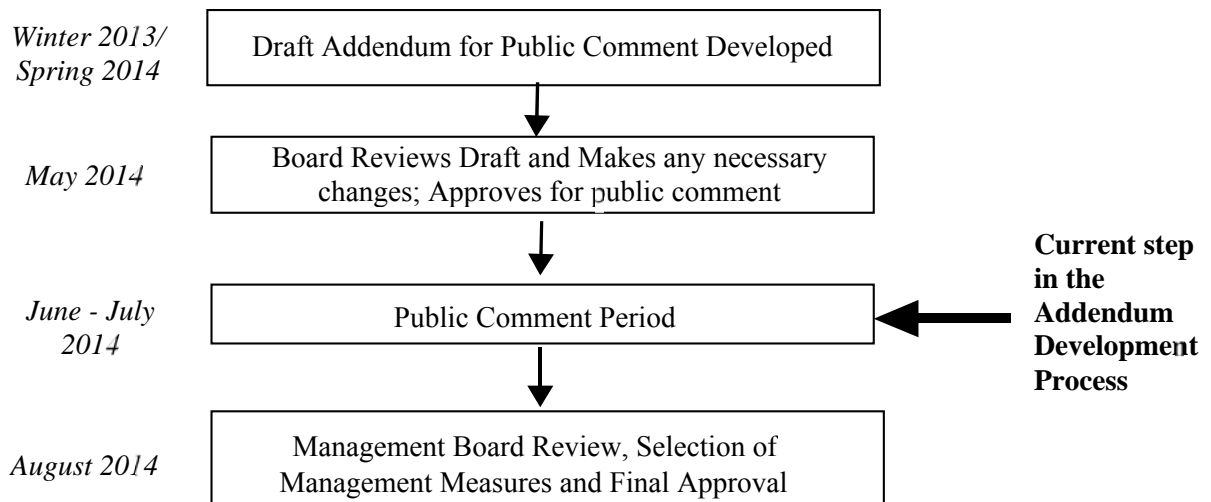
PUBLIC COMMENT PROCESS AND TIME LINE

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 July 17, 2014. 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

- | | |
|--|--|
| <i>Option 1</i> – Status Quo | <i>Option 6</i> – Glass Eel Harvest Allowance
Based on Stock Enhancement Programs |
| <i>Option 2</i> – 2014 Management Measures | <i>Option 7</i> – Aquaculture Quota |
| <i>Option 3</i> – Closure of the Glass Eel Fisheries | <i>Option 8</i> – Aquaculture Permitting |
| <i>Option 4</i> – Glass Eel Quota | <i>Option 9</i> – Reporting Requirements |
| <i>Option 5</i> – Quota Overages | <i>Option 10</i> – Monitoring Requirements |

Commercial Yellow Eel Fisheries Options

- | | |
|--|--|
| <i>Option 1</i> – Status Quo | <i>Option 4</i> – Yellow Eel Quota based on 2010
Landings |
| <i>Option 2</i> – Adjusted Yellow Eel Quota
(Allocation Base Years = 2011 – 2013) | <i>Option 5</i> – Weighted Yellow Eel Quota |
| <i>Option 3</i> – Adjusted Yellow Eel Quota
(Allocation Base Years = 2002 -2012) | <i>Option 6</i> – Quota Overages |
| | <i>Option 7</i> – Quota Transfers |
| | <i>Option 8</i> – Catch Cap |

Commercial Silver Eel Fisheries Measures

- | | |
|--|--|
| <i>Option 1</i> – Status Quo | <i>Option 3</i> – Effort Reduction/Time Closures |
| <i>Option 2</i> – Extension of Sunset Provisions | <i>Option 4</i> – License Cap |

Sustainable Fishing Plans for American Eel

- Fishing Mortality Based Plan*
- Transfer Plan*
- Aquaculture Plan*

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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".

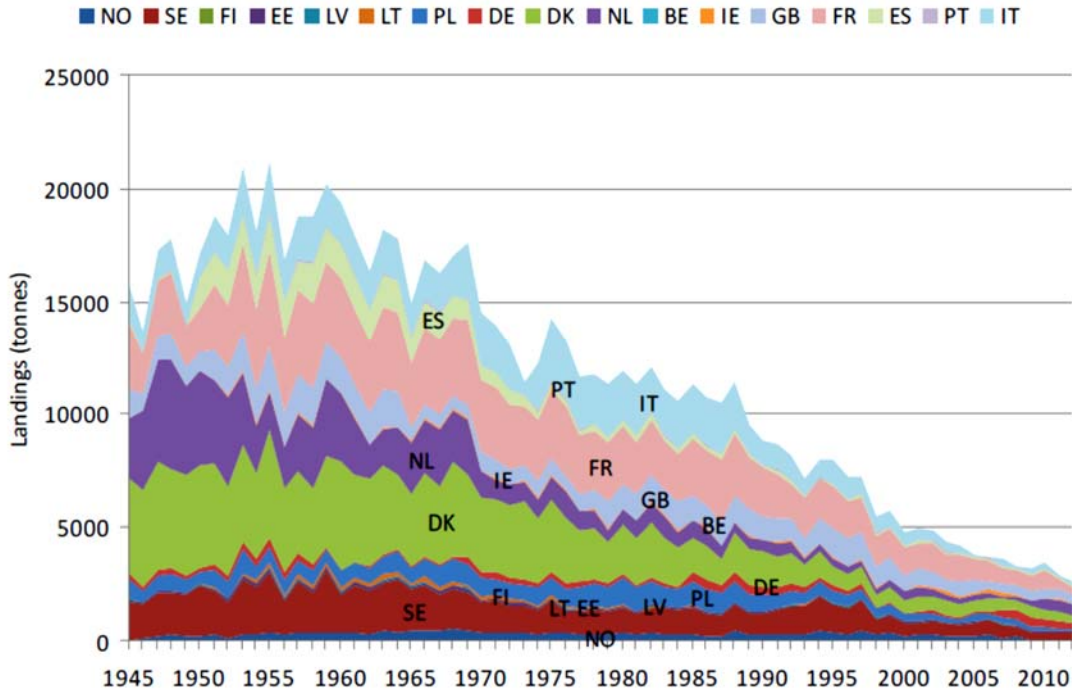


Figure 1. Total landings of European eel (all life stages) from 2013 Country Reports (Note: not all countries reported). NO = Norway, SE = Sweden, FI – Finland, EE = Estonia, LV = Latvia, LT = Lithuania, PL = Poland, DE = Germany, DK = Denmark, NL = Netherlands, BE = Belgium, IE = Ireland, GB = Great 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” series¹, 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.

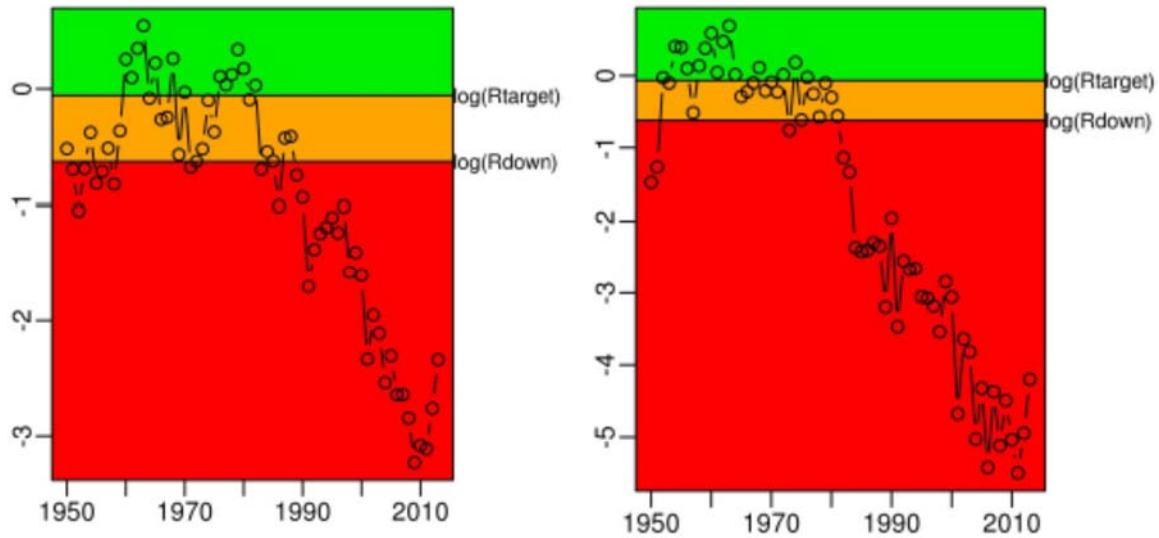


Figure 2. Trends in recruitment (“Elsewhere”, left, and “North-Sea”, right) of European eels with respect to healthy zone (green), cautious zone (orange) and critical zone (red). *From ICES, 2013b.*

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).

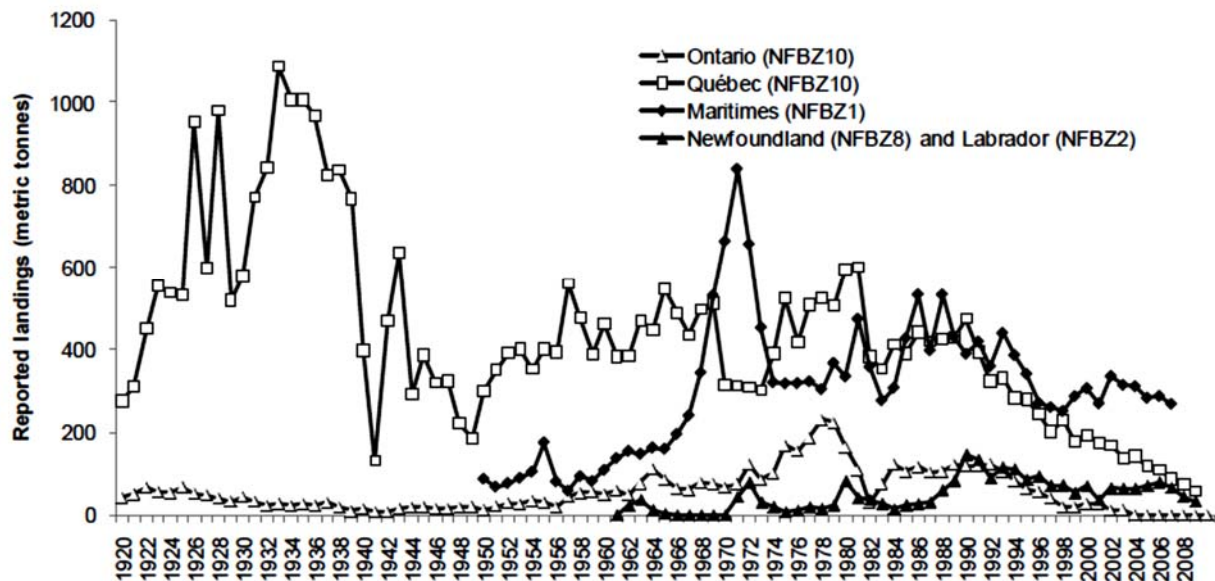


Figure 3. Reported landings of all life stages from Quebec, Ontario, the Maritime Provinces, and Newfoundland and Labrador from 1920 – 2010. *From COSEWIC, 2012.*

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 $< \alpha$; $\alpha = 0.05$). 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 eels in 2013 totaled 907,671 pounds (Table 2) 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 80,000 pounds of eel, and together accounted for 86% of the coastwide commercial total landings.

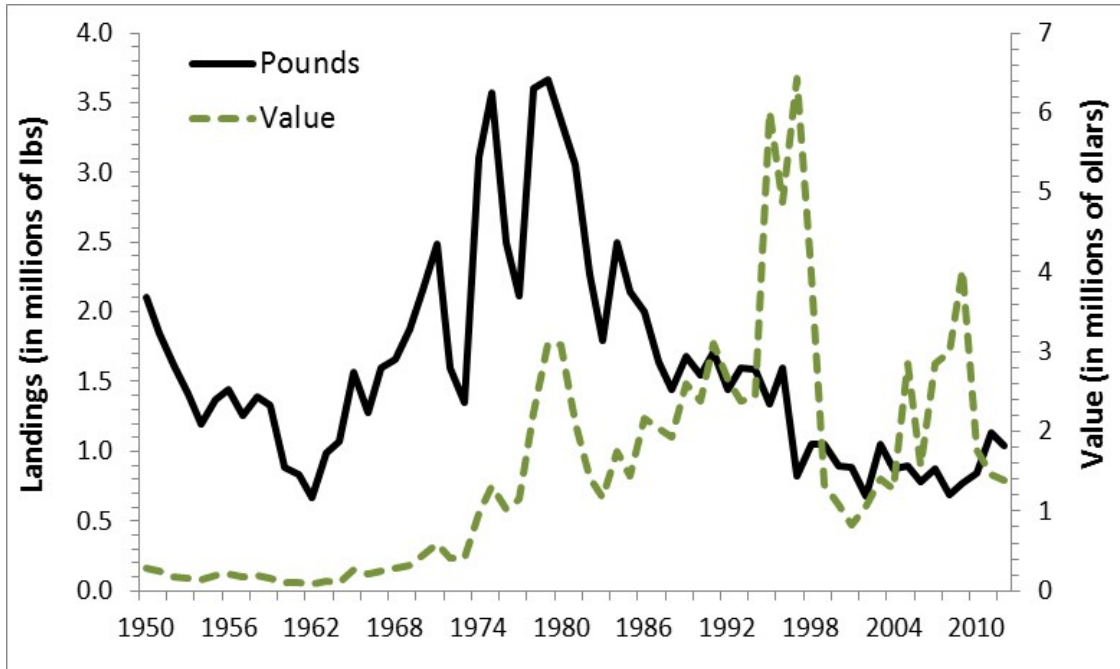


Figure 4. Total commercial landings (in pounds) and value (in millions of dollars) of yellow eels along the U.S. Atlantic Coast, 1950–2012.

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 (Table 3). 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.

Table 2. Harvest (in pounds) by state of yellow eels from 1998 - 2013. *NA = Not available, * Confidential*

Year	ME	NH	MA	RI	CT	NY	NJ	DE	MD	PRFC	VA	NC	SC	GA	FL	Total
1998	20,671	459	5,606	967	5,606	16,896	94,327	131,478	301,833	209,008	123,819	91,084		*	13,819	1,015,649
1999	36,087	245	10,281	140	10,281	7,945	90,252	128,978	305,812	163,351	183,255	99,939	*		17,533	1,054,121
2000	14,349	310	5,158	25	5,158	5,852	45,393	119,180	259,552	208,549	114,972	127,099	*		6,054	911,824
2001	9,007	185	3867	329	1,724	19,187	57,700	120,634	271,178	213,440	96,998	107,070	*	*	14,218	915,585
2002	11,616	67	3842	234	3,710	26,824	64,600	90,353	208,659	128,595	75,549	59,940	*	*	7,587	681,609
2003	15,312	36	4,047	246	1,868	3,881	100,701	155,515	346,412	123,450	121,043	172,065		*	8,486	1,053,119
2004	29,651	65	5,328	971	1,374	5,386	120,607	141,725	273,142	116,163	123,314	128,875			7,330	953,931
2005	17,189	120	3,073	0	341	25,515	148,127	110,456	378,659	103,628	66,701	49,278			3,913	907,000
2006	17,259	93	3676	1034	3,443	7,673	158,917	120,462	362,966	83,622	82,738	33,581			1,248	876,712
2007	9,309	70	2853	1230	885	15,077	164,331	131,109	309,215	97,361	56,463	34,486			7,379	829,767
2008	7,992	25	6,046	8866	6,012	15,159	140,418	80,003	381,993	71,655	84,789	24,658	*		15,624	843,762
2009	2,525	83	1217	4855	630	13,115	121,471	59,619	324,773	58,863	119,187	65,481			6,824	778,643
2010	2,624	80	277	4642	164	13,220	107,803	68,666	511,201	57,755	78,076	122,104	*	*	11,287	978,004
2011	2,700	129	368	1,521	20	56,963	129,065	90,631	715,162	29,010	103,856	61,960			25,601	1,216,986
2012	10,785	167	532	1,484	3,560	48,637	111,810	54,304	583,057	90,037	122,058	64,110		*	11,845	1,104,429
2013	1,826	106	NA	2,244	2,638	32,573	89,300	80,811	539,775	32,290	84,385	33,980		*	17,246	917,454

Table 3. Harvest (in pounds) and value of the glass eel fishery in Maine and South Carolina from 2007 - 2013. *South Carolina landings are confidential.

Year	Maine		South Carolina	
	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

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. 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 Marine 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 season²

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

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.

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 4). 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 4). 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 4). 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 4. 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. If overages occur, the state will be required to deduct their entire overage from the quota the following year, pound for pound.

Option 6 – Glass Eel Harvest Allowance Based on Stock Enhancement Programs

Under this option any state or jurisdiction can request an allowances for harvest of glass eels based on stock enhancement programs implemented after January 1, 2013. Stock enhancement programs must show a measurable increase in glass eel passage and/or glass eel survival. Examples of stock enhancement programs include, but are not limited to, habitat restoration projects, fish passage improvements, or fish passage construction. Fish passage projects may

focus on upstream or downstream passage or both. Harvest shall not be restricted to the basin of restoration (i.e. harvest may occur at any approved location within the state or jurisdiction).

Requests for harvest must include a description of the stock enhancement program, fishery requested, monitoring program to ensure harvest is not exceeded, monitoring program to ensure stock enhancement program targets are annually met, adequate enforcement capabilities, and adequate penalties for violations. Requests must be submitted to the Commission by September 1st of the preceding fishing year. Requests are subject to TC review and Board approval. 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 stock enhancement program cannot be assessed one year post-implementation, then a secondary review must occur within three years post-implementation. If changes to that habitat or fishway occurs in subsequent years, the Commission must be notified through the annual compliance report and a review of the harvest allowance may be initiated. The PDT recommends that the Board implement an overall cap for coastwide harvest.

In addition to the above requirements, the Board will need to select an individual state or jurisdiction harvest cap. The following are proposed options for harvest limits:

Sub-Option 6a – 5% Harvest Cap

Under this sub-option, harvest within a state or jurisdiction shall not exceed 5% of the quantified contribution provided by the stock enhancement program. The stock contribution percentage may be based on, for example, the amount of available suitable habitat that will become accessible, passage numbers, or other appropriate metrics.

Sub-Option 6b – 10% Harvest Cap

Under this sub-option, harvest within a state or jurisdiction shall not exceed 10% of the quantified contribution provided by the stock enhancement program. The stock contribution percentage may be based on, for example, the amount of available suitable habitat that will become accessible, passage numbers, or other appropriate metrics.

Sub-Option 6c – 25% Harvest Cap

Under this sub-option, harvest within a state or jurisdiction shall not exceed 25% of the quantified contribution provided by the stock enhancement program. The stock contribution percentage may be based on, for example, the amount of available suitable habitat that will become accessible, passage numbers, or other appropriate metrics.

Option 7 – Aquaculture Quota

This option is only applicable if Option 2 or 4 of this Section is chosen.

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, timeframe for the request (up to three years), monitoring program to ensure harvest is not exceeded, adequate enforcement capabilities, and adequate penalties for violations. 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 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 – Adjusted Yellow Eel Quota (Allocation Base Years = 2011 – 2013)

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, Table 2). 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 5). 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 60% and 21% reduction, respectively, and therefore would be increased accordingly (PDT Criteria #3 above). **The resulting quota would then be set annually at 986,286 pounds. This represents an 0.8% increase 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 5).

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, North Carolina, and PRFC quota represents an 26%, 64%, and 29% reduction, respectively, and therefore would be modified accordingly (PDT criteria #3 above). **The resulting quota would be set annually at 937,701 pounds. The resulting quota represents an actual 4.1% decrease from 2010 landings coastwide.**

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, Table 5).

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, Delaware, North Carolina , and PRFC quota represents an 26%, 21%, 68%, and 37% reduction, respectively, and therefore would be modified accordingly (PDT criteria #3 above). **The resulting quota would be set annually at 868,939 pounds. The resulting quota represents an actual 11% decrease from 2010 landings coastwide.**

Table 5. Quota options under the no reduction, 10% reduction and 20% reduction scenarios, with the total quota based on landings from 2010 and the allocation to states based on the states average harvest from 2011 - 2013. Gray boxes represent states which qualified for Criteria #2. Black boxes represent states which qualifies for Criteria #3. **This Table was revised on June 20, 2014.**

	2010 Landings	Allocation	Option 2a: No Reduction	Option 2b: 10% Reduction	Option 2c: 20% Reduction
Maine	2,624	0.47%	4,597	4,137	3,677
New Hampshire	80	0.01%	2,000	2,000	2,000
Mass	277	0.04%	2,000	2,000	2,000
Rhode Island	4642	0.16%	2,000	2,000	2,000
Connecticut	164	0.19%	2,000	2,000	2,000
New York	13,220	4.26%	23,220	23,220	23,220
New Jersey	107,803	10.19%	99,659	91,633	91,633
Delaware	68,666	6.97%	68,167	61,350	58,366
Maryland	511,201	56.72%	521,201	499,251	443,779
PRFC	57,755	4.67%	49,092	49,092	49,092
Virginia	78,076	9.58%	88,076	84,323	74,954
North Carolina	122,104	4.94%	103,788	103,788	103,788
South Carolina	2		2,000	2,000	2,000
Georgia	103	0.11%	2,000	2,000	2,000
Florida	11,287	1.69%	16,528	14,875	13,223
Total	978,004	100%	986,286	937,701	868,939

Option 3 – Adjusted Yellow Eel Quota (Allocation Base Years = 2002 -2012)

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 is based on the average of the three highest landing values from 2002 – 2012. 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, Table 2). 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 3a: 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 allocation based on the average of the three highest landing values from 2002 – 2012. Under this sub-option, the annual quota would originally be set at 978,004 pounds (2010 landings, Table 6).

After allocation of the quota, New Hampshire, South Carolina, and Georgia qualify for the 2,000 pound allowance (PDT Criteria #1 above). Additionally, the Maine, **New York**, Delaware, and PRFC quotas would be more than 10,000 pounds above its 2010 harvest and therefore would be reduced accordingly (PDT criteria #2 above). Lastly, the Maryland and **North Carolina** quotas represents an **17% and 18%** reduction, respectively, and therefore would be increased accordingly (PDT Criteria #3 above). **The resulting quota would then be set annually at 946,726 pounds. This represents a 3.2% decrease from 2010 landings coastwide.**

Sub-Option 3b: 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 allocation based on the average of the three highest landing values from 2002 – 2012. Under this sub-option, the annual quota would originally be set at 880,203 pounds (2010 landings with a 10% reduction, Table 6).

After allocation of the quota, New Hampshire, South Carolina, and Georgia qualify for the 2,000 pound allowance (PDT Criteria #1 above). Additionally, the Maine, **New York**, Delaware, and PRFC quotas would be more than 10,000 pounds above its 2010 harvest and therefore would be reduced accordingly (PDT criteria #2 above). Lastly, the Rhode Island, Maryland, and North Carolina quotas represents a **16%, 25%, and 27%** reduction, respectively, and therefore would be increased accordingly (PDT Criteria #3 above). **The resulting quota would be set annually at 924,777 pounds. The resulting quota represents an actual 4.1% decrease from 2010 landings coastwide.**

Sub-Option 3c: 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 allocation based on the average of the three highest landing values from 2002 – 2012. Under this sub-option, the annual

quota would originally be set at 782,403 pounds (2010 landings with a 20% reduction, Table 6).

After allocation of the quota, New Hampshire, South Carolina and Georgia qualify for the 2,000 pound allowance (PDT Criteria #1 above). Additionally, the New York, Delaware, and PRFC quotas would be more than 10,000 pounds above its 2010 harvest and therefore would be reduced accordingly (PDT criteria #2 above). Lastly, the Rhode Island, Maryland, and North Carolina quotas represents a 26%, 34%, and 35% reduction, respectively, and therefore would be increased accordingly (PDT Criteria #3 above). **The resulting quota would be set annually at 902,605 pounds. The resulting quota represents an actual 7.7% decrease from 2010 landings coastwide.**

Table 6. Quota options under the no reduction, 10% reduction and 20% reduction scenarios, with the total quota based on landings from 2010 and allocation based on the average of the three highest landing values from 2002 – 2012. Gray boxes represent states which qualified for Criteria #2. Black boxes represent states which qualifies for Criteria #3. **This Table was revised on June 20, 2014.**

	2010 Landings	Allocation	Option 3a: Average Landings	Option 3b: 10% Reduction	Option 3c: 20% Reduction
Maine	2,624	1.54%	12,624	12,624	12,036
New Hampshire	80	0.01%	2,000	2,000	2,000
Massachusetts	277	0.37%	3,620	3,258	2,896
Rhode Island	4642	0.44%	4,310	3,946	3,946
Connecticut	164	0.32%	3,118	2,806	2,494
New York	13,220	3.18%	23,220	23,220	23,220
New Jersey	107,803	11.31%	110,642	99,578	88,514
Delaware	68,666	10.28%	78,666	78,666	78,666
Maryland	511,201	43.43%	434,521	434,521	434,521
PRFC	57,755	8.84%	67,755	67,755	67,755
Virginia	78,076	8.79%	86,006	77,405	68,805
North Carolina	122,104	10.15%	103,788	103,788	103,788
South Carolina	2	0.01%	2,000	2,000	2,000
Georgia	103	0.05%	2,000	2,000	2,000
Florida	11,287	1.27%	12,457	11,211	9,965
Total	978,004	100.00%	946,726	924,777	902,605

Option 4 - 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 is based on the average of the three highest landing values from 2002 – 2012. States are allocated a minimum quota fixed at 2,000

pounds in order to provide 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. 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, Table 2). 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 following sub-options detail the proposed quota allocations:

Sub – Option 4a: 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 allocation based on the average of the three highest landing values from 2002 – 2012. Under this sub-option, the annual quota will be set at 978,004 pounds (2010 landings, Table 7).

After allocation of the quota, New Hampshire, South Carolina, and Georgia qualify for the 2,000 pound allowance. **The resulting quota would then be set annually at 983,260 pounds, which represents a 0.5% increase from 2010 landings coastwide.**

Sub-Option 4b: 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 allocation based on the average of the three highest landing values from 2002 – 2012. Under this sub-option, the annual quota would originally be set at 880,203 pounds (2010 landings with a 10% reduction, Table 7).

After allocation of the quota, New Hampshire, South Carolina, and Georgia qualify for the 2,000 pound allowance. **The resulting quota would be set annually at 885,534 pounds, which represents an actual 9.5% decrease from 2010 landings coastwide.**

Sub-Option 4c: 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 allocation based on the average of the three highest landing values from 2002 – 2012. Under this sub-option, the annual quota would originally be set at 782,403 pounds (2010 landings with a 20% reduction, Table 7).

After allocation of the quota, New Hampshire, South Carolina and Georgia qualify for the 2,000 pound allowance. **The resulting quota would be set annually at 787,808 pounds, which represents an actual 19.4% decrease from 2010 landings coastwide.**

Table 7. Quota options under the no reduction, 10% reduction and 20% reduction scenarios, with the total quota based on landings from 2010 and allocation based on the average of the three highest landing values from 2002 – 2012. **This Table was revised on June 20, 2014.**

	2010 Landings	Allocation	Option 4a: Average Landings	Option 4b: 10% Reduction	Option 4c: 20% Reduction
Maine	2,624	1.54%	15,045	13,541	12,036
New Hampshire	80	0.01%	2,000	2,000	2,000
Massachusetts	277	0.37%	3,620	3,258	2,896
Rhode Island	4642	0.44%	4,310	3,879	3,448
Connecticut	164	0.32%	3,118	2,806	2,494
New York	13,220	3.18%	31,083	27,975	24,866
New Jersey	107,803	11.31%	110,642	99,578	88,514
Delaware	68,666	10.28%	100,543	90,489	80,435
Maryland	511,201	43.43%	424,712	382,240	339,769
PRFC	57,755	8.84%	86,427	77,784	69,141
Virginia	78,076	8.79%	86,006	77,405	68,805
North Carolina	122,104	10.15%	99,298	89,368	79,438
South Carolina	2	0.01%	2,000	2,000	2,000
Georgia	103	0.05%	2,000	2,000	2,000
Florida	11,287	1.27%	12,457	11,211	9,965
Total	978,004		983,260	885,534	787,808

Option 5 – 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 average (907,671 pounds, Table 2). 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 5a: 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, Table 8). 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. This represents a 0.55% decrease from 2010 landings coastwide.**

Sub – Option 5b: 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, Table 8). 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. This represents a 9.4% decrease from 2010 landings coastwide.**

Sub – Option 5c: 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, Table 8). 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. This represents a 19.4% decrease from 2010 landings coastwide.**

Option 6 – Quota Overages

This option is applicable only if quota management (Options 2 -5 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.

Table 8. Quota options under the no reduction, 10% reduction and 20% reduction scenarios based on weighted landings.

	2010 Landings	Allocation	Option 5a: No Reduction	Option 5b: 10% Reduction	Option 5c: 20% Reduction
Maine	2,624	0.9%	8,314	7,483	6,651
New Hampshire	80	0.01%	2,000	2,000	2,000
Mass	277	0.2%	2,000	2,000	2,000
Rhode Island	4642	0.3%	2,549	2,294	2,040
Connecticut	164	0.2%	2,292	2,063	2,000
New York	13,220	3.9%	38,360	34,524	30,688
New Jersey	107,803	10.6%	103,423	93,081	82,739
Delaware	68,666	8.1%	79,546	71,591	63,637
Maryland	511,201	52.2%	510,264	459,238	408,211
PRFC	57,755	5.9%	57,997	52,197	46,398
Virginia	78,076	9.3%	90,819	81,737	72,655
North Carolina	122,104	6.8%	66,337	59,703	53,069
South Carolina	2	0.01%	2,000	2,000	2,000
Georgia	103	0.1%	2,000	2,000	2,000
Florida	11,287	1.6%	15,498	13,949	12,399
Total	978,004	100.00%	983,399	885,859	788,486

Option 7 – Quota Transfers

This option is applicable only if quota management (Options 2 -5 of this section) is chosen.

Under this option any state or jurisdiction implementing a commercial quota for American eel 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 are eligible to participate in the 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 remainder 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 8 – 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 8a – 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 8b – 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 8c – 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.

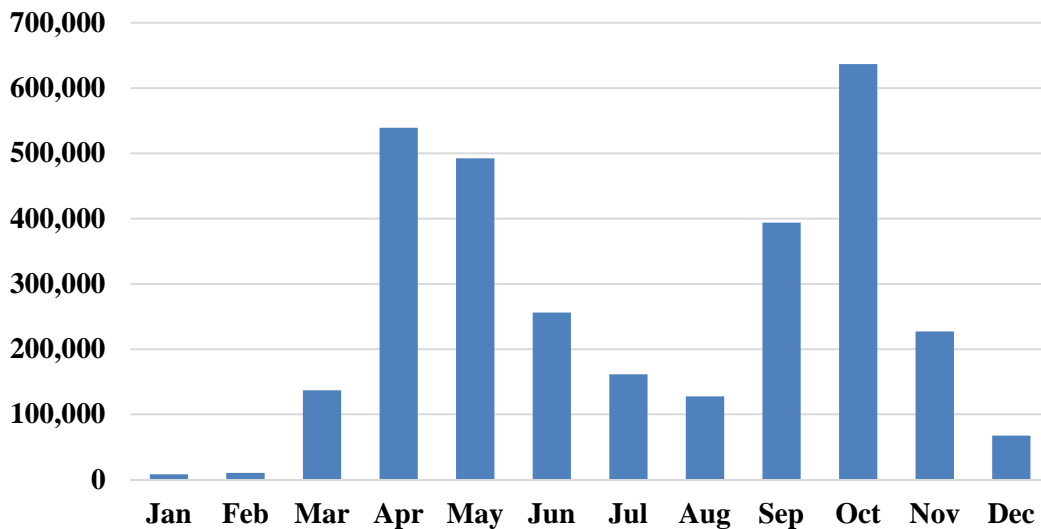


Figure 5. Average (2010 – 2012) commercial yellow eel landings (in pounds) by month coastwide.

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 9 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 9. Average American eel landings (2003 – 2012) by month (in pounds) from the weir fishery in NY’s 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.

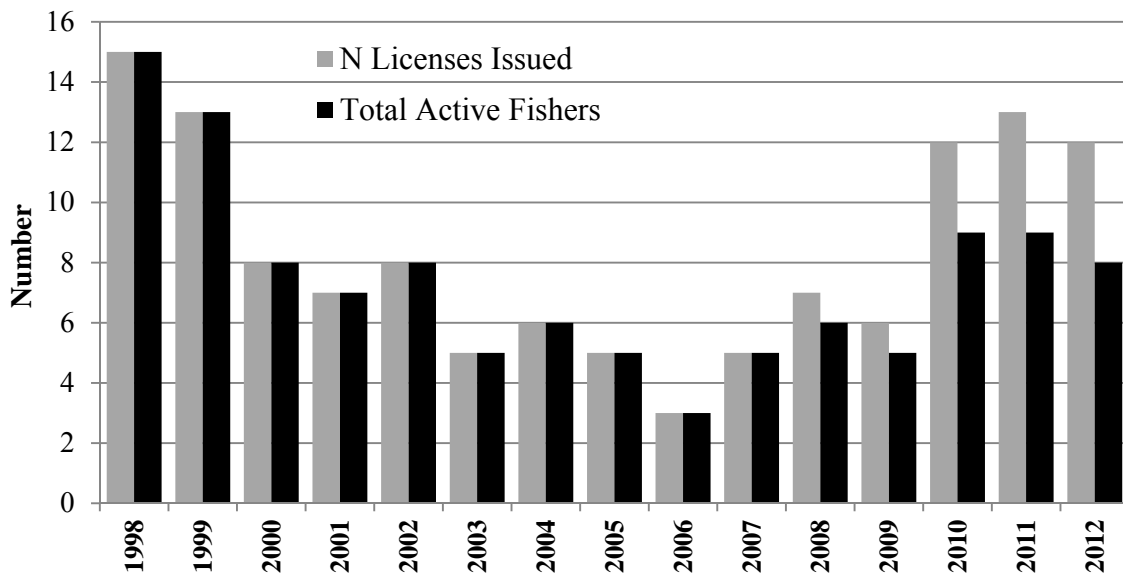


Figure 6. The number of licenses and active or reporting fishermen in the American eel weir fishery in the Delaware River and its tributaries from 1998 – 2012.

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 specific Sustainable Fishery Management Plan (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 Plan for eel would have the same supporting eel population information as the life cycle surveys proposed in Option 10 of Glass Fisheries.

Currently, 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 specific types of alternative management that the states would be allowed to request.

The objective of this program would be to allow states and jurisdictions the ability to manage their American eel fishery (glass, yellow, or silver) to both meet the needs of their current fishermen while providing conservation benefit for the American eel population. Three types of Plans (Fishing Mortality Based Plan, Transfer Plan, and Aquaculture Plan) are presented below.

Fishing Mortality Based Plan

Under this scenario, states and jurisdictions would be allowed to petition the Board for alternative management based on the current level of mortality that is occurring on their population. This Plan shall:

1. Require states or jurisdictions 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 follows:

1. Current regulations
2. Proposed change to regulations (e.g. request for fishery, fish passage restrictions, water quality improvements, etc...)
3. Description of fishing monitoring and enforcement capabilities

4. 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 and disease),
 - 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
5. Timeline for implementation of regulations, monitoring programs, or other activities
6. Description of conservation benefits of proposed regulatory changes or habitat improvements
7. Description of adaptive management program to evaluate success of proposed regulatory changes or habitat improvements

Transfer Plan

If states or jurisdictions are unable to assess the current level of mortality and abundance with certainty, and the state or jurisdiction implements quota management for at least one fishery, then a state would be allowed to develop a Plan 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). The request shall include: description of quota allocation by fishery; scientific analysis that the transfer will not increase overall eel fishing mortality, overall mortality, or reduce spawner escapement, with some level of confidence; description of monitoring program to ensure quota is not exceeded; and adequate enforcement capabilities penalties for violations.

Aquaculture Plan

States and jurisdictions shall have an option to develop a Plan for aquaculture purposes. Under this scenario, states and jurisdictions would be allowed to harvest a maximum of 200 pounds of glass eel annually from within their waters for use in domestic aquaculture facilities provided they can objectively show that the harvest will occur from a watershed that minimally contributes to the spawning stock of American eel. The request shall include: pounds requested; location, method, and dates of harvest; prior approval of any applicable permits; description of the facility, including the capacity of the facility the glass eels will be held, and husbandry methods; description of the markets the eels will be distributed to; monitoring program to ensure harvest is not exceeded; and adequate enforcement capabilities penalties for violations. Approval of a request does not guarantee approval of a request in future years. Eels harvested under an approved Aquaculture Plan may not be sold until they reach the legal size in the jurisdiction of operations, unless otherwise specified.

All Plans are subject to TC and LEC review and Board approval. It is recommended that the Fishing Mortality Based Plans be submitted by June 1st of the preceding fishing year in order to provide enough time for review for the upcoming fishing season. Transfer and Aquaculture Plans must be submitted by June 1st of the preceding fishing year and approval will be determined by the Board by September 1st. Plans 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, habitat improvements, or harvest impact 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 Plan may be initiated. The PDT recommends that the Board set a date after which states or jurisdictions may apply conservation measures for mortality offset purposes in Fishing Mortality Based 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.

6. LITERATURE CITED

ASMFC, 2012. American Eel benchmark Stock Assessment. Stock Assessment Report 12-01 of the Atlantic States Marine Fisheries Commission. 342 pp.

Cairns, D.K., G. Chaput, L.A. Poirier, T.S. Avery, M. Castonguay, A. Mathers, J.M. Casselman, R.G. Bradford, T. Pratt, G. Verreault, K. Clarke, G. Veinnot, and L. Bernatchez. 2014. Recovery Potential Assessment for the American Eel (*Anguilla rostrata*) for eastern Canada: life history, distribution, reported landings, status indicators, and demographic parameters. DFO Can. Sci. Advis. Sec. Res. Doc. 2013/134. viii + 138 p.

Carruthers, T.R., A. Punt, C. Walters, A. MacCall, M.K. McAllister, E.J. Dick, and J. Cope. 2014. Evaluating methods for setting catch limits in data-limited fisheries. Fisheries Research. 153: 48-68.

COSEWIC. 2012. COSEWIC assessment and status report on the American Eel *Anguilla rostrata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 109 pp.

DFO. 2010. Status of American Eel and progress on achieving management goals. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2010/062.

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

ICES. 2013a. Report of the Joint EIFAAC/ICES Working Group on Eels (WGEEL), 18–22 March 2013 in Sukarietta, Spain, 4–10 September 2013 in Copenhagen, Denmark. ICES CM 2013/ACOM:18. 851 pp.

ICES. 2013b. ICES Advice 2013, Book 9. Ecoregion: Widely Distributed and Migratory Stocks. Stock: European Eel. Accessed online on April 29, 2014.

http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2013/Special%20requests/EU_eel%20management%20plan.pdf