

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

**Radisson Hotel Old Town
Alexandria, Virginia
January 30, 2007**

Approved August 14, 2007

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ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for Lapointe (AA)	Roy Miller, proxy for Emory ,DE (AC)
Sen. Dennis Damon, ME (LA)	Bernard Pankowski, DE, proxy for Sen. Venables (LA)
Doug Grout, NH, proxy for Nelson (AA)	Howard King, MD DNR (AA)
Rep. Dennis Abbott, NH (LA)	Keith McGuire,MD,proxy for Vasta, MD (GA)
Ritchie White, NH (GA)	Russell Dize, MD, proxy for Sen. Colburn (LA)
Paul Diodati, MA (AA)	Jack Travelstead, VA, proxy for Bowman VA MRC (AA)
William Adler, MA (GA)	Catherine Davenport, VA (GA)
Vito Calomo, MA, proxy for Rep. Verga (LA)	Kelly Place, VA, proxy for Sen. Chichester (LC)
Everett Petronio, Jr., RI (GA)	Jimmy Johnson NC, proxy for Rep. Wainwright (LA)
Mark Gibson, RI, (AA)	John Frampton, SC (AA)
Gil Pope, RI, proxy for Rep. Naughton (LA)	Malcolm Rhodes, SC (GA)
Eric Smith, CT (AA)	Robert Boyles, SC (LA)
Mark Alexander, CT, proxy for Sen. Gunther (LA)	John Duren, GA (GA)
Dr. Lance Stewart, CT (GA)	Gil McRae, FL (AA)
Gordon Colvin, NY DEC (AA)	April Price, FL (GA)
Pat Augustine, NY (GA)	Frank Montelione, FL, proxy for Rep. Needleman (LA)
Brian Culhane, NY, proxy for Sen. Johnson (LA)	Jon Siemien, DC F&W
Tom McCloy, NJ, proxy for Chanda (AC)	Tom Meyer, NMFS
Erling Berg, NJ (GA)	Jaime Geiger, USFWS
Dick Herb, NJ, proxy for Asm. Fisher(LA)	A.C. Carpenter, PRFC, Chair
Frank Cozzo, PA, proxy for Rep. Schroeder (LA)	

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

Ex-Officio Members

John Clark, DE DFW

Col. Joseph Fessenden, ME DM

Staff

Vince O'Shea
Robert Beal

Erika Robbins
Nicola Meserve

Guests

Steve Meyer, NOAA
Max Stanfield, Fisheries & Oceans, Canada
Rob McGregor, Ministry Of Nat. Resources, Canada
Paul Jacobson, Langhei Ecology, LLC
Kevin McGrath, NY Power Auth.

Jeff Leahy, NHA
Nancy Skancke, GKRSE
Charles Hutchinson, MSSA
Clint Waters, MSSA
Tom Fote, TCAA

The meeting of the American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Washington Ballroom of the Radisson Hotel Old Town, Alexandria, Virginia, on Tuesday, January 30, 2007, and was called to order at 2:30 o'clock, p.m., by Chairman A.C. Carpenter.

CALL TO ORDER

APPROVAL OF AGENDA

CHAIRMAN A.C. CARPENTER: This is the American Eel Management Board. I'm A.C. Carpenter. And with that I'm going to call the meeting to order and proceed. I think there will be a sign-in sheet go around. We do have a quorum present. The first item on the agenda is the review and consent with the agenda as published. Are there any additions or changes requested? Seeing none, we're going to **approve the agenda by consensus.**

APPROVAL OF PROCEEDINGS

The next item is proceedings from the October 24th, 2006, board meeting. Are there any additions, deletions, corrections to that? Seeing none, I'm going to **accept those and record that as being approved.** The next item is public comment and it is the commission's practice to accept public comment at this time for any items that are not on the agenda.

PUBLIC COMMENT

Items that are on the agenda will be discussed and we will also take public comment as they come up. Is there any need for public comment at this point? Seeing none, we can move on to the American eel young-of-the-year workshop update and Ms. Robbins will be presenting that.

AMERICAN EEL YOY WORKSHOP

UPDATE

MS. ERIKA ROBBINS: Thank you. In December, members of the American Eel Technical Committee and invited guests

convened in Charleston, South Carolina, for the American Eel Young-of-Year Sampling Workshop. The workshop was held to discuss the problem, to discuss problem solving related to young-of-year sampling in individual states, streamline data collection, and examine the possibility of alternative field methods.

The participants heard presentations on glass eel biology, past data collection, young-of-year surveys conducted by VIMS, research on electrofishing for young-of-year, and data challenges and areas that need improvement.

There were discussions on these presentations as well as on eel terminology, alternative field methods, streamlining data collection and issues were presented by representatives from different states. As result of the workshop a database has been started to record the different characteristics of the surveys so that they may be compared at some time later, for example, during the next stock assessment.

This database is constantly being updated as people gather new information about their sampling sites and if new sampling sites are created we will retain the old information and build on the new information. Board members were sent a copy of the draft summary of the workshop. The final copy will be available on the Website soon. There have – no substantive changes have been made to the summary that you have received.

CHAIRMAN CARPENTER: Are there any questions on the report? You do really good work. I did take the opportunity to review that report and I think there was a lot of work done. I'm still, personally, curious about whether or not the money that we're spending in the Potomac for a young-of-the-year survey is going to be of any worthwhile data but we'll stick with it for a few more years.

I think the District of Columbia is the only site that's further away from the ocean than we are and that's because they don't have any, they can't get any closer. But we will see. Question.

MR. PATRICK AUGUSTINE: Thank you, Mr. Chairman. Did the Technical Committee or this workshop group, did they ever agree on the terminology as to what was considered a glass eel or an elver? I see it was referred to in several

different places where it was described as one thing and then re-described as something else. And I don't know if you guys were having a battle of words or didn't like each other or did you come to some consensus?

MR. JOHN CLARK: I would say that's still a point where I don't think we had a final agreement on that. I think we were trying to come up with terms to use for management purposes that would be easily understood but there were some members of the Technical Committee that had very strong opinions about what an elver and a glass eel were. And to my knowledge we didn't actually agree on a final definition of those at the workshop.

MR. AUGUSTINE: A follow-on, Mr. Chairman. Is there any way we could have a wrestling match here to determine who is correct? You know, I think you're all – my understanding in reading this document, you're all experts at what you do. And you have very strong senses for what you believe is the right word. But for commonality purpose we're not laymen; we're Board members trying to do our job.

MR. CLARK: Right.

MR. AUGUSTINE: And somewhere in space and time I think our Board has always asked for some kind of a consensus whether it's 1 over 50 percent or whatever it happens to be. But generally try to scope in on something so that we go back and say nebulously, "Beats the hell out of me what a glass eel is or an elver." And I think we need to get that established somehow if it's possible.

MR. CLARK: Sure. I will.

CHAIRMAN CARPENTER: Are there any other questions or comments? Thank you. We will then move along to the ESA listing update. And I understand Dr. Geiger has got some information for us. Thank you.

ESA LISTING UPDATE

DR. JAIME GEIGER: Thank you, Mr. Chairman. With the permission of the Board I'd like to read the summary of the 12-month finding for American eel, if I may.

CHAIRMAN CARPENTER: It won't take as long as the summary, as the statement did.

DR. GEIGER: It won't be long, Mr. Chairman. The American eel has been extirpated from some portions of its historical freshwater habitat over the last hundred years or so, mostly as a result of dams built by the late 1960s. There is also evidence that the species abundance within freshwater habitats and to some degree estuarine habitats has declined in some areas such as the upper Saint Lawrence River and Chesapeake Bay, likely as a result of harvest or turbine mortality or a combination of factors.

However, the species remains widely distributed over the majority of its historic range. Based on information from the Atlantic States Marine Fisheries Commission Stock Assessment and Peer Review and the Committee on the Status of Endangered Wildlife in Canada assessment and status report an indication of decline exists in yellow eel abundance. But recent glass eel recruitment trends, although variable from year to year, appear stable over the past 15 years.

The American eel is a highly resilient species with the ability to occupy the broadest range of habitats within freshwater as well as estuarine and marine waters. And it remains a widely distributed fish species. The lack of population subdivision in the American eel provides resilience to genetic problems that can result from decline and isolation of subpopulations.

Based upon this finding, the American eel does not meet the definition of threatened or endangered under the ESA and therefore no protection is afforded at this time. Mr. Chairman, if I may go on, the Committee on the Status of Endangered Wildlife in Canada, in response to regional declines in the Upper Saint Lawrence River, recently conducted a status review of the American eel within Canadian waters and identified the American eel as a Species of Special Concern.

They are currently developing a management plan for the American eel within Canadian waters. The Great Lakes Fisheries Commission is developing a recovery framework for Lake Ontario and the Saint Lawrence River, which will focus on bi-national management of American eel in this area upriver from Quebec City.

Fish and Wildlife Service is developing research priorities and will share those with the Atlantic States Marine Fisheries Commission or work with the ASMFC Technical Committee on developing research priorities given that ASMFC has also just completed a significant effort in determining stock status.

Mr. Chairman, the schedule, as I understand it, is that on February 1 the Federal Register Notice will be available for public viewing at the Federal Register in Washington. And on February 2 the publication of the 12-month finding will be published in the Federal Register.

I have been told that, also, people can download the 12-month finding from the Website and the Website is www.fws.gov/northeast/ameel/. And I understand that that has been posted on the Website as of today. Thank you, Mr. Chairman. That concludes my report on the ESA listing.

CHAIRMAN CARPENTER: Thank you, Dr. Geiger. Northeast, is that spelled out or just NE on that Website? Do you know?

DR. GEIGER: Excuse me, I'm sorry, Mr. Chairman.

CHAIRMAN CARPENTER: On your Website you said it was "backslash northeast". Is northeast spelled out or is it just NE?

DR. GEIGER: Northeast is spelled out. Yes, sir.

CHAIRMAN CARPENTER: But a-m-e-e-l is –

DR. GEIGER: A-m-e-e-l backslash.

CHAIRMAN CARPENTER: Thank you.

DR. GEIGER: Thank you.

CHAIRMAN CARPENTER: Well, I think I know the service spent a lot of time working on this project and consulted an awful lot of people and we are pleased to hear that it has not reached that status or in need of any special actions at this time.

I think the actions that this Board takes in the future management of this species, hopefully we can keep it off of any kind of endangered species list. So, with that, are there any other comments? Seeing none, thank you, Dr. Geiger.

Let's move along to Item Number 6. It's a presentation on American eel management in the Great Lakes. And Erika, would you introduce our guests.

MS. ROBBINS: A.C., we have Max Stanfield and Rob MacGregor from the Great Lakes Fishery Commission's Working Group for American eel to present what is going on in the Great Lakes.

EEL MANAGEMENT IN THE GREAT LAKES

MR. MAX STANFIELD: Thank you very much. My name is Max Stanfield. This is Rob MacGregor. I'm with the Federal Fisheries Department, Department of Fisheries and Oceans. Rob is with the Ministry of National Resources for the Province of Ontario. So we're different agencies and every once in a while we have our differences but today we're sharing a presentation on eels. So, hopefully we'll be able to convey the same message and impress upon you some of the conclusions we've drawn in our management efforts in Canada.

We've gone through a difficult decade with eels. There has been dramatic declines in Canada, albeit not uniform. I think you all know there have been very, very sharp and dramatic in the Upper Saint Lawrence and Lake Ontario. The declines are less substantial in our Atlantic provinces and in some areas there is pretty much maintenance of the status quo.

So, over the last three or four years we've been putting together what we call an inter-jurisdictional working group trying to get the different jurisdictions to cooperation and to work towards building a national plan. And given the different levels of decline and the different levels of interest and the different problems facing the eel populations, as I said, it hasn't always been straight-forward.

Currently, we're launching, in some cases already started, very wide-spread consultations under the Species-at-Risk Act in Canada. Eel has been designated a Special Concern which doesn't imply any serious constraints in the immediate future but does require a management plan and does require an increased focus on rebuilding the species.

In the context of those negotiations we've, in this inter-jurisdictional working group we've put together a national management plan and we're combining the consultations around the Species-at-Risk Act designation with this proposed draft management plan. What's of interest to us today is making the case for greater bi-national cooperation.

As has already been mentioned we've had some good work on the Great Lakes through the auspices of the Great Lakes Fishery Commission and particularly with New York and for us and particularly for my agency because we're principally responsible for marine fisheries whereas Rob is more responsible for the Great Lakes, we're very much aware of the need to engage the commission and discuss and consider whether or not there are other areas of cooperation and bi-national management that we might be able to think about. So, Rob is going to start off the presentation and I'll pick it up a bit later. Thank you.

MR. ROB MacGREGOR: Good afternoon, folks. Like Max said, we're going to split this presentation. I would like to thank the Board for letting us come and make this presentation. We'll try to be as brief as possible. I did print some copies of the presentation but I had no idea there were this many people here so I'm sure the Board can find a way from the computer later to do that. So, without any further ado I'll get onto it.

Just, you all know this but just to start it, one of the big challenges with eels is their range and they're both freshwater and ocean part of their lifecycle. They're panmictic, at least they appear to be. And that makes the management very difficult. Catadromous which is a unique piece of biodiversity for the folks that have the opportunity to have eels in their system.

They're very complex lifecycle which creates all kinds of challenges, both for the people managing them and, actually, for the eels themselves. And the highly migratory piece just creates a jurisdictional boondoggle, I guess. The management context that we're talking about and have been reviewing is that it's the ultimate shared species.

It's panmictic but there appears to be some biological structure from area-to-area. For

instance, they're all females in the Saint Lawrence River and our inland waters in Ontario and Quebec. The abundance appears to be declining, especially in certain areas. And there is many threats. It's a jurisdictional nightmare that can be resolved, we think.

There is a lot of uncertainty because a lot of focus hasn't been put on eel research in the past. There is a lot of data gaps. And we want to talk to you a bit about the management action. This has all just transpired in the last couple of years that we've been working together on this. Under the status of American eel, well, we knew something was going on with the Endangered Species Act in the U.S.A. and we were aware just before Christmas what the outcome would be.

In Canada we've talked about the Special Concern status and that's a good, probably, balance. None of us are really keen on having things listed if we can avoid it. What it does require is for us to have our feet put to the fire and develop some management actions and plans for the future.

The indices of abundance in the Upper Saint Lawrence and Lake Ontario have declined by about 99 percent – more than that, actually. There is a decimal point after that. There is an example of the recruitment up into the Lake Ontario-Saint Lawrence area. We're virtually at a couple of thousand eels per year now coming into the Lake Ontario system. Back in the '90s we were up to 30,000 a day.

There is the fishery-independent information we have. It's a long-term data series of abundance of eels by electrofishing. Similar declines in the commercial fisheries across the eels' range. And we're actually looking at U.S. data, too. There has been quite a trend in decline, unexplained, largely.

And there is a lot of unreliable data, short-term data series, that seem to miss the high peaks of abundance in some areas. The age data are undocumented in many areas and that's important for eels. And as early as 20 year ago there was published information in the, one of the first conferences on eels that many folks thought that we could harvest all the silver eels we wanted and there would never be an impact on eels.

And we believe that's not the case now. We know more about eels than we did back then. So, just a graph of the – okay – I'll back up. There were record high catches in the U.S. and Canada averaging about 2,000 tons annually in the '70s and '80s. The catches have dramatically decreased in the '90s.

And the declines in the U.S. catches seem to have preceded Canada by a decade or so, whatever that means. In the, on the left figure there, that's what's happened in the Saint Lawrence Estuary, just a steady drop and causing all kinds of concerns by the fishermen and by management agencies.

The top piece of this slide is Canada's harvest. You can see the low catches in the '60s or '40s, '50s and '60s. Those were largely driven by price. When price went up as the European and Japanese eels became harder to find there was a lot of interest in eels. And it remains there. And then with, despite the increased price the declines have been pretty sharp across its range, if you look at commercial catch data. And we all know the issues around that. But there are people right now doing an analysis based on price and harvest.

The key challenge for eels, mortality and habitat loss. You all know that. There is a lot of challenges for eels but we do know that commercial fishing and turbine mortalities have been substantial over its range, the range-wide harvest at virtually all live stages from glass eels up, the impact of habitat loss due to dams and this is a range-wide issue.

Eels really face a gauntlet of challenges during their lifecycle with what we believe is substantial cumulative effects. Fishing, dams, turbines, and other unquantified stressors are things we need to look at in the future. There has been a virtual loss of the Great Lakes segment of the population.

And this may have a significant long-term effect on the overall eel abundance. They are all highly fecund females, the largest and oldest in the range. With all the caveats the estimate so far is the reproductive potential from the Lake Ontario-Saint Lawrence system was 25 to 50 percent of the overall population fecundity for the entire species.

Just some slides there of the types of mortality

sources for eels in Canada. And it's the same range-wide. The impacts of dams, there has been some estimates that for many freshwater species, not just eels, that about 80 percent of their freshwater habitat has been lost. There is work underway right now to confirm that. There is some debate about the extent of it in various jurisdictions. But that's underway right now.

There has been significant mortality of migrating silver eels due to turbines, for instance, on the Saint Lawrence River. The estimates of the two big power facilities on the Saint Lawrence River is a combined 43 percent mortality and this is silver eels, the migrating females. Smaller installations we have discovered through a workshop we had a couple of years ago – and some of you were there, I believe – is that they create even higher mortality because of the design of the turbines.

You've probably, most of you have seen this. It's all over the Websites these days. People are shooting it around in Canada but I believe this start with a petition on the Endangered Species Act in the U.S. Recommendations for the future. We really believe and we're starting the process now in Canada and with New York is that there is a need for focus and coordinated management.

Eels have not been a high priority for many management agencies in the past. Not a lot of money has been spent on stock status, at least in Canada. There has been all kinds of other issues that have taken precedence in the past. Right now we see a need to rebuild the population.

The panmictic nature of eels creates many challenges as we try to do that. And we believe there is some strong data gaps and a lot of inadequate science, and a lot of it being short-term data series. So we need to develop priorities for sustained stock assessment across the range of the species.

We are also finding out that despite the low in comparison harvest value in many areas of eels there is a strong stakeholder interest, very deeply embedded in tradition and culture of both First Nations and European settlers.

There has been some actions you're aware of, recently, the petition in the U.S.A. and you've heard the, I guess it's the 12-month finding. There has been a formal lawsuit just recently laid in Canada over the operation of the Saint

Lawrence River Seaway. Eels are part of this and it's going to be a very interesting year on that one.

There is a framework for a lawsuit coming from the Commercial Fish Association regarding eels in Ontario. And there are recent concerns by the Algonquin First Nations over new dam proposals in the Ottawa River which formerly eels were spread widely and disbursed right across Ontario through the Ottawa River system and eels are part of that.

We think there is a need for a coordinated strategy for recovery across the species range. We think bi-national government, governance is required. And currently the only structure for bi-national governance is through the Great Lakes Fisheries Commission. And that only covers part of the eels' range. And we've actually expanded to include Quebec in the planning exercises for the Great Lakes and Saint Lawrence.

Coordinated management is really required with a broader ecosystem approach than just fisheries management. We believe there is a significant habitat component that needs to be included. We think there is a need for coordinated development of research priorities and coordinated communications with stakeholders.

So, in the U.S. what we know of is the ESA status review, the FEMRF fund that has been developed with the FERC re-licensing in New York. It's developed a \$24 million fund managed by the Fish and Wildlife Service. A new ladder has come because of it. I don't know that it came out of that fund.

And there is a funding envelope now being established for eel conservation in the New York waters of Lake Ontario and the Saint Lawrence and those actions are being focused on trap and transfer and diversions right now. And the, you folks have undertaken some heavy work on coordinating in the U.S. which is great. So in Canada – oh, sorry, Max, go on.

MR. STANFIELD: He has to leave me part of this. That's part of the deal. Talking about recent actions in Canada. I think there is a similarity between our activities in the last decade or so and yours. I was at a meeting with the commission in the late '90s and it seemed to me it was at about that time that interest was

being provoked in the Eastern Seaboard as well. So, since the mid to late '90s, at least it dates from that period when we tried to get our different jurisdictions together and the Department of Fisheries notions and in the provincial jurisdictions we started to cut back on fishing effort and try to get some catch reductions.

More recently since we set up our inter-jurisdictional working group for 2003 there has been more substantial efforts. In Ontario the entire eel fishery, sport and recreational, has been closed. Quebec has undertaken further reductions including some license retirements. And in the federal jurisdictions of the Atlantic provinces there has been further controls on effort and I guess reductions in mortality in the range of 25 to 50 percent, depending on the jurisdictions.

Most notably, as well, in the last few years, particularly for the department I work for, has been an increased focus on habitat and the downstream passage. And that's – did I miss a slide? Excuse me. Okay, I'm just referring to the downstream passage and the habitat priority and how that has evolved over the last few years and the various initiatives that have been undertaken in regard to the habitat, the passage and the turbine mortality.

And in a sense there has been a redirection of priority towards this area, away from the fishery, something we hadn't, neither of us had mentioned. Two years ago there was an announcement of the provincial and federal government to target a 50 percent reduction in eel mortalities. We moved fairly actively in that direction on the fisheries front but that includes dam passage as well.

And that's proven to be more problematic and much of what follows, much about what we're referring to in the Great Lakes relates to this habitat, the dam passage and turbine problem. In that context the, again, under the auspices of the Great Lakes Fisheries Commission there has been work with New York on a bilateral Great Lakes-Upper Saint Lawrence management recovery plan.

This is one small element of the overall activity in Canada but, as Rob had pointed out, the fecundity of this area in relationship to the recent reductions in population have given this a, put a

real emphasis on focusing on that particular area. But beyond that in the Great Lakes and Upper Saint Lawrence we're working on this current national management plan in the context of the Species-at-Risk Act and that's what we're currently engaged on consultations.

As well in the last couple of years there has been some serious effort of stocking in the Upper Saint Lawrence and Great Lakes using elvers from the Atlantic area which are abundant and available for that purpose.

The bi-national governance which is really the main reason we're here today along with, as I said, giving you an idea of what we've been up to over the last couple of years, I mean we see this as having three defining elements, the first being the tremendous complexity because of the 25 different jurisdictions in North America. We see that even in Canada. We're dealing with a smaller number but it greatly complicates the process.

The strong First Nation interests in some of these areas and as was well earlier pointed out the growing concern of legal action on the part of aboriginals and how that may further complicate our task, and then the whole question of an ecosystem approach and what that entails. It certainly involves a much greater emphasis on habitat.

And that's something that we've greatly augmented in terms of our interest, the dam passage and fisheries as well. The cutbacks in the fisheries haven't reached the level that's required. And then a better understanding of what's going on in the oceans' environment which may prove to be the most difficult of all.

Bi-national governance in the Upper Saint Lawrence and Great Lakes, as I've mentioned, is where there has been a lot of progress recently leading to the dam passage and turbine issues. The task group that was set up under the Great Lakes Fisheries Commission will set out recovery goals and objectives, establish research and stock assessment priorities, coordinate access to different sources of funding, identify and manage important sources of mortality and lost habitat, and oversee implementation of these initiatives.

In Canada, as I have mentioned several times, we have overlapping management jurisdictions. The

department I work for is federal. And we're responsible for the marine fisheries on both coasts. Eels is of only relevance in the Atlantic region. We have responsibility in the next bullet for habitat as well. We're the federal lead. And that includes dams, passage and turbine issues and the impact of these structures on fish.

And while dams have been around a long time and our legislative authority to respond to the problems with the dams has been around a long time, it's a relatively new area. We're still finding our way in terms of policy development and exactly how we are going to proceed, not just in this area but throughout Canada.

And in the provinces of Ontario and Quebec they respectively have jurisdictions for the management of eels in their freshwaters. And, as I said as well, we have this inter-jurisdictional working group which includes the federal and provincial. And as this chart demonstrates it's for a small country with not that many jurisdictions it's gotten pretty damn complicated.

I mean we have this GLFC, the Great Lakes Fisheries Commission, task force which I was just referring to which is having a prime focus on the habitat questions, restoration of habitat and dam passage. We have the central group which is this inter-jurisdictional working group.

And then we have a separate organization on the Atlantic areas which is the link between my federal department and the provinces who, while they don't have jurisdiction for management they do have responsibility for trade, processing, and have a very keen interest in what we're up to.

And within this overall structure we've had four areas of focus: the international which is something we've been talking about for a number of years. How do we engage the United States? And do we try to work through something like NASO, the North Atlantic Salmon Organization?

Do we need to create a new commission? Where do we start? We haven't made a lot of progress except in the Great Lakes. How to best proceed with the Atlantic coastal regions is something we have to work out yet. We have a Canadian science group. The steering committee is relating to dam passage. And then we have a group relating to fisheries management activities.

What we've been working on for the last several months is completion of a draft management plan. Now this is a requirement under the Canadian Species-at-Risk Act. If the recommendation from our scientific body for special concern is accepted by the government this plan will be required.

Because we've been engaged in this process already and have been anxious and aware of the need for a national plan we're somewhat ahead so whether or not the government decides to list it as Special Concern we're going to have a management plan.

And once we get this completed, as I said, the next step is we'll be keenly following the developments of the Great Lakes with New York and what we might be able to do with the commission or other agencies in the U.S. to try and put together a concerted and cooperative and coordinated management plan.

Just very briefly, our draft management plan has a long-term goal of rebuilding abundance across the Canadian range to what it was in the mid '80s. As I had mentioned earlier, there is a 50 percent target that we've had in mind and we've announced over the last couple of years. And so our short-term target remains reducing anthropogenic mortality by 50 percent.

We have seven objectives or activity objectives, if you like, that we'll be working towards over the next few years, a detailed action plan to reduce mortality from all sources by 50 percent, achieving a net gain in abundance and escapement by ensuring access and passage from quality habitat. And we have a lot of work to do in this area.

Fisheries management happens to be my area of expertise, if you like. Habitat is another branch of the department. But there is work around GIS systems, identification of what's out there. There's vast numbers of dams and obstructions and other sorts of impediments to eel passage that we have to come to grips with over the next little while.

And we have to develop priorities and means for dealing with that. We have to continue to ensure that the reduction in mortality from fishing meets the 50 percent target. As I said, Ontario has closed down their fisheries. Quebec has gone a long way in that direction. In the Atlantic

regions we have four what we call regions or four jurisdictions. Some of them have done better than others and we still have some more work to do to ensure that there are reductions in effort over the longer term and some shorter term reductions in mortality.

We need to develop decision tools to help us set priorities, particularly in the area of habitat. This is because it's such an immense problem, because it's the whole question of dams and the problems dams create for eels determining what we can do in the short-run, whether it's stocking, whether it's truck and transport, whether there are engineering solutions for the longer-term, where can we get the biggest bang for our buck with the limited numbers of dollars we have. These are something we're going to have to work out with, over the next six months to a year.

We're going to maintain and develop fisheries independent indices. This has been a problem in Canada. I mean you've seen for the Great Lakes and Saint Lawrence there is good information but on the Atlantic Coast because of the low priorities of eels we've still got some work to do in that area.

And then we come down to this question of the bi-national management plan, if possible, and whether or not we can actually move towards some sort of bi-national governance body. And that brings me to the last slide. And then I think we're all aware that this is panmictic, that everybody has got to pull together.

We've seen lots of evidence of the difficulties this leads us to in Canada because the declines are more pronounced in some areas than others. Fishermen aren't very happy to get knocked back 50 percent when they see the big dams in the Saint Lawrence River continuing to kill 43 percent of the migrating silver eels.

It's not going to be that dissimilar down here I don't think. So, we're here to make the case, to cooperate further, to see whether there is a group of people associated with the commission that would be interested in working with Canadian jurisdictions on either a plan or something that might be a governance body, whatever might be possible. Thank you.

CHAIRMAN CARPENTER: Thank you very much. And I'm really quite disappointed

because I thought you gentlemen were going to bring us all the answers. You just brought a bunch of questions. Let me ask is there any Board member who would like to make a comment or ask a question? Yes, sir, go ahead.

SENATOR DENNIS DAMON: Thank you very much, Mr. Chairman. I appreciate very much that presentation from the gentlemen. And I'm wondering if we might be able to get a hard copy of that? And if we can't, can we get it electronically at some future date?

MR. MacGREGOR: I have some here. I have about ten copies and we're leaving an electronic version on the computer here, too.

CHAIRMAN CARPENTER: We'll have it available electronically later this week that we can I guess send out to Board members if that would be a sufficient for you, timeframe for you. Very good. Next.

MR. TERRY STOCKWELL: Yes, thank you, Mr. Chair, a question for Max. You mentioned a restocking effort. Could you elaborate on that and were you able to measure any success?

MR. STANFIELD: I think because this falls within the jurisdiction of my colleague, Rob, in the freshwaters I'll pass it on to him.

MR. MacGREGOR: It's only recently begun. It's about two or three years ago that Quebec started it in the Richelieu River-Lake Champlain area. They virtually lost all the eels in that system due to dams. Some of those dam obstructions – I'm not sure if it's with an "n" or not – have been resolved. And so the stocking is there with the intent of offsetting some of the problems from the past. They're still too small to really get a handle on the success.

In Ontario we just started stocking this past fall. And they were only bootlys at that stage. And it was about 144,000 we stocked, about 2 grams to 6 grams. We had a lot of concern around moving disease around with the Anguillacola-something. And so we had to do a lot of analysis before we got the approval and the okay. This coming spring we'll be hopefully stocking 3 million elvers. So, the assessment piece is just underway and they're still too small to get a good handle on it. That's the short answer.

CHAIRMAN CARPENTER: Thank you. Pat

Augustine.

MR. AUGUSTINE: Thank you, Mr. Chairman. I'm going to tell everybody how old I am right now. I worked on the Saint Lawrence Seaway when it was nothing more than a block across the Mesina Intake. And I used to dive there. This is in the late '50s and early – yes, that was late '50s, '56, '57, '58 and '59.

And I remember diving behind the Alcoa Aluminum Plant when you could not find a wedge to put a toothpick between the ripraft that was built around the outside of that for the number of eels that were there constantly from start up there in May and June right straight through until September.

I went back and dove there in '85 and there are practically none there. And it's interesting in your chart when you show the abundance of eels in the Upper Great Lakes system there, in the Saint Lawrence, that you had a solid, pretty steady high survey all the way up through maybe the early to mid '80s but during the '60s, even when they built the dam all the way across the Saint, all the way across, you still had a continuing abundance going up there.

So, that's just an observation, an anecdote. The question is, how far downstream have you actually had your survey going to determine whether or not they're just getting caught up against the back side of the dam and just not able to pass upstream? Have there been surveys?

MR. MacGREGOR: There has been a huge amount of work done by New York Power Authority and Kevin McGrath could speak to that. He's in the audience there. But a lot of money is spent on that type of research. And they really have no other alternative because they follow the main current than to go through the turbines.

There is not any water spilt, per se. You're talking about downstream passage. Upstream passage seems to be getting resolved. We're getting them over in good numbers. But what seems to have happened in the longer term is we haven't done a lot of work downstream in the estuary.

We've got short-term data series and the big issue we have is the panmictic nature of them means that we would probably see them at this type of decline first and most significantly at the

extremity of the range if they are panmictic. And it seems to be that the density of the entire population pushes them further. I hope I answered your question. I'm not sure I did.

MR. AUGUSTINE: You did. It just seems to me we have identified the turbines as one of the major issues to deal with and I know in New York we've talked about it. Gordon made several presentations back home and here where he has commented here that we're working with the power authorities and so on to do something about changing or reducing the number of eels and other species of fish that get sucked up into the turbines.

But it's now – it's been years. I've been in this group since 1997 and I haven't heard of one power plant that's made a significant change in the flow to those turbines to reduce that bycatch. And I guess the question is, even though we're going down this route, which is the right way to go, get both Canada and the United States involved, when are we really going to see the light at the end of the tunnel other than seeing another big locomotive coming at us saying we can't do anything and it's going to be costly for the power plants to redirect their intake flow? Any help on that?

MR. MacGREGOR: Well, there is an action plan being developed right now with Ontario Hydro or Ontario Power Generation now which will focus on that issue. And New York Power Authority has done a huge amount of work in the past on light diversions and so forth. That needs to be followed through and there is planning happening right now. So it will be four or five years.

And hopefully we'll have a lot more information than we do now. The big issue is the loss of these females. I'm concerned, as are a lot of others, that it's going to have a significant impact. Remember, eels stay in the system for 20 years up there. So what you saw in the '60s, probably what we're seeing now is a consequence of the early '50s and '60s.

MR. AUGUSTINE: Thank you.

MR. STANFIELD: I would just add that a couple years ago we had a fairly complex and long, drawn out decision analysis around this whole question of what to do with the dams. As I said, it's within the fisheries notion or Fisheries

Act of Canada. There is a lot of authorities in there to respond to the problems of dams. And it's not something that we've tended to confront head-to-head.

I think what came out of the decision analysis was that any major engineering works would be problematic, at least in the near future extremely costly. And that's why we're tending to be talking more about stocking, truck and transport, at least in the next few years and as well, though, to be engaging the hydro companies and to be twisting their arm, for lack of a better way of putting it, to be contributing more money to dealing with both the shorter-term problems and some of the shorter-term solutions and then the longer-term engineering questions.

And to date I think you people picking New York Power has been more successful and more generous than the Canadian hydro companies. But we're at least in my department we're slowly I think moving on that one.

MR. AUGUSTINE: Thank you for that enlightenment on the issue.

MR. MacGREGOR: By the way, if you've never experienced decision analysis exercise, you should experience it once.

CHAIRMAN CARPENTER: Thank you very much. Gordon.

MR. GORDON C. COLVIN: Thanks, guys, for the presentation. I think that was very helpful. And if nothing else it certainly confirms in our minds that the issues of governance involving eels are perhaps as daunting as the scientific and technical and engineering issues associated. You know, we in New York certainly are fully supportive of and involved in the bi-national effort that's developing.

But I think it's important to say that we are even as much supportive of the recommendation here to join that effort with the Interstate Eel Management program of the commission. And I think that that's really the fundamental issue that's before us here today, Mr. Chairman, is how can our effort work in collaboration with that of our northern partners?

What has been suggested, as I understand it, is an effort to, for a meeting later this year at which these governance and cooperative management

issues could be more thoroughly explored and in detail. And I want to fully support an initiative to do that. Now, I'm not sure the, whether the chairman or the staff has had an opportunity to think through how that might be pulled off. And I appreciate, again, the complexity of a process that involves so many of us and the expense and the logistics associated with it.

I wonder if it would be appropriate for the chairman and the executive director to develop a program that might involve a delegation of the members of this Board working with the Great Lakes Commission and the bi-national effort partnership members to convene later this year and deliberate on that issue and hopefully come up with an approach that will work for all of us.

I would certainly be supportive of that and willing to support whatever decision the chairman and the executive director made in terms of how to structure such a delegation and put together a proposal for us.

CHAIRMAN CARPENTER: I have not consulted staff on this. But one of my thoughts was that we can certainly, I think, approach the Policy Board to include the, our Canadian representatives and our Great Lakes representatives, grant them a seat here at this Management Board because it is so unique that we should invite them at least to that level. But, that I think is going to be a Policy Board decision or suggestion.

With regards to a more formal meeting of a smaller delegation, I do think that that's an appropriate task. I will get with the executive director before the week is out and we will discuss some of the ramifications and possibilities for some membership on that.

And I'm looking to our Canadian friends and Great Lake friends here to maybe sit down with us this afternoon or maybe – Vince, I'm kind of looking at you for a time line here where we might be able to get together because I know that we've got another Board meeting immediately following this one. But I think we need some indication from the north side of the border here as to what their expectations for some kind of delegation meeting would be.

EXECUTIVE DIRECTOR JOHN V. O'SHEA: Yes, thanks, Mr. Chairman. Maybe – are you fellows staying over tonight or are you trying to

get back tonight?

UNIDENTIFIED: We have planes.

EXECUTIVE DIRECTOR O'SHEA: Tonight. Well, we'll try to do it this afternoon, Mr. Chairman.

CHAIRMAN CARPENTER: Thanks.

EXECUTIVE DIRECTOR O'SHEA: And when I was nodding to go to the Policy Board it wasn't that I was supportive of it or against it, it was just it should be discussed at the Policy Board.

CHAIRMAN CARPENTER: Is there anything further on that agenda item? We will work with staff and present you all with a plan. And if it, something that were to come up between now and the next Board meeting, I think this is something that we can do through a fax poll or an e-mail poll or something, depending on the timing of this.

Is there any objection to the Board or from the Board with the staff and I proceeding in that direction? Seeing no objection, I think that's the course we will take. Thank you both very much for your willingness to come down. And we do appreciate the efforts and we'll be looking forward to working with you all in the near future here. Thank you very much.

MR. MacGREGOR: Thank you very much. We very much appreciate this.

CHAIRMAN CARPENTER: The next item on the agenda is a presentation of the management options from the PDT. Erika is going to present us with that list.

MS. ROBBINS: Thank you. Right after the Canadian/Great Lakes presentation, comments were passed around that were submitted after the publishing of the meeting materials for this week. And the first one is from the Law Enforcement Committee and I would appreciate it if you all had a chance to look at it. And the second is public comments submitted by the, submitted for the record by Mitchell Feigenbaum who is unable to attend this meeting.

At the Annual Meeting in October the Board requested that the Plan Development Team draft potential management measures for American eel. The Plan Development Team operated under the assumption that the goal of the

management measures would be to enhance biomass and facilitate the escapement of potential spawners with the hope that in the short term measurable increases in juvenile recruitment and indicators of yellow eel abundance would result.

The Plan Development Team recommends that the Management Board consider the following management options: Number 1, gear restrictions and size restrictions in concert with a 30-day seasonal closure; 2, a management trigger based on an index or indices falling below the 25th percentile benchmark for three consecutive years; and, thirdly, formalized recommendations to ASMFC states and jurisdictions to protect upstream and downstream migration of eels through the FERC re-licensing process.

The American Eel Technical Committee members have had a chance to review and comment on these options. And their responses are included in your meeting materials as part of the summary of the conference call on December 19th. Comments from the law enforcement, as I said earlier, have been distributed to you at this meeting.

The Plan Development Team believes that the options of gear restriction, size limits and seasonal closures employed collectively will protect out-migrating silver eels. The length of out-migrations and the maximum size will determine what percentage of silver eels are allowed to out-migrate.

Members of the Plan Development Team identified limiting the diameter of the throat opening to an eel pot as their preferred gear restriction. This gear restriction eliminates the need for harvesters to handle the larger eels and occurs at the site of harvest. The Plan Development Team feels that this restriction is likely to be enforced more easily than the other potential options.

The maximum size for the throat opening can be determined by using the Theoretical Mesh Retention Size developed by Geer. A restriction on throat size naturally enforces a size limit. Other options for enforcing a maximum size limit include using a grader to sort catch or a scale to weigh eels. Using a grader the harvester would eliminate the larger eels from the catch at the time of harvest. Weighing of eels would occur at the dock after harvest which is less

preferable.

The maximum weight of the legal eel could be based upon the maximum length and determined using Olivera and McCleave length-weight relationship. Eel length data suggests that eels in the northern end of the species' range grow to be larger than eels in the southern end of the range. In order to facilitate equal levels of escapement along the U.S. Atlantic Coast a maximum size in the southern states may need to be smaller than the maximum size in the northern states.

It is likely that the maximum size will not protect all out-migrating silver eels as males are commonly smaller than females. As there is no size that is all-inclusive of silver eels and exclusive of yellow eels, smaller silver eels are not likely to be protected by gear and size restrictions.

Although it has been suggested that silver eels do not feed, and therefore, would not pot, it is important to recognize that the process of "silvering" does not occur overnight. Some eels may enter pots in the early stages of silvering and will eventually become silver eels yet retain some of the behavioral priorities of yellow eels, or begin silvering while being held in a live well.

Another consideration is that eels are attracted to cover. Many experienced eel fishermen have taken advantage of this and cover an eel pot with burlap and catch silver eels in the fall months using very little, if any, bait. Data show that silver eels have been caught in pots and pots have been biased towards catching large female eels.

To protect the smaller silver eels, the Plan Development Team proposes a 30-day seasonal closure, prohibiting the possession of all eels life stages at that time. The length of the time that eels out-migrate is not uniform along the coast. And in some places the timing of out-migration is unknown.

Some systems observe out-migration of silver eels lasting 30 days; others observe it over 90 days. Unlike the proposed gear restrictions, the seasonal closure is a management option that does not single out any one fishery and affects all gears. A seasonal closure would serve as a means of allowing all silver eels to out-migrate, regardless of size.

The timing of the seasonal closure would vary by state as out-migration is believed to occur earlier in the south and later in the north. For those states that do not have data on out-migration, the timing of the closure should be based upon the timing of the closure in neighboring states. For example, if Virginia is not aware of when their silver eels head out to sea, but Maryland and North Carolina do, Virginia's 30-day closure would be set between the closures in the two other states.

The Plan Development Team believes that a 30-day closure, along with gear restrictions and size limits, would be sufficient to facilitate a reasonable level of escapement of potential spawners. A seasonal closure alone would afford the out-migrating eels the least amount of protection.

The Board asked the Plan Development Team to consider using the yellow eel indices as a gauge for how management is working. This is a way to monitor locally and act coastwide the mixed model approach that was presented by the Stock Assessment Subcommittee. This conservative approach combines the benefits of local and coastwide approaches. It does not ignore local depletions and it recognizes that all American eels are from one stock.

The Plan Development Team suggests that the 25th percentile for the yellow eel indices be a management trigger. If an indices or the index falls below the 25th percentile for three consecutive years, it would trigger additional management action. The 25th percentile needs to be based upon a reference point or reference time series so that it does not shift from year to year.

If the percentile is allowed to shift there is potential for real declines in the indices to not ever trigger a management action. Before the yellow eel indices can be used as a triggers for management action, the indices need to be validated and the coastwide GLM needs to be recalculated.

The graph here shows the coastwide GLM of yellow eel indices as it was presented in the update to the stock assessment at the Annual Meeting. The two dashed lines represent the two percentiles. The top line is the 75th percentile and the bottom line is the 25th. As an example, if

the 25th percentile was the management guideline beginning in 1990 additional management action would have been triggered in 1994, the third year that the index fell below the 25th percentile.

There are multiple factors that affect the size of the eel population besides fishing. They include barriers to upstream migration and downstream migration, habitat loss, and oceanographic conditions. These other factors may inhibit the ability of the recommended management measures to produce positive effects that could be visible in our current indices.

The management measures that have been presented here are based upon the basic assumption that increasing the number of eels that are allowed to spawn will increase the number of eels that can recruit to the population.

To address some of the other factors, the Plan Development Team recommends that the Board formalize a policy for states and jurisdictions with an interest in the species to request provisions to protect out-migrating silver eels and facilitate upstream and downstream eel passage through the FERC re-licensing process. The Plan Development Team also recommends that the Board encourage data collection on upstream and downstream migration patterns so that eel passage can be made more efficient.

Oceanographic conditions, including the North Atlantic Oscillation and the Gulf Stream, influence when and where leptocephali and glass eels arrive on the coast. The recruitment, like these oceanographic conditions, is variable. The recruitment may not occur where we are currently monitoring for glass and juveniles.

The Plan Development Team recommends that the young-of-year indices be validated to determine how they should be used. Are they presence and absence indicators or are they total abundance indicators? While the young-of-year indices have not been validated, it is important for individual states to continue their surveys as we are building upon the only coastwide index of young-of-year.

On a different note, as you heard earlier, Canada is currently attempting to replenish lost stocks of or lost populations of American eel through restocking in areas where they're absent. The offspring of these stocked eels will likely recruit to the United States along the Atlantic Coast.

Stocking may be an activity that some states may wish to pursue in the future and it may be prudent to develop regulations or guidance for those that wish to undertake this activity.

In conclusion, the Plan Development Team has recommended that gear and size restrictions and a seasonal closure could be implemented to facilitate the escapement of potential spawners. The Plan Development Team intends for these options to be used in conjunction as they augment each other.

The Plan Development Team has also recommended that yellow eel indices falling below the 25th percentile be used as a trigger for additional management measures. Lastly, the Plan Development Team recognizes that improvements to eel passage, upstream and downstream, will increase habitat availability and assist in the out-migration of silver eels.

These recommendations were developed upon the premise that increased escapement will increase recruitment to the population.

CHAIRMAN CARPENTER: Thank you, Erika. Thoughts, comments, questions from Board members. Kelly.

MR. KELLY PLACE: Yes, one question, Erika. You earlier indicated that the out-migration of the eels occurs earlier in the south than the north. May I assume that you were referring to earlier by age and not by season? It sounded like you meant by season but I can only assume that you meant by age.

MS. ROBBINS: I mean by season.

MR. PLACE: By season?

MS. ROBBINS: Yes.

MR. PLACE: So, even with the water temperature obviously getting colder much later in the south that they're still migrating out earlier? So in other words, it's not temperature-dependent, the out-migration?

MR. CLARK: At this point we don't really have that much data on what is triggering out-migration of silver eels. And we don't have much data on it from many places. One of the more recent studies we do have from a grad student in Delaware looked at a small tidal river

in the southern part of the state and found glass eels started migrating mostly due to rain events – MR. PLACE: Glass eels you said?

MR. CLARK: I mean silver eels. I'm sorry.

MR. PLACE: Okay.

MR. CLARK: Silver eels started out-migrating and it was mostly tied to rain events starting around Labor Day. And they would out-migrate every time there was a rain. And the migration continued for several months. So, that just was the experience there. Now, we don't really have enough data to generalize, though, you know, as to what the pattern would be in any other place.

MR. PLACE: You could see my source of wonder there in that I can't think of any other species that out-migrates from its native estuary earlier in the south than they would in the north.

MR. CLARK: Right.

MR. PLACE: Given the temperature regimes are exactly the opposite of that. So I just found some interest in that. Thank you.

CHAIRMAN CARPENTER: Thank you. Roy Miller.

MR. ROY MILLER: Thank you, Mr. Chairman. Erika reminded me of a question I had earlier for Max and Rob, if you don't mind. And it concerns your, the statements you made concerning stocking and reminded me to ask if the Canadian experience, what is your strategy with stocking in Canada's experience?

What protocols do you use for obtaining presumably glass eels for stocking or what do you do and where do you get them from? And where won't you stock them? In other words, I assume you want them from a system as geographically close as possible? Or maybe you have other protocols. Thank you.

MR. MacGREGOR: I'll start and Max can finish with the federal perspective. There is a strategy around the elver harvest. There are three glass eel harvests on the East Coast that 10 percent can be used for conservation. So, of the quota there is an additional 10 percent available if it's for conservation means.

We have to go through a huge protocol around

disease testing, as you might have surmised. And the real goal of it is to temporarily offset the effects of turbine mortality until we can find a more permanent solution. There is a whole raft of uncertainties around stocking eels. Nobody really has any experience with the success.

It's been done in Europe but it hasn't been followed through a lot so our intent is to really carefully do an effectiveness monitoring program. It's mostly glass – well, hopefully it will all be glass eels in the future. The big problem we have is with culturing them in a facility either exposed to other diseases and then you run into all kinds of problems with getting approvals to move them inland and you've all probably heard about the VHS issue we're facing – and maybe you haven't.

It's a big VHS disease problem that's just recently arrived. We don't want to be responsible for moving diseases inland that come from the Atlantic Coast. And so there is a big protocol that we have to follow through both federally and bi-nationally in the Great Lakes.

And our strategy simply is there are some areas in the Atlantic Coast where eel juvenile eels, glass eels, elvers, go into acid rain lakes and the production is basically zilch, we feel. So that's where that conservation allocation comes from. It's a, basically there are some wasted production of glass eels from those areas. Max, do you have more to say there?

MR. STANFIELD: We have a policy which has a set of protocols called Introduction and Transfers and whether it's related to salmon aquaculture or these sorts of things there's a fairly serious review process before these can be approved. And that's probably what Rob was referring to.

And then in terms of the acidity, there's a, in Nova Scotia there is a bunch of rivers along the shore that are acidic and the elvers collect in the river mouths and don't have much prospect for reproduction or survival subsequently so there is a fairly large elver fishery there and that's where the stocking comes from.

MR. MacGREGOR: Currently it all comes from the East Coast of Canada, if that's what you're asking.

CHAIRMAN CARPENTER: Thank you.

Before I get too far down with requests for Board consideration of the actions I would like to call on the representative from the Law Enforcement Committee to go ahead and give their report so that we can consider them both at the same time. Thank you.

COLONEL JOSEPH FESSENDEN: Thank you. Mike Howard called me about a month ago and I missed the phone call, the conference call on this issue but we discussed the minutes, I would say, of that call. And between the two of us we decided that probably measuring eels is probably the most difficult measure.

We're not familiar with use of a grader. I know in the state of Maine we have determined the size for elvers and eels. And in Maine, for example, anything under 6-inches would come under the elver law. Anything larger than that would come out of our eel law, two separate laws.

In the report gear restrictions certainly is the most enforceable as far as the law enforcement perspective. Closed periods, another effective tool for law enforcement. Measuring would be very difficult for us unless you clearly have a difference in size. For example, six inches, anything less than six inches comes under the elver or glass eel law and anything over that comes under the eel law may make sense and may be enforceable.

I know we've had good luck with it in Maine to enforce. But the use of the grader, I need to become more familiar with the grader to see if that's something that's possible for law enforcement.

There's issues about officers carrying graders and being certified to use them and whether we need to have the thing, the grader actually certified by some weights and measure state agency. So there are issues with measuring a live animal versus a dead animal. It's a problem. I've done a lot of eel fishing myself and they're very difficult animals to handle. So, that concludes it.

CHAIRMAN CARPENTER: You mean it's not as simple as how many times it wraps your arm as you figure out how long he is? All right. Thank you and I tend to agree with you. I think gear restrictions and seasonal closures might be the most enforceable and effective measures that we may consider. I had a few hands up before I

– so I'll start with Gordon for comments or questions.

MANAGEMENT OPTIONS FROM PDT

MR. COLVIN: Thank you, Mr. Chairman. I just wanted to confirm one thing and then I have a question on how we proceed. I think as I understood Erika's report, the PDT conferred with the Technical Committee jointly in a December conference call and that generally the recommendations included in the PDT's final options in their January 4th paper presented today are generally supported by the Technical Committee. I just wanted to make sure that I was clear on that point.

MR. CLARK: I would say at the last call it, I would say the Technical Committee did not settle on any given option at that point but those were definitely the options that were being discussed.

MR. COLVIN: That said, Mr. Chairman, it seems that there might be a possibility of proceeding today to move forward towards the development of approaches to further refine, identify options and move towards decision on a course of action based on the management options presented.

My question is whether these options would be consistent with moving forward towards an addendum and the development of an addendum, and would action by the Board or motion by the Board to proceed towards the preparation of such a document be in order?

MS. ROBBINS: Under 4.5 of the Fishery Management Plan for American eel, which is the adaptive management measure, all of the options that have been presented to you qualify to be implemented through addendum and an amendment is not necessary if you choose to pursue the amendment – addendum process.

CHAIRMAN CARPENTER: I think that's the answer that we had anticipated with that. At this point I think that the options for the Board would be to, I guess go through the list of items that have been identified and select which ones we might think are appropriate to move forward to an addendum.

And if we can do that with the amount of effort that we have here represented today I think it

would speed the process of moving forward with an addendum to begin some additional conservation measures here.

With that in mind I think Erika has a list of the items kind of summarized here. And if I can borrow her list, the first item that she has got here are the gear restrictions and I'm taking that to be the throat on the pots and that type of information that she had presented. And then let me try this tact, is there any objection to that issue being fleshed out in more detail for an addendum process? Gordon.

MR. COLVIN: Certainly no objection, Mr. Chairman. Obviously, we need to identify some options and as I read the, kind of the summary of the description in the January 4th memo it's described as "gear restrictions, size limits in concert with a 30-day seasonal closure."

That suggests to me that while there are clearly some issues and concerns about size limits, Mitchell's memorandum to the Board suggests that there may be some interest on the part of the advisors in at least identifying those as options.

And I would recommend that they not be removed from consideration at this point. And we do need to have alternatives and options under each of the issues in an addendum and maybe that could be broadly fleshed out by the PDT.

CHAIRMAN CARPENTER: Okay, size restrictions was the next item on her list here so we're going to get to those kind of things. And while I may have my own reservations about measuring size limits on eels, I think that for the benefit of the scoping document or the addendum process here I think we need, do need to include it at least at this stage for some further analysis and inclusion.

Is there any objection to including size limits or size restrictions in that regard at this point of the process? All right, the next major issue would be seasonal closures. I think she gave a very thorough presentation on this issue. This would be for all gears and for a specific period of time based pretty much on the area where you're fishing. Are there any objections to including that item to be worked on? It's a very agreeable crowd this afternoon. Roy.

MR. MILLER: Mr. Chairman, I presume you're

talking about seasonal closures to protect silver eels? Am I correct in that clarification?

CHAIRMAN CARPENTER: No, I'm talking about a total seasonal closure. Maybe one of the options could be that they could consider is that it would be for silver eels. But if you've got a total seasonal closure it's going to protect all life stages, not just the silver eel. But maybe one targeted more closely to just the silver eel out-migration period might clearly be an option that we will need to include. Does that satisfy?

The next item that she has listed here is the management trigger, the 25 percentile. And I guess I'm going to have a question of the Technical Committee. Are we anywhere near the point where the graph that Erika had reached consensus amongst the Technical Committee that that's a valid 25 percentile number that we can work with? Or is this going to require additional work and effort?

MR. CLARK: To the best of my recollection wasn't the first time we saw the graph just at the last conference call? So I do not think at this time that – I don't think there was a feeling that it wasn't useable but I don't recall us voting on that. Or was there?

MS. ROBBINS: The Technical Committee hasn't considered it specifically but the stock assessment subcommittee is concerned about the GLM model itself. They feel that there may be some errors in it and they'd like to get that fixed before it's used as a management measure. I'm not sure the timeline for that, though. But if the Board would like them to pursue it, they can work on that for the PID document or the next proposal.

CHAIRMAN CARPENTER: Well, I guess that's where I was going with this was is it ready for an addendum at this point in time or is it going to be something that's going to need additional work and validation before we bring it to the Management Board? And I'm starting to get the feeling that it's something that's going to need additional work and validation before the Board wants to include it in an addendum.

So, I'd much rather have the Technical Committee fully vet and evaluate this management trigger concept before we go out to public hearing than after we go out and find out

that it's got to be changed. And I don't think that it's off the Board for a future addendum. But I'm not convinced that it's ready for this one just yet. Any comments on that line? Pat Augustine.

MR. AUGUSTINE: No, I think it's the right approach. It seems like the only approach to go ahead and have it vetted by them, reviewed by them, and then come back to us for a follow on or final review. I would, just one point on size. Did we talk about a maximum size consideration or that just said size? Was that strictly minimum, maximum or all?

CHAIRMAN CARPENTER: Size restrictions I think could be minimums; they could be maximums or any combinations thereof. That's what the PDT will flesh out.

MR. AUGUSTINE: Thank you for that clarification.

CHAIRMAN CARPENTER: All right. All right, Erika.

MS. ROBBINS: It would be possible to have the stock assessment subcommittee start working on this and if it is ready at the time of our next meeting present it to the Board. And if it's not, when it is ready it could be presented.

CHAIRMAN CARPENTER: Well, that was going to be one of my charges was to the committee to see if they could get that done between now and then. And I guess the assumption is that if they can get it done and bring us with a consensus then, and the staff has been able to flesh out this trigger mechanism, then it won't be too late to include it. But, I don't want to get the cart before the horse too far here. Is there any objection to proceeding in that regard? Thank you. Malcolm.

DR. MALCOLM RHODES: Well, just a question. On the trigger what you all are talking about is getting the 25th and 75th percentiles. But then will one local trigger set a coastwide change or is it going to be multiple local triggers and then multiple years? Or has that been worked out yet?

MS. ROBBINS: That hasn't been worked out yet. That will be something that will be presented as options to the Board once the individual indices have been validated. There is problems with – many of the indices are located

in the northern end of the range or the northern part of the Atlantic.

And having those influence the southern end of the range might not be appropriate. So to determine whether, how much weight each one would have and how the weight that they do have influences the coastwide index would have to be evaluated by the stock assessment subcommittee and would be presented to the Board.

CHAIRMAN CARPENTER: Which is really why I wanted not to get the cart too far ahead of this horse. So, all right. Tom.

MR. THOMAS McCLOY: Thank you, Mr. Chairman. We have a January 24th memo from the chair of the advisory panel in which he is very clear on these are his own views that he is expressing. I was wondering if there is any consideration to have the AP meet prior to the development of the draft addendum to have some additional input.

CHAIRMAN CARPENTER: I am looking at staff to see if there, that's a logistics issue or would we be better off to have the Plan Development Team at least get a strawman ready before you call the AP together?

I'm getting some nods around the table that it might be more appropriate to at least get the strawman put together before we call the AP in order to – if they have something to look at and work with, I think it's going to be a more productive meeting than just the minutes from the meetings or the notes from the conference calls that we have now is my general feeling.

And I'm getting some endorsement from the staff on that. So, with that I think we will proceed with the direction we're headed here now. The last item that Erika had on her list was the FERC re-licensing and I'm taking it that this would be just a statement in the addendum that would encourage states to take advantage of the re-licensing period to work on these issues.

MS. ROBBINS: Yes.

CHAIRMAN CARPENTER: Okay. Is there any objection to including that? Seeing no objections, those are the key issues that I think we'd be looking at in a future addendum. I think the staff has some pretty broad latitude to

develop options within those five or six key issues, five key issues. Is there anything else that any of the Board members want to include at this point in time? Pat.

MR. AUGUSTINE: Mr. Chairman, I think it was Rob who mentioned something about the power authority folks and you looked out to the audience. Is there a power authority person here that you saw?

MR. MacGREGOR: I can see you, Kevin. Stand up.

MR. AUGUSTINE: I'm wondering, Mr. Chairman, would it be appropriate to, for a moment, to see if they have anything to offer to this discussion and see what their participatory position is?

MR. MacGREGOR: So Kevin McGrath is at the back there. I'm not sure he can hear us, though. He's in the audience there.

CHAIRMAN CARPENTER: Kevin McGrath, if you could identify yourself, there is a public microphone. We would invite you to join us.

MR. KEVIN McGRATH: I'm not sure what's being asked of me. Yes, we're wide awake. The, I mean I'm not and I am not qualified to comment on the fishery issues and, you know, size of the mouth of the gear or anything like that. Relative to FERC and re-licensing and trying to get something on upstream and downstream passage, I think that's commendable.

And I think it's, in a sense, the right way to go. But as Mr. MacGregor pointed out, on downstream passage I don't know of any – and believe me I would know given the work that I do – I don't know of anyplace in the United States or in Canada where there is any downstream passage let alone effective downstream passage. No one knows how to do it.

So, you know, you can say, yes, you know, in FERC re-licensing someone should try and figure out – and it's a very important issue and we're trying to work on it and we're doing a lot of work on the Saint Lawrence on it right now. But to just say that doesn't really accomplish anything. What's needed is a lot of resources and a lot of work done to try to figure out some

way to pass them downstream.

Rob said that it might take five-six years to get something on the Saint Lawrence. That's pretty optimistic. I mean I'd like to think that something could be done in then but it's a long, difficult, hard process. And so there is a long, long way to go. And so that's the only comment that I'd make to that.

CHAIRMAN CARPENTER: Thank you very much, sir. Bill Adler, you had your hand up.

MR. WILLIAM A. ADLER: Thank you, Mr. Chairman, a couple of questions. First of all, maybe this came from Max and Rob, the 43 percent of silver eels killed by dams, the 43 percent of the total killed comes from or you estimate came from that, the dam system?

MR. STANFIELD: Forty-three percent of the silver eels that leave the Lake Saint Lawrence, sorry the Lake Ontario-Saint Lawrence system are cumulatively killed between the two power facilities on the Saint Lawrence River. So, there is Moses-Saunders and Boharn in Quebec, between the two of them. So it's about 20-odd percent each for each facility.

MR. ADLER: All right, thank you. And so probably it's, it could probably be similar to that in the U.S. system of some type of magnitude of that. And I just think that if you're going to develop an addendum since a lot of the questions will come from the fishermen as to all these other sources of mortality, then there would need to be some explanation as to why the fishermen are being restricted here and not the other mortality sectors to this eel.

And I think, because I remember at one hearing we had in Gloucester where one guy said, the eels go up the Merrimack, I think it was, at a certain time up to a point where there is an obstruction. And they – now I'm not sure but they said they go up at a certain time of the year. And if that power plant or dam or whatever it was could shut down for two or three days during a certain time whatever was trying to get up or get down would work.

It sounded very logical to me. I mean it wasn't a big deal. I mean it wasn't shutting down plants or building/rebuilding passageways. But it's that type of scenario that is going to be heard at a hearing. So if there is some explanation in an

addendum that could explain why the other sources either can't be accessed or something or done something with, that would need to be – because that would be the question that will come up, why don't you go do something there? So just be aware; be forewarned.

CHAIRMAN CARPENTER: Thank you, Bill.

MR. STANFIELD: Mr. Chairman, that has been our experience in Canada, that why us and not them? And so that's the idea of this national plan is to get our arms around all of that.

CHAIRMAN CARPENTER: Thank you very much. It's all of us instead of not them or us, right? Given the consensus with the Board on selecting items for an addendum, unless there is an objection for the directing the staff to proceed with a draft addendum I'm going to go ahead and direct staff to start in that direction.

Is there any objection to beginning this process? We all recognize that it's a lengthy process. It's time consuming on the part of the staff. But I think we all agree that it is something that its time has come and now is about the best opportunity we're going to have. So without objection we'll – yes, Bob.

MR. ROBERT E. BEAL: Just a quick question, obviously not an objection, is the expectation that a draft of this document will be ready for the May meeting of this Management Board or some other time?

CHAIRMAN CARPENTER: Are we scheduled for a May meeting?

MR. BEAL: This Board could meet in May if there is, you know, some business to be addressed.

CHAIRMAN CARPENTER: I think it would be a good idea if the staff time allows it – and I'm going to let you judge the staff's time to determine whether or not you can get it ready for May. If you can, fine; otherwise, we'll take it at the first available opportunity.

MR. BEAL: Well, we'll stay in touch and work with you on that as chairman.

CHAIRMAN CARPENTER: Very good.

MR. BEAL: Thank you.

ADJOURN

NOMINATION OF VICE CHAIR

CHAIRMAN CARPENTER: All right, oh, we've gotten to the most important item on this agenda today which is the election of a vice chairman. Who has the nomination for that? All right, now. Just because you all were all quiet all day long, now is the time to speak up. If somebody would nominate Pat Augustine I bet we can get one here. Can I –

REPRESENTATIVE DENNIS ABBOTT: I'd like to make a **motion to nominate the gentleman from New York, Mr. Patrick Augustine.**

SENATOR DAMON: Second.

CHAIRMAN CARPENTER: A wonderful nomination and a very appropriate motion. I see a second to that motion. Is there any objection to the motion? No objection, even from Pat. Thank you, Pat. We now have a vice chairman.

MR. AUGUSTINE: Thank you, Mr. Chairman. Thank you, Representative Abbott.

OTHER BUSINESS

CHAIRMAN CARPENTER: Is there any other business to come before the Board? Ritchie White.

MR. G. RITCHIE WHITE: Thank you, Mr. Chairman. Just had a concern and thought I'd throw it out there. In reading Mitchell's report, at first blush to me it looked like it was an advisory panel report where he lists himself chair of the advisory panel. The second paragraph, "These are my own views" so he kind of makes it clear that it's not from the chair of the advisory panel but from him, he as a constituent.

Then the last paragraph he kind of gets back and it is really from the chair of the advisory panel. So I guess I just kind of had a concern should this have come in two different formats, you know one being from the chair and the second being from a constituent?

CHAIRMAN CARPENTER: My personal view would have been that it would have come as a personal view and not as his position since the Board hasn't met. But it's public comment and we take public comments and we judge them based on all the criteria that we all have so thank you very much. With that the meeting is adjourned.

(Whereupon, the American Eel Management Board meeting adjourned on Tuesday, January 30, 2007, at 4:00 o'clock, p.m.)

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