

Transcript: Panel Discussion, International Eel Symposium 2014
August 21, 2014

Attendees

Name	Role
Aalto, Emil	
Aranburu, Aizkorri	
Beaulaton, Laurent	
Bernotas, Priit	
Bjorkvik, Emma	
Boisneau, Catherine	
Boivin, Brian	
Boubee, Jacques	
Bouw, Martie	
Bowser, Chris	
Braewick, Uwe	
Burliuk, Colleen	
Burns, Gordon	
Cairns, David	Convenor
Carey, Genna	
Carey, Yvonne	
Casselman, John	Convenor
Castonguay, Martin	Convenor
Caumartin, Jean	
Chase, Brad	Panel member
Dekker, Willem	Convenor
Derouiche, Emna	
Dettmers, John	
Draghetti, Christy	
Drouineau, Hilaire	
Durif, Caroline	
Esnbaliz, Diaz	
Eyland-Reiss, Dawn	
Eyler, Sheila	
Feigenbaum, Mitchell	
Feunteun, Eric	
Ford, Jennifer	
Gollock, Matthew	
Gordon, Alday	
Goudey, Glenn	
Hanel, Reinhold	Panel member
Haro, Alex	
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Holden, Courtney	

Holland, Mary Ann
Jarvalt, Ain
Jessop, Brian
Johnson, Jean
Johnson, Nicholas
Jones, Doug
Kearney, Mick
Kratchman, Barry
Lambe, Bob Panel facilitator
Lambert, Patrick
Langlois, Naomi
Lee, Laura
Lisi, Amber
Marcogliese, Lucian
Marohn, Lasse
Mathers, Alastair
McDermott, Larry Panel member
Meerburg, David
Miller, Michael J.
Mount, Sarah
Nguyen, Jim
Oliveira, Ken
Patch, Stephen
Pedersen, Michael I.
Pratt, Tom
Quinn, Jeff
Schleuter, Scott
Shepard, Steven
Silfvergrip, Anders
Smithwood, Douglas
Stewart, Tom
Sullivan, Leah
Taylor, Kate
Tsukamoto, Katsumi
Tzeng, Wann-Nian
Verreault, Guy Panel member and convenor
Vincent, Patrick
Walker, Alan Panel member
Welsh, Stuart
Wickstrom, Hakan
Wippelhauser, Gail
Withers, Jonah L.
Zydlowski, Gayle

Lambe: Okay, I want to thank you for snapping to attention so quickly. I want to welcome you to our Eel panel discussion this afternoon. For most people this will be our last official function of a very impressive AFS conference as usual. For those of you who don't know me, I am Bob Lambe, I am the Executive Secretary at the Great Lakes Fishery Commission and I will be your facilitator this afternoon. Before we get started, I wanted to ask the members of the Eel Organizing Committee that are in the audience to stand, if you don't mind please. (Applause) I really wanted to congratulate you because through your really hard work you have found some fantastic speakers and some excellent presentations and all of that really demonstrates how much progress has been made since the International Eel Symposium and this doesn't happen without a lot of work and networking that goes on day to day and it's an outstanding effort and I really want to thank you for that. Before I introduce our panelists I want to go through housekeeping or logistical items. The first is we are going to be taping this panel discussion. Don't be intimidated by that. The only reason it is being taped is so we really want to have a decent record of the discussion that goes on. Primarily so the follow up actions are good. We want to have a good record for our follow up action. After the panelists speak for a little while we will open it up and have an open discussion and that is really the value of this and because we are taping it and we because we want everybody to hear I ask that you put your hand when you have a question or when you want to speak so that we can give you a mic so that the recording can pick it up. Dr. Casselman is going to be passing around a file folder. The idea is that you can fill out your name and email address if you want to be contacted about the results of this discussion and I really encourage you do that. Because we are looking to harvest this discussion and move the agenda forward. Finally we are a little late getting this discussion started we have a lot of this to pack into to this time we have together. We are going to push it to 5 o'clock if that is ok with everybody. So we have time to close things down after what I am sure will be a really rich discussion so I hope that works for everybody. So with that I would like for the panelists to introduce themselves. So Reinhold would you mind starting for us please.

Hanel: My name is Reinhold Hanel. I am the director of the German Federal Institute of Fisheries Ecology. I am working on different aspects of eel research, lately also on ocean research regarding eels. We also do a lot of continental work in our institute.

McDermott: My name is Larry McDermott. I am Executive Director of Plenty Canada. I also serve as ambassador as Shabot Obaadjiwan First Nation. I am wearing both hats. I am involved in resource management and honoring our first commitment, which is to protect mother earth.

Verreault: My name is Guy Verreault. I am not a tomato grower I am a Fisheries Biologist or Fisheries Scientists. I am working Quebec Fish and Wildlife Agency. I am involved in the eel business for almost 20 years and I am really happy to be here.

Chase: I am Brad Chase. I work as Fisheries Biologist at the Massachusetts Division of Marine Fisheries. I guess you could call me a state agency practitioner with

fisheries management and I serve on our technical committee for the Atlantic Statements' Fisheries Commission as well as the subcommittee on stock assessment for the American eel.

Walker: My name is Alan Walker. I am chair of the EIFAAC/ICES working group on eels. I am an advisor to the UK government on eels. I am Co-author on the England and Wales Eel Assessment and General Eel Biologist.

Lambe: Thank you very much. So just a little reflection before we turn to our panelists. It was 11 years ago now that many of you, and some of your colleagues that may have retired by now, gathered in this very city at another AFS conference at which eel was one of the themes. So after 4 days in 2003 of intense discussion and now a famous panel discussion you came up with the Quebec Declaration of Concern. I heard some people wonder this week how much effect that declaration had on this incredible species we are discussing. I can speak as somebody who has worked in a regulatory agency. I was stimulated to act in the shadow of the declaration and it did make a difference in North America. I can assure you that it did. I think that it also stimulated a lot of discussion in Europe and in the Pacific region and so on. I think we have seen the results of that interest in the progress that we saw in the presentations this week. I don't think there is any doubt that it did make a difference. I firmly believe that it did make a difference. Is that enough though? I think most of us would agree that the answer to that is no. I think we should be pleased that we are seeing probably a stabilization of stocks in some areas. But when we talk about rehabilitation that is another matter. So I guess that leads to the fundamental question. What's next? What do we do next? What have we heard here this week that compliments the knowledge and experience that we have coming to this meeting. What do we want to do and what do we think we need to do now going forward from this very successful International Eel Symposium to keep that momentum going and to get to the next level. I think that's the key question. So I will use that to segue to the panelists. I don't want to single anyone out so I will ask. Anybody want to have a go at what they think the answer to that question might be? What's next? Well since Reinhold has to leave early we will go to him first.

Hanel: I want to thank you for the meeting and this session. I think this eel session was really fantastic. However I think one of the most important talks during this whole conference that reminded me of this general issue on eels was one of the plenary discussions given by David Bella on systematic distortion. By hearing this presentation on raising bad news and being known as a trouble maker reminded me very much of many things that are relevant to the eel topic. I think this is something that we should keep in mind. Work on eels has been going on for a long while and many things have been settled and taken for granted and something I feel is not fully open for discussion. This is why I would like to highlight this talk on systematic distortion and opening up discussion on things that have been granted in the eel world as this has been like this forever and this should be like this forever. This should probably be discussed again and put on other light. Another thing it was

very useful to leave the eel session and go to other session because sometimes you get the impression that the eel world is very closed and there is not much progress taken into account from other species. Things that have been analyzed very intensely in salmon for example and negative effect. The knowledge of these things is not taken into account for other species like the eel. From my point of view there is room to learn from other species. We don't have to invent the wheel in terms of everything for the eel. Thank you.

Lambe: Thank you very much. Alan.

Walker: Thanks very much. I had a few notes but I will go straight to the bottom to address your question. I am afraid I won't address it I will just add to it really. Because there were two sessions going on at the same time back to back I have only seen 50% of the talks. If anyone has been to all the symposiums please tell me how. Because I would love to know. So I may have missed things but I think one of the things we have to go next and this will resonate for those of you with young children is are we there yet. I would ask with that do we know where we want to go. We have seen this potential little increase in recruitment certainly in Europe eel within the American and within the Japanese but we don't know where we are aiming for with that recruitment so until we know where we are going and where we want to be we won't know when we get there. I think that's an aspect we haven't covered as much as others within this week. And it's something to consider.

Lambe: That's a very interesting question and could be a new question in and of itself. What do those blips mean in terms of the way forward? They are obviously positive. People would probably ask some questions what does it mean from a fisheries management perspective and people may have different views on that and it's certainly positive. We have to take that within context of what's happening overall. Interesting point in and of itself. I want to hear from all the panelists before we open it up. Given the overall theme of the symposium itself, how do we make eels climb back up the slippery slope? Given the discussions that were having rich discussion in the halls, who wants to give a go at it? How do we make eels climb back up that slippery slope? Alan.

Walker: I will just say something now before somebody else says something. Related to that was a question I learned from other species. Something that grabbed my attention was the research on stocking. Stocking was one of the potential management actions to aid the recovery so it relates to your question of how do we get them there. In Europe attention is focused on is it right to stock them in the first place or whether we should just leave them in the estuaries or the rivers. And also once we have stocked can those eels find their way back to the ocean. Over this side in North America the talks we have heard this week are different. The idea is different. Once you have stocked do you get what you want back? And clearly from the presentations in a particular example in the St. Lawrence you don't get what you expected. But we don't know if that matters or why. To be honest we heard Louis' talk in the beginning of the week and I thought I understood what was happening

and then particularly today after every talk my ideas have changed and I flip back and forward. So we are clearly still a long way from that. Its clear that both sides of the Atlantic are addressing the same question but from different ways and both sides of the Atlantic have to learn from this more collaborative and sharing approach. Stocking remains on the table but remains in doubt.

Lambe: Yeah that was a theme certainly in some of the presentations and some of the conflict there. Larry, can I ask you, some of the first nations have had more experience with the yield and perhaps somebody else. How would you approach that question? What are your thoughts on how do eels climb up that slippery slope?

McDermott: Ok I am going to answer that by answering some territory some people already have that I too learned a lot. That some of the technologies with passage very interesting and that's where I am going to go with your question but I too had popped into a discussion almost spontaneously and it was titled dam removal and you would have never thought it had to do with eel but lo and behold eel turned out to be a big part of their discovery in terms of aquatic ecosystem health and they learned that there were all these other beneficial implications and so from a First Nation perspective and looking at things holistically and that's one of the challenges of western sciences. In western science issues are dismantled and looked at closely and there is a benefit to that but it is also important to put things back together and look at things holistically so as I listened to the presentation, there are more vertebrae with the relationship with the freshwater mussels, I thought this is what my elders have been saying for generations so it was great to have looked at that. How do we improve the eel? For me there is certain research has to go but too often I feel, the Mi'kmaw woman who put this wonderful booklet together on eel and she said there is too much talk but not enough action. Action is impaired by waiting for the questions to all be answered before we move forward and before we encourage change in the management of the eel. I just want to touch on that in 2003 that when this conference made that decision it had a profound effect from an aboriginal perspective. It mobilized us as aboriginal people. It gave us confidence and in 2006 and 2008 there were some national meetings involving aboriginal people. We influenced the management plan and we said some things and took very strong positions and there were people such as Donald Marshall who won a Supreme Court case around fishing eel. John was there so there were leading scientists there were leading aboriginal people and we put together a set of resolutions and I thought about those resolutions as I was listening to a comment from the floor by a gentlemen who I met last night. An Irish biologist who is doing a lot with eel and some of the positions the Irish have taken on the elver fishery which coincide with some of the positions we have taken with the alvar fishery in 2008. To sum it up I think that we do need to take more action. I would love to see that there be an eel symposium plus 10. I was thinking of the Convention on Biodiversity in Rio and Plus 10 and I don't even know if it's possible. I think in North America we need to look a lot closer at water diversion. I think the Irish has a description that is something like natural passage. I'm thinking something like the Ottawa River the first dam at Courier. I know that south nation conservation looked at a way and did

some topography analysis and some stream assessment and it looked like there was a way to divert eels around Courier and get them into the upper Ottawa and actually into the south nation and into Ontario. I think there is a resistance but resources have to be put forward. Our original relationship as aboriginal people and others have said we take care of the land. Those that benefit from the land have that responsibility. There has to be more money taken out of the resources stream and put into doing the right thing. Some of the technologies coming out of Europe need to be applied in North America and that's where some of the large fecund females are coming from and that's where the big crash and loss is. If you don't have those large females going back to the Sargasso Sea and spawning it's going to affect where the American eel is. I am sure there are similar circumstances in Europe. When I was in Japan in 2010 the Japanese national fishermen were talking about habitat issues. They felt that there were things we could do today without knowing all of the biological issues.

Lambe: Thank you very much. Guy?

Verrault: In 2003 I was attending a meeting on eel during a fish conference. At that time we focused a lot on fish passage, turbine motility and fisheries. Since that time we have done a lot of action and research. The research became more complex when thinking about the life history of the eel but during that time we did lots of action. Also we decreased the fisheries mortality by half and we increased the action that beginning to reverse the trend so I think we are doing action but the job is not done. There are a lot of things to do.

Lambe: That's actually one of the things we were going to probe on later. Is there one thing particularly that comes to mind? You see that we have done particularly well that could be at the forefront of the continued action. What would that be do you think? Is it stocking, better stocking, better research?

Verrault: I think in North America we have one strength that we have good monitoring plan because we have done some action but when you do an action one or two years you usually stop monitoring and our strength is that 9 years after the action we need to continue the monitoring so we can re-orient the action and make the action more precisely.

Lambe: Excellent point, Brad do you want to tackle one of those or something else along those themes?

Chase: I am going to take off on a tangent and see where it goes. I would agree with Guy. I think we have made a lot of progress since the last symposium. It's very encouraging to see all the advances in science and all the techniques we have seen coming out of Europe and the Pacific in managing the eels species and coming up with metrics for stock targets. I want to talk about two concerns I have about how do we make eel go up this slippery slope and then finish up with a question for everybody. One concern I have is for us to pat ourselves on the back too quickly for

little improvements or little gains in recruitments. I have a lot of concern in the US portion of the stock. I look back at the fishing that occurred in response to the European food market in the 70's prices tripled and quadruple in a few years and we really had historic high landings and the decades following we had low landings. So I think the consequences of that market dynamics are still affecting us and any improvements we are seeing are quite small. And related to that is the ability for the international market to really limit our ability to manage species. I am very concerned about the high prices for glass eels as well as the cultured products. Will that strip our ability to move forward? I think of the Atlantic blue fin tuna and we just were not able to manage that species to prevent enormous economic losses with the fishery. Are we in that same situation I am not sure but I think we need to be creative in the way we manage the species to avoid those type of problems. I have one question and that is "What are we waiting for?" and that's in regard to the American eel in this continent. I think we need to come together with a continent wide stock assessment. And hopefully work toward common governance for an American eel and I think we have learned in this session that if there is another species that is more warranted I would like to know what that species is. I think American eel needs to have that common assessment and governance.

Lambe: Thank you. So you have heard the question, you have heard some comments and the challenges some of the panelists during the tide on you. So any questions or comments? I will open it up on you so any comments on those that were posed. Can speakers identify themselves as well please?

Silfvergrip: My name is Anders Silfvergrip and I am from Sweden. I think the European eel have a very good management system in place, which is largely working. I am seeing very good progress in the American eel. What I do miss at this stage is the other nations that are a part of this species distribution. From the Caribbean area, Central America and northern South America so that might be an expansion of the current progress.

Lambe: Thank you. That actually leads to another question that maybe we can part. It's interesting to contemplate given the knowledge we have of the governance that's out there governance in general but particularly in marine species. What are we missing? Are there governance structures or venues that we aren't tapping into from a research or policy aspect that could help our cause. I think its very important question to think about when trying to think about some of the things our panelists have commented on. Other questions or comments?

Bowser: My name is Chris Bowser. I work for the State Department of Environmental Conservation in Cornell University on the Hudson River Estuary. You started off with two questions and one of the questions was did the 2003 have an effect and what do we do next. I am an educator first and a fisheries biologist second. On the Hudson River we have started a program where we are encouraging citizens to become a part of eel science and monitoring. To your first question, you have had a huge affect. When I started this project in 2008 the work that you as a

scientific community had done as well as I don't know if Kate Taylor is in here, the Atlantic State Marine Fisheries Commission and Brad and others had made my job easier to paint a compelling picture of eel science and eel conservation for a wide range of people, far more than any other fish species that I have worked with. It was like a silver platter to use your work and bring that to non-scientists. So your work has had a huge effect on that project. In terms of what we do next. I would like to put a pitch out there that we as a whole community think about public outreach and education and those many access points that can involve in our work. I think that building a constituency with scientists and non-traditional scientists who really advocate for eels in a personal and intelligent way is very important. I know we live in a world with lower and diminishing financial resources and that seems like frosting on a smaller and smaller cup cake but I would love to have as a part of the conversation and part of moving forward that the awesome work that everybody is doing gets as much exposure to as many different people and as many different walks of life as possible. So that's my soapbox.

Lambe: Thanks. That is quite a gauntlet if we have a twitter and a Facebook account as part of going forward we know who to go to.

Bowser: You can like us on Hudson River Eel Project.

Lambe: We know you would do a good hash pound for us. Well I will turn to the panel. Any questions or comments on that? Larry?

McDermott: Well I agree with that 100%. I thought this is an amazing community. This eel sciences community. Some of the issues in terms of mobilizing public will to do the right thing, its going to come from education and I think there is an opportunity to bring indigenous knowledge and scientific knowledge because its part of the whole story this amazing story. I find if we can squeeze out a few pennies we can go to the public and tell this story or when this story emerges for example in Ontario Nature Magazine, the response is amazing and that has to be part of the picture. I was appointed by the Ontario Provincial Cabinet to sit on the Species Public Advisory Committee. Well an eel came up and I know and I will speak for myself. We were told, look it's about pragmatic, it's about economics, we have to be able to flip that switch, and it's about the cost of electricity. It's about all this resistance but I believe if the public at large knew the full story things would change and there would be support to do the right thing so I am with Chris 100%.

Lambe: Yeah and we can be critical of governance and lack of action and we know enough about governance and politics that is about responding to where the most consistent and tenacious pressures are and let's face it, if the public doesn't know the nature of the problems we are facing then it's much harder to get their attention. I talked earlier about being a member of an agency that respond and I wont go on but that was part of the dynamic. The fact that the media picked up on the declaration and then the public got an understanding about what this really meant not only from a resource point of view but from a cultural point of view in terms of

what we were willing to accept or not. It made a big difference to what the priorities were within the department. I could tell a long story about how the power generations companies got involved. I chaired a committee after the declaration and an action plan was developed and part of the committee had the Ontario Power Generation Company and I had never seen before where we would have 2-3 executive meetings where 3 vice presidents from a partnering company would attend the meetings and stay. So I can't tell you enough how the pressure from below can change priorities from within government. That's not the only thing we have to do here but that's a really important part. Because the regulatory agencies and collaboration across borders is really important. On that point I don't want to get anyone fired and I don't know if anyone in here works for those agencies but given where you work and how much you observe things that happen in that context what else do you think we can do from a public policy or government priority point of view to build on the good things that have been done. Do you see any obvious holes that we can attack?

Walker: Obviously I am speaking from the European side and particularly from the UK, we had an EU project and one of the work packages was communication and publication and we thought how are we going to do this and it turned out to be one of the easiest parts of the projects. As Chris has said when you start to engage the public it's an enjoyable thing. My experience speaking as somebody from a different planet is that the public pressure upwards is hugely important particularly when financial is at such pressure. We have a great concern that when some species is only at conservation status without some sort of commercial value it can lose its impetus for policy and that's a terrible thing but it's a practical and pragmatic place for where we are. Public pressure makes a huge difference in terms of policy priorities. The other thing I was going to say on that is the panmixia is extremely important for eel. When I speak to the public the fact that makes their eyes light up is the eels that they have in their rivers. Their parents probably came from the other side of the continent and their offspring will go somewhere else. I use the example of Portugal to the UK to Norway and when they realize what they do doesn't necessarily have an impact on them but can have an impact within Europe and beyond Europe it just takes it to another level. I am sure it would have the same case in North America as well if you take into account the Caribbean throughout the US and Canada as well. Katie said it, we are all in this together, I attribute this to her because it's also a political statement I would try and avoid.

Lambe: Yeah we won't be able to recognize your voice on the tape, Alan.

Walker: That was Brad, by the way.

Lambe: Brad, yes, go ahead.

Chase: I have a point, too, what else can we do? I think Europe has done a good job of looking at escapement targets, silver eel monitoring. In the US we could do more to link the life stages. We have glass eel surveys but we need more surveys to link

yellow eels to silver eels and that's going to take substantial funding since we don't really have a source right now to provide that but I think it applies to other regions around the world to link the life stages and come up with better population targets

Lambe: Anybody in the audience want to pick up on any of those points? Yes, Will.

Dekker: Willem Dekker, Reinhold left but he raised the point that institutions can have a misperception of what's going on institutionally and I would like to go back to the mid 1990's, the moment I took up the chairmanship of the ICES working group on Eels. That was the time when people were saying the eel stock was in decline, the catch was in decline, therefore we don't need to do research, and therefore we don't want to know the status of the stock. It was very much a negative feedback loop. I deliberately decided to become a trouble maker. 2003 was a crucial movement. We are 10 years further down the line. We are now in an upward phase. Well, to be honest, I never expected to see an upward phase. So I am extremely happy even though it might be pure accident. The point I would like to make is we should not spoil the current sunny day. We have a good recruitment and a better recruitment we must be careful not to spoil the whole thing. Secondly there is so much willingness to protect the eel to study the eel, to preserve it and to culture and fishery, et cetera. That's all very encouraging but there is one thing that you need to coordinate that process. In Europe we have started that process we have made huge mistakes and because of that we need a second turn but we have started that process and my feeling is that in other continents that coordination might be weak at the moment. People are very often doing the right thing but it's a bit uncoordinated. It would be fine if it were in a broader framework not only to coordinate people but stock assessments. The three musketeers work together and each of them defends all the others. Do they set up a course and then decide to go there? No, they don't. Someone takes the lead and the rest follow. What European Union is doing is setting up an eel protection plan. Loran (*couldn't hear this well*) says they delay but they will take up the neighbors, Russia the Mediterranean Sea so someone is taking the lead and others will follow. I really think if I were an American I would say make a joint management plan and if you haven't included the Caribbean its ok. You can make stepwise adjustments to increase the plan but don't protect the eel without any central coordination.

Lambe: That's a really important point that gets at another sub question we were going to drive to a bit later. Given the range of this species how do you guard against the tendency for agencies and governments not to take action because what we do won't matter unless the collective does something? So nobody moves because those efforts are in vain. What do we do about that?

(Walker?)Unknown speaker: What has worked to some extent in Europe, the regulation told all the countries to do something. It said where we want to go but you go out and you find something. It didn't prescribe something but at least countries have done something.

Lambe: So American eel can be the mechanism that brings EU-like construct into North America. John first, then Martin.

Casselman: Well I just want to reinforce what Willem said that we need to have some kind of governance associated with this. Well we have a declaration but do we have an update and my feeling is yes we have. We were very successful in telling the public that there was a significant problem with all eel stocks. Now we have seen in 10 years there are faint increases and there are some positives and that things are improving a little bit but at the same time we shouldn't be using that in a consumptive way. We should use it to build up the resources. We have come back up that slippery slope and I think what Chris was saying is immensely important. We need to convey this we convey the fact that we are going somewhere and we have solutions. One possible solution is we need to work together on this in governance. And I think if this can be communicated to society it will support it immensely because it was a negative story and now it's a positive story. A positive story is going to take a long time for this species. So I think there are some points here building on what Willem is saying and generally what's being said here in terms of going somewhere in a positive fashion and making sure we communicate it. That's why I think the declaration was so successful because we put it out there and the press was so fascinated by eels. If you talk to the public about eels they become fascinated about eels they become fascinated in a hurry because it has a mystery associated with it and we are working to protect this mystery.

Lambe: That leads to some interesting questions. There is some good news and how do we make this good news not turn against us. There are probably some that may argue since we are making progress just continue what you are doing and there may be some harvesters saying that's enough uptakes to relax some of the controls that have been put in place. How do we make sure we don't become a victim of some of the little success we have realized already?

Castonguay: The answer to this is governance. We still have to try to push for this. There are bodies, bi-national bodies, the International Pacific Halibut Commission, there is also the TRAC the Trans boundary Resource Assessment Committee that assess ground fish resources and pelagic fish resources around Georgia Bank and there are models that between Canada and US that work, the Caribbean will need to be brought into the picture at some point but first our governance needs to bring into the two northern countries Canada and US and there is also the NASCO model and I know Meerburg (*not sure about this*) is at this meeting I don't know if Dave is at this meeting. I know you have raised the issue at Nasco I know informally but maybe not too successfully I don't know if you want to say some words.

Meerburg: I can briefly say some words. My name is David Meerburg I was a scientist at DFO for 30 some years and in that job worked out of Ottawa working on international issues dealing with diadromous fish so dealing with salmon on the pacific coast and development of Pacific Salmon Treaty and the Atlantic salmon and I also work with eels. I remember Veel (*not sure of this name*) coming to an eel

meeting that we organized in St. Andrews in 2000 and at that time we talked about governance so it been 15 years. One of the things we suggested at that meeting was based on a NASCO model and NASCO is the North Atlantic Salmon Conservation Organization and I have been involved with that for many years. And now I'm still involved but I work for the Atlantic Salmon Federation now. NASCO is a body that deals with just one species but it deals with it in 3 different geographic regions in Europe, North America, and Greenland. So at that time we proposed that maybe a NASCO organization could be created for eels. Governments could provide funding for it. There could be a European portion, a North American portion. It could be parallel in the way it works in that NASCO gets its advice from ICES so there is an avenue for working groups to monitor stock status. The attitude at the time was that eels would never have enough interest to create a species-specific organization just for the European and the North American eel. So then they maybe NASCO is an organization that deals with just one species, there is no other organization in the world that deals with just one species NAFO deals with dozens of species, Pacific Salmon Commission deals with seven species so maybe under NASCO there could be a European branch if they reopened the treaty and re-negotiated and then the parties could meet Canada and US annually, North America and Canada could say what research priorities are necessary and would seek scientific advice. So when I worked in government that was being discussed in my talks with people in NASCO but the feeling was boy we don't want to contaminate our salmon with eels. I am kind of on the fence because now I work for the Atlantic Salmon Federation and I don't know what their view would be but it could be something considered. But if not under NASCO at least US and Canada should get together and create some sort of organization structure that would have regular scientific meetings and force managers of the countries to discuss management plans that would be implemented year to year or maybe every 3 years. I think this possibility is both ways but I don't think absorbing something into NASCO would work currently and it sounds like in Europe something is already on the way to having a structure that exists and in North America something under the Atlantic States Marine Fisheries Commission with the Canadian government and you could use NASCO as a model of how the structure could work.

Lambe: Some interesting points. Off the top are there some things that may have changed that could help or be a hindrance.

Meerburg: Less money now so it's going to be tougher.

Lambe: We haven't heard from the panel now in a while so who wants to chime in before we go back to the audience. You are being very congenial.

Unknown (Walker?): I think just going to your point about complacency. With this uptake you have got to think about it in terms of its history. Certainly with the European eel we have seen a 20-30 year decline and we are seeing an increase in the past few years. It's possible we are in a situation where recruitment is going up but you're still going to see decline in population and escapement because declines

has that lag in generation time. I think that's going to bear in mind as far as yes we should be pleased with the fact that there is improvement with natural recruitment and these management measures are coming in but it's certainly no reason to stop.

Lambe: David, go ahead.

Cairns: David Cairns, Department of Fisheries and Oceans. On the governance front, I think we should remember there is one organization that could potentially be a forum for international governance for the American eel which would require no change whatsoever at least on the US and Canada scale and that is ICES itself and I think most people in this room would know that in 2012 there was a meeting where ICES had the first and only attempt to assess the eel at an international level

Lambe: Good lots of ideas on governance, which is important. Any comments from the panel on anything that you have heard?

Walker: As the chair of the ICES working group on eel I am unaware we have 7 days of our meeting this year. The working group is the working group on eel, it's not the working group on European eel but before my time there was an attempt to include the American eel but for whatever reason it was taken away but there is no reason it can't come back; we would need to work on it. In Europe our focus is to bring the northern African countries because they aren't in ICES and not in EIFAAC which is the other part of the working group but we are trying to do that this year but we could try to do that with American eel as well. While I have the floor of course this is a global symposium and we have other eel species from around the world but as Jacque Bebe (*not sure about this name*) was talking about New Zealand eels which are also found in Australia and I don't think there are any representatives from Australia within this symposium but two countries working to manage the same stock and possibly not talking to each other.

Lambe: Yeah, some lessons easily transferred. Larry, did you want to say something?

McDermott: Ok briefly, just the EU model, I can see how it works and I can see how it works hearing some of the comments informally from different country representatives and why they think its working. I would caution in North America from an indigenous perspective there are a few new tools emerging and a history that's been over looked and even in the Central American, Caribbean presentation. The organization that I work for has worked in fisheries projects with indigenous people in Central America and its amazing how two separate camps and that knowledge haven't come together. So when it comes to governance I would caution any governance model that doesn't bring in or respect like the Ontario American eel recovery strategy did. It was remarkable how the relationship with western science and traditional knowledge was cultivated. And that meant that people took time to learn cross culturally about one another's culture and how to the make the process

of developing that strategy respectful cross culturally. Any governance model that doesn't do that is going to be weaker in North America than it would be if it did it.

Lambe: Thank you. David, did you want to make another point?

Meerburg: Well it was just the comment about ICES and ICES advice. That doesn't come for free usually but I am not too sure how that works within the ICES eel group now in relation to EIFAAC but I know for example with NASCO pays \$100,000 a year for the advice they receive from ICES on Atlantic salmon and the countries send their scientists separately to the meeting but there is currently a charge to get advice back and I am not sure how that works currently with the eel group.

Walker: There is a MOU, a Memorandum of Understanding, between the EU and ICES so effectively the EU pays ICES for their advice but to be frank ICES itself is probably fewer than 20 people almost everybody else there is funded by their own nations so ICES is funded by their countries. The countries pay a fee to NASCO as well. So NASCO is funded by the countries. Yeah, nothing comes for free.

Meerburg: For Canada and the US to ask questions and separate advice for the American eel they would also have to up the ante in terms of money somehow. The meeting would be longer, their scientists would participate and that would take some money to participate and ICES themselves would ask for funding from the US and Canada to support that provisional advice.

Walker: You are probably absolutely right and at the moment it's only the EU that asks ICES for advice which the working group on eel delivers. No countries ask for individual advice.

Lambe: David?

Cairns: David Cairns, Fisheries and Oceans. The model that I would be thinking of would be the model from 2000 where a working group on eel was held in St. Andrews, New Brunswick, which had representatives from Canada the US and Europe but really the focus was the American Eel so we wouldn't be thinking of North Americans flying to Europe for a general WG eel meeting. We would be thinking of some components of ICES or WG that would focus specifically on the American eel and would be held meetings on this continent.

Lambe: Just wondering what the genesis of that meeting was back in 2000. Was there a decline in stock was there a particular thing that triggered that meeting?

Cairns: My recollection would be that Canada and the US asked specific questions of ICES in terms of wanting scientific advice and questions were formulated and presented at ICES annual science meeting and incorporated in ICES working group for that year but I don't know whether there was any specific money where Canada and US had to pay extra money, Canada and US are members of ICES but I think if

were a routine event there would be a cost to doing this and they would describe the cost back to the countries.

Unknown: Willem can shed some light onto that.

Dekker: I am growing old so I have to repeat history to some people. Canada and US were asking advice from ICES but there was a hidden agenda. This side of the pool was considering whether to involve ICES in more issues on this side of the pool. Eel was more or less a test case: can ICES serve the other side of the pool or not? Cites listing of eel was not a listing of eel it was testing the procedure of whether commercial fisheries could be included in cites. Tuna was the aim. So for a long time eel has been a vehicle to test something. It was not eel because of eel, it was eel because of something bigger. I feel that since 2003 we have changed that and if we need something for eel we can have something for eel nowadays. I would be very unhappy if we had one working group on eel for all the eel stocks all around the world. It would be extremely complex but I would also be unhappy if I had no place where I could meet you. I have recently been to New Zealand was of course you have to set up your own assessment but make use of the expertise in Europe and comfortable to it so a bit more flexible. So you share your expertise and work together if possible but focus on own stock when needed.

Lambe: Thank you. Patrick Vincent, I was remiss at the beginning and not acknowledging Patrick from the DFO Quebec region. Patrick is the Regional Director of Fisheries Management.

Vincent: Well, I am really glad to spare some time to come here. I was also here on Monday on the opening of the symposium and thank you very much for holding this conference in Quebec city. I am part of Fisheries and Oceans which is a large organization in this country and we do have the regulation and legislation to act and improve the state of the eel population at least in our country. It is sometimes a challenge of prioritization among all the other species and then to direct the right resources to those priorities but what I would like to see from this symposium is a clear conclusion of what is ahead of us and basically what we should continue to do on the long term to make sure the state of the eels continue to improve. What are the quickits that are the best and should continue in the short while therefore we can continue to improve what has worked in the past? You have all the ingredients you just have to pick in all the conferences you heard what are the goodits. Communication with population and transmitting that knowledge quickly to the public would help policy makers set priorities for this species. We do have all the entities to govern appropriately if it is clear what the priorities are amongst the countries and bring the others along. It's just a matter to bring the good news and challenges we need something concrete out of this symposium to convey the message to our leaders.

Lambe: That is a very helpful comment given that we are at 4:55 and we are going to try and wrap up relatively soon. It is incredible the amount of intellectual

horsepower that is in this room. The amount of knowledge that has been shared this week is incredible. Thinking about Patrick's comment, I think we do need to think about the impact we saw from 2003 Declaration of Concern it is important to think about the answer to that question what do we do immediately and with the coming weeks and months to leverage the incredible experience that we have had here this week. Patrick uses the word concrete. What can we develop out of this in a concrete and tangible way that can help us move the yard sticks forward to build on the momentum that has been started with these positive changes in certain areas. If we start at the beginning this has been an incredible week and incredible exchanges it would be a shame by going away and not doing something. The next thing we need to do is..... How would we finish that? A lot of us are thinking in terms of declarations and resolutions because we had an impact last time. That is an option and it is something concrete. John told me it was concocted in the back of a bus and developed in three weeks. That's just one option. Obviously things get done with group of people with enthusiasm and knowledge and energy so some form of a committee to move an action forward. What's the burning thing we need to do over the next few weeks to put an exclamation mark to keep the momentum going? Locally, regionally and perhaps global. What's that one thing we need to do next? David?

Cairns: David Cairns, I had just written down a draft resolution which I hope you will permit me to read. Whereas there are serious conservation concerns regarding most if not all Anguilla eel species worldwide, given that most eel species exist as single stocks, be it resolved that international government systems be implemented for all eel species that occupy more than one nation.

Lambe: And you weren't even in the back of the room. Talk about the back of the bus. Gentlemen in the back of the room?

Miller: I am Michael Miller, working in Japan with Katsumi Tsukamoto. David's ideas may be good but my idea was why not write a joint larger paper this time for Fisheries magazine that gives a better broader overview of the developments that have been made in the last 11 years that would educate fisheries scientists and the general public as well about the incredible progress that has been made since the Quebec declaration. If we just make another declaration it seems we are just copying what we did before. It might take more effort to put together an overview of this symposium but it might be more informative than just a declaration and a review paper like that could include a declaration.

Lambe: Thank you. Other thoughts?

Tzeng: (1:19) My name is Wann-Nian Tzeng from the National Taiwan University. I am president of East Asia EU consultant so this time when I come here I want to pick up some idea for the conservation and management of Japanese eel. I very appreciate the paper for the American eel and the European Eel. I have a question because as you know the aquaculture industry is very important for Japanese eel. In

the past 10-30 years we don't have enough glass eel for aquaculture so we first try to find eel from Europe, then America from United States and now a tropical area. I think because this symposium just focus on American eel and European eel I hope next time you invite more people from Asian country because it should be international and should consider all species. The IUCN assess all of the status of the species. I think the eel conservation cannot focus on particular area in Europe and United States. I think the management parties. How can you ask the fishermen to release 60% back to nature? That is impossible in Asian country. Sometimes more than 50% of the initial population recruited at birth. Basically we need the glass eel for aquaculture but aquaculture is always argued because the catch, recruitment and ends in human stomach. It has security impact for conservation so I don't know if this fishing is possible for Asian country because use of eel resources is different. 10 years ago when I saw the decline of temperate eel species. Same pattern. I have a question why in Europe and US why not aquaculture. The principle is due to overfishing why. I hope someone can give advice for how to do for Japanese eel. People ask me to release Japanese or not to release we need to take care of many fishermen. Ok, that is my question.

Lambe: Thank you. We are very near the end. We are over on time sorry John you were trying to get in earlier so I am going to go to you but then I want to go to the panel for a quick wrap up. If there is something that you go home and say, "Darn I wish I said that."

Casselman: The world fisheries congress in Korea could be an opportunity for that to come together but I do agree more attention needs to be given to that. Concerning David's point, I think that resolution has some points that could be added to it. I like Mike's idea about putting something out there with more meat on it in fisheries but it has to include something that gets out to the press so maybe it's a marrying of what David is suggesting coming out of something bigger as long as its done in a timely fashion. My suggestion would be like the back of the bus if you want to be involved in that maybe a few individuals could stay back and put a bigger article together and getting some of that condensed out to the public as some kind of an update as where we came from in 2003. My suggestion would be we have an email list here so what we will do is if something comes out of this we could email all of you and you can all comment on what your opinions are.

Lambe: Thank you, John. Any last minute comments?

Walker: Only it's a shared resource and a shared responsibility.

Unknown (Bowser?): I would support Mike Miller's suggestion but also I think it might be usual to have a recommendation come out soon, you know, sooner than a peer review process just to make that recommendation and move forward on governance. I just want to say I appreciate those comments from the gentlemen from Taiwan I think we have to incorporate those questions and not forget how those international market forces can derail all of our best intentions.

Verreault: I would say we have taken giant steps in monitoring and research and now we have to take large steps in governance.

McDermott: From my perspective and perhaps indigenous perspective. We have to get the females out to spawn and down stream passage is a huge passage in North America and I think we have the technology it's just the will. I feel that about pollution as well, and if I understood the last speaker well, we know the sources of that pollution and that's something that has dynamic results not only for eels but also for other species including us. Those are a couple of priorities that I hear among aboriginal people.

Lambe: Thank you, Larry.

Walker: Let's not forget the males.

McDermott: Speaking on behalf of women, I think men have taken care of themselves quite well in terms of representation. I think we would have a different world if there was a bit more balance.

Lambe: We are going to have to close, and first of all, thank you to the panel. Your engagement has been fantastic; you made my job easy. Given the significance of this species to First Nations and aboriginal people and what they bring to the table in terms of the traditional knowledge that complements western knowledge so to speak that we close with an aboriginal closing if you would be so kind to do so Larry.

McDermott: I was asked to keep it brief while my wife is waiting for me at the train station and the train leaves at 5:45, so it will be brief. Qua Qua We give thanks for the sacred elements, for the water that is the first medicine that we find in the womb of our mothers. We give thanks for the earth and for all the gifts that come from that earth. We give thanks for the fire that grandfather's sun that rises dutifully each day and we give thanks for the air without which there would be no life. We give thanks for our ancestors, all of our ancestors who have come before us and who have left the earth in a condition that we are able to live, to share and to celebrate, together we thank the men and the women that have come to this conference and shared their science and knowledge and we have all been enriched by each other's knowledge and perspective but we also give thanks to those who have cleaned our room and cooked our food and made their sacrifices in order for us to have a wonderful and amazing experience over the last couple of days. We also thank everyone not only for their knowledge but also for their culture that they bring from around the world and they have enriched us all. So we close this session with the sacred fire by wishing everyone a safe journey home and hope to find ways to keep this discussion alive and keep sharing together. In our own individual ways. In my way I would say thank you to my creator for this opportunity and that everyone will have that safe journey home, and lastly thank you to our families that have sacrificed while we are away. I will close this and on my way to the train

station I will put tobacco down and in my tradition it is honoring the spirit world and the role that spiritually plays in protecting the life on this earth and the source of creativity that we bring to the work that we do. I wish you well.

Lambe: Ok, it's been a long week. The only thing I can say is in addition to thanking the panelists to thank you for your engagement, and I know the committee is going to want to go over these recordings and squeeze any action items that we can out of here because I think there is a collective will to make something happen out of this to Patrick's point, so thank you and safe travels.