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REPORT OF PROCEEDINGS  
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SPECIAL COMMITTEE ON  
SUSTAINABLE AQUACULTURE

**Vancouver**

**Friday, November 24, 2006**

**Issue No. 29**

ROBIN AUSTIN, MLA, CHAIR

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**SPECIAL COMMITTEE ON  
SUSTAINABLE AQUACULTURE**

Vancouver  
Friday, November 24, 2006

- Chair:* \* Robin Austin (Skeena NDP)
- Deputy Chair:* \* Ron Cantelon (Nanaimo-Parksville L)
- Members:*
- \* Al Horning (Kelowna-Lake Country L)
  - \* Daniel Jarvis (North Vancouver-Seymour L)
  - \* John Yap (Richmond-Steveston L)
  - \* Gary Coons (North Coast NDP)
  - Scott Fraser (Alberni-Qualicum NDP)
  - \* Gregor Robertson (Vancouver-Fairview NDP)
  - \* Shane Simpson (Vancouver-Hastings NDP)
  - Claire Trevena (North Island NDP)

*\*denotes member present*

*Clerk:* Craig James

*Committee Staff:* Brant Felker (Committee Research Analyst)

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*Witnesses:*

- Jon Garson (B.C. Chamber of Commerce)
- Vivian Krause
- Dr. Charles R. Menzies (University of British Columbia)
- John Winter (President and CEO, B.C. Chamber of Commerce)



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MINUTES

# SPECIAL COMMITTEE ON SUSTAINABLE AQUACULTURE



Friday, November 24, 2006  
10:00 a.m.  
Grand Ballroom, Sheraton Wall Centre  
1088 Burrard Street, Vancouver, BC, Vancouver

**Present:** Robin Austin, MLA (Chair); Ron Cantelon, MLA (Deputy Chair); Gary Coons, MLA; Daniel Jarvis, MLA; Al Horning, MLA; Gregor Robertson, MLA; Shane Simpson, MLA; John Yap, MLA

**Unavoidably Absent:** Scott Fraser, MLA; Claire Trevena, MLA

**Others Present:** Brant Felker, Research Analyst

1. The Chair called the committee to order at 10:07 a.m.
2. Opening statement by the Chair, Robin Austin, MLA
3. The following witnesses appeared before the Committee and answered questions:
  - 1) Dr. Charles Menzies
  - 2) Vivian Krause
  - 3) British Columbia Chamber of Commerce
4. The Committee adjourned to the call of the Chair at 2:20 p.m.

John Winter  
Jon Garson

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Robin Austin, MLA  
Chair

Craig James  
Clerk Assistant and  
Clerk of Committees



FRIDAY, NOVEMBER 24, 2006

The committee met at 10:07 a.m.

[R. Austin in the chair.]

**R. Austin (Chair):** Good morning. My name is Robin Austin, and I am Chair of the Special Committee on Sustainable Aquaculture and the New Democratic member for Skeena in the Legislative Assembly of British Columbia. I would like to take this opportunity to welcome everyone here to this committee's public hearing in Vancouver. It's our pleasure to be here and to hear directly from you on the issue that has been referred to this all-party legislative committee.

Today's meeting of the committee is a public meeting which will be recorded and transcribed by Hansard Services. A copy of today's transcripts, along with the minutes of this meeting, will be printed and made available on the committee's website at [www.leg.bc.ca/cmt/aquaculture](http://www.leg.bc.ca/cmt/aquaculture). In addition to the meeting transcript, a live audio webcast of this meeting is also produced and available on the committee's website to enable interested listeners to hear the proceedings as they occur.

Let me also, for the benefit of all witnesses, read out the committee's mandate. The Special Committee on Sustainable Aquaculture was reissued the following terms of reference by the Legislative Assembly on February 20, 2006: that the committee be empowered to examine, inquire into and make recommendations with respect to sustainable aquaculture in British Columbia and in particular, without limiting the generality of the foregoing, to consider the economic and environmental impacts of the aquaculture industry in B.C.; the economic impact of aquaculture on B.C.'s coastal and isolated communities; sustainable options for aquaculture in B.C. that balance economic goals with environmental imperatives, focusing on the interaction between aquaculture, wild fish and the marine environment; as well as look into B.C.'s regulatory regime as it compares to other jurisdictions. The committee is to report to the House no later than May 31, 2007.

This committee reports directly to the House and not to the government. The committee is unique in the Commonwealth, as an opposition member holds the Chair position, while a government private member holds the Deputy Chair position. The majority of members hail from the opposition as well.

Accompanying us here, working for Hansard, are Wendy Collisson and Graham Caverhill. They record what is being said during these hearings and, as I've mentioned, make sure that it goes onto the website. Beside me is the Clerk Assistant and Clerk of Committees, Craig James, and at the front of the hall is the committee's research analyst, Brant Felker, who can assist anybody with questions they may have about the work of the committee.

I would now like to invite the members of the committee to introduce themselves, starting on my right.

**J. Yap:** Good morning. I'm John Yap, the MLA for Richmond-Steveston.

**A. Horning:** I'm Al Horning, MLA for Kelowna-Lake Country.

**D. Jarvis:** Daniel Jarvis, North Vancouver-Seymour.

**R. Cantelon (Deputy Chair):** Ron Cantelon, Nanaimo-Parksville.

**G. Coons:** Gary Coons, MLA for North Coast and from Prince Rupert.

**G. Robertson:** Gregor Robertson, Vancouver-Fairview.

**S. Simpson:** Shane Simpson, Vancouver-Hastings.

**R. Austin (Chair):** I'd now like to call upon witnesses for this hearing to tell us about their perspective on sustainable aquaculture in B.C. and what this committee needs to be mindful of when it reports to the House.

We would like to try today, in light of the fact that the previous hearings in Vancouver went well beyond their time limits, to limit people to 20 minutes. I'll be letting people know when they're halfway through their presentation so they can make sure they can wrap it up within the next ten minutes.

I'd like to begin with Dr. Charles Menzies. Please, the floor is yours.

[1010]

### Presentations

**C. Menzies:** Thank you. I'd like to begin by acknowledging that we are sitting here today on the unceded territory of the Coast Salish Nations and to recognize their nations and the continuation of these nations even in the midst of the implantation of this city.

I am speaking here today, drawing upon a number of different backgrounds and experiences. I would like to say from the start that I've grown up in a fishing family on the north coast of British Columbia. I went off on the boat with my father when I was 11, for the first time working on the boat. We salmon-seined; when I was old enough we went halibut longlining. I worked on a herring seiner, and I pretty well worked all the way through until I was hired at UBC in 1996 as a faculty member in the then department of anthropology and sociology.

My family criss-crosses the colonial divide, being both Tsimshian and *k'amksiwah*, as is said in Sm'algyax, being both nonaboriginal and indigenous. In fact, I've just come home, back from being up in the north coast on the cause of a funeral — a memorial feast of Sm'ooygit Hale, the leading hereditary leader from the Kitkatla Nation.

Today I work at UBC. I'm an associate professor of social anthropology in our newly formed department of anthropology. My work, in terms of the research and the related teaching I engage in, is focused on natural resource management, coastal communities and indigenous studies. I want to draw a little bit upon that to make some comments about the process and the issues that are in front of you, that you have been hearing people make presentations to you on for quite some time now.

I would also say that what's motivated me to be here is that I had the privilege, the honour and the opportunity to observe your committee in action in Kitkatla this summer and then that afternoon again in Prince Rupert. It was partly through watching the proceedings and the responses — and the differences between the hearings at those two sites — that I actually wanted to come before you and make some comments.

There was for me, from my perspective as a researcher, something very interesting happening in terms of what you were being presented with and how the responses were emerging. I'll come back to that point, but it's what motivated me to actually speak. I didn't think it appropriate for me to put myself on the list or to try to speak in either of those two meetings, given that my observations really relate to my social location as a university-based researcher more than they did as a north coast resident.

In Kitkatla you saw the technical presentations of the Chief and council. You saw the presentations of staff, and you also were witness to presentations of partner groups and a few community members speaking on the issues. They spoke to you in a room very similar to this. There was one with great history there, a building that Sm'ooygit Hale and members of his generation who were members of what were called the Kitkatla Excelsiors Club actually built with their own labour and the hard work of the community. The building was recently reopened a couple of years ago, on December 4, 2004, at which point Sm'ooygit Hale addressed the community who gathered. So you were in a building that was of great importance, and the presentations that we were presented with were fairly technical in nature, by and large.

[1015]

In Prince Rupert you were witness to the drama of the indigeneity and the testimony to what I would call the adverse impact of law and policies that have gone awry. These are policies, I would argue, that are based upon what I would refer to as, first of all, the criminalization of aboriginal fishing practices, beginning in the 1880s with the Canadian Fisheries Act, which made the longstanding practices of first nations people criminal — not simply inappropriate, but criminal. The practices of husbandry, management and stewardship of the creeks — work which I have as an academic researched, studied and published on....

You will see there the introduction and afterword to an edited collection that has just come out from the Nebraska University Press that talks about some of these issues. It's based upon these issues that I've actu-

ally worked on as a researcher and studied — the ongoing ecologically based management system that is actually extant today. It still exists, but it was criminalized.

You also see, I would say, in the drama that was presented to you, the continuation of colonial practice — that again the state arrives in the indigenous community. And while the good intention is in place, the state arrives and exerts its authority irrespective of the fact of first nations. So there is the claim that the Gwa'Sala, the people from away, have always made that their laws are the prominent laws. Then we see the legacy of colonialism and its practices that continue to this day.

Thirdly, what I would suggest to you that you also saw in these presentations was the effect, the legacy, of resource management practices that have been seriously misguided and have gone seriously astray. We've seen the shift of resource management over the course of the last hundred years from stream-based, locality-based management practices to offshore, interception fisheries, fisheries that you manage from a global stock as opposed to local stock, where the whole movement of management has been designed to ensure there is adequate supply of resource — and note the change in terminology — being provided to the canneries that are processing the fish.

Research that myself, that colleagues such as Dr. Michael Kew, now retired from the University of British Columbia, popularly represented in the book, *Dead Reckoning* by Terry Glavin.... But the academic basis of this research is well established. The harvesting of salmon prior to the commercial fishery was in an order of magnitude roughly equivalent to the commercial harvest. The impact over the last hundred years has been anything near to what the previous two to three millennia were like. So there is something occurring in the practice of management.

Just in a small aside, I'd like to say that I noted a peculiar expansion of the mouth of the Skeena River in the presentations that were made to you. What I mean by that is that the mouth of the Skeena River in many of the presentations seemed to include all the way out the Hecate Strait, but I leave it to my geography colleagues to determine what that is.

I would also say that what I heard was what I've heard many times in the presentations: that there is a real and serious impact and adversity that's been affecting the coastal communities in British Columbia. Fishing has been changed. The regulatory mechanisms governing fisheries make it more and more difficult for small-scale operators to maintain a footing in the fishery.

This has been documented in a number of government reports, academic publications. The impact, of course, for people who feel they've been pushed up against the wall so many times already, is that the next thing that comes along is likely to be even worse. There's an element of that in these presentations.

I want to switch briefly now to where I see important information that should be thought about when one considers the issue of aquaculture — how it might

be put in place, how it might be regulated, how one might consider it. Part of that has to deal with the notion of traditional ecological knowledge. In other places it's been called local ecological knowledge — the ways in which a grounded, place-based people manage and operate the resource.

I've handed out to you the introduction and the afterword to this edited collection. I have a copy of the full collection that I will give to the Chair of the committee for the committee's use so that you can actually see all the papers that are in here. I also want to provide — because I'll talk a little bit about the work that we've been doing in Kitkatla — some articles in the *Canadian Journal of Native Education*.

You may say: "Well, this is about education." While some of it is about education, there's one article that I'll draw your attention to by Dr. Caroline Butler, looking at our research methodology but talking again about traditional ecological knowledge and its importance for management. I'll just quickly bring this over to the Chair.

[1020]

**R. Cantelon (Deputy Chair):** Thank you. Dr. Menzies, you're halfway through.

**C. Menzies:** For more than 15 years I've done academic-based research through a variety of different locations on the north coast, and I've been engaged in doing research with the Kitkatla Nation in Kitkatla, or Lach Klan, and on the north coast for the last five years.

Over this period of time, either I or members of my research team — graduate students working with me, colleagues working with me.... Amongst us, we have interviewed practically every single person who is actively engaged in harvesting, processing of natural and customary resources — just about every person in the community, and some people we've interviewed and talked to numerous times. In addition to direct interviews, we've also observed, participated and had the opportunity to simply be there in the community.

As documented in a variety of our work and our ongoing research, I would suggest to you that there is a clear and demonstrable, ecologically sound, traditional ecological-knowledge approach to management that exists within this community and in other indigenous communities in this area.

Some of the material was documented in front of you there, but I would just point out in a couple of quick points that one of the basic principles ties to the notion of a need-based approach to harvesting and also a specific species-based harvesting practice. So there's an interesting combination where harvesting is targeted toward need. I'm willing to entertain and discuss in the larger sense that need varies and is a socially defined concept, but there are some very clear socially defined notions of what need actually looks like. Then there's also the notion of which harvesting is targeted and controlled in particular ways.

This management practice, even though it has been contained, controlled and disrupted by the establishment of a colonial state, is very much extant. It is in practice in today's community. It's this basis of ecological knowledge that lies at the core of many of the decisions the community makes. As we all know, community decisions are often fraught by disagreement, discussion, engagement, countering back and forward. Nonetheless, at the core of this is this principle, [first nations language spoken], which is, sort of, of being of one heart — the notion of which.... That principle is at the core of the resource management practices. I think that's important to note.

There have, of course, been some problems with the operation of this system. There is what I've mentioned. Some of us may take issue with the terminology I use when I say "interference from the colonial state," so one might suggest I use a different frame. The development of a pluralistic contemporary nation-state on top of aboriginal lands has created difficulties for first nations peoples and other indigenous peoples to operate their societies as they have and to apply the principles of environment and justice and social organization that they would choose to if they had the authority to do so.

That actually brings me to the final point I have. Part of what is being looked at here, even though your technical discussion may well be on the science and the economics of the process, is that there is an actual question of sovereignty, a political question, in which first nations need under Canadian law.... Of course, it's still to be determined how that might necessarily look, but the principle is that the first nations engagement should be able to make the decision, however wrong those sitting outside that circle might think it to be. What it requires is a nation-to-nation process, which is well understood by all of us sitting around this circle, but it's also, I think, one that's important even in the establishment of scientific environmental practices.

[1025]

In conclusion, I'm not going to state my personal position on fish farms here, as that's not really the point of what I have to say. What I have to say is that the right to make decisions to engage in aquaculture or not must be made within the context of first nations discussions within the customary practices, first nation to first nation, and from first nation to government — government-to-government negotiations and discussions. Ultimately, the way in which these processes need to be decided must, I think, be made in the knowledge that there is a practice and an ecology and a model of understanding the world that is specific to these locations.

With those words, I'd like to just say thank you for the opportunity to do this, to have this opportunity to speak to you. I know that you've had a very busy schedule with respect to this committee in terms of the places you've been and the divergent opinions and perspectives in information that you've been given.

What I'd like and hope to be able to leave you with is at least some of the commentary and reflections that I could share, given my particular position as a re-

searcher who is engaged in doing academic research that's peer-reviewed and is based upon a longstanding tradition of engagement within a community. Thank you.

**R. Austin (Chair):** Thank you, Dr. Menzies. I'll open the floor.

**J. Yap:** Perhaps the answer may lie in the material and the book that you've given to us, but I'd like your perspective on the polarization that we've seen from a first nations perspective. In our travels we've heard passionate positions on both sides.

We were recently in Klemtu and had a very exciting ride up and ride back last week when the storm was coming through. In Klemtu there's a community, as I'm sure you're aware, that has really embraced aquaculture as a way to continue the historic traditional connection to fish, being that the wild fishery is not what it used to be. They're very comfortable and they're very proud of what they're doing and where they're going with it. They want to continue to do that.

Then you were in Prince Rupert, so you know what happened in Prince Rupert, where we had the other side. We had many voices that expressed the exact opposite. They want nothing to do with aquaculture. From your perspective, how should we reconcile these two polar positions?

**C. Menzies:** One thing I'd say is that there is not one indigenous nation. There are very many. I have a colleague and friend who comes from the interior of the province who says that some of the differences between first nations are as profound as the differences within Europe or Asia between the different nations there. It's a truism to say this, but I think that's part of the issue. The question becomes.... Perhaps you will not be able to reconcile those different positions and those different perspectives.

The other thing to point out is that different communities have had different histories of involvement in the resource economy. Whereas some communities might be more involved in industrial logging such as, for example, Kitsumkalum, others might have been involved in ranching, etc. — say, if you go around Douglas Lake.

If you go on the coast and the involvement in the commercial fisheries and then different approaches and adaptations, that different history of involvement leads to different positions and perspectives in the contemporary moment. So part of that is a history question. Part of it is, to a certain extent.... This will be the task of the Legislature — to actually resolve some of those. Whether it's a reconciliation in terms of different polar views, I don't know.

Looking at these issues as a researcher, I think that part of what that requires, perhaps, is the capacity to bring people into a forum where they can communicate in a way in which they actually make sense — translate what they're saying. I would say, as an observer listening to two different presentations between Kitkatla and

Prince Rupert, that I actually felt I was hearing very much the same thing but being directed in slightly different facets.

Through the process in which an individual presents himself on this side of a table to speak to the voice of authority, and an audience in behind in which there is this performative act, in that context, it leads to, perhaps, the polarization or the making more explicit or the drawing apart of the perspectives, as opposed to sitting around in a circle where we make it clear that we understand what we're talking about in the perspectives and the different varieties.

We may well use the same word but have very different understandings of that word, which, hence, leads to a real problem of communication.

[1030]

**R. Cantelon (Deputy Chair):** I think your perspective is very valuable to us, Dr. Menzies. Particularly, I think your comments regarding the decline or the changes in the fishery — not necessarily the decline in the fishery, but the decline of it as a localized industry as they move to bigger seiners.... A lot of what we heard is a lament, and as you rightly put it — I think you said — the next thing is something they don't want. If there is uncertainty about it, the last thing you brought us wasn't good.

Specifically, I'm interested in your involvement with Kitkatla. We certainly, as the Chair would recount for you, encountered the concepts of sovereignty quite directly when we first got there. We certainly got a good appreciation of that. But while we were in Kitkatla we heard a story that they want to move forward with fish farming. Then when we got to Prince Rupert, people who are members of that first nations band discredited what we had heard in Kitkatla, saying that they weren't representative of the voice of the real people.

Having never been to Kitkatla before, who do I believe? You've been there.

**C. Menzies:** Yes, that is a very difficult question to look at from the outside and try to make sense. It's not for me to say who you believe or not believe, because that's not my role. What I can say is that when I see the work and effort in the community, when I see through the interviews and observations and commentary and engagement with community elders, resource harvesters and practitioners — people who are processing the wild foods within the community in Kitkatla and Lach Klan — I see a real strong vitality in which you have divergent opinions but a common purpose.

That common purpose says: "We want to be able to continue harvesting our cockles, to be able to hunt deer and harvest seal, to have different seafoods and fish and seaweed, and to continue with these as part of our way of life. If economic development means signing agreements with ports, with energy companies, with fish farms, with transport firms, and if that can occur without harming our capacity to harvest, we'll consider it."

My sense is that in their heart of hearts, people aren't happy with that solution. If something goes wrong, they want out. I suppose my sense is that this is seen to be a way to facilitate continuing what people were doing while recognizing that there is great need within the community, not just in Kitkatla but in the community who reside in Prince Rupert. Levels of employment and engagement in paid employment are very, very poor. So there is this tension between economic need and that.

I know that doesn't directly give you a sort of spreadsheet as to who to believe or who not to believe, because it's not my place to do that. What I hope it says is that I think the intentions of the people who are working are very clear. Sm'ooygit Hale himself, who was engaged in the initial signatory of this agreement, made very clear at numerous times and also in the negotiations that there was an environmental opt-out clause within that contract.

I suspect that a corporate lawyer may have a different sense of what that looks like than the community does — communally, certainly. When I say, "No, I'm homogenizing," I think it's fair to say that just about everyone I have spoken to in the community understands that opt-out to mean that if the community members believe something is going wrong, that stops. As I say, I don't know what the company thinks it means or what a corporate lawyer would think it means, but that's the sense that I have.

**R. Cantelon (Deputy Chair):** Bluntly put, you believe that first nations in whatever agreements need to be able to pull the plug, opt out and cancel it if they see that it's detrimental to their traditional values of respecting the environment. Is that correct?

**C. Menzies:** Yes.

**R. Cantelon (Deputy Chair):** Again, going back to John Yap's comments, I think we see that in Klemtu. They continually monitor it and are very sensitive. They want an economic base, but they also want to retain their traditional hunting, fishing, clamming and all of that as well.

[1035]

My understanding is that in Kitkatla they had done considerable baseline studies, so they know what the ground zero is. If they move forward, they have a baseline against which to measure any environmental impacts. Then, of course, I presume they would be able to invoke the opt-out clause, which I think is critical.

I agree with your comments earlier, talking to the fact that you need to have a working relationship as opposed to a colonial relationship. I used that same phrase, actually, in describing our port authority in Nanaimo. I described them as a benevolent colonial power, which they didn't appreciate, but that's another story.

I think where it can work is where there is a true partnership where they gain economic benefit but maintain sustainability of their resource, and their opt-

out clause is critical. I see you nodding. You would say that's a fair...?

**C. Menzies:** I think it's important to have the capacity to retain power to decide within the community. I think that within the context of indigenous rights and the notion of sovereignty, to actually be able to carry out a traditional ecological knowledge practice, you need the power to be able to make those decisions.

An academic, a colleague at University of Wisconsin-Madison, wrote a book called *Hunters and Bureaucrats* very recently, looking at wildlife management in the Yukon. His basic conclusion from several years of research and close communication with first nations there as well as with wildlife guides, etc., is that without the actual capacity to make the decision, in terms of the first nation, the ability to enact and conduct through a traditional ecological knowledge practice was inhibited. The recognition of sovereignty needs to be made.

**R. Cantelon (Deputy Chair):** Thank you. I'll respect my own time limits here, Mr. Chair.

**S. Simpson:** Thanks very much, Charles. I appreciate the insights. I guess the question I have comes back to this issue around sovereignty, which I think underlies much of what you spoke to us about. We have this situation that we face. We have the Kitkatla and the leadership of the Kitkatla wanting to move forward in a partnership or a relationship to establish aquaculture. We have pretty much all of the other first nations up the Skeena adamantly opposed — certainly from what they said to us.

In the discussion we clearly hear the Kitkatla telling us that this is their territory and that they expect us to respect their sovereignty over their territory and their right to make their own choices about these decisions, and I respect that. We hear the other first nations up the Skeena saying, "Respect our rights," and that there is shared territory. That's a discussion, as they tell us, between the first nations. That's for them to have, not for me to have. That is the view that's expressed to us by some of those nations, and also that the impacts of what the Kitkatla may choose to do will have impact on those nations up the Skeena in terms of the fish coming in and out.

We have a couple of choices. If we accept that and respect that, we can choose to make a decision out of Victoria that says we support the Kitkatla's view or we support the view of the other first nations — yea or nay. The other option is that we can say: "This is a discussion that maybe isn't ours to have." Maybe it's a discussion where we put the onus back on those first nations collectively to make that decision among themselves, probably in a different format than the one we're sitting in today, a format where they have greater comfort and greater tradition.

My first question I ask you is: how do you think we should approach the question of these conflicting views and conflicting positions, both of which tell us

they have traditional rights and sovereignty rights — which I accept — and that if we're to respect those, we need to adopt a position that reflects their opinion?

[1040]

**C. Menzies:** Well, I would certainly think that an approach that would facilitate the development of consensus and agreement would be an important one.

I've had many opportunities to see, for example, government, business or universities come into the community, make a presentation, want something and want to do something, and very often miscommunication over language leads to a stop in a process. Clearly, I think an approach that looks at how to facilitate the emergence of consensus is a critical one.

One of the things in terms of the customary structure on the north coast — it's a very strong principle — is that the actual political unit is the house group, which is a group of matrilineally related people with house leaders who have hereditary positions, who have the authority over their particular territory. Within the customary practices, it's considered to be exceedingly inappropriate for a person from not just another house group but another village to say: "You can't do that in your house territory."

There's a real dissonance — and this is part of the colonial structure — between the customary practice for resolving and dealing with issues and what one even says publicly — how the colonial state wants to have that. Part of the problem is that in the manifestation that you saw, very often how things are presented.... It's really felt that within this explicit territory, this house group — of which there are, depending upon where you want to look, about a dozen or so, plus or minus two or three house group territories within Kitkatla.... It's the house leaders who meet together with their councillors, who then inform and counsel the government representatives in terms of the band council.

Within that process, there's a very careful movement to how one approaches telling somebody else not to do something, because it's not seen to be appropriate. That's difficult, because every first nation is going to have slightly different approaches to this. Oftentimes people will say: "Well, how am I expected to know?"

A good example is that the forest science program, which has just called for new proposals this fall, has made an effort to have people identify some connection to the first nations in their territory to try to link with and connect to them. Many of these researchers are people who don't see that they have any connection with the first nations at all. But because of the way the process is developing, there's been a decision made that they need to begin that process, to understand what the appropriate consultative process and protocol on the ground in that nation would be. It's difficult, but there are ways of starting.

**S. Simpson:** Just to follow up a bit. I accept that, but I get first nations leaders saying to me: "This really

isn't a question about whether the Kitkatla want to have pens in their turf or not. The question here is that when the salmon that are an inherent part of my culture come by and I truly believe as a first nations leader that those salmon are being put at risk by those farms — and whether or not they are is a scientific question — then this is no longer just the business of the Kitkatla."

**C. Menzies:** That would make perfect sense. One of the things I would say to you, though, is that you should take a look at and make sure you're clear on the migratory paths of the salmon in relation to the particular site locations. Understand that there are a lot of local sockeye runs in the Banks Island and outer coastal area, where many of these sites are. Those are all firmly within Kitkatla territory. You have to look at the historic patterns of salmon.

I speak as a person who has been a commercial fisherman, and my family has. I was on the boats since the early '70s.

Occasionally yes, sockeye salmon run through Ogden Channel, which is right by Kitkatla on the top end there. Occasionally you'll have fisheries there. By and large, the path comes out of Dundas to Lach Klan territory, down to the top of Stephens and then in through Chatham Sound and up to the mouth of the Skeena River, which is actually a little bit closer to the land, in my sense.

Most fishermen would tell you where the mouth of the Skeena is. It's not out at Lach Klan or Dolphin Island or Edye Passage or Steele Rock. It's closer to town — to Prince Rupert, to Port Ed.

[1045]

You may have fisheries biologists who've done studies and can indicate the customary and usual migratory paths that the salmon take, but it would be very important to be clear on that. I only speak with the experience of a commercial fisherman, so I could be completely wrong about where the fish move and how they pass. But at least my understanding is that, by and large, the sockeye that you will encounter in Principe Channel, around Banks Island, Petrel Channel, Freeman Pass to the outside are local salmon running to the local creeks and streams that are within the customary territory.

On the top end.... I don't know. Of course, I guess it's a disadvantage for those of you who don't have this map in your head. Perhaps Gary and I are the only ones who really see this. Maybe, Robin, you have a sense.

**R. Cantelon (Deputy Chair):** He's from Kingsway. He doesn't know either.

**C. Menzies:** Sorry about that.

If you just imagine that there's a range of islands out there. Part of the discussion has been that all the Skeena River salmon are running by these potential pens, and they're not even in the water yet.

In terms of where the locations are, just a very basic empirical question would be: where do the fish run?

Where do they normally run? What are the species of salmon that are running by there, more frequently or not? Then you can say whether they're going to have an impact. I think that's an important empirical question. You have to ask that question, and you have to look at it very carefully.

**S. Simpson:** One last question, and then I'll be done. I'll ask you the question that I've asked a number of witnesses. There is a conflict here obviously, or a potential conflict depending on the position and the view that we take. Ultimately, if we come to needing to make a decision between what we think is the impact on the wild salmon — if we come to the position that there is a negative impact on the wild salmon — versus the question of the rights of the Kitkatla, when we know there is controversy here with all the other first nations, do we protect the wild salmon if we believe that they're an impact, or do we defer to the Kitkatla?

**C. Menzies:** Allow me to give you a politician's answer. I think the question in its structure really has a number of difficulties and problems. First of all, you've agglomerated a whole range of runs and species of salmon into one — i.e., the wild salmon — which becomes the icon of the campaign that's being run through the Skeena watershed. You have to ask yourself which piece of that you are talking about. How is it being measured in that respect?

If I were to say what my solution to this problem would be, I'd say: "Let's actually go to the creeks." Let's take those watersheds that have been fished out, where the practices that have been made illegal have been removed, and let's put them back in there.

I don't know if anyone has ever had the opportunity to walk through one of the coastal watersheds out on Banks Island or any of the ones up around Dundas. But I know, Shane, that if you've actually seen these and seen the way in which.... These aren't natural, pristine creeks. These are engineered terraform waterways that, while people were allowed to and legally not prevented from engaging in, were very, very productive systems.

Work of Steve Langdon, who's in that book; work of Jim McDonald, an anthropologist based at the University of Northern B.C.; and work that we've been doing in the territory would suggest that the actual quantity and availability of salmon, and the spread of salmon that happened when the industrial salmon fishery first began, were a direct result of indigenous activity in the creek systems. In fact, what they did was a Keynesian kind of thing to the fish streams, where the big dips were raised and the peaks were cut down. Many of the systems that weren't productive were made productive through generations and generations of activity.

My preferred solution would be to say: "Go right to these creek streams. Let's put the investment, the money, the effort into revitalizing and bringing those back to where they were." That ties into a cultural revitalization. It ties into an economic revitalization. And

it's good for everyone, not just aboriginal people, not just non-aboriginal people — for everyone.

[1050]

For me, to a large extent — and I know it's not the mandate of your particular committee — the real problem is that the fish farms are a red herring, to use a fish metaphor. The real issue here is that we need to maintain and provide for the health of our fisheries resources. The way we can do that best, I think, is to listen to all the words of the community elders and resource practitioners who are drawing upon generation upon generation of experience and knowledge.

I think that people up in the Bulkley River, for example, or the Bulkley Valley have an important impact because that's a particular understanding, and they can see as the fish come by if there's any impact or change in that.

That's not really an answer to your question, but I think it's where my heart lies. If we're going to solve any of these kinds of problems, that's where we need to be looking — in that direction.

**S. Simpson:** That's a political answer.

**G. Coons:** Realizing the time, I'll keep it brief. Thank you so much, Charles. I did manage to get a copy of the book. I'm looking forward to going through that, especially since in our travels we've heard a lot about traditional knowledge and bringing in, as you referred to it, TEC — traditional ecological knowledge. I'm looking forward to reading that and going through it.

Again, as far as where we've come in the last ten years.... We had fish farming, and then we had the salmon aquaculture review that came up with, I believe, 47 recommendations. That, in my mind, was supposed to push forward the concept of public participation, especially with first nations. It seems that ten years later we're at a point where first nations are still in the dilemma of not having that input.

Did you have any comments as far as what's happened in the last ten years?

**C. Menzies:** Well, I think it's a continuation of an ongoing story. I do a lot of work in the agency in educational materials as well. In terms of presenting aboriginal education and how to deal with it, it's known. We know as a society what to do, but it doesn't get done. There are all kinds of reasons and explanations about it, from individual to societal. But we know.

I think in terms of traditional ecological knowledge and the understanding of the resources, it's actually there, and it's pretty clear what needs to be done and how. We don't, and we don't listen. Perhaps it's as simple as that to do so means that for a lot of people, they have to relinquish authority and power. That could very well be. I don't know if there's ever been a situation in human society where people with power willingly and wilfully give it up.

That, I think, is at the crux of it. When it comes to TEC, and you will hear a lot.... I do make a distinction

in the little chapter that I've written about pine mushrooms, not fish. You have to identify and distinguish the people who are actively engaged. There is rhetoric around TEC. There is the political phraseology of TEC, and then there's the practice of TEC. Very often you'll confront a difference.

Everyone can talk about respecting reciprocity. How is that operationalized? How's that put into practice? The people who can tell you how respect and reciprocity are operationalized are the people who are actively engaged in harvesting. That's a dilemma. As a researcher, that's one of the things I look at. I need to know not just, "Can you tell me about TEC?" but: "Are you actually engaged in harvesting? Have you engaged in harvesting?" That tells me something right there.

I think as a society, it's hard. How does a society relinquish certain elements of power? It's like democracy. Democracy involves trust. The people will be good and fair-thinking, and you take a risk in trusting people. It's always this balance between trust and risk. The risk is that they might not respect the process. The trust is that in order for it to work, you have to trust that they will. That's the dialectic involved in democratic practice and consultation, but it's so hard to relinquish authority.

**G. Coons:** One last question — hopefully looking for your knowledge on this. As far as Gitxaala and their laws of *ayaawx* and looking at defining the rights of ownership of land, resources, sea or whatever, that's one dilemma that when we came to Rupert, we saw and heard. I'm just sort of wondering if you could comment on that within that framework.

[1055]

**C. Menzies:** Disagreements about who can speak or can't speak need to be worked out within the house group and within the larger grouping of house groups. For example, locally people would talk about within the tribe or the clan. Amongst the *Gisbutwada*, *Laxsgiik*, *Ganhada* or *Laxgibaaw* — that's just Blackfish, Eagle, Wolf and Raven — disagreements need to be worked out internally.

I would simply say that it's my sense that these disagreements, such as they exist, will be worked on, improved and mediated. I think everyone recognizes that for the health of the community, there needs to be a common place and understanding. Sometimes, though, companies, organizations and agencies can play roles in shifting and destabilizing that balance. I think that's part of the process too.

It goes both ways — upriver and down, up coast and down coast. Even university research agencies coming in with large buckets of cash can cause problems as well.

**R. Austin (Chair):** Thanks, Charles, for your presentation. I appreciate it.

I'd like to call Vivian Krause to the witness table, please.

**V. Krause:** Good morning, gentlemen. I can see that the term applies. You'll have to let Claire know that she's left me feeling a little outnumbered.

I'm very glad I got here in time to hear the presentation of Dr. Menzies. That was very thought-provoking and very interesting.

My name is Vivian Krause. I'm a resident of the city of North Vancouver, originally from Vancouver. I have lived in Kitimat, where my father was the librarian at Kildala Elementary. I've lived in Kamloops. I have a bachelor of science degree and a master of science, both in nutrition, from McGill and the University of Montreal, respectively.

[1100]

I've worked in the salmon aquaculture industry. During 2002 and 2003 I held responsibilities for corporate development for Nutreco, one of the world's largest aquaculture companies, with farming and feed operations here in Canada, Norway, Scotland, Chile and elsewhere. Prior to working in aquaculture, I worked with the United Nations for ten years through the 1990s — five years in Guatemala in Central America and five years in Indonesia and Asia.

I want the committee to know that I have prepared this submission independently. I do not speak for my previous employer, nor do I speak in any way for the salmon aquaculture industry. I also want you to know that I am a very strong supporter of sustainable aquaculture. That's why I took the time to put together these remarks for you.

I have entitled this first presentation "Risk Communication: A Missing Piece." As I understand your mandate, the current review by the committee is focused on economic benefits and environmental impacts. In fact, as I understand it, the current controversy over salmon aquaculture is a matter of environmental issues, which we might call hazards, and outrage, which we might use as a term to refer to both the environmental and the non-environmental issues such as broken trust, unfairness, lack of benefits, secrecy, double standards, inconsistencies and so on.

To succeed in your work, I think it would be great if the special committee would consider both the hazards or the environmental impacts and the so-called non-environmental issues of outrage. I would encourage you, as you make recommendations to the Legislature, to consider strategies to mitigate both the environmental issues as well as strategies to mitigate the so-called non-environmental issues of outrage and other types of concerns.

Risk communication, which I want to talk about now, is a formal scientific discipline recognized by the National Academy of Sciences for handling the outrage or the non-technical component of risk.

"Risk Communication, a Science-Based Approach for Communicating Effectively in High-Stakes, Emotionally Charged, Controversial Situations." The ultimate job of risk communication, as described here by Peter Sandman, is to try to produce a citizenry that has the knowledge, the power and the will to assess its

own risks rationally, to decide which ones it wants to tolerate and which ones it wants to reduce or eliminate, and to act accordingly. It's something along the lines of what I think Ray Grigg said, when he said: "Generally speaking, what we need to do as a society is to say, 'These are the benefits that will accrue from fish farms. These are costs that they ask of us,' and we need to be firm about those costs so we don't spend more than they're worth to us."

The field of risk communication basically has two components. One is about arousing concern over issues about which we are underconcerned — things like flu shots, smoking, obesity, wearing your seatbelt, drunk driving. Those sort of social issues have great impact in our society, yet they are things that we're relatively underconcerned about. So one-half of risk communication is getting people more concerned or even outraged about things that are serious issues.

The other part of risk communication is what you do when people are overly concerned about issues. Actually, the field of risk communication grew out of a finding from the U.S. Environmental Protection Agency in the early 1980s. They found, in fact, that when they got a large number of top U.S. scientists together, what you might call perceived hazards and so-called real hazards are not the same. In fact, there's virtually no correlation between the ranking of a threat or a hazard by the general public and the ranking of those same hazards by technical experts. The correlation between how dangerous a hazard is and how many people it upsets and how badly it upsets people is very low.

This has profound implications for public policies, because the trouble is that when people are concerned about the so-called wrong thing, that's where the budget goes. Those funds are not then available for what are really serious issues. In fact, as the U.S. Environmental Protection Agency stated in its landmark report called *Unfinished Business*, many problems judged to be of relatively low risk have been receiving extensive public attention and federal resources.

Meanwhile, the environmental problems that the experts judged to be of higher risk, such as air pollution — that was the term at the time for what is now climate change — received far less attention and fewer resources. So there's an apparent irrationality there between what are really serious issues and what the public thinks are really serious issues.

[1105]

There are common responses to this apparent irrationality: people are ignorant or irrational, so just ignore them, and they get stonewalled; or the public needs to be better educated, so let's tell our story and do better communication; or the public is being manipulated by activists and media, so a beleaguered industry should just say so and fight the propaganda war better; or there's the approach of saying that the public is right, that the experts are wrong and that government should base public policy on public opinion even if the experts disagree.

Risk communication, I think, is a better approach. As the National Research Council report says — this is

going back to 1989; this stuff is not new: "Though good risk communication cannot always be expected to improve a situation, poor risk communication will nearly always make it worse."

Risk communication requires an understanding that the public takes a broad view of risk. Experts and the public define risk differently. Likewise, companies and communities do not view risks in the same way. This is a saying going back to the first century by Epicurus: "People are disturbed not by things but by their view of them."

There are now two decades' worth of scientific literature on risk communication, more than 800 books and 2,000 articles published in peer-reviewed journals, and this has led to a body of knowledge that helps us to understand how people perceive risk. Research shows that people tend to be more accepting and take a sort of rose-tinted view of risk if the risk is natural, not industrial; voluntary, familiar and not new; if we trust the perpetrators of the risk and they have a good track record; if we get benefits in association with the risk; if it is deemed to be a fair risk; if the potential negative consequences are common, certain, reversible and not memorable; if we have no personal stake in it; if there are no identifiable victims; if it is not dreaded; if there are no implications to future generations, especially children; if there are no powerful negative images associated with it; and if it gets little media attention.

What we're seeing here is that all risks are not accepted equally. On the other hand, people tend to take a dark view of risk. They are seeing it as greater and are less accepting of it if the risk is industrial, unnatural, voluntary, imposed, unfamiliar and new, as is salmon farming; if the perpetrators of the risk have a bad track record and they're not trusted; if it is considered morally wrong, as is harming wild salmon — and rightly so; if we get no benefits in association with the risk and if it is deemed unfair; if the potential negative consequences are uncertain, catastrophic, irreversible, rare and memorable, as in the case of the collapse of a wild salmon run; if we have a personal stake in it; if it's dreaded; if there are implications to future generations, particularly children; if there are powerful images associated with it; if it gets media attention.

Where these factors come into play, we tend to take a dark view of risk because of these outrage factors. Because environmentalists push these buttons, that's precisely why their campaign is effective. That's not in any way to say that isn't a good thing. We need environmentalists to raise concern about environmental issues, and they do it very effectively because they push these buttons.

Why salmon farming pushes people's buttons? Well, one of the reasons is that it touches on so many of these outrage factors. Salmon farming is industrial, and natural and industrial risks are judged on different terms. We have less tolerance for industrial risks than for acts of God, and the bar is much higher for multinationals than for the so-called mom-and-pops.

When we think of farms, we think of barns and fences. We don't think of boats and net-pens. It's unfa-

miliar, and salmon farming is new. Commercial salmon fishing has been around for more than 100 years, but salmon farming hasn't. We become habituated to risks that have been around, as if they're sort of grandfathered in.

A poor track record. An industry's early track record, as we know, can hallow or haunt it.

Trust. The single most important factor in the perception of risk is trust. The more we trust, the less afraid we will be, and the less we trust, the more afraid we will be.

Mortality. Wild salmon are sacred. It's considered morally wrong to put them at risk, and rightly so.

When there are no or few benefits. When we receive benefits, our views change. Hence, people who work in an industry are naturally more inclined to be supportive of it. Not only do they benefit from it, but their involvement makes them more familiar with it. Less unknown makes for less fear.

Unfairness. We are less accepting of risks when people and communities seem unfairly exposed. As in the case of the collapse of a wild salmon run, catastrophes gouge the fabric of our environment and our society more than events that are dispersed in place and time. So we are more leery of risks that are potentially catastrophic than we are of chronic risks. That's why, for instance, we are much less leery of smoking than we are of industrial pollution, even though smoking cigarettes kills far more people than industrial pollution. And smoking cigarettes is legal, whereas many forms of industrial emissions aren't.

[1110]

Uncommon events. Rare events are seen as more serious than prevalent events that we have become accustomed to. As salmon farm escapes become more rare, paradoxically they should be expected to cause not less but more alarm each time because of this principle.

Irreversibility. Risks that are feared to have irreversible consequences, such as the extinction of the wild salmon run, are judged to be greater, and they are thus less readily accepted.

A personal stake. When something near and dear to us is at stake or we are personally at risk, we naturally have a worse perception of it. When future generations are affected, risks that have delayed effects or effects on future generations are judged more harshly and are less readily accepted. When there are identifiable victims such as a child trapped in the bottom of a well, a beached whale or a miner trapped in a mine, it affects our perception of risk. That's why, with sea lice.... These are rapidly becoming what we might call the mushroom cloud of salmon farming. We're not familiar with this. We're familiar, as I say, with flies on horses and cows, but we're not familiar with bugs on fish.

Media attention. The public tends to think of the media as a watchdog that alerts us when public interests are at stake. When something gets repeated coverage, people assume that where there's smoke, there's fire, even without analyzing the news coverage. As Michael Moore says: "Give a lie a head start, and the truth will never catch up."

Outrage taints our perception of hazards. When people are concerned or upset, we have difficulty hearing, understanding and remembering. This can reduce people's ability to process information by up to 80 percent. Many studies have shown this.

When people are concerned, they often distrust people — even those who are listening, caring, honest, open-minded and knowledgeable. When people are concerned, negative information outweighs positive information, and negative perception becomes reality. People who are outraged are, therefore, more prone to misperceive risk.

People make assumptions about how a company treats the environment based on their own observations and also on how a company treats the local community — in particular, the environmentalists. Caught in the crossfire between an angry community and an industry, the public will have difficulty believing that the industry cares about the environment if the industry appears to have contempt for the environmentalists. Emotional footprints tend to obscure environmental footprints.

Outrage festers and transforms. It's sort of like a paramecium or like Silly Putty: it can change forms a zillion times, but it's always the same basic thing. Or it's like gum that gets stuck on the bottom of your shoe: it's going to be there until you deal with it.

When longstanding grievances are not addressed, other issues may become a vehicle through which redress is sought. It is easier to shut down a site or a company because of how it treats the environment than because of how it treats a community. I think that's very sad, but it's true. When the only grounds on which a company or an industry can be defeated are environmental issues, there is a risk that this becomes the battleground. Anger over broken trust, lack of benefits, unfairness, double standards, inconsistencies, secrecy bias, discourtesy and not being listened to — these become behind-the-scenes issues.

Peter Drucker has said that the important part of communication is hearing what isn't said. It's important to differentiate between what we can control and what we can't; that's key to risk management and risk communication. Many psychosocial factors influence risk perception and are beyond control: mental shortcuts that we might call heuristics, overconfidence and unrealistic optimism that lead to the "it won't happen to us" mentality, cognitive abilities, our preference for certainty and our reluctance to change strongly held beliefs.

Most of the other factors that affect risk perception are also beyond control: age, gender, race, socioeconomic status, education, worldview, lifestyle, etc. One of the few factors that a government or an industry can influence is whether it provokes or stokes outrage. While most of what determines the public response to risk is beyond control, how companies interact with communities is very much within their control.

So to understand and resolve a risk controversy, it helps to conceptualize risk in the terms of Dr. Peter Sandman. Risk equals hazard plus outrage, where haz-

ards are the environmental, food safety and other so-called technical issues, and outrage is public concern.

[1115]

The business case for looking at risk this way is very strong. Outrage is high risk. When resources are spent on mitigating hazards that provoke high concern, they are not then available to be spent on mitigating hazards that do not trigger as much concern, such as climate change.

Undermitigating outrage puts pressure on governments and industries to overmitigate hazard, and that's costly. Furthermore, most plaintiffs sue not to get rich but because of outrage. Unmitigated outrage leads to unnoticed hazard mitigation. You won't get credit for mitigating hazard unless you also mitigate outrage. Angry people won't notice the good things that you do, finally, to prevent the burnout of the people who are involved.

Despite the very strong business case, dealing with concern and outrage is very difficult because the playing field isn't level. It feels unfair. The public's expectations of industry and of environmentalists are not the same.

It's frustrating to come to grips with the fact that you've got to deal with outrage when what you'd really rather do is talk about substance. It's counterintuitive. Conventional communication strategies tend to backfire, because outrage changes the rules, and most of what works is counterintuitive. It's new and unfamiliar, it seems unbusinesslike, and it doesn't feel good. Production and reputation management, which this is part of, may at times be inherently at odds.

This little graph tries to sum up how, if you try to dissect the factors that contribute to outrage — as they pertain to salmon farming, overfishing, habitat destruction and global warming — you'll see when you look at it closely that salmon farming is inherently going to produce more outrage, simply because of the fact that it's unfamiliar, new; there are powerful images against it; it's memorable, unnatural, etc.

Likewise, when you look at the various threats to wild salmon from salmon farming, you can see that these factors help us understand a little bit why it is that we're so much more outraged about issues of sea lice in wild salmon than we are, for instance, even about health issues, polluting the ocean or escapes.

Much outrage has been expressed to the Special Committee on Sustainable Aquaculture. You've heard about broken trust, betrayal and suspicion of conspiracy to eliminate wild salmon. You've heard about no benefits to local communities, people not being listened to, being ignored and being dismissed. You've heard about secrecy, bias, discourtesy and bullying. You've heard about unfairness, double standards, inconsistencies, favouritism and abdication of responsibility by government.

Briefly, I'll just highlight some of the comments that I noticed as I was reading through the *Hansard* transcripts. Alexandra Morton in Echo Bay: "In 1987 the province came to us and asked: 'Where don't you want salmon farms?' And they created red zones. The prov-

ince said there would be no salmon farms in the red zones. In fact, they said the definition of a red zone was that they would not accept an application for a salmon farm. And then? They put more farms in the red zones than anywhere else. This was a betrayal of public trust. This is where we all started to lose confidence."

She also points out her concern that farms and oil wells were allowed on the east coast as soon as the fishermen were gone. "I cannot help but wonder," she says, "if that's what this is all about." Also, she says: "For sure, some communities may be benefiting, but the salmon feedlots in the Broughton.... They do not put children in our school. They don't buy gas. They don't use our post office. They don't bring residents to our community. They do not employ us. And they don't respond to our requests. They're not allowed to fraternize with us."

Chief Bob Chamberlin in Alert Bay put it very succinctly: "We've got 4,000 jobs. But it's our territory. It's our people that wear it." Also, Chief Bob Chamberlin in Alert Bay: "The only time I think we're going to be listened to is if we resort to direct action, and then the government and the media and the public will characterize us as a bunch of crazy Indians."

Bill Cranmer in Alert Bay said: "I don't think there's one farm that we agreed to."

About secrecy, bias, discourtesy and bullying, Robert Mountain in Alert Bay said: "We weren't told what the results were or what happened to them. We'd like to know. Still we'd like to find out what those results were. They were never made public. They were never returned to us either."

Jim Gordon in Campbell River told you: "I also hope that the scientists that are picked have no preconceived biases, as this seems to be the complaint about past studies. True or not, the impression is there, and taints the work."

Alexandra Morton also said: "The salmon farmers have been uncompromising. As a mom," she said, "I look at them as bullies. They do not want to listen to what all of us have been saying to them."

[1120]

About unfairness, double standards, inconsistencies and favouritism, Arthur Dick in Alert Bay said: "If this fish-farming thing was so damn good, why is it all concentrated in our area here, practically 15 or 16 miles from our island. I think what we should do is find out where all of you live, and our band will buy pig farms and put them right next door to your property."

Jennifer Lash, from Sointula: "The salmon-farming industry's needs were put ahead of the needs of local people."

Alexandra Morton, from Echo Bay, again: "They ignore the very same rules that they obey in Norway. They come here, and they are pretending that they don't know this."

Jennifer Lash, from Sointula, about abdication of government responsibility. She said that the deputy minister chose to look out the window of the boat that didn't look at the farm, basically pretending that there wasn't a problem.

Chief Bob Chamberlin, from Alert Bay: "This industry is running roughshod, and government officials shuffle papers and find other things to do, other than address what's really happening." The government is "turning a blind eye."

I think, having learned what I have about risk communication over the last year, that I have a little bit better understanding of things, and I hope that perhaps we get a chance to consider some of these concepts and principles that will help us understand the controversy over salmon aquaculture.

This picture is from an article that Charlie Anderson did in the *Province*. I think it was in 2002. He points out the very different attitudes of two towns and how, as he says in the headline here, the "people of the salmon" are caught in a bitter fish farm split. I think it's important to note that the communities that differ in terms of their views on the environmental issues also differ in terms of their trust of the industry, whether they feel that they have been fairly consulted, whether they are benefiting economically from the industry and many other so-called outrage factors that influence the perception of environmental risks.

Salmon farming has come a long way. The industry has improved substantially since the early years. Meanwhile, public perception is more negative now than ever. I think the lack of attention to the non-environmental issues.... I use that term in quotes, because they're not strictly non-environmental issues, but I think that lack of attention to outrage explains in part why the salmon-farming industry is not, so-called, getting credit for the numerous significant strides that have been made toward sustainability.

On the left here, the upper photo shows the type of chain links that were once used in the early '80s to tie the farms together. In the lower picture there you can see that I can barely lift that anchor pin that is now used on the farms. Speaking of links, the woman in this photograph really should be Linda Sams. Linda Sams has done more than anyone to build the strong links that Marine Harvest has with the coastal communities where it works. Linda has done a remarkable job in both the company where she's worked and in the communities where she works. You can see on the left there that those farm pictures are very different from the steel catamaran systems that you are seeing today.

None of this, however, changes the sea-lice findings of Alexandra Morton and others: the facts that virtually no sea lice were found near Prince Rupert, Rivers Inlet and Smith Inlet and that only very few sea lice were found near the salmon farms in Bella Bella, but many sea lice were found in the Broughton Archipelago. One louse per gram of fish is probably fatal. Therefore, a 0.1-gram pink or a 0.35-gram chum smolt probably cannot survive even one louse.

A 42-fold increase in sea lice was found on juvenile salmon near a farm, and elevated sea-lice levels were not found until smolts got near the farms. Elevated levels of sea lice were found for 35 kilometres past the farms, as I've noted here. These are just some of the highlights. I don't pretend to have done justice to them.

As I've noted here on this slide, obviously you can refer to the original scientific articles for many of the pertinent details.

As I was reading about risk communication, I came across a paper that I would encourage you to have a look at if you can find time to do so. It's called "Because People are Concerned: How Should Public 'Outrage' Affect Application of the Precautionary Principle?" The paper is actually written in relation to the application of the precautionary principle and mobile telecommunications, but many of the concepts apply to other issues including, perhaps, aquaculture.

[1125]

Dr. Peter Sandman — by the way, I've referred a number of times to quotes from him — has a degree in psychology from Princeton and a master's and a PhD from Stanford University. He's regarded as one of the leading risk communication experts. He's been involved in risk communication over 9/11, anthrax. He's one of the world's leading experts on bird flu and many other issues. He's also dealt with some of the corporate issues of outraged communities and how corporations have had to deal with them, including some of the most difficult such as the Shell controversy, the Australian Wheat Board. I think they're rather sad, probably, that they didn't take his advice. Anyway, I'll let you read more about that if you decide to consult his website.

I have read a lot of what he had to say and a lot of what a lot of other risk communication experts have had to say too. There are some perhaps helpful insights that could give us some inroads to how we can move forward in addressing the controversy over aquaculture.

Anyway, one of the things that Dr. Sandman says in this paper is: "In a risk controversy, both sides are usually inclined to make distortions, but the consequences for the two sides are very different. Activists typically overstate risk. Meanwhile, industry and government typically understate it. The former is irritating but much less dangerous to society."

Risk-related decisions are grounded in value judgments about how conservative to be. These are not technical issues; these are values issues. The opinions of non-experts are as legitimate as those of experts. Anecdotal data provided by emotional or hostile people is still data, and when scientists treat this data with contempt, they're being emotional, hostile and unscientific. People who are concerned or outraged are important sources of data — not just their outrage itself but the experiences that aroused it. Ignoring what they can tell you is bad outrage management, bad public policy and bad science. He goes on to add a little later in the same paper that outrage-provoking risks merit a more thorough investigation than risks that provoke only apathy.

On that note, personally I think this is a very good investment of our tax dollars and your time. Thank you very much for the very thoughtful work that you're doing.

"A scientist's characteristic open-mindedness, tentativeness and voracity for data of any sort tend to

disappear when amateurs are questioning the validity of that scientist's conclusions. The scientist's normal approach to anecdotal information is to see it as a rich source of hypotheses worthy of more rigorous investigation.

"As human beings, scientists sometimes fall short of these goals, but in their interactions with each other, they genuinely try to live up to them. But when faced with a citizen activist, especially an activist who trusts anecdotal evidence more than statistical generalizations, and most especially an activist who is questioning the scientist's competence and integrity, scientists are all too likely to lose track of these core scientific values.

"When there is a lot of public outrage at the experts, likelier than not there will be a lot of expert outrage at the public as well. Occasionally, when the citizens do have it right, it takes the experts longer than it should to notice because of their own defensiveness. Experts should notice their disinclination to take citizen experience seriously enough and bend over backwards to compensate for it."

That's a quote that I've just read from Dr. Peter Sandman, from his manuscript entitled "Because People are Concerned: How Should Public 'Outrage' Affect Application of the Precautionary Principle?"

If you buy into this line of thinking, then, that risk equals hazard plus outrage, it follows that mitigating risk is a matter of mitigating hazard and mitigating outrage. Risk management is, thus, a twofold task. When outrage is high and hazard is low, managing outrage is the main task. This is common, in fact. A common mistake, however, of governments and industries is to mitigate hazard while under-attending to outrage. When both hazard and outrage are present, obviously we need to mitigate both.

Here comes a very crucial point, I think, and I would really encourage you to read the manuscript and consider this particularly in relation to the very important decisions that you will be called on to make regarding a moratorium and regulations about closed containment technology. As Dr. Sandman puts it: "Mitigating hazard does not mitigate outrage, though many people think it does." Reducing outrage usually has little to do with mitigating technical risks. "Hazard solutions for hazard and outrage solutions for outrage," as Dr. Sandman puts it.

Effective strategies for addressing concern and outrage include: listening; responding accordingly; acknowledging uncertainty; getting behind-the-scenes issues on the table; sharing dilemmas; acknowledging when things are not clear-cut; expressing diversity of opinion, even amongst experts and authorities and even amongst a special committee; admitting error and apologizing; resolving longstanding grievances through mitigation and compensation; and commitment to not repeating the same mistakes.

[1130]

Beyond communication there's also a need for sharing control — particularly when it comes to citing joint research as in the example of the Marine Harvest Canada and CARR agreement — and accountability. I mentioned some thoughts in relation to accountability and certification in the covering letter of this submis-

sion. I won't repeat those here, but they are included in that covering letter.

Concluding. I'm getting to my conclusion here. I would like to make a humble recommendation to this committee. As you formulate a framework for sustainable aquaculture in British Columbia, I would encourage you to include risk communication guided by state-of-the-art concepts and principles, including, among others, those of Dr. Peter Sandman, which are that risk is hazard and outrage. Risk mitigation, therefore, requires hazard mitigation and outrage mitigation. When both hazard and outrage are present, mitigate both — with hazard solutions for hazard problems and outrage solutions for outrage problems. Thank you very much.

As you know, I have actually two short presentations. The second is on the marketing strategies of the Alaskan wild salmon industry. I could either take questions on this now, and we could break, perhaps....

**R. Austin (Chair):** We'll have questions. I think what we'll probably do, noting the time, is.... You've given us a copy of your second presentation. I think what we will do is read that at our own leisure. Otherwise, you'll be here for about an hour and a half, maybe even two hours. I think we'll probably have a lot of questions just from what you presented.

**V. Krause:** Actually, if I may and if you would be willing to do so, I believe that, in fact, the material that I would like to present in that presentation is well worth having you and me both stay here for a half an hour. If you want a break, I'd be glad to hang around. I wonder if maybe....

**R. Austin (Chair):** We'll have questions on this presentation.

**V. Krause:** If you want to break for lunch or coffee, I can wait too.

**R. Austin (Chair):** First of all, let's have questions on your first presentation.

**R. Cantelon (Deputy Chair):** Just a brief comment. In one of the sections, you have outrage scores of 20. I think you underrated that. I think we had much higher outrage scores than 20.

**V. Krause:** Actually, that was 20 out of 20. I don't know how you could get much higher.

**R. Cantelon (Deputy Chair):** Yes, I know. No, we did. We definitely got higher.

**J. Yap:** Thank you, Vivian, for your presentation. Obviously, a lot of time and effort went into putting this together. Your passion shows through.

I twigged on one of the comments in your presentation, which was that the public's expectations of industry and environmentalists are not the same. I found

that very interesting and would like if you could expand on that, if you might. That seems to me to be part of the.... I know you've got a very interesting model here on risk communication. It seems to me that perhaps one of the fundamental issues here is that there are these different expectations that the general public has between industry and environmentalists. I wonder if you could expand on that.

**V. Krause:** I'd be glad to. Something comes to mind that Peter Sandman says. He says that it's like smoke alarms. We calibrate them to give us false positives, not false negatives. So we are much more tolerant of overly alarming statements from environmentalists. We are much more upset by overly reassuring statements from industry. Does that explain it?

**J. Yap:** Do you have, from your reading and your understanding, a perspective on why that might be the case? Is there something that an industry — in this case, we're talking about aquaculture — can do other than sort of the general platitude: "Well, improve your communications"? Is there something that can happen to address that?

**V. Krause:** Well, I think that it's a good thing that expectations of environmentalists and of industry are not the same, because they serve two very different purposes in society. I think what government and industry can do is learn risk communication.

[1135]

It's not a genetic trait. It's not something that's instinctive. It's something that you have to actually learn and much of it is counterintuitive, and it runs counter to what comes naturally to us. When people are concerned, the natural tendency, especially if you are in a position of authority or power, is to want to reassure people. When people get more and more concerned, you want to reassure them more and more, but that tends to backfire when it comes across as overconfidence or over-reassurance.

When you overdose, you overstate things. You sound overly optimistic and overconfident, and it backfires. Paradoxically, over-reassurance is very unreassuring. When I look at the patterns of communication coming out of, for instance, the various government ministries that have had jurisdiction over salmon farming, I think it would really help if those agencies and departments within government could develop their human capital, their competency and their skills in terms of risk communication. What's happening is that people don't realize how they're coming across, and the way they're coming across is not matching with their intentions.

You know, it's funny. In an industry we'll invest great amounts of money — for instance, in salmon farming, in learning how to feed the fish. Communication is a core component of business and of dealing with people too, yet we seem to think we should all just be able to do this naturally. But it's not that way,

particularly when you're dealing with high-stakes, emotionally charged and controversial situations.

That's why, in this case.... Like I said earlier, there have been thousands of scientific studies. Perhaps one thing that does come to mind is that I saw a study that came out of the Harvard centre for risk and the environment. I'm not sure what the exact name of the centre is, but it's at Harvard. A risk communication expert by the name of Vincent Covello looked at the determinants of trust in situations of high concern and low concern. What he found was that when people are not concerned, about 85 percent of what determines trust is competence and expertise. All the other factors combined account for only 15 percent of what determines trust.

When people are in a situation of high concern, expertise and competence account for only 20-or-so percent of what determines trust. Over half of what determines trust is empathy. Another 20 or 25 percent of that would be openness; another 20 or 25 percent of that would be commitment and dedication.

To sum that up, what you could say is that in a situation of low concern, what works is authority, your credentials and your expertise. But when people are very concerned, what works is authenticity, credibility and experience. That has profound implications for, for instance, the choice of spokespeople. That's why when Alexandra Morton speaks, she's right at the top of the credibility ladder. When a paid consultant speaks, he's at the bottom of the credibility ladder. That's because we're concerned and we listen to people differently.

There have been many studies, for instance, of credibility and what determines that. That's why when a guy or a woman who works at a fish farm says, "This is how it is," we tend to believe them a lot more so than if a minister says so. It's because we're responding to the fact that these people are speaking from authenticity, credibility and personal, firsthand experience.

**J. Yap:** That's an interesting point — if I may, Chair — that all those qualities are more important than qualification or expertise. I think that was where you were going.

In the next while, as part of our deliberations, we're going to bring scientists together, and we'll have one group that are going to speak generally in favour of aquaculture and another group that, we understand, have done studies and will speak on the other side — you know, the cautionary side against aquaculture. Both sides will have qualified PhDs with research behind them. As you know, the studies out there, and you've referred to some of them in your presentation.... Now, it's trying to separate the appeal to the hearts and minds of people. Let's say we're in a room like this with legislators here trying to be as objective as we can be.

[1140]

Recognizing the kind of influences that you've mentioned, do you think that we will be able to be dispassionate, and, setting aside the quality of the presentations, look at the evidence and try to stick to scientific evidence and try to come to a conclusion?

**V. Krause:** Of course not. Human beings are by nature emotional, and that's a good thing. One thing that is interesting is that fear and anxiety are things we only have a limited capacity for. It's fungible, if you wish. It's not like love. Love — the more you have, the more you can give. We have an infinite capacity for love, but fear is not like that. We can only be afraid of so many things at one time. The reason for that is because fear focuses our energy so we deal with whatever it is.

I don't think emotions should be set aside. They should be understood. I think that passion is in our DNA for perhaps even evolutionary reasons, and I don't think that trying to be dispassionate about this controversy and putting emotional rhetoric aside.... Unhelpful. Forget about it. What we need to do is understand our emotions and channel them.

What I would encourage the committee to do, perhaps, is.... I really feel for you. I have read the *Hansard* transcripts — almost all of the submissions, the ones that are out in a PDF file. I can sense how very hard you're working at trying to understand this and find avenues for moving forward.

Personally, I think it would be a great way to spend some of our taxes if you actually bring in a couple of risk communication consultants. What you'd find, surprisingly, is that they'll actually tell you — the ones who have done a number of these global risk controversies: "You know what? This isn't that unusual." This particular controversy over salmon aquaculture is a common-cold sort of controversy. Once you begin to understand the dynamics of it, then I think we'll have paths for moving forward.

I might add that it's kind of interesting.... The reason that I discovered risk communication in the first place was because in the last year I've been working on adoption. I started volunteering, and now I'm an active member of the board of the Adoptive Families Association of British Columbia. As you know, we have 9,000 foster children in British Columbia.

One in nine of our foster children is actually an adoption awaitee. More than 1,000 British Columbian children are on a waiting list for a mom or a dad. Yet the portion of the budget of the Ministry of Children and Family Development that goes towards adoption services is less than 2 percent. One in nine of our foster children is waiting for adoption, yet less than 2 percent is going towards adoption services.

That's because most of it is going towards protection services, and that's great. But what children need, in addition to being protected, is to have roots, to have a sense of belonging and identity and to have a sense of connection and contacts. That's what adoption is all about.

As I've been working on this, I've been asking myself.... In fact, I said to myself one day: these children would be getting more attention if they were wild salmon or old-growth trees. What is it that environmentalists know that children's advocates need to learn? It's a question I often asked myself when I worked for UNICEF for more than ten years in Central

America and Asia. I'd ask myself: how can we do for children what environmentalists are doing for the environment?

Actually, to be honest with you, the way I discovered Dr. Sandman was that I logged onto *Google* one day and said: "Create outrage." I needed a paper. I wanted a paper that I could share with the board about how environmentalists do it. Eventually I came up with the work of Dr. Peter Sandman.

It's been so enlightening for me in the work that I'm doing, in terms of how we can engage.... Here in Canada we have 22,000 children who are on a waiting list for a mom and a dad. Yet adoption, since Madonna and baby David Banda, has not been adequately on our radar screen.

If you get into risk communication and have some people in who have 20 or 30 years of experience — far more than I do — they will be able to enlighten you in a way that I think you might find quite helpful.

**D. Jarvis:** I think we are doing, to some degree, risk communication. Whether we're getting to the right point, I don't know yet. But I'm at a loss, really, to understand how we could possibly mitigate outrage.

**V. Krause:** You know what? It's surprisingly simple. When people are upset, when something has gone wrong or when there's been a shortcoming, it's like in a basic relationship.

[1145]

Anybody who's been married knows all about this. If you've done something wrong, you've got to say: "Sorry." If there have been things in the past that are unresolved, you've got to get those issues on the table, and you've got to deal with them. I think, actually, it's surprisingly similar in a marriage and in a province.

**D. Jarvis:** Well, it would be pretty tough to get all things on the table with the different proponents that are against salmon farming, I think.

**V. Krause:** With all due respect, it is on the table. All of these remarks have been made. They're now a matter of public record. People have expressed to the committee what it is that's bothering them, and there's a lot more to it than environmental issues.

**D. Jarvis:** So we're going to have to make more people understand, really, what the course is. I think most of it is that people just don't understand the whole issue.

**V. Krause:** Well, there's a tendency sometimes for us to think that it's everybody else who doesn't understand. Sometimes we have to ask ourselves if, in fact, it isn't us that doesn't understand, and I include myself in that.

**D. Jarvis:** Okay.

**V. Krause:** If there are no further questions...?

**R. Austin (Chair):** Gary has just one comment, and then we'll go into the second presentation.

**G. Coons:** I found it really interesting. Thank you so much, Vivian, for bringing this to our attention. It's given me a whole other realm of thought, and especially where Dr. Peter Sandman talks about when there's a lot of public outrage at the experts. Likelier than not, there'll be a lot of expert outrage at the public as well. That's a dilemma I'm personally having with the experts on both ends of the spectrum, in trying to find independent experts to come out there.

I'm sort of wondering: in your travels, have you found anybody out there with independent...?

**V. Krause:** Absolutely. In fact, one thing I would really encourage the committee to do is to bring in the international experts, particularly on sea lice. You know, Norway and Scotland are light-years ahead of us in terms of the collaborative research that is going on between industry and government. I really hope that British Columbia won't spend our taxpayers' money to reinvent the wheel on sea lice.

I would love to see you bring in a panel. Let's have two or three days and have the committee talk with some Norwegian and Scottish experts and also with the companies who are addressing the issue.

**R. Austin (Chair):** Thanks, Vivian. Just before you start your second presentation, I want to make it known that the reason why we're giving you considerable time is because we did have two other presenters scheduled today, and they cancelled this morning. So that's what has enabled us to listen to your second presentation. Otherwise, we would be reading it on our own.

**V. Krause:** I would have started with the second presentation, except that I spoke with someone from your office yesterday, and they actually asked me to allow 40 minutes for both presentations. Perhaps I went over with the first quite a bit.

**D. Jarvis:** So you phoned those two presenters and told them not to come, I guess.

**R. Cantelon (Deputy Chair):** And before we get too enthusiastic, I'd just like to caution that it is ten to 12. We have a presentation at one, and we hope to grab a bite to eat somewhere in between that too.

**V. Krause:** Before I begin this, I just want to say that I said something in the covering letter to my submission that I hope perhaps you've read or I do want to draw your attention to. That is, that what I just said could easily be misinterpreted as me just saying that this controversy is nothing more than bad PR or it's all about communication. That's not at all what I'm saying.

What I am saying is that in addition to the environmental issues, there are other issues.

[1150]

I'll refer you to the fourth page of my covering letter, where I have a page and a half on what I think are very valid environmental concerns. In no way do I intend to say that the environmental issues should be dumbed down to nothing more than communication problems.

This presentation is about the marketing strategies of the Alaskan commercial wild salmon industry. As I understand it, your mandate is about economic benefits and environmental impacts. Salmon is, after all, a food. Most of us eat it because we love it and also because of the health benefits of salmon. The very high levels of omega-3 fatty acids, combined with the low levels of mercury, mean that salmon is a great source of omega-3 fatty acids, which are very important for numerous health reasons and, in particular, for prevention of cardiovascular disease.

Cardiovascular disease is the number one cause of premature death in both Canada and the U.S. We'll just start, if you don't mind, with a couple of basic facts about cardiovascular disease. Eighty thousand Canadians die annually because of cardiovascular disease, costing Canada more than \$7 billion in direct health care costs. This is a major issue of public health significance.

In the U.S. 71 million people have cardiovascular disease. That's one in three adult men and women. In the U.S. we're talking about seven million heart attacks per year, at an annual cost of about \$403 billion. It must be one of the few things these days that's actually costing more than the Iraq war. By comparison, the estimated cost of all cancers in the U.S. was \$190 billion. We're talking about a lot of public money here.

You may have noticed that there was a recent study, which caught a lot of media attention, that has profound implications for public health, published by two physicians from the Harvard Medical School, Dr. Mozaffarian and Dr. Rimm. It was on the fish intake contaminants on human health, evaluating the risks and benefits. This study was a meta-analysis. In other words, it was a study of studies. Meta-analysis is a way of looking at studies that have had contradicting or conflicting results and trying to make sense of them.

The background for the study was that fish may have health benefits and also contain contaminants, resulting in confusion over the role of fish consumption in a healthy diet. The main findings of the study, and they have profound implications, were that modest consumption of fish — that is, as little as one to two servings per week — especially of the species higher in omega-3 fatty acids, can reduce risk of coronary death by 36 percent. In terms of epidemiology, that's a magnitude of impact that's very high.

Furthermore, that modest consumption of fish can reduce total mortality by 17 percent and may favourably affect other clinical incomes. The authors concluded that women of child-bearing age and nursing mothers should consume two seafood servings per week, limit-

ing intake of selected species. That would be those high in mercury, such as swordfish, etc.

The authors also concluded that health effects of low-level methylmercury in adults are not clearly established, that methylmercury may modestly decrease the cardiovascular benefits of fish intake, and the authors concluded that levels of dioxin and PCBs in fish are low and that potential carcinogenic and other effects are outweighed by potential benefits of fish intake and should have little impact on choices or consumption of seafood.

Their conclusions were that for major health outcomes amongst adults, based on both the strength of the evidence and the potential magnitudes of effect, the benefits of fish intake exceed the potential risks. For women of child-bearing age, benefits of modest fish intake, excepting a few selected species, also outweigh risks.

We're talking here about a major component of dietary prevention of the number one killer of people in Canada and the U.S. and a health issue that has public health budget implications in the billions.

On that note, a little bit of data on the patterns of consumption of seafood relative to other sources of protein. The data here on the left comes from the U.S. Department of Agriculture. We see very similar trends in Canada. This data goes back 50 years. As you can see, while poultry consumption has quadrupled over the past 50 years, fish and shellfish consumption has not increased. In fact, if you go back to 1909 when the U.S. Department of Agriculture started to collect data, the average annual per-capita fish consumption then was nine pounds. One hundred years later it was 11.4 pounds.

[1155]

On the right here what you've got is a little chart that tries to summarize the different factors that bear on fish intake and choices of which fish and seafood to take. You can see here that of all the options for fish and seafood — shrimp, tuna, salmon, catfish, crab, cod, clams, etc. — the only four-star option in terms of being high in omega-3 fatty acids that was also low in mercury and affordable was salmon — canned salmon and farm-raised salmon, not wild, frozen or fresh, because it's so much more expensive.

On that note, a little bit of background data on the world supply of salmon. This graph and the subsequent graphs that I'll show you are from Dr. Gunnar Knapp. He is a credible expert on salmon markets. He's in Alaska. He's an economist, and he has a website. There's a lot of excellent information that you could consult if you need to in terms of understanding global salmon markets.

What you see here is that in the last 24 years the world supply of salmon has increased fivefold, from about half a million tonnes to two and a half thousand metric tons per year. The important thing here is that while the total global supply of salmon has quintupled, in fact, the supply of wild salmon has remained steady. In particular, the Alaskan portion has remained steady in terms of volume. But in terms of market share, the

advent of aquaculture has had profound implications for the wild salmon industry in Alaska. Their market share has fallen from 42 percent to 15 percent in the last 24 years.

In order to understand the global salmon market, you really need to know a few things about the different product forms, prices of species, etc. I don't want to go into this too much, but I've included here three or four slides that you can come back to. This one just shows, for instance.... Going back in time here a little bit, we see that in the '60s all the wild salmon coming out of Alaska was in a can. In the early '70s they started thinking outside of the can, and they went to frozen forms. Today more than 95 percent of the salmon coming out of Alaska is frozen or canned. Less than 5 percent is fresh.

Another important consideration is price. Here what you see is that there's about a tenfold range in price between fresh chinook and the least expensive item on this graph, which is frozen chums. Fresh troll-caught chinook is fetching nearly \$7 a pound, whereas frozen chum and pinks, according to this graph by Dr. Gunnar Knapp, are fetching around 70 cents, it looks like — something under a dollar anyway — a tenfold difference in price.

As this graph shows, the most valuable species are the chinook, followed by farm-fresh Atlantics and then fresh sockeye, then fresh coho, etc. This graph shows you that, in fact, the proportion of the wild Alaskan salmon that is the higher-value chinook species is minuscule. It's less than 2 percent. Most of the wild salmon coming out of Alaska is the lower-price point species, the pinks and the chums.

This is a very important consideration, because while the wild Alaskan salmon industry has blamed all of their woes on salmon farming, in fact a lot of it has much more to do with the species that are caught in Alaska and the product forms than it does with anything else.

Between 1980 and 2002, with the advent of salmon aquaculture, there were dramatic implications, and very painful ones, for the wild salmon industry in Alaska. The real value of Alaska's salmon harvests fell by more than 75 percent. But as you can see in the next slide, in 2002 things began to change. In the last four years the value of Alaska's wild salmon harvest has nearly doubled. The value of Alaska's wild salmon harvest has grown by 87 percent between 2002 and 2006.

When I first saw this, I thought: wow, that's fantastic. What does Alaska know that we can learn? How can we do that here for British Columbia and wild salmon? I could hardly wait to get to the end of this 113-slide PowerPoint presentation. But as I read on, I got very concerned.

[1200]

This slide is one of only two or three more that I'll show you from this presentation. This slide shows how monthly imports of farmed salmon were affected in January of 2004 after the publication of an article in *Science* on contaminants in farm-raised salmon. As you

can see, there was a sharp, though relatively short-term, drop in farmed salmon imports — a sharp drop which lasted for about two months, and then imports recovered.

This is another interesting finding that caught my attention. What you see here.... I draw your attention to the green bars. Those green bars represent the frozen salmon fillet imports from China. This is salmon that's crossing the Pacific to go to China, get processed and then come back. This is very Kyoto-unfriendly salmon — okay? It's going from Alaska all the way to China. It's getting processed, and it's coming back.

Interestingly, the volume of salmon that's now getting processed out of Alaska in China has doubled in the last three years, increasing from what looks like about 8,000 or 9,000 metric tons to about 19,000. I've got to ask myself: how sustainable is this?

Interestingly, towards the end of Dr. Gunnar Knapp's presentation, he includes this slide, which asks an important question about how much the increase in wild salmon prices was driven by Alaska salmon marketing, NGO anti-farmed-salmon campaigns and high farmed salmon prices.

His conclusions are that the world salmon market is complex. There are many species, products and markets. Supply and price trends differ between markets. Markets have improved for Alaska salmon, but to varying degrees. Prices are up significantly in the U.S. and in Europe for fresh and frozen markets, and especially for higher quality chinook, coho and sockeye.

But it is unclear, he says, to what extent the market improvement is driven by positive wild-salmon marketing, negative anti-farmed-salmon publicity and relative scarcity and high prices of farmed salmon. He notes that two important traditional Alaskan markets — the Japanese and the canned salmon markets — are not strengthening.

I just want to draw your attention to one other slide. This is not pertaining to marketing, but it caught my eye, so I thought I'd share it with you. This slide shows the pink salmon packs in both the U.S. and British Columbia. What you see here is that there were large pink salmon catches, leading to very large canned pink salmon packs as recently as 2005. But then there was a dramatic decline in pink harvests in 2006, resulting in the lowest canned pink pack in Alaska in decades.

This caught my attention. I wanted to see what else I could find out about it. I've included here a little e-mail from Bobby Thorstensen. It's what he writes on the 2006 salmon season: "The Good, Bad and Ugly." The good was the pink price. "Pink prices have inched up to 19 cents," he says, "at the dock of one large processor." In terms of the bad, he talks about the drought of 2004.

I won't read it all. I'll leave it there for you to come back to if you wish, but I did notice one comment that caught my eye. He says here that: "In southeast's single pink salmon facility" — he's talking about a hatchery here — "82 million pink returned, less than one million adults, to the Armstrong Keta region." Likewise, the

large spring of 2005 releases of pinks never made it back home in 2006.

This isn't the Broughton Archipelago. This is Alaska, where there are no fish farms.

#### **R. Cantelon (Deputy Chair):** No lice.

**V. Krause:** Actually, no, there are a lot of lice. Wild salmon carry lice too, but there are no fish farms in Alaska. It would not be correct to say there's no aquaculture in Alaska. There's plenty of aquaculture in Alaska, but there are no fish farms.

I think this is worth considering. By no means am I saying that this may explain what's going on in the Broughton, but I think it is important to note that there have been very recently very low returns of pink salmon in other places where there are no fish farms.

I also read somewhere this summer that in fact, pink salmon are apparently being found for the first time in the Arctic. It is speculated that the northward movement of pink salmon in general is some sort of a response, perhaps, to climate change.

I am not a salmon expert, though. I simply raise this so that if the committee deems appropriate, you can look into it further when you talk with experts and other scientists.

[1205]

Back to the issue of marketing. A couple of other things caught my eye — this article, for instance: "Why Alaska Salmon Fishermen Should Be Smiling." Laine Welch says that the demand for wild Alaska salmon continues to increase in markets at home and around the world. It has become the poster child for purity, healthfulness and earth-friendly management. An added boost for Alaska: more customers say that frozen is fine.

At the same time huge media blitzes around the world continue to bash farmed salmon for its contaminants, colourants, etc. I find interesting the juxtaposition of the media blitzes bashing farmed salmon and the increasing demand for wild Alaskan salmon.

Then I found this report by Ray Riutta, the executive director of the Alaska Seafood Marketing Institute. This report is from August of 2006, and it's to the Governor of Alaska. In this report the executive director of ASMI talks about the factors that have contributed to the revitalization of Alaska's wild salmon industry, and he mentions three as being key.

First of all, funding — \$50 million since 2002. Secondly, restructuring of the ASMI board. Basically, they shrunk it from 25 people down to 7, and they got the CEOs back, which I think is very important. Thirdly, a new marketing strategy.

He goes on to describe the new marketing strategy, and here are some of the highlights in brief. A \$6.5-million consumer advertising campaign war chest; matching grants for corporate advertising campaigns; targeting the domestic U.S. market; targeting high-income, college-educated white females between the ages of 25 and 54; aligning with industry in terms of advertising partnerships; partnerships with the Culi-

nary Institute of America and with *Celebrity Chefs*; developing the Hispanic market, especially for canned salmon; the "Cook it Frozen" campaign; focusing on what are called the shoulder seasons, which is, I think, an excellent idea for Alaska; and international trade shows in Boston and Brussels. He also mentions an upcoming \$4 million advertising campaign with the Food Network.

He makes a few other comments that caught my eye. He talks about sticking to the facts, and he says: "We don't go out and make outlandish claims that we can't back up with scientific fact, which is why you won't see ASMI out there bashing farmed salmon, for example. Environmentalists can take that and do it if they want to. Some of the criticism has grounds; some of it doesn't."

I find it pertinent that the executive director of the Alaska Seafood Marketing Institute acknowledges that some of the criticism does not have grounds. "We don't want to get into the accusations, because they bring the whole salmon category down," he says, "and it gets people eating pork and chicken when we really want them to eat our fish."

Then in the latter portion of his remarks, in a section entitled "Secrets to our Success," he says: "The infusion of dollars wasn't the sole driver. We need to be honest here. It wasn't the only thing that changed market conditions. There was some bad press for farmed salmon, and there was the health issue and people wanting more seafood in their diets. All these things kind of came together like the perfect storm."

As I read this I got a sick feeling in the pit of my gut, as I remembered something I had seen in 2002 when I was still in the industry. It's still on the web; you can google it and have a look at it yourselves. It's an e-mail written in reply to a very angry fisherman who was complaining about why ASMI doesn't bash farmed salmon. Ray Riutta, the executive director of the Alaska Seafood Marketing Institute, wrote in reply to this fisherman:

"As to attacking farmed salmon directly, there is more to the issue than you may realize, and ASMI does a lot more behind the scenes than you are probably aware of. Why don't we come out and conduct a frontal assault on farms? Well, it's pretty simple.

"Two reasons. The first is the most practical, and it is that most of the large retail food chains that sell our salmon also sell farmed salmon. It would be nice if all they sold was our fish, but that is not the way it is, so we have to deal with the reality of the marketplace. In order for them to sell fresh salmon fillets year-round, they have little choice. In many cases farmed is by far the larger of the two product lines they sell in terms of volume and profit margin. They do not expect their wholesaler to be openly attacking other products they sell. If we do, we face losing the accounts, which are worth literally millions of dollars to our industry and would further depress the already low prices you receive for your fish."

The reason I've made this quote so long is because I didn't want you to think I was taking anything out of context. You're getting context here. He goes on to say:

"The second and fundamental marketing rule is that direct attack ads by people with similar products

generally do not work. They only confuse the public and end up with both sides losing market share. They are seen as self-serving and lack credibility with the general public. In our case it is far more credible to leave the attack to third parties, such as environmental groups and newspaper columnists, than it is for us to come out and do it ourselves. We can then leverage that information with a marketing campaign pointing out the positive aspects of our fish, using the bad things about farmed salmon as our points of difference, and that is exactly what we are doing."

[1210]

That's a quote from Ray Riutta, the executive director of the Alaska Seafood Marketing Institute. He goes on to say:

"In addition, we are helping the people that sell our products or use them in restaurants understand the differences in wild and farmed fish, which includes showing them the material that is being generated by the environmentalists and the media. We also have been working with a number of environmental groups and media for several years now, pointing out the purity and sustainability of our salmon, which helps them make their points about the difference in wild versus farmed fish."

I can't help wonder if these brochures from the David Suzuki Foundation are from part of the perfect storm that Ray Riutta describes. I think, and I'm very sad to have to say this, that these remarks by the executive director of the Alaska Seafood Marketing Institute prompt a reconsideration of the role of environmentalists and of the media in the controversy over salmon aquaculture.

I think it's fair to ask: who are the environmentalists, and who are the media who are, as Mr. Ray Riutta describes it, working with the Alaska Seafood Marketing Institute? I think it's also important to know who are the independent environmentalists, and who are the independent media who are not associated with this. Will they exonerate themselves from this sort of activity?

I think it's also important to know which are the materials generated by the environmentalists and the media that have been used by the people who sell the products of Alaska in restaurants, etc. These are very unpleasant questions, but I think they need to be asked.

He goes on to say:

"We do intend to be aggressive in taking advantage of the current trend against farmed and in favour of wild salmon at every opportunity, but we are going to do it in a positive way. By that, I mean we will emphasize the many good things — purity, health benefits, environmentally friendly, sustainable runs, small family businesses — about our fish and leave it to others to emphasize the bad things about farmed fish."

He concludes by saying: "This is a position that is strongly endorsed by our board, half of whom are harvesters like you, and is constantly reviewed to be sure it is the best way to conduct our business."

When I read this over recently.... I might add that the slides that I presented from Dr. Gunnar Knapp a little while ago are from November 15. I've just in the last few days started to rethink some of these things. I

must admit that those comments by the executive director of the Alaska Seafood Marketing Institute shed a different light on some of the research and the activities of environmentalists and some of the media coverage of salmon aquaculture, in particular beginning with this study in 2002 by Michael Easton and colleagues.

This is the study of four wild salmon and four farm-raised salmon which found levels of PCBs ten times higher in farmed than in wild salmon. Much was made of this finding. It was on the front page of the *Globe and Mail* and on the front page of many other newspapers. It was headline news on television and elsewhere. The untold part of the story, however, is that when you compare the levels of PCBs found in both wild and farm-raised salmon, they were both far below the tolerable level of the Food and Drug Administration and Canada's Food Inspection Agency.

In fact, what they did was tell you only half of the story. They told you that the PCBs in farm-raised salmon were ten times higher than in wild, but what they didn't tell you was that both were very, very low compared to the accepted tolerable limits. This was noticed and picked up by numerous people in the scientific community, in particular by one person who is probably one of North America's top experts in terms of contaminants in fish, Professor Charles Santerre of Purdue University.

[1215]

He wrote to the editor of this manuscript and said: "I would like to express my concerns about a manuscript" — this Easton manuscript — "that appeared recently." I'll skip down here. He says: "Readers of this manuscript that are unfamiliar with comparable levels of PCBs in fish could read this manuscript and inadvertently increase their risk from contaminants by avoiding salmon and eating other species that may contain much higher levels of contaminants." Then he goes on to detail his concerns.

Worldwide there was front-page bad press for farmed salmon, yet as I have just shown you, the levels that were found were well within tolerable limits. In 2004 this happened again — virtually exactly the same thing on a much larger scale. This time the authors were Hites and colleagues, and the paper was published in *Science*. Once again, here we go. The manuscript stated that individual contaminant concentrations in farmed and wild salmon do not exceed USFDA action or tolerance levels for PCBs. Yet the media reported something fishy about farmed salmon and raised questions about whether farmed salmon was safe. You probably remember the headlines; they were very negative.

The Environmental Working Group reported that a serving of farmed salmon has up to 40 times more PCBs than other foods, but the untold part of the story was that you cannot consider only the concentration of either a vitamin or any other nutrient in a food in isolation of a consideration of how much of that food we eat. If you look at what you might call the annual PCB load, as calculated here — this is from Kenneth Green — you'll see that we get far less PCBs from farmed salmon than we do from other commercial seafood,

much less than from pork and even less than from milk, poultry and beef. That was the untold part of the story.

These results were not disputed. The interpretation and the reporting was disputed, and it was widely trounced as misleading and misinformative. Charlie Santerre wrote a commentary which was circulated within the scientific community. He concluded that this is a significant study by respected researchers at major institutions and that it demonstrated that farmed salmon is very low in contaminants and meets or exceeds the standards established by the FDA and the WHO. He goes on to conclude that American consumers should be encouraged to increase their intake of fish, including eight ounces of farmed salmon every week.

Personally, I took a look at this study, and I also found it very odd. For instance, simply the use of an eight-ounce portion is unconventional. In fact, even the Institute of Medicine, in its recent publication on seafood consumption, uses a three- or four-ounce portion. What the authors of this study have done is to deflate the number of what they call allowable meals by using such a large portion size. There were many other ways in which this study was odd. I won't go into them here, but they have been articulated by much more credible sources than me, including in a critical review published in the *Journal of the American Medical Association*.

Yet while those were the conclusions drawn by some people, the authors of this study.... One of them in particular, David Carpenter, has said: "Women should avoid eating farmed salmon at all from the day they are born through menopause." In farmed salmon, he says, the cancer risk dominated the health benefits. To *Wired*, by Associated Press, he said: "We are certainly not telling people not to eat fish. We're telling them to eat less farmed salmon." In the *Seattle Post-Intelligencer* he's reported as saying: "We hope it does not turn people away from fish. We hope it turns people away from farmed salmon." I wonder if this, too, is part of the perfect storm described by Ray Riutta, the executive director of the Alaska Seafood Marketing Institute.

The study was funded by the Pew Charitable Trusts, which has on its website a statement on its standards in the practice of journalism. It says: "Journalism is at a crossroads." Going down to the second paragraph:

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"One way for journalism to regain its centre is to reflect on what makes it unique, its basic purpose and core standards. Even in a new era, journalism has one responsibility that other forms of communication and entertainment do not, which is to provide citizens with the information they need to navigate the society. That does not mean abandoning the entertaining or the profitable, but it does imply a commitment to fairness and completeness in offering information about democratic institutions and in organizing that information so that people can make smart decisions about their lives."

I do not believe that the way in which those studies were reported enables people to make smart decisions about their lives, and I find that the study, funded by

the Pew Charitable Trusts, did not meet its own standards of journalism.

Just last month we saw another report, this one again in the *Guardian*: "Why Organic Salmon Is Causing a Nasty Smell." The writer here says: "A better alternative is to buy the reasonably affordable wild salmon from Alaska that is certified by the Marine Stewardship Council, or the more limited and necessarily more expensive stocks of Scottish and Irish wild salmon when available, viewing them as a very precious and special rare treat."

Is this what we're coming to? We're now advocating that people eat the Scottish and Irish wild salmon, which are on the verge of extinction, when in fact the health claims that are made against farmed salmon, as I have pointed out, are false.

This, as I said, makes me ask some very unpleasant questions. I'm very sad to feel I have to point this out. It makes me wonder about some of these environmental campaigns and, particularly, in whose interests they are operating. Are they operating in the public interest, or are they operating in some other interest?

I took a look at the websites of a couple of these campaigns and environmental organizations. Surprisingly, there's very little information about who is actually supporting the campaign and even less information about their funding sources.

This is what it says on the website of the Pure Salmon campaign. Where does NET, the National Environmental Trust, get its funding? It says that NET is supported by "charitable foundations and individuals like you. We will be taking on-line donations starting soon, but in the meantime, if you would like to make a tax-deductible donation" — etc., etc. — "your contributions go directly to funding our work on critical environmental issues."

I question, in addition: are they working on market issues, or only on environmental issues? And in whose interest? In the public interest, or perhaps in the interests of the commercial wild salmon industry of Alaska as part of the perfect storm?

This is the part of my presentation that makes me feel really, really sick. This is a letter that I got two years ago from the David Suzuki Foundation. It's a form letter addressed to me, because in the past I have supported the foundation financially. I really feel sick about having to report this out to you because I am a huge fan of Dr. David Suzuki.

I have enormous appreciation for the work of the David Suzuki Foundation. I think it's so important, considering the huge environmental changes that our world is facing. But I think, as I said in the covering letter with my other submission, that we need to ask tough questions, including questions such as whether the sea louse is the marine equivalent of the pine beetle or the mosquito, the deadliest creature on earth. I think we also need to ask some unpleasant questions on other fronts.

The letter that I got from Dr. Suzuki said: "Dear Ms. Krause." By the way, this is a form letter. It's not a letter addressed personally to me.

"This may be one of the most unusual thank-you letters you've ever received, but here goes. I want to say thank you for helping me to uncover the fact that B.C. farmed salmon is 'heavily contaminated with PCBs and other toxins.'" That statement is false.

He says: "Thank you for bringing to light that over one million of these farmed salmon have escaped into B.C. waters to mix with wild native salmon."

He says: "I really do mean thank you. This news is not good — far from it. But it's good that we now know the scope and severity of the situation." I think it's good that we know the scope and severity of what Alaska is doing in terms of its marketing.

[1225]

I'll go on to quote the letter from Dr. Suzuki. I am going down to the bottom of the page. He says:

"What does the lifting of the ban on salmon farming mean? Simply put, it means that if you and your family enjoy seafood and more of the salmon on your plate, make it be farmed salmon, and you'll also see more salmon feedlots on the B.C. coast.

"This is not a pretty picture, but at least we know what we're up against, for the reality is this: once we think we have a situation in hand, once we feel that true, measurable progress has been made, there are political forces that attempt to change it.

"For you and me, this does not mean back to the drawing board, but it does mean that new strategies need to be developed, and they need to be developed quickly, for I believe — and I'll speak frankly here — that B.C.'s farmed salmon poses a risk to human health and our environment.

"Your last gift to the foundation helped in several important ways. You funded the research I mentioned above on salmon farming. You helped us to produce and publish *Why You Shouldn't Eat Farmed Salmon*, a brochure that quickly zoomed to the top of our website's most downloaded list, a sure indication that British Columbians are concerned that the ban has been lifted."

He goes on to say: "You helped us launch a pilot project by my friend and colleague Dr. Michael Easton that allowed us to delve deeper into suspicions that contaminants found in farmed salmon were affecting the human food chain." He says: "That we are confronted in this day and age with the prospect of unsafe food is indeed a sad commentary." I think there is other sad commentary here to be made.

"Couple this with the fact that wild, healthy salmon are crucial to B.C.'s ecosystem, and we have a situation that can only be described as urgent." He goes on to say: "Encouraged by the incredible response to our *Why You Shouldn't Eat Farmed Salmon* brochure, I want to take this next phase right into the marketplace, and right onto your dinner table. In other words, I want you to help me to make this part of our everyday lives."

"There is science in the plan, of course. All campaigns of the David Suzuki Foundation begin with good science." Clearly not. I go on to quote: "This plan is not about some esoteric formula that you need a degree in biology to understand. This is about your dinner. It's about the food that you eat. It's about feeding your family."

"With your help, here's what we'll do. We'll develop a campaign to encourage supermarkets to prop-

erly label farmed salmon, so you'll know exactly what you're eating and can make informed decisions." I highly support that. I think labelling is an excellent idea in a democratic society, and we should go for it.

Secondly, "We'll work with the London-based Marine Stewardship Council to certify fish from sustainable sources. You'll be able to support the people who work so hard to bring you fresh, wild seafood." What does Dr. Suzuki mean here? Is he equating wild with sustainable?

Thirdly, he says that we will produce a restaurant guide to help the chefs of British Columbia choose fish from sustainable sources. In light of his previous comment, I wonder: does he mean sustainable sources, or does he mean wild sources?

"Food labelling, certification of food sources and educational literature are the initial elements of the plan." I wonder: what plan is this part of? He says: "I'm asking for your support."

The fourth and fifth elements are more long-term but no less important: "Develop an integrated strategy to protect the health of our wild fish stocks — there have been two major viral outbreaks in fish farms this year already — and to protect the diversity of our wild fish and maintain employment without harming human health." Farm-raised salmon, as we've seen, was never harming human health to begin with.

Fifthly, he says that this will help to continue our work to prevent an increase in the number of salmon farms on the B.C. coast.

He concludes by saying: "Thank you. To your good health." I fail to see how discouraging people from consuming farm-raised salmon is in the interest of public health, considering that 80,000 Canadians die every year of cardiovascular disease, and it costs us \$7 billion.

He concludes at the bottom. You'll see there that it says: "PPS: Please visit our website...and download the *Why You Shouldn't Eat Farmed Salmon* brochure that I mentioned in this letter. You can help spread the truth about salmon farming by sharing with your...friends the brochure you helped us produce."

The truth, huh? It makes me think about what Winston Churchill said. What was it again? I'm sure Rafe Mair would know. Churchill said that men occasionally stumble across the truth, but they usually pick themselves up and hurry on as if nothing had ever happened. Or was it Lenin? Wasn't it Lenin who said that a lie often repeated becomes the truth? Here I think it's Abraham Lincoln who's got the slant on the truth that this situation needs. "Against slander," says Abraham Lincoln, "the best vindication is truth."

[1230]

I think, gentlemen, it's time that farm-raised salmon is vindicated from the misinformative mislabelling that bears a suspicious coincidence with the marketing strategies of the Alaska Seafood Marketing Institute.

I'd also like to draw your attention to the code of professional standards of the Canadian Public Relations Society. It says: "Members of the Public Relations Society are pledged to maintain the spirit and ideals of

the following stated principles of conduct...." These include.... I won't read it all, but I leave it here for your reference.

By the way, this is just a portion of the code. It says that: "Members shall conduct their professional lives in a manner that does not conflict with the public interest." The code goes on to say: "A member shall deal fairly and honestly with communications, media and the public."

"A member shall practice the highest standards of honesty, accuracy, integrity and truth and shall not knowingly disseminate false or misleading information."

"Members shall not make extravagant claims or unfair comparisons." The code goes on to state that: "Members shall not associate themselves with anyone claiming to represent one interest, or professing to be independent or unbiased, but who actually serves another or an undisclosed interest."

I might add that I happened to notice on the 18th of October at the Hotel Vancouver, a sign on the door that was reserved for Mr. Rodrigo Pizarro from Chile. It said: "Rodrigo Pizarro, David Suzuki Foundation." Mr. Pizarro did not tell you that he was affiliated with the David Suzuki Foundation, but that's what the sign on his door said. I hate to wonder what else Mr. Pizarro did not see fit to tell this committee.

As I began to think this over, I looked at some of the old newspaper clippings that I had, like this one from the *North Shore News*: "Salmon farm awareness necessary for all in B.C." And I wonder if maybe we also need awareness of Alaska's wild salmon marketing strategies.

This article: "Fish Farms: What the Dispute is All About." Clearly, the dispute is about sea lice, antibiotics, colourants and other issues. But this is only part of what the dispute is all about.

I look at this article from the *New York Times*. It says issues of purity and pollution make salmon look less rosy. And I wonder if we are going to see headlines about product defamation and injurious falsehood making the marketing of Alaskan wild salmon look less rosy.

I conclude that it is in the public interest that the public is accurately informed about the health benefits and the risks of both wild and farm-raised salmon. I can assure you that if it wasn't for the fact that 80,000 Canadians die of cardiovascular disease every year, that it costs us \$7 billion, and that, as I showed you earlier, farm-raised salmon is one of the best options as part of the dietary prevention of cardiovascular disease, I wouldn't be here, and I wouldn't be drawing this to your attention.

This information that I've presented raises unpleasant questions about the closeness between the environmental organizations whose stated goal is to reform aquaculture and the revitalization and marketing strategies of the Alaskan commercial wild salmon industry. As important as it is to raise unpleasant questions about whether sea lice might be the marine equivalent of the pine beetle or the mosquito, asking

unpleasant questions of the Alaskan Seafood Marketing Institute, the government agencies that fund ASMI, the environmental agencies, the foundations that fund the NGOs, the scientists, health professionals, public relations agencies and others who are associated with these groups.... This is called for. I hope I haven't left anyone off the list.

As the special committee prepares its recommendations to the Legislative Assembly, I would encourage the committee to consider the dynamics of the fiercely competitive global salmon market. Alaska has had a \$50 million revitalization and marketing budget since 2002. Alaska believes it's got the real thing, and developing a market for sustainable aquaculture products of any sort from British Columbia is as much about business as Pepsi versus Coke.

**R. Austin (Chair):** Thanks, Vivian. Do members have any questions of the second presentation?

**D. Jarvis:** Well, she's given me too much information, right at the moment. I'm going to have to read that all over again to digest it.

[1235]

**S. Simpson:** I just want to clarify. You make a good point. I think that Mr. Pizarro actually.... It was acknowledged to us that he was brought here by the environmental community. That was made before his presentation — that they had funded or supported his being there and that his foundation was linked to Suzuki or others. Mr. Moore told us at some point that he was paid by the salmon farmers to come and present on their behalf.

Do you have any connection to this, or are you doing this just as a citizen?

**V. Krause:** I have no connection whatsoever.

**S. Simpson:** To the industry or to any of those...?

**V. Krause:** No. I was employed in the industry three years ago.

**S. Simpson:** Yeah, but today, though.

**V. Krause:** No, none at all. The only reason I took the time to draw this to your attention is because if I hadn't had the experience in the industry, I wouldn't have been able to connect the dots. Few other citizens are in the position that I'm in to be able to do that.

**S. Simpson:** That's great. Thank you.

**D. Jarvis:** I was just going to make a comment. In the Alaska fisheries, when we were up in Prince Rupert there, the Skeena Development corporation was in there. They stated to us that they actually took Alaskan fish — took something like \$65 million out of the Skeena fishery. That's where I thought it was kind of funny, because they were complaining about the sea

lice affecting their salmon when they only took \$22 million out of the fisheries in that same year.

Because of that big return there, was there any evidence...? I mean the poor return in '06 — have they given any question as to where the predation has come from?

**V. Krause:** I'm not the person to answer that, Mr. Jarvis. I really don't have expertise in that area at all.

**D. Jarvis:** Okay. I just wondered if, in your googling, whether that came out.

**V. Krause:** I just want to draw your attention to one thing. This is the provincial health officer's annual report: *Food, Health and Well-Being in British Columbia*. Even in this report by the venerable Dr. Perry Kendall and his staff, the findings on PCBs and contaminants are parroted uncritically. This tells us how far this lie has gone and how important it is, in the interest of public health, that the record is set straight on the health issues of farm-raised salmon.

**R. Austin (Chair):** Thanks again for your presentation, Vivian.

The committee will now recess for lunch.

The committee recessed from 12:38 p.m. to 1:38 p.m.

[R. Austin in the chair.]

**R. Austin (Chair):** I'd like to call the meeting back to order and to invite Jon Garson and John Winter from the B.C. Chamber of Commerce to make a presentation.

**J. Winter:** My name is John Winter. I'm the president and CEO of the B.C. Chamber of Commerce, and I'm joined by Jon Garson, who is our director of policy development at the chamber. Thank you very much for providing us with this opportunity to appear before you today and present the views of our membership on the future of sustainable aquaculture in British Columbia. We will be providing 13 copies of our written remarks for the committee to further gain detail on the recommendations that we'll be making today in this oral presentation.

At this point, perhaps it's appropriate to provide you with some background as to the chamber's constituency. We represent the views of 130 chambers of commerce and boards of trade provincewide, and they in turn represent about 31,000 businesses of every size, sector and region of the province — in our view, making us truly the voice of business in British Columbia.

The chamber performs these roles through a strong advocacy platform based on a unique policy development process. This policy process has been highly successful at generating innovative policy solutions through local evidence-based analysis as well as information and judgments about the needs of communities across the province, as well as the values of influential stakeholders and community members.

The understanding that it is only through the direct input of local chambers that the chamber develops policy recommendations has come to a growing realization by the media, the public and government that the chamber is the organization able to continue to offer real solutions to real challenges facing businesses across the province.

[1340]

With this mandate in mind, we are very pleased to be able to make this submission to the Select Standing Committee on Sustainable Aquaculture. We feel it's important to be clear that the chamber does not profess to be an expert in aquaculture or on the associated environmental issues that are always raised. The chamber continues to be the foremost advocate of the need for communities to develop sustainable, long-term industries that will contribute to strong community economic health, well-being and vitality. It is within this context that we appear before you.

As such, the chamber will refrain from making statements based on hearsay, supposition and conjecture. We are charged as a membership organization with the duty of representing the interests of members across the province to ensure the economic well-being of all British Columbians. The chamber believes that an understanding and appreciation of the ties that bind presenting groups to the community must become a critical component of this committee's deliberations. In short, to what extent should unaccountable organizations funded by outside interests with no focus on achieving a balance between the economic, social and environmental nature of issues facing B.C. be given a role in deciding the long-term prosperity of British Columbia?

As an economic activity, aquaculture is the commercial cultivation of marine organisms for human use. Simply put, aquaculture is the farming of fish, shellfish and aquatic plants in fresh, brackish or salt water. Most aquaculture crops are for human consumption, but they can also be used as baitfish, ornamental or aquarium fish or for enhancing natural populations for commercial or sports fishing. Some farm fish are even being raised for medical purposes. Aquaculture is a diverse range of activities, but an appreciation of this diversity is fundamental to the mandate of the committee.

For the purposes of this presentation, the chamber will largely concentrate its comments to that of finfish farming. This is not meant to denigrate the importance of other aquaculture activities, but as you have no doubt noted from hearings so far, the most important aspect of the industry for B.C. is the issue of fish farms, particularly salmon. In many ways the history of salmon is the history of British Columbia. Salmon is part of our culture and is viewed by many as a symbol for the environment and the natural beauty of the province.

While the chamber understands this perception, it does unfortunately mean that salmon is one of the most emotive of subjects. Discussions around this issue are often based purely on emotion and divorced

from reason and fact. It is in a context of emotion and ingrained absolutes that this committee must focus when they hear submissions and ultimately when you make your recommendations. This issue is not a case of either-or; it is a case of how communities can develop in a sustainable way and what role aquaculture does play in that future.

While there are potential opportunities on the horizon for communities on the Island and the coast — from transportation, tourism and energy through to the potential for offshore oil and gas — many communities are facing the decline of traditional industries such as forestry activity, and it continues to decline. It is with this in mind that the chamber views aquaculture as an important component of a diverse and flourishing economy. Boom and bust has long been the cornerstone of communities on the Island and along the coast, particularly in the north.

The Conference Board of Canada released a socio-economic report in 2002 entitled *Insights on Western Canada: A Socio-economic Report*. It concluded that without diversification into industries with high value added, our economy will take a significant downturn. Specifically, the report highlights three challenges for western Canada. First, the region needs to step up its performance in terms of innovation. Second, we need to bring the growing population of young aboriginal people into the economy. Finally, we must address the depopulation of our rural communities.

Aquaculture is uniquely situated to address each of these economic challenges currently facing British Columbia. Aquaculture is a research and development-intensive industry. It is mainly through advancements in technology that this industry leaps forward. A further aspect that needs to be considered is the potential impact of this industry on aboriginal communities. Indeed, B.C.'s aboriginal communities are already benefiting from the introduction of aquaculture in their communities. Many salmon-producing companies have formed productive, lasting partnerships with aboriginal groups, including the graduates from North Island College aboriginal group salmon farm technician program, who have achieved success in the workplace.

[1345]

The importance of the industry is unquestionable. The industry contributes over \$600 million to the provincial economy, which represents \$450 million in export sales in the year 2005, directly employing some 4,000 people in this province.

Further to this, over 5,000 businesses across the province supply the industry. Surprisingly, these businesses are based in communities with no apparent or obvious connection to the industry. From 126 businesses identified in the city of Burnaby to 130 in Richmond through 64 businesses in Langley, communities across the province have a stake in the future of the industry as a significant economic generator. Indeed, farmed salmon alone is B.C.'s single biggest agriculture product.

The industry also shows no signs of slowing down if given the freedom to grow. Worldwide, global de-

mand for salmon is growing, with the UN Food and Agriculture Organization estimating that U.S. demand for seafood alone will increase by 30 to 50 percent by the year 2010. While estimates vary, total aquatic protein consumption is around 100 million tonnes annually. Of this figure, only a couple of percent is farmed.

The increase in demand, coupled with recent reports highlighting that many fish stocks are facing serious threats of reaching levels from which they cannot regenerate.... The importance of a viable aquaculture industry is vital to meet world demand while preserving wild stocks from further pressure. In essence, the flourishing aquaculture industry does not threaten wild stocks; it could be wild stocks' saving grace.

Many have pitched the future of the industry as a choice between farms or wild. The logic here is that a farmed industry will have irreversible impact on the wild stocks, thereby damaging those industries that rely on this resource. The intention of these comments is to try to polarize this particular issue as a case of the existence of one industry destroying another. This is false, unsupported and damaging to coastal and Island communities and our international reputation as a jurisdiction that is open for business.

The chamber believes this does a disservice to the communities, businesses and jobs that rely on both industries. The chamber firmly believes that it is both possible and fully achievable that the two industries can both coexist and flourish as part of a revitalized marine-focused economy.

In short, central to your deliberations must be the extent and the nature of the impact that issues such as sea lice have on our critical wild stocks. The chamber has been consistent in its support both for economic activity to be sustainable and the associated regulatory and legislative regime to be clear, concise and, most importantly, based on good, clear science and data.

The chamber appreciates that given the nature of this issue, there is a huge amount of research conducted into the effects of aquaculture on indigenous species and the associated economic activity that relies on the wild stocks. However, the chamber, as an impartial stakeholder representing members on all sides of this issue, can find no evidence-based, clear, definable reason to state that aquaculture has, is having or will have a detrimental effect on wild stocks, given the current regulatory regime in this province.

Indeed, we find that the issue has become even more complex, given data from Alaska that indicates that recent reports demonstrate that while there are no salmon farms in that state, Alaska is also indicating very low returns of pink salmon. In fact: "The state of Alaska is closing the Southeast Alaska purse-seine fishery due to the lack of fish for the first time in 18 years." This is according to recent published reports in the *Juneau Empire* and *Seafood* news.

There is significant support for the concept that stocks in Alaska are facing challenges from global warming and the associated change in water temperature. If that is the case in Alaska, why is this not, then, the case here in B.C.?

Once again we come back to the issue of context. Given the uncertain nature of the science and the lack of definitive research regarding the extent of challenges faced by wild stocks, it's important that we review the regulatory environment which governs the industry to determine how government is protecting the critical wild stocks while encouraging the development of this new industry.

[1350]

It is widely accepted that aquaculture is a highly regulated industry, with each farm required to meet more than 50 different provincial and federal regulations. In fact, it can be argued that salmon farming is the most strictly regulated agricultural industry in this province. Detailed, site-specific environmental assessments must be prepared and approved by regulators before farming can begin. Farms can only be located in areas with fast-moving tidal currents. Daily water quality testing is required. Regular underwater maintenance of nets and routine fallowing of farms help ensure a healthy marine environment.

Since 2000 the provincial government has had stringent criteria in place for selecting the site of new operations. Under these criteria, proposals for new salmon farms must meet 15 requirements regarding site location. These criteria cover site placement as it impacts salmonoid-bearing streams, in consultation with the DFO and the province, sensitive fish habitats and several other important areas.

The chamber believes that these criteria provide a framework that allows for certainty for the industry while also providing an avenue of dialogue for other key stakeholders. This is highlighted by the government's commitment that the criteria can "be adjusted over time by the province, in consultation with industry and stakeholders, in response to new information and the results of new technology."

We believe that it is within this dynamic structure that issues of concern to all stakeholders can be addressed. If stakeholders believe that these criteria do not fully address their concerns, then it is within their ability to work with the industry and government to reach mutually agreeable criteria around siting and other criteria.

Before closing I would like to take a moment to focus on the shellfish industry in British Columbia. Despite the fact that shellfish farming and harvesting has been practised in B.C. for over 70 years, to many people it is either overlooked or ignored as insignificant and doubtful. The reality is that this in-our-own-backyard phenomenon is an economic wonder that has shed its backwater image and emerged as a key industry for some communities on our coast.

The industry provides over 800 full-time jobs, primarily in coastal B.C., with over 270 companies operating tenures in the province. While the industry has seen the value of wholesale production nearly double from \$12 million to \$15 million in 1998 and to \$26 million in 2001, the chamber believes that the industry has the potential to grow to a \$100 million industry. Given that B.C. is Canada's top oyster producer, it ranks only

12th in the world, earning only 12 percent of global industry revenues.

In much the same way as finfish farming, this industry as well is too heavily regulated. Highly regulated at both the federal and provincial levels, governed by 14 federal and 20 provincial acts, the time involved in completion of necessary environmental assessments perhaps is the most significant barrier to its success.

The industry's access to desperately needed shoreline tenure has been severely limited by government despite its minimal environmental impact. It currently uses only 0.0034 percent of all of B.C.'s foreshore.

In closing, the chamber believes that finfish farming and other forms of aquaculture are an economically and environmentally sustainable use of B.C.'s aquatic resource that has the potential to provide economic benefit for rural coastal communities, first nation communities, the citizens of British Columbia, and a nutritious, safe food for the local marketplace and for the world's growing population.

The chamber also believes that with the full participation of the industry and other key stakeholder groups, this province can enjoy the benefits of wild and farmed salmon now and into the future. It seems that once again the unique nature of British Columbia has us in a situation where a viable industry, proven in other jurisdictions, governed by a robust and world-class regulatory framework, is being challenged by special interests with no vision for the communities that their actions could impact.

The chamber recommends that the committee recommend that the provincial government: firstly, fairly interpret and apply existing regulations as they pertain to salmon-farming projects; secondly, ensure that relevant regulations and programs be implemented to support the development and expansion of the aquaculture sector and that new programs be developed that recognize the unique features of this segment of Canada's food production system; thirdly, the provincial government base regulation and expansion of the industry on legitimate and responsible research into the environmental impacts of water farming.

With regards to shellfish farming, the chamber recommends that the provincial government immediately take some steps to realize the potential to this industry — specifically, streamline access to tenure for all growers on Crown land; and secondly, streamline environmental screenings for new and renewing licences. Thank you very much for your time today.

[1355]

**R. Austin (Chair):** Thank you, John. I'll open the floor for questions from members.

**S. Simpson:** Thank you very much, John, for the presentation. I think the chamber and the committee share a view, which is that we are looking for that balance between having a sustainable industry that can do well on the coast, ensure the integrity of the marine habitat and the wild fishery, and find that balance. I

think in terms of sorting that out, there are some challenges there, and I assume the Premier recognized those challenges when he made the decision to put this committee in place through the throne speech. He understood that we needed to do that.

I've got just a couple of quick questions. I would agree with you — I think we have many more complexities now with global warming. As you noted, we don't understand what the impacts of that are on the wild fishery, and we're just beginning to get a sense of it. Over the next many years we'll figure it out, and hopefully we'll figure it out in time to make sure that whatever we can do will work for it.

The question I want to ask though.... There are two. One relates to first nations. We've heard from a number of first nations organizations throughout the province, primarily on the north coast but elsewhere. Clearly, in Klemtu and Kitkatla the first nations are supportive. In Klemtu they've had longstanding fish farms in the community. Kitkatla is looking to go into the industry there. But largely with the rest of the first nations — not exclusively but largely — there's been pretty passionate opposition to fish farming. So we have this situation now where those nations are talking about their traditional territories, their claims on the territories. They're saying: "We don't want these industries in our territory."

I'd be interested to know how the chamber thinks that we as a committee should be responding to the first nations' assertion around fish farming. It's largely in the north central coast — not exclusively.

**J. Winter:** Not an easy issue. Certainly, I don't envy you your position of having to come to some conclusions perhaps. But I feel in all issues dealing with first nations and aboriginal communities in this province that no matter what the issue, you will never get unanimity from those communities. The nature and, I think, purpose of this committee, as I understand them, are to find consensus that is for the greater good of the province as a whole and for the communities that this particular industry does in fact serve.

On issues that I'm familiar with, many of the aboriginal communities, whether it's in the area of forestry or some of the mining tenures and the like — and fish farming is no exception — are either old school or modern. They either come from very traditional perspectives that don't want to see change and want to see things that happened in the past restored, or there are others who are much more enlightened, from our perspective. They are more interested in seeing things changed to include more of the aboriginal community in the economic benefits and advantages that this particular province has to offer.

There's no easy answer. We're going to face that again, I'm sure, when the whole issue around offshore oil emerges, if it ever does. I think you're really getting the.... The notion that I think is really important — and to make sure it's never overlooked — is the ability to consult with first nations on issues of this. It's the need to do so and to make sure that their interests are ac-

commodated, if possible. But other than that, I'm not sure there's any easy answer to your particular question.

**S. Simpson:** I think I would agree. I have one further question. It's a bit of a segue from your comments as it relates to some of those issues around old school versus new way. One of the things we have heard from a number of interests who are looking for change in the industry.... They've talked to us about closed containment models. Clearly, many in the industry are skeptical as to whether in fact closed containment will work. Certainly, there's a lack of proven models out there today. There's certainly not very much.

[1400]

However, even in the case of those people who express some skepticism in the industry, when we've asked them whether more understanding of this would be of value in terms of future choices, one of the options put to us has been to look at some kind of commercial piloting that would involve industry and some partnership, maybe with some government role and with some kind of academic oversight that looked at: first of all, is it dealing with some of these environmental or habitat issues; and is it actually economically viable in terms of the commercial side of the business?

I'd be interested to know whether the chamber thinks there would be value in that kind of a piloting going on so that that information in fact was available to the industry and to others to answer the question about whether closed containment is viable or not — either to set it aside because it doesn't work or to say maybe we create a technology that we can sell elsewhere in the world.

I'd be interested in your insight.

**J. Winter:** So when you say viable, are you referring to economically viable or commercially viable...?

**S. Simpson:** Commercially viable enterprise.

**J. Winter:** Product quality — all those issues being maintained.

**S. Simpson:** Yeah — will meet those environmental standards and produce an industry where people can make a reasonable return on their investment.

**J. Winter:** I would think that this industry, if nothing else, has demonstrated since its inception on our coast that it is very responsive to research and technological change. I'd be very surprised if they, in their best interest, weren't interested in learning more about containment and the impacts of it, both from a cost perspective and a quality perspective.

I would hate to think, though, that they would be mandated to do that — that, in fact, that this would become a compulsory action for the industry to abide by — because I believe that as they continue to evolve, more and more information that's made available is able to be brought into play.

The fact that this industry exists in many other places around the world and has existed for a much longer time than it has in B.C., and where I understand — and I'm not an expert in this by any means, and I hope I made that clear at the outset — that if those kinds of technologies were to work, I'm sure they would have been tried in places like Chile, Norway and others.

I'm sure that the industry, as I said, would never turn its back on improving its technology. I'm sure they would be a willing partner in that particular enterprise.

**S. Simpson:** Just a very brief follow-up. Is it something that from a chamber perspective you think in terms of that partnership...? It really would be piloting; it wouldn't be to determine whether it works or not. Is it something that you think the government has a role to play in partnership with the industry and a research component? Is that a role that would be reasonable for government to play?

**J. Winter:** Absolutely. I think government as the regulator.... Both the federal and provincial governments have a keen interest in this particular success of this industry. Clearly, if there's an opportunity to learn more, then government definitely has a role to play as the regulator.

**R. Cantelon (Deputy Chair):** Well, just to clarify that. As my colleague Mr. Simpson just said, there is a lack of a proven model in the industry to make a commercially viable operation. There have been many attempts to do them on a smaller scale but not on a commercially economically viable scale — as well as taking into consideration what you do with the waste.

I'd just like to clarify your comments. Do you think government should go into the business? It would require several millions in capital to invest in this industry. Do you think that that would be worthwhile? We have many people saying that we should do it. We have many people saying they've tried, and it doesn't work. I don't know if you've done research.

**J. Winter:** The issue for me, as I said at the outset, is that this is an industry that has been very responsive to research and to the seeking of better and more productive knowledge. If government feels that there is a technology that needs to be examined, then I think it's government's obligation to check into that technology. I don't think this industry should be saddled with the sole responsibility of learning that particular technology when in fact it's already convinced in its own mind that it doesn't work and that it doesn't add any benefit.

I think if it's going to be imposed through whatever means, then it ought not to be imposed on the industry as the sole supplier of the resources to do so.

**R. Cantelon (Deputy Chair):** So if we are to impose it, then we should be part of it. But the industry hasn't seen to do it itself to any great extent.

**J. Winter:** Well, the industry has, I think, examined, as I understand it, many of the aspects of this new technology and decided that for a number of reasons — one of which is the pushback it will get from communities in terms of the land base that it will occupy — it's not a particularly attractive or viable option. That's another school of thought.

[1405]

**R. Cantelon (Deputy Chair):** I have a question on another topic. One of the things near and dear to most governments is economic diversification and, certainly, revitalization of regional, local and faraway economies that are suffering. Our coastal areas is one of those. I wonder if you would have a comment from your chamber's perspective on the efficacy of fish farming as an economic driver in these remote coastal communities — if you've studied that — and compare that to other.... Well, just comment generally any way you want on that issue.

**J. Winter:** Are we in favour of this as a...?

**R. Cantelon (Deputy Chair):** How good is it compared to other efforts that we might take in terms of stimulating regional economies? Does this work better or...?

**J. Winter:** Well, I think if you overlay on a map of British Columbia where, on the one hand, the highest level of economic activity is taking place, and you put where fish farming is currently taking place, it would fall in the area of the lowest level of economic activity. In terms of the diversification, we're looking at a forest sector on the coast, on the north Island, that's having some difficulty. We're looking at the tourism sector, which is, for whatever reason — whether it's ferries or other things — creating some problems for the economy of the region.

I would think that this is a natural fit for the economy of the communities that need it the most. For that reason, I think it behoves us all to make sure that not only is it a viable industry, but that it's an economically responsible and environmentally sensitive industry and, at the same time, that it's an industry that's contributing significantly to this province's GNP.

**G. Robertson:** A question. I'm just approaching this for a minute from a branding perspective and from the reality right now that there's an image problem. We've been hearing this for a year. In a lot of ways, it has precipitated this whole process — the challenges that have been created by the farmed-salmon industry for wild salmon and the marketing of wild salmon, for tourism in some areas and, in some ways, for the whole B.C. brand marketing that goes on, when international papers run stuff on farmed salmon, about how devastating it is to our coast and health concerns.

What has come up a few times is this question of labelling, in particular from commercial fishers in the wild fishery, and concerns that the farm-fish industry

wants everything labelled "B.C. salmon," not distinguishing from farmed salmon or wild. There have been lots of proponents to see clear labelling that sets it straight. Does the chamber have a perspective on this and what you'd like to see in terms of labelling and differentiating?

**J. Winter:** No, not specifically, Mr. Robertson. I think that our interest in this particular industry is to allow it to continue to expand so that we can compete internationally and maintain a respectable, if not leading, international share of market. The delays and the lack of growth in the industry in recent times and the lack of issuance of licences have caused us to fall backwards in terms of the international market.

I'm not sure that marketing and branding it as B.C. fish is any more important than the fact that we need to continue to grow the industry, both from a site-specific perspective as well as from a volume perspective. I think the market for wild fish, as I'm attempting to point out here, is continuing to be under pressure. There is a lot going on, as we know, right now at the United Nations — for example, talking about deep-sea trolling and the like and what its impact is on the fishery internationally and worldwide

More and more emphasis, I suspect, will be placed on the farming of these kinds of species around the world and the importance of that. Our interest is in making sure that British Columbia is well-positioned to take advantage of this opportunity. How the industry markets itself, I think, is an industry-specific issue.

[1410]

**G. Robertson:** Okay. I'm a little confused just in that we're faced with trying to figure out a way forward that is more sustainable for the industry, that is more sustainable for the environment and trying to balance those. When we look at actual mechanisms by which we protect wild salmon, protect jobs, protect the coast, we're going to come down to specifics that help and ways of doing that.

If labelling isn't one of those that the chamber has put efforts into forming an opinion on, are there any other suggestions that you haven't put forward in ways that we might be looking out for, particularly, the wild salmon industry, commercial fisheries and the communities that continue to depend on that to ensure that their markets continue to be viable and they're not conflicted by the challenges presented by the farmed industry?

**J. Winter:** I guess we're looking for the evidence that suggests that the wild industry is, in fact, conflicted by the farm industry, and we don't see that evidence. We're, I think, geographically situated here in British Columbia — as is New Brunswick, on the east coast of Canada — to supply what is perhaps the largest market for farmed fish in the world, the United States — a voracious appetite for a lot of the products that we can produce.

I'm not sure that, in a market where salmon as a particular food product is in short supply, we'll have to

spend a great deal of money marketing it. I think that getting it to market will be the challenge and being able to supply the demand of that particular market in a physical sense.

**J. Yap:** Thank you for your presentation, John. In our travels as a committee we've heard, as I'm sure you're aware, lots of testimony from many communities on both sides of the issue. This morning we had a presentation that focused on the communication piece — that really, this is all about management of communications, the thesis being that the environmental side of this argument had done an exemplary job in communicating their position and connecting with the general population. The other side — the industry proponents for aquaculture, the business side — are having to play catch-up.

I'm interested in what specific steps or what programs the chamber and your members — not just chamber members, but your ultimate members.... What communications programs might be in place or have you done to try and provide your side of the debate?

**J. Winter:** In answer to your question, I think not enough, and no, we don't have any formal program other than a stark recognition that something is certainly required. Our chamber developed a policy on this particular issue four years ago, or perhaps three years ago, at which time there was significant unanimity within the chambers around the province that this was, in fact, a perspective that they all could share.

Unfortunately, the nature of the chamber beast is that there is constant turnover in terms of the people who occupy the seats around the board of directors or the people who develop policy at the local level. It would appear that in some cases that's changed, although I think in our discussions with the chambers in Terrace and in Houston, and in Burns Lake in particular, they feel in terms of public comments that they made that they were wrong, misinformed and misled by some people about what some of the realities of fish farming were and the impact on the sport fishery, particularly on the Skeena River.

We realize that we have a problem. We realize that communications is perhaps the best means to deal with that particular problem. More recently than ever, we've been staying as close to information coming from the fish-farming association, the shellfish-farming association and others related to try and develop a perspective. It's our intention to make sure that as much of this information that we can feel confident that we can stand behind with some level of confidence is, in fact, communicated to our members around the province.

The reality sometimes is that the business community is too busy doing business, and the issues that impact them negatively down the road are not seen to be coming. They often look to organizations like ours to provide them with that kind of heads-up.

[1415]

The problem with the chamber, and I'm not making any excuses, is that we're experts in nothing. We're

generalists. Our spectrum is so broad. We cover a number of things that very few other organizations could possibly even want to entertain. Maybe some of those things we ought not to be doing either. Because of the nature of our membership, the 31,000 businesses in every sector of the economy, it is our mandate, and we have to deal with that.

I think Jon, as our director of communication as well as policy development.... Maybe he has some comment he can provide for you.

**R. Cantelon (Deputy Chair):** No pressure.

**J. Garson:** That's a very subtle segue.

Communication is the challenge. I would suggest that communication is the challenge that would address some of the labelling issues, perhaps, that we were asked about earlier. Rather than bring in arbitrary distinctions between whether it's farmed or wild salmon, there is a market for both, and it's a significantly growing market.

The challenge is: how do we address the inaccurate and unfactual news reports that come out regarding the industry, and how do we address episodes of *Boston Legal* that have a significant impact on the industry as well?

As John said, we have to shoulder some of the responsibility for that as a business group. That's what our members will look to us to do as will the members of the salmon farmers association as well. But communication is key, and to a degree, government has a role to play here as well.

**J. Yap:** So am I hearing that your group will now take a more proactive approach to communications on this issue?

**J. Garson:** We have begun to do that. It always begins with our membership, and we have, obviously, a network of chambers across the province, and that then goes down to them. Your tour around the province has begun to generate some interest, and we have begun to disseminate some information out to those members.

But as John said, the challenge that we have is that we are broad but shallow, so we do rely on the players themselves, the industry themselves and the associations.

**J. Yap:** What about in the communities where this has a more direct impact, in the southern coast, mid-coast, Vancouver Island? Campbell River is a prime example. The chamber there must take a very active interest.

**J. Winter:** Very strong support in every instance that we're aware of.

**J. Garson:** We have not come across a chamber that does not support the industry in some way.

Touching on the comments that were made by Ms. Larson from the Friends of the Wild Salmon, she was

not very honest with some of the chambers. We actually have a copy of the letter that the Burns Lake and District Chamber wrote, and all it wrote of was the importance of the wild industry. It was in no way detrimental or derogatory about the impact of the farmed salmon on the wild salmon. It was simply an issue that we must ensure that we protect the wild stocks.

That's the position of chambers across the province, but at the same time, chambers realize — and our policies are passed by our membership — that that can be done while at the same time promoting a flourishing aquaculture industry.

**J. Yap:** Right. As an example, I was not aware until seeing your report that.... And we will get an economic study. That's part of the mandate and process of our committee, and I'm looking forward to that in a couple of months when we'll see it. But you've mentioned in your brief that over 5,000 businesses supply the industry — and 130 in Richmond, my community. This is the first time I've seen that number, so just providing this brief is providing some information.

Now, is this information on your website or available to the public?

**J. Garson:** No. There is a full list of businesses that are suppliers to the actual industry. That is something that is provided to us by the salmon farmers association. I believe it's on their website. We can certainly source the entire list for you for every community in

British Columbia and where there is a business that is supplying either service or product to the industry itself.

**D. Jarvis:** Thanks for your presentation. First of all, I'll tell you, as you probably are aware, that the locations of the farms throughout the province have been, really, one of the biggest problems that we had. I notice that you had 15 recommendations for sites where the farms could go. How did that come about, those 15? Were you speaking directly to your members of the chamber that were in that industry, or is it the chamber on the whole? Where did these 15 sites come from?

**J. Winter:** What we were doing was citing the regulations that currently exist, the provisions that exist. On a salmon farm, relocations go through the 15 steps that they have to go through. Those are not ours. We wouldn't pretend them to be.

**D. Jarvis:** Okay. That's my error, then.

**J. Garson:** Much of that information came from the provincial government.

**R. Austin (Chair):** Okay. Thank you very much for your presentation.

At this time I'd like a motion to adjourn.

The committee adjourned at 2:20 p.m.

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