

Commission of Inquiry into the Decline of
Sockeye Salmon in the Fraser River



Commission d'enquête sur le déclin des
populations de saumon rouge du fleuve Fraser

Public Hearings

Audience publique

Commissioner

L'Honorable juge /
The Honourable Justice
Bruce Cohen

Commissaire

Held at:

Room 801
Federal Courthouse
701 West Georgia Street
Vancouver, B.C.

Wednesday, September 7, 2011

Tenue à :

Salle 801
Cour fédérale
701, rue West Georgia
Vancouver (C.-B.)

le mercredi 7 septembre 2011



Errata for the Transcript of Hearings on September 7, 2011

| Page | Line | Error | Correction |
|------|-------------|---|--|
| vii | Ex. 1818 | Tucker. Salmon Aquaculture- Comparison of Regulations, May 25, 2005 | Tucker et al, Seasonal Stock- Specific Migrations of Juvenile Sockeye Salmon along the West Coast of NA: Implications for Growth |
| 97 | 38-39 | Tucker. Salmon Aquaculture- Comparison of Regulations, May 25, 2005 | Tucker et al, Seasonal Stock- Specific Migrations of Juvenile Sockeye Salmon along the West Coast of NA: Implications for Growth |

Suite 2800, PO Box 11530, 650 West Georgia Street, Vancouver, BC V6B 4N7
Tel: 604 658 3600 Toll-free Tel: 1 877 658 2808
Fax: 604 658 3644 Toll-free Fax: 1 877 658 2809
www.cohencommission.ca

APPEARANCES / COMPARUTIONS

| | |
|---|--|
| Brock Martland Kathy L. Grant | Associate Commission Counsel Junior Commission Counsel |
| Mitchell Taylor, Q.C. Jonah Spiegelman | Government of Canada ("CAN") |
| Clifton Prowse, Q.C. Tara Callan | Province of British Columbia ("BCPROV") |
| No appearance | Pacific Salmon Commission ("PSC") |
| No appearance | B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("BCPSAC") |
| No appearance | Rio Tinto Alcan Inc. ("RTAI") |
| Alan Blair Shane Hopkins-Utter | B.C. Salmon Farmers Association ("BCSFA") |
| No appearance | Seafood Producers Association of B.C. ("SPABC") |
| Gregory McDade, Q.C. | Aquaculture Coalition: Alexandra Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society ("AQUA") |
| Tim Leadem, Q.C. Judah Harrison | Conservation Coalition: Coastal Alliance for Aquaculture Reform Fraser Riverkeeper Society; Georgia Strait Alliance; Raincoast Conservation Foundation; Watershed Watch Salmon Society; Mr. Otto Langer; David Suzuki Foundation ("CONSERV") |
| Katrina Pacey | Area D Salmon Gillnet Association; Area B Harvest Committee (Seine) ("GILLFSC") |

APPEARANCES / COMPARUTIONS, cont'd.

| | |
|-----------------|--|
| No appearance | Southern Area E Gillnetters Assn. B.C. Fisheries Survival Coalition ("SGAHC") |
| No appearance | West Coast Trollers Area G Association; United Fishermen and Allied Workers' Union ("TWCTUFA") |
| No appearance | B.C. Wildlife Federation; B.C. Federation of Drift Fishers ("WFFDF") |
| No appearance | Maa-nulth Treaty Society; Tsawwassen First Nation; Musqueam First Nation ("MTM") |
| No appearance | Western Central Coast Salish First Nations: Cowichan Tribes and Chemainus First Nation Hwlitsum First Nation and Penelakut Tribe Te'mexw Treaty Association ("WCCSFN") |
| Brenda Gaertner | First Nations Coalition: First Nations Fisheries Council; Aboriginal Caucus of the Fraser River; Aboriginal Fisheries Secretariat; Fraser Valley Aboriginal Fisheries Society; Northern Shuswap Tribal Council; Chehalis Indian Band; Secwepemc Fisheries Commission of the Shuswap Nation Tribal Council; Upper Fraser Fisheries Conservation Alliance; Other Douglas Treaty First Nations who applied together (the Snuneymuxw, Tsartlip and Tsawout); Adams Lake Indian Band; Carrier Sekani Tribal Council; Council of Haida Nation ("FNC") |
| No appearance | Métis Nation British Columbia ("MNBC") |

APPEARANCES / COMPARUTIONS, cont'd.

| | |
|-------------------------------|---|
| No appearance | Sto:lo Tribal Council Cheam Indian Band ("STCCIB") |
| Steven Kelliher | Laich-kwil-tach Treaty Society Chief Harold Sewid, Aboriginal Aquaculture Association ("LJHAH") |
| Krista Robertson | Musgamagw Tsawataineuk Tribal Council ("MTTC") |
| Lisa Fong Benjamin Ralston | Heiltsuk Tribal Council ("HTC") |

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1
PANEL NO. 62
In chief by Mr. Martland

1 Vancouver, B.C./Vancouver
2 (C.-B.)
3 September 7, 2011/le 7
4 septembre 2011
5

6 THE REGISTRAR: The hearing is now resumed.

7 MR. COMMISSIONER: Mr. Martland?

8 MR. MARTLAND: Mr. Commissioner, we have today a panel
9 entitled "Perspectives on Management, Risks and
10 Finfish Aquaculture", and the members of the panel
11 from left to right before you are, first,
12 Catherine Stewart from the Living Oceans Society,
13 Alexandra Morton, the Executive Director of the
14 Raincoast Research Society, Clare Backman, the
15 Director of Environmental Compliance and Community
16 Relations with Marine Harvest Canada, and Mia
17 Parker who, until recently, was the Manager of
18 Regulatory Affairs with Grieg Seafood.

19 I'll begin by -- this is a panel, I should
20 also add, that is scheduled for both today and
21 tomorrow, but that will be the conclusion of our
22 hearings on aquaculture. I'll ask Mr. Registrar,
23 please, to have these witnesses affirmed.

24 THE REGISTRAR: Turn on your microphones, please.
25 Thank you.

26
27 CATHERINE STEWART, affirmed.

28
29 ALEXANDRA MORTON, affirmed.

30
31 CLARE BACKMAN, affirmed.

32
33 MIA PARKER, affirmed.
34

35 THE REGISTRAR: State your names, please?

36 MS. STEWART: Catherine Stewart.

37 MS. MORTON: Alexandra Morton.

38 MR. BACKMAN: Clare Backman.

39 MS. PARKER: Mia Parker.

40 THE REGISTRAR: Thank you. Counsel?

41 MR. MARTLAND: Thank you.
42

43 EXAMINATION IN CHIEF BY MR. MARTLAND:
44

45 Q Ms. Morton, I'd like to start with you. You've
46 been in the room and you've heard me do this on a
47 few other occasions.

September 7, 2011

1 MR. MARTLAND: I'm going to first begin by having your
2 c.v. which, Mr. Lunn, is number 2 on Commission
3 counsel's list of documents for this panel. If
4 that might be put on the screen?

5 Q You'll know the routine, but I'll begin first by
6 asking you to confirm, please, that that's your
7 c.v.?

8 MS. MORTON: Yes, it is.

9 MR. MARTLAND: Mr. Registrar, if that might become the
10 next exhibit, please?

11 THE REGISTRAR: Exhibit 1798.

12 MR. MARTLAND: 1-7-9-8?

13 THE REGISTRAR: That's correct.

14 MR. MARTLAND: Thank you.

15

16 EXHIBIT 1798: *Curriculum vitae* of Alexandra
17 Morton

18

19 MR. MARTLAND:

20 Q I'll ask next a long-winded question, if you will,
21 but largely to cover and to set out on the record
22 some of your background.

23 You completed a B.Sc. from American
24 University in Washington, D.C. in 1977. You are a
25 registered professional biologist, and since 1981,
26 you've been the Director of the Raincoast Research
27 Society; is that correct?

28 MS. MORTON: That's correct.

29 Q Since the late 1970s, you have conducted research
30 related to marine mammals including a long-term
31 field study of killer whale ecology in the
32 Broughton Archipelago in this province. You
33 published several academic articles relating to
34 marine mammal ecology and behaviour, and during
35 the 1990s, you began to have concerns about the
36 pace of the development for fish farms in the
37 Broughton Archipelago, the increased incidence of
38 disease which you saw at the Scott Cove Hatchery,
39 the capture of escaped Atlantic salmon in
40 commercial fisheries, and the request by a local
41 fishing lodge to examine juvenile pink and chum
42 salmon found to be infested with sea lice.

43 I understand that those, and perhaps other
44 factors, led you ultimately to shift your research
45 focus to sea lice in fish farms; is that a fair
46 capsule description of...?

47 MS. MORTON: Yes. I'd say the original concern had to

1 do with the siting of the fish farms.

2 Q Thank you. Since the early 2000s, you've
3 published several academic articles that relate to
4 escaped farm salmon, sea lice and the effects of
5 fish farms on wild pink and chum salmon migration
6 routes; is that right?

7 MS. MORTON: I would characterize it as over 20
8 scientific papers.

9 Q Thank you. You're a popular speaker and advocate
10 on issues related to protecting wild salmon from
11 potential effects of fish farms. You've received
12 several environmental and conservation awards for
13 your advocacy work, and in 2010, you were awarded
14 an honorary Doctorate of Science from Simon Fraser
15 University for your sea lice research.

16 MS. MORTON: That's correct.

17 MR. MARTLAND: Next, Mr. Lunn, number 4 on our list is,
18 I hope, Ms. Stewart's c.v.

19 Q Ms. Stewart, you recognize that as being your
20 c.v.?

21 MS. STEWART: I do.

22 MR. MARTLAND: If that might be Exhibit 1799?

23 THE REGISTRAR: So marked.

24

25 EXHIBIT 1799: *Curriculum vitae* of Catherine
26 Stewart

27

28 MR. MARTLAND:

29 Q Ms. Stewart, you've spent over 20 years working
30 with environmental NGOs or ENGOs in Canada. From
31 1988 to 2005, you worked as Greenpeace Canada's
32 Western Regional Director, and in 1991, you
33 assumed the position of Oceans Campaign Director
34 for Greenpeace's national office. Do I have that
35 right?

36 MS. STEWART: Not quite. I was Western Regional
37 Director from '88 to '91, and then I became Oceans
38 Coordinator, and then later switched to Forestry
39 and was the lead negotiator for Greenpeace in the
40 Great Bear Rain Forest negotiations.

41 Q Thank you. My note is that you moved to doing
42 that work on the Greenpeace forest campaign in
43 this province in 1997?

44 MS. STEWART: That's correct.

45 Q And again, in 1999, you became the negotiator for
46 Greenpeace in talks with the B.C. forest industry,
47 as you mentioned, dealing with the Great Bear Rain

1 Forest?

2 MS. STEWART: Correct.

3 Q You also worked for Greenpeace International
4 facilitating annual meetings of the international
5 forest campaign, and since 2005, you've worked on
6 the salmon farming campaign as - sorry - the
7 salmon farming campaign manager for the Living
8 Oceans Society?

9 MS. STEWART: That's correct. I should also mention
10 that in the mid-'90s, I participated in the Salmon
11 Aquaculture Review as a representative of
12 Greenpeace.

13 Q And that SAR process is the provincial process?

14 MS. STEWART: That's right.

15 Q Thank you. In that role, you managed -- in the
16 role of salmon farming campaign manager for Living
17 Oceans Society, you manage a campaign team,
18 participate in and manage the budget and staff for
19 CAAR, the Coastal Alliance for Aquaculture Reform.
20 You participate in industry and government
21 dialogues on salmon farming. You also act as a
22 media and public spokesperson on salmon farming
23 issues?

24 MS. STEWART: Correct.

25 MR. MARTLAND: Mr. Lunn, number 1 on our list, and I'll
26 turn next to Mr. Backman.

27 Q In a moment, sir, you'll see, I expect, your c.v.;
28 is that right?

29 MR. BACKMAN: That's correct.

30 MR. MARTLAND: If that might be Exhibit -- we're
31 crossing to the magical 1800, please.

32 THE REGISTRAR: So marked.

33

34 EXHIBIT 1800: *Curriculum vitae* of Clare
35 Backman

36

37 MR. MARTLAND:

38 Q Mr. Backman, you have a B.Sc. in marine biology
39 from the University of British Columbia from 1981
40 as well as a professional teaching certificate.
41 You're a registered professional biologist and
42 you've published academic articles related to
43 organic deposition from fish farms; is that right?

44 MR. BACKMAN: That's correct.

45 Q In the 1980s, you performed contract work for the
46 federal and provincial governments relating to
47 hatcheries, salmon habitat and spawning, and from

1 1987 to 1990, you served as the Prince Rupert area
2 Saltwater Operations Manager for Royal Pacific Sea
3 Farms Limited which operated chinook salmon farms
4 on the Sunshine Coast, in Campbell River and
5 Tofino, and in the area of Prince Rupert?

6 MR. BACKMAN: That's correct.

7 Q From 1991 to 2000, you worked as a biologist for
8 the B.C. Ministry of Agriculture, Food and
9 Fisheries and, in that capacity, assisted with the
10 provincial government's development of salmon
11 farming policies and assessing new site
12 applications as well as the operational compliance
13 of finfish aquaculture facilities?

14 MR. BACKMAN: Yes.

15 Q In 2000, you accepted a position with Stolt Sea
16 Farm Incorporated, a company that was later
17 purchased by Marine Harvest, and since 2005,
18 you've served as the Director of Sustainability
19 for Marine Harvest Canada.

20 MR. BACKMAN: That's correct.

21 Q In that role, you've represented Marine Harvest on
22 business development issues such as closed
23 containment systems, certification programs and
24 farm applications. You've monitored and reported
25 on regulatory compliance. You've also built
26 relationships and worked on communications
27 initiatives.

28 MR. BACKMAN: Yes.

29 MR. MARTLAND: Thank you. Next, Mr. Lunn, number 3 on
30 our list of documents.

31 Q Ms. Parker, this may be a version which is not the
32 very most recent because it gives your current
33 position as being at Grieg Seafood. That's no
34 longer the case. But with comment aside, this is
35 your c.v., I take it?

36 MS. PARKER: Yes, it is.

37 MR. MARTLAND: If this might become Exhibit 1801,
38 please.

39 THE REGISTRAR: So marked.

40
41 EXHIBIT 1801: *Curriculum vitae* of Mia Parker

42
43 MR. MARTLAND:

44 Q Ms. Parker, you hold a B.Sc. Honours in biology
45 from the University of Victoria from 1996. You've
46 completed post-degree studies in fisheries and
47 aquaculture from Malaspina University College, and

1 in 2006, you obtained an MBA in management
2 consulting from Royal Roads University on the
3 Island.

4 MS. PARKER: Correct.

5 Q From 1996 onwards, I understand that you worked as
6 a consultant on projects for government and First
7 Nations related to fisheries, shellfish
8 aquaculture and finfish aquaculture, and that in
9 the period of 2004/2005, you served as the
10 Director of Sustainable Housing for the Cowichan
11 tribes.

12 MS. PARKER: That's correct.

13 Q From January 2007 until April of 2011, you were
14 the Manager of Regulatory Affairs for Grieg
15 Seafood Limited; is that right?

16 MS. PARKER: Yes, it is.

17 Q And in that role, among other things, you worked
18 to develop and implement programs to meet
19 corporate and regulatory environmental objectives,
20 fostered relationships with government, community
21 and other NGOs, developed communication tools,
22 worked on performance and compliance monitoring
23 and assessed aquaculture industry certification
24 standards. Is that, again, a capsule description
25 of the work you did?

26 MS. PARKER: Yes.

27 Q And most recently - and the c.v. doesn't reflect
28 this - but the update since April 2011 is that
29 you've been working with the Department of
30 Fisheries and Oceans Aquaculture Management
31 Directorate, or AMD, in Ottawa?

32 MS. PARKER: Correct.

33 MR. MARTLAND: Mr. Commissioner, I'll add on that last
34 point, you'll note that Ms. Parker has a
35 background working in the aquaculture industry
36 until very recently. She is now working for DFO.
37 DFO isn't appearing as her counsel for today, so
38 her appearance, and indeed the purpose of our
39 calling her on a perspectives panel like this is
40 not to call upon her for an added DFO perspective
41 per se. Indeed our view as Commission counsel is
42 that it's not fair either to her or to the DFO
43 that she be asked to wear the hat or take
44 positions for the Department which she's joined
45 relatively recently. Rather, she's part of this
46 panel in order to really look to her for her
47 involvement with and knowledge of the industry and

1 to offer an industry perspective. Really, her
2 understanding of the aquaculture industry's
3 perspective and history on different issues that
4 we're addressing. So it's in that capacity that
5 we're looking to lead her evidence today.

6 Panel members, the approach that we're taking
7 here to ensure that we do our level best to keep
8 these hearings on schedule. We have two days, and
9 so as a result of that, we've made a fairly
10 deliberate decision -- each of you has counsel,
11 and we've made a decision to try to permit your
12 counsel as much time as we can within the confines
13 of the time available to ask you questions in
14 addition to mine.

15 As a result, my approach today will be to go
16 to some relatively big questions and to take that
17 approach. I'll do my best as well to permit each
18 of you to address the different questions that I
19 have.

20 Q I will start with one, if you will, a big question
21 which is this, and perhaps I'll start, Ms.
22 Stewart, with you, and we can move through the
23 panel this way and I'll see if I shuffled the
24 batting order, so to speak, as we go.

25 So, Ms. Stewart, I'll begin with you. Can
26 DFO successfully both promote and regulate the
27 aquaculture industry? Can it do both things?

28 MS. STEWART: I don't believe that's possible, and I
29 believe that DFO has a primary constitutional
30 mandate to protect ocean and ecosystem health and
31 wild stocks. They have a political mandate in
32 recent years to be a promoter and an advocate for
33 the aquaculture industry, the development and
34 expansion of such. If you look at the patterns of
35 behaviour from marketing, meeting with retailers,
36 promoting aquaculture at seafood expositions such
37 as the Boston Seafood Show, at their promotional
38 materials, at the granting programs such as AIMAP,
39 they're very much acting on behalf of the
40 promotion and development of the aquaculture
41 industry.

42 I think that the Department needs to fulfill
43 its primary obligation to Canadians and ensure
44 that there are healthy wild salmon stocks and
45 healthy fully functioning marine ecosystems for
46 our future. Those two are in conflict with one
47 another. Given the weight of scientific evidence,

1 given the track record of the industry globally,
2 and the continual evolution and exposure of the
3 problems that are associated with open-net cages,
4 DFO cannot be a rigorous and effective enforcing
5 mechanism at the same time as they're being an
6 advocate and a promoter of the industry.

7 Q In your view, what should happen? If there's a
8 conflict that you've described, what is the
9 solution? Is there a solution to that conflict?

10 MS. STEWART: I think those two mandates have to be
11 separated. I mean, I personally don't have a
12 problem with Industry and Trade Canada or other
13 departments supporting Canadian businesses,
14 although I would certainly prefer to see them
15 supporting much more responsible and ecologically
16 sustainable businesses, so open-net cages would
17 still not be on that list. But I understand the
18 mandate of the government to support Canadian
19 industry, but I believe that the two mandates are
20 in fundamental conflict and they have to be
21 extricated.

22 So if DFO is constitutionally mandated to be
23 the enforcing agency, then the promotional
24 responsibility to be shifted to another
25 department. I'm not in a position to say what
26 department. Maybe it's Agriculture Canada, maybe
27 it's Industry and Trade. But we have to extract
28 that responsibility from DFO in order to allow
29 them to effectively perform their primary mandate.

30 Q Ms. Morton, your name is atop a case that we all
31 know about. It's sometimes referred to as the
32 **Morton** decision or the Hinkson decision, but it's
33 your name on the style of cause. The case states
34 -- I believe it was released in February 2009 and
35 really changed an important part of the regulatory
36 regime putting the DFO largely in the driver's
37 seat vis-à-vis the regulation of finfish
38 aquaculture. I wonder if you could address the
39 question about conflicts but also offer your views
40 on whether the change in the federal role, so to
41 speak, resulting from that court decision,
42 aggravates or mitigates any conflict that exists?

43 MS. MORTON: Okay. Great questions. Just so people
44 know, the reason I came into conflict with this
45 industry was as a biologist in the Broughton
46 Archipelago, as you said, studying whales. So the
47 first experience that myself and my community and

1 the First Nations community around us had with the
2 industry had to do with siting.

3 We were asked to tell DFO and the province
4 where we did not want salmon farms. They produced
5 a map and they made red zones, and they said they
6 would not even accept an application for a finfish
7 farm to those sites. But within a few months,
8 there were more sites, more farms in those red
9 zones than anywhere else. So there were DFO
10 officers involved at that level, and a lot of them
11 quit over that because they did not feel good
12 about what was happening.

13 So from my perspective, from that point
14 forward, when push has come to shove about whether
15 the priority is going to be given to the wild fish
16 or to the industry, it has always gone to the
17 industry. Now, the industry might have a
18 different perspective on that, but I'm on the
19 ground and I'm looking at the fish.

20 The reason I went to Gregory McDade and
21 challenged the provincial regulation of salmon
22 farms is because when this was done in the late
23 1980s, when salmon farms were given to the
24 province, it was because it was a constitutional
25 problem to be regulating a fishery in the oceans,
26 because that is a federal jurisdiction. There was
27 work done by Bruce Wildsmith, a lawyer, was tasked
28 by the government to give them a decision on
29 whether or not it was constitutional for the
30 Government of Canada to have salmon farms in the
31 ocean. He said, in his decision, you're going to
32 have to change the constitution of Canada to be
33 able to privatize the spaces and pretend to own
34 fish in the ocean.

35 But what happened was instead of going to the
36 level of changing the constitution of Canada, they
37 slid the whole thing to the province. At that
38 moment, they were regulated as farms and the
39 province knew how to regulate farms. Everybody
40 knows the rules about that. But what happened was
41 nobody was responsible for the impact of the farm
42 to the wild salmon.

43 So I didn't make that move because I thought
44 the federal government would be better. I had a
45 long history of problems with the federal
46 government accepting that there were problems with
47 the industry. I did it because what was happening

1 was so wrong, and I was hoping that in the shake-
2 up that occurred after, that it would resettle in
3 a more logical and beneficial manner to Canada.

4 But what I see is a retraction of even where
5 we were with the province where there are no
6 regulations against infecting wild salmon with
7 disease from farms. There's no regulations about
8 the release of pathogens. The whole issue of
9 deleterious substances seems to have been removed.
10 Everything seems to now be up not the province
11 anymore but just the fish farmers themselves. So
12 I think it's potentially worse.

13 As a biologist, as someone who's looked at
14 this from inside and out, I don't see how the
15 industry can exist legally or biologically in the
16 ocean. So I really don't think you can -- I don't
17 think anyone can regulate this industry correctly
18 in the ocean.

19 Q Vis-à-vis a conflict in the DFO's involvement in
20 aquaculture, I take from - you didn't quite say it
21 this way - but I take from your answer that you
22 would identify a conflict. Do you see there being
23 any solution to it, or would you suggest an even
24 further solution of simply putting an end to the
25 aquaculture as practised on the coast now?

26 MS. MORTON: Well, when I was living in Echo Bay, my
27 neighbour was the DFO patrol officer, and he got
28 rumours that herring had spawned on the chains of
29 a net called the Birdwood farm. He was physically
30 restrained from going -- his job was to enumerate
31 herring spawn, but he was physically restrained by
32 other DFO officers from going there. He tried to
33 get onto the First Nations patrol boat, but also
34 was restrained. They had the argument in boats
35 out in front of my house.

36 So the first thing that needs to happen is
37 officers need to be able to go onto these
38 facilities without an invitation, simply board
39 them as they do all vessels. But because these
40 operations break fundamental biological laws, I
41 don't even see a way forward with DFO managing it
42 at all.

43 Q Mr. Backman, the initial question had to do with
44 whether there is a conflict for the Department of
45 Fisheries and Oceans in both promoting and
46 regulating the aquaculture industry. Do you have
47 views on that?

1 MR. BACKMAN: Yeah. I think that it appears to be a
2 conflict to the initial observer when you've got
3 an agency that both has to appear to promote and
4 to regulate an industry. But in a modern world,
5 in the modern system of governance, it's quite
6 common that you have an agency that actually plays
7 dual roles. They have to, on the one hand,
8 understand the fishery or the industry that
9 they're dealing with, and on the other hand, they
10 have to enforce the regulations that apply to it.

11 An example of that would be operation of
12 health and safety officers working within a
13 particular industry where they're promoting the
14 compliance with operation of health and safety.
15 At the same time, they're bringing forward the
16 regulations.

17 So we have a situation in our industry where
18 we are now a fishery, and when you look at other
19 fisheries that the DFO manages, they understand
20 the fishery, they work with the fishery to try and
21 promote the most effective means of undertaking
22 that activity but, on the other hand, they very
23 clearly lay out what the regulatory requirements
24 are, and the regulatory requirements are also
25 subject to change.

26 They're being adapted, and we see that
27 happening in the last few months under the new
28 regime as well. We're moving forward, we're
29 seeing changes and improvements and new aspects to
30 the regulation under the DFO. So, really, it's a
31 movement toward a collaborative effort, if you
32 would, but in the main, the DFO has their role to
33 play. They learn as they go. As a brand-new
34 approach to us, they're learning as they go to
35 some degree about our industry, but they're
36 clearly demonstrating what it is that they expect
37 us to be doing.

38 Q Ms. Parker, do you -- would you care to offer your
39 sense of the industry view on whether there's a
40 conflict for the Department that arises? Anything
41 to add to what Mr. Backman said?

42 MS. PARKER: Well, if you accept the premise that
43 aquaculture is a fishery, then this approach to
44 management is consistent with how other commercial
45 fisheries are managed in Canada, and historically
46 DFO has both promoted Canadian capture fisheries
47 while, at the same time, making sure they meet

1 national and international regulations.

2 I think one of the things to realize, that
3 this is, I think, more visible now than it was
4 previously because we have this global trend
5 towards eco-certification and also export
6 certification to international markets. So what
7 you see is the regulator taking a stronger role in
8 educating markets on the role the regulator has.
9 So what -- am I too quiet? Sorry.

10 So what you have is the same activities that
11 have been taking place, taking place in a more
12 visible way. Product going to Europe right now
13 has to be certified by DFO from a regulatory
14 perspective, what the management structure is,
15 what the frameworks are that are being met and
16 enforced. I think there is a slight benefit to
17 enforcement when DFO is now our lead regulator in
18 that they have access to all of our information.
19 So before a C&P officer ever sets foot on the
20 site, he has access to every bit of information,
21 so the investigation can almost happen before the
22 site visit.

23 Q In the course of asking the first question around
24 conflicts, it's not a problem, but I think a
25 number of you went into a discussion about the
26 merits of how DFO is doing. So let me simply move
27 into asking you about that.

28 Ms. Morton, you started to offer some
29 thoughts. I think you touched on the s. 35 HADD,
30 Harmful Alteration and -- I'm sorry, I won't even
31 try and give it to you off the top of my head --
32 but the approach that the DFO has taken which, as
33 I understand, would subsume those considerations
34 into the conditions of licence.

35 What I'll do here is ask again for your
36 comments, panel members, on what the Department is
37 doing well, where the Department's approach to
38 regulation management of aquaculture falls short,
39 and if you have particular suggestions or
40 recommendations or improvements that you'd like to
41 speak about, that's helpful. Certainly within
42 that question, if you'd care to address siting and
43 licensing, consultation with First Nations, local
44 communities, stakeholders or other components of
45 the management regime which is, as I appreciate, a
46 very broad description, but would include the s.
47 35 HADD question, habitat compensation, the

1 proposed IMAPs, Integration Management of
2 Aquaculture Plans, as well as the question about
3 public access to information for finfish
4 aquaculture.

5 So it is a broad question, but, Ms. Morton,
6 if I could start with you and ask for your views
7 on what, if you have anything on the good side of
8 the ledger that's gone well with the DFO's
9 management, and what has not gone well, and where
10 you see a need for improvement.

11 MS. MORTON: The last two weeks of sitting in these
12 hearings have confirmed, for me, the enormity of
13 the problem. We have a scientist who says the
14 majority of Fraser sockeye appear to be weakened
15 and dying of what she truly thinks is a virus.
16 Now, for Dr. Miller, this virus being associated
17 with salmon farms has clearly been bad for her
18 career. Her husband is in the aquaculture
19 industry. It's been bad for her personally. And
20 yet she's determined to get to the bottom of this
21 and DFO has withdrawn her funding to work on
22 sockeye. I think that that, for me, so clearly
23 represents the issues that I've had.

24 When I began writing letters to DFO in 1989
25 about siting, I said to them, don't put them on
26 the major migration routes. Maybe the Broughton
27 is a one-corporation archipelago, because the
28 companies kept saying they needed a cluster of
29 five farms. Have an ace in the hole. Leave a
30 migration route opening just in case this is a big
31 problem, and they refused.

32 Today, I see part of the problem -- I've read
33 so much of what's in ringtail, and the problem is
34 everybody's in their trenches. I don't think
35 anyone in senior management in DFO knows what Dr.
36 Marty so carefully put into his disease records.
37 I've phoned a couple of them and asked them,
38 without revealing what I know, have you read the
39 disease records of salmon farms? No. So they've
40 been saying this is sustainable and not a problem
41 without actually knowing what's going on. Now we
42 have a scientist who could illuminate it.

43 The other thing that DFO has not done, but
44 there are people within the Department who want to
45 do it, is let's just follow the fish. With
46 telemetry, genomic profiling, the ability to test
47 the plankton, we could know where these fish are

1 running into a bottleneck. For 18 years, hundreds
2 of thousands of sockeye have been dying before
3 they spawned on the banks of the Fraser River.
4 When I read through ringtail -- there's a document
5 I put together, and it's been marked for
6 identification, where I quote a lot of the
7 scientists talking about it. Dr. Christine
8 MacWilliams saying everything but the kitchen sink
9 is in these fish, other people saying we've got 11
10 gill arches and we lost the entire Nadina Fraser
11 sockeye. All I have is 11 gill arches and they're
12 rotten. I can't tell what happened to these fish.

13 DFO didn't support these pathologists who
14 were going into the field and trying to figure it
15 out. Then Miller comes along with a new method,
16 cuts through the noise of all the symptoms and her
17 data very uncomfortably said retrovirus, virus,
18 cancer.

19 Today, I'm in a confused state about that.
20 We had Dr. Kent, who was ex-head of science for
21 the Pacific Biological Station saying he now
22 doesn't believe his ten years' of work. There are
23 no brain tumours. We have Mark Sheppard who is
24 diagnosing the farms on a farm level. He's saying
25 salmon leukemia, marine anaemia doesn't exist.
26 Dr. Gary Marty has painstakingly been recording
27 their symptoms, and I thank Dr. Marty for that,
28 because when he came online, we finally were able
29 to see the -- he organized the data in a way that
30 even I could understand it. Then we had Dr.
31 Saksida on the stand yesterday saying, oh yeah,
32 marine anaemia exists.

33 Okay. So, guys, does it exist or does it
34 not? Are there brain tumours in the majority of
35 the Fraser sockeye or not? DFO needs to figure
36 that out, I think, before we go one step farther.
37 Where is this coming from? This Commission is
38 about not only what's happened to the Fraser
39 sockeye in 2009, but the whole pattern. So
40 whatever we're looking for has to fit that whole
41 pattern.

42 So I would say I can't give DFO any credit
43 for anything at this point until we work that one
44 out.

45 Q To pick up on a point you made, would you say that
46 the DFO needs to do more to support its
47 scientists?

1 MS. MORTON: They need to free their scientists. We
2 need the Fisheries Research Board type of style
3 back again. I've talked to people like Gordon
4 Hartman who resigned from DFO over the Nechako.
5 They wanted to take the water out of the Nechako
6 River and divert it to the Alcan plant. DFO's
7 line was basically the salmon will be fine without
8 water in their river. This man just quit because
9 he could not toe that line.

10 So the scientists, yes, need to be released
11 from the political body. All the correspondence
12 we've seen where Miller can't talk to the press,
13 even to her own colleagues -- she was prevented
14 from telling the Pacific Salmon Commission when
15 she thought this virus began because,
16 uncomfortably, it began at the moment the salmon
17 farms were put in the narrowest passages of the
18 Fraser sockeye migration route. That's just plain
19 wrong.

20 Q Mr. Backman, I'll move to you next and then we'll
21 proceed through to Ms. Parker and then Ms.
22 Stewart. Could you comment, please, on the
23 strengths and weaknesses of the Department's
24 regulation and management of aquaculture, and if
25 you see room for improvement or changes, what
26 those might be.

27 MR. BACKMAN: I'd be happy to. The new situation that
28 we're under is actually more efficient than
29 previous. Previous to December 2010, we had
30 several agencies in the provincial government plus
31 the DFO who were responsible for managing and
32 regulating this industry. This led to some
33 inefficiencies with communication between
34 departments, time delays. Certainly there was an
35 inability to engage with DFO Science because the
36 province had to talk to them about an issue that
37 was becoming apparent, and then engage them in
38 their budgeting process and that sort of thing.

39 What we have now under the Pacific
40 Aquaculture Regulation is everything under one
41 house, so to speak. We're already seeing some
42 benefits there in terms of being able to have more
43 efficient discussions and responses back and forth
44 between the agencies.

45 I think another aspect that should be brought
46 up too is the level of consultation both with
47 First Nations and with industry groups, those that

1 are interested in the industry. We see through
2 the developing IMAP process an opportunity to
3 expand the level of consultation that exists
4 already. It has been, in the past, associated
5 with change, primarily consultation around farm
6 applications or consultation around major
7 amendments. So the IMAP process, one of the many
8 aspects, promises to bring ongoing and continual
9 stakeholder input and information-gathering.

10 There's many improvements that we see. One
11 of the ones we're grappling with right now is the
12 public reporting aspect. We've had already some
13 release of information captured of the farms this
14 year, and it's a wide variety of information.
15 There's at least ten new reporting elements under
16 the Pacific Aquaculture Regulation that weren't
17 there before, and it's caused quite a bit of
18 activity, and the resource to be placed this way
19 into reporting by the companies. Just exactly how
20 that information will be used and what the effects
21 will be is going to be worked out as we go
22 forward, certainly supporting transparency,
23 sharing of information and supporting an openness
24 that hasn't been there in the past.

25 Maybe I'll...

26 Q And maybe I can simply pick up on one point. When
27 you describe this information that's being made
28 available -- I don't know if you were present for
29 it or know about it, we had some evidence recently
30 from, I think, Trevor Swerdfager, answering
31 questions and took us to some excerpted pages from
32 the DFO's website, but is that part of what you're
33 describing in terms of the making information
34 available to the public?

35 Ms. Grant's passed me a note that says
36 Exhibit 1597.

37 MR. MARTLAND: Perhaps, Mr. Lunn, you can put that on
38 screen if you're able.

39 Q Is that what you're describing?

40 MR. BACKMAN: I am, yes. I'll quickly summarize the
41 difference. In the past, under the provincial
42 regulation, there was certainly information
43 captured and reported to government on a regular
44 basis. It usually was discussed back and forth
45 between the company and the agency. Then there
46 would be a reporting out by the government on an
47 annual basis, and sometimes it was a year delayed.

1 I assume that the reporting out will still happen
2 in terms of the government responses to the
3 information, but now what we see -- and on the
4 webpage here is a good example of what's actually
5 happening on the farms in terms of issues related
6 to by-catch; that is, animals that -- fish that we
7 don't have a licence for that move in through the
8 pens, for example, information related to whatever
9 escapes may occur from salmon farms. It's right
10 there for everyone to see.

11 We welcome this in the industry because it's
12 really demonstrating two things: one, a lot of
13 the concerns are much lower than maybe are
14 popularly thought. The other thing is it allows
15 us to demonstrate a trend over time of continuing
16 to reduce these concerns.

17 Q Ms. Parker, the question about strengths and
18 weaknesses and areas for improvement in the DFO's
19 management and approach to aquaculture, comments
20 on that?

21 MS. PARKER: I'd like to follow up on something that
22 Clare said when he mentioned greater access to
23 science, and I think it's also greater emphasis on
24 science, as science informs management approaches
25 that inform decision-making, and it's applied
26 throughout the process from the application review
27 stage to the actual licensing, and then
28 operationally afterwards. I think that that
29 closer connection to science will help improve the
30 environmental performance of the industry.

31 I also think that it'll help align more
32 efficiently where both government and industry
33 resources are allocated so that we're focusing on
34 the right kinds of impacts or effects and the
35 right kinds of issues. I think that will only be
36 helpful.

37 I also feel that the Integrated Management of
38 Aquaculture Plan process, I think it could be of
39 great benefit. I think it'll have more regular
40 structured consultation. I think it'll be a
41 broader way to capture community and stakeholder
42 input. Right now, when consultation happens, it
43 happens on an ad hoc basis site by site. It
44 doesn't capture impacts or effects to an area that
45 doesn't support broad-based area planning. All of
46 these things, I think, would be better for the
47 relationship with industry and communities, and

1 also I think gives us a better stronger platform
2 for environmental management.

3 Q Ms. Stewart, do you have a further comment, and if
4 you'd care to pick up on the development of IMAPs
5 and whether that's a process that instills
6 optimism for you?

7 MS. STEWART: Optimism? That's an unfamiliar term.
8 But, yeah, I do actually have several comments. I
9 think, for starters, I do want to acknowledge that
10 there are a lot of good people and very well-
11 intentioned and very dedicated people in DFO, and
12 they're constrained by the political mandate.
13 They're constrained from doing the job they would
14 like to do by their desire to actually stay with
15 the Department and have a career.

16 I think that we have a real problem with the
17 new Pacific Aquaculture Regulations, now that DFO
18 is assuming control of regulating the industry.
19 They're abandoning the CEAA process. They are
20 assuring us that HADDs will be captured within the
21 licences and yet we see no mechanism for
22 compensation around habitat loss.

23 I'm very concerned about the black hole
24 around deleterious substances and the pest and
25 pathogen regulation. Initially, we were given a
26 copy of a regulatory discussion document because
27 pest and pathogen treatment was omitted from the
28 Pacific Aquaculture Regulations. Trevor and his
29 associates started with a discussion document
30 around new regulations. Then there was some
31 discussion around fast-tracking that, because
32 there were -- in effect, the industry was being
33 exempt from s. 36 of the **Fisheries Act** by the
34 absence of requirements under the PARs.

35 But then recently we've heard Mr. Swerdfager
36 testify that that's kind of on hold and there's
37 some jurisdictional confusion with Environment
38 Canada.

39 In a conversation I had with Andy Thomson, I
40 said, well, so who is controlling this? The farms
41 are administering parasiticide treatments for sea
42 lice infestations. On the east coast, they're
43 using bath treatment such as deltamethrin which is
44 highly toxic. Where does this fall on the Pacific
45 coast within that regulatory regime? Mr. Thomson
46 admitted it was a black hole, that they're simply
47 not covered at the moment. There is no regulatory

1 process in place that restricts, limits or
2 controls the administration of those toxic
3 substances in the marine environment.

4 I'm sure the Department's intention is to
5 resolve the jurisdictional dispute and come up
6 with some regulation, but it's a real concern to
7 me that they are currently in effect exempt.

8 It's a concern that we're hearing there's no
9 ticketable offences. I think it's very difficult
10 for a conservation and protection officer, if he
11 sees a violation that perhaps isn't an end-of-the-
12 world violation but is one that should be duly
13 noted and the company should be admonished for, he
14 doesn't have the option of writing a ticket,
15 right? Now the only option available is to lay
16 charges. That's followed by letters. I think
17 that there's some big gaps in the regulatory
18 regime right now.

19 I think DFO has misaligned its priorities
20 around spending money. They've invested \$70
21 million in the five-year program under AIMAP and a
22 lot of that money goes directly to the industry to
23 support programs that, in many cases, should be
24 the industry's problem to resolve.

25 There's been a real priority focus on the
26 expansion of the aquaculture industry. The NASAPI
27 program, the National Aquaculture Strategic -- I
28 can't even remember what all the acronym stands
29 for, but it's basically --

30 Q I'll give you another one, which is the PPR, but
31 the Policy and Practice Report does indeed
32 describe the NASAPI.

33 MS. STEWART: It does describe NASAPI and --

34 Q Of course that's --

35 MS. STEWART: -- I'm very familiar with the NASAPI and
36 the primary agenda there is the industry's
37 expansion. It talks about the market potential.
38 It talks about the growth potential being under-
39 utilized. They funded Bob Devlin's research into
40 transgenic fish for, what, 20 years? That is not
41 to benefit wild fish. That is another sort of
42 hidden subsidy to the aquaculture industry.

43 I think the Department has to acknowledge the
44 weight of scientific evidence, and they do so
45 outside of our borders. So within Canada, if you
46 look at DFO's website, there's a lot of denial
47 around the problems of sea lice and transfer

1 pathogens and disease. But, then, internationally
2 in forums like NASCO, the North Atlantic Salmon
3 Conservation Organization, when Canada writes a
4 report, they acknowledge within that report that
5 lice impact wild fish. So they know that
6 internationally they would not be able to maintain
7 credibility of their science if they failed to
8 acknowledge the weight of scientific evidence, but
9 they're still trying to deny it domestically.

10 I agree with Alex, I think the Department
11 needs to free up the scientists. It needs to
12 prioritize the funding of science, rather than the
13 funding of industry promotion and subsidizing the
14 industry. They need to publish DFO science.
15 There's an awful lot of science done that never
16 sees the light of day. I see the industry is
17 nodding in agreement --

18 Q I'm not inclined to interrupt --

19 MS. STEWART: -- and I think it be to everyone's
20 benefit --

21 Q -- if I can avoid it, but --

22 MS. STEWART: Sure.

23 Q -- it may be the only chance we have of all of you
24 nodding. Do all panel members agree with that
25 last point? I saw you all nod, but perhaps you
26 can state on the record so we reflect it. Do you
27 all agree with the point about DFO publishing
28 science?

29 MR. BACKMAN: Yes.

30 MS. PARKER: Yes.

31 MS. MORTON: Yes.

32 MS. STEWART: All right. We all agree. I think that
33 the point was made around more transparency in the
34 industry and certainly that's something that CAAR
35 and Living Oceans have been pushing for, for a
36 very long time. DFO has been rather slow to get
37 information up on the website, and we'll see how
38 much comes out and how quickly. But much of it, I
39 think we have to remember, is going to be reliant
40 on industry's self-reporting, and that point was
41 raised by one of the witnesses earlier this week.

42 I think that Conservation and Protection is
43 seriously under-funded and under-resourced and
44 needs an awful lot more capacity, and that DFO
45 should look at market trends, look at the weight
46 of evidence, and invest in innovation and
47 solutions such as closed containment.

1 Q Mr. Backman, I was going to move to you for the
2 next question. I saw that you'd indicated you
3 wish to pick up on a point I believe Ms. Stewart
4 made. So perhaps I can simply invite you to offer
5 the further comments you have, but in the course
6 of that as well, if you're able to address the
7 next topic I have, which is the topic of fish
8 health.

9 MR. MARTLAND: Mr. Lunn, if you could put number 9 from
10 our list which is Exhibit 1611, which is a
11 proposed approach to fish health from the DFO.

12 Q I won't go into it in much detail, but we've had
13 some evidence about this. This approach describes
14 efforts to keep the farm fish healthy, to monitor
15 their health, respond to fish health events,
16 record and report fish health data, and as well,
17 employ fish health management plans.

18 From your perspective, is the DFO approach to
19 fish health the right one? Do you see room for
20 improvements with that approach?

21 MR. BACKMAN: Before I answer that, I just wanted to
22 return to the comment. It was mentioned that
23 there's been an abandonment of the Canadian
24 Environmental Assessment of farms and I think that
25 that's incorrect, in that what we haven't had is
26 any applications for farms as a result of the
27 changeover from the provincial to the federal
28 jurisdiction. There's been a very long delay.
29 There hasn't been any applications come forward.

30 I think the Canadian Environmental Assessment
31 re-screening of applications is still very much
32 alive. I think it's still very much in place, and
33 I think that compensatory habitat is still very
34 much an element of that as we go forward.

35 To your question on the approach to fish
36 health by the Pacific Aquaculture Regulation draft
37 here, it looks from the familiarity that I have at
38 this point, a very good start, a very good
39 approach by the federal agencies. I think what it
40 will do is, as has been brought up previously by
41 other panels, specifically the veterinarian panel,
42 it will bring another level of familiarity and
43 audit to the work that we're already doing on our
44 farm sites.

45 I think Dr. Sheppard, when he was on a panel
46 recently, spent some time explaining the degree of
47 testing that goes on at a farm site level. He

1 characterized it as day in/day out/365 days a year
2 where the farm staff observe, report, take
3 records. They do necropsies on recently dead
4 animals. They keep ongoing strong databases
5 within the company. This is working with the
6 veterinarial (sic) staff. They send -- to
7 independent labs, they send tissue samples for
8 bacteriology or virology work. This is ongoing
9 all the time.

10 So what I see happening here is that the
11 federal government will then become more aware.
12 They will have a parallel program which will have
13 more, perhaps, more resources than was previously
14 under the provincial government, and they will be
15 able to more closely monitor this kind of work
16 that's already ongoing and be able to validate,
17 and also to offer improvements where they see
18 improvements can be made.

19 There was a whole program identified in order
20 to reduce the already low incidence of fish health
21 offence that are happening on our farm sites, so
22 with the good husbandry, with the vaccination of
23 all of the fish before they go into the ocean, the
24 number of fish health events on salmon farms today
25 is very, very low. A program like this can only
26 partner with industry and develop situations where
27 we can actually reduce the incidence of reportable
28 events even further than they are today.

29 Q Ms. Parker, from your point of view, any further
30 points to make vis-à-vis -- or do you care to
31 offer a view with respect to the approach to fish
32 health?

33 MS. PARKER: Yes. And before I start, I'd just like
34 to --

35 Q And perhaps I'll just ask all witnesses as we do
36 this, if you're able to toggle the mike so it's
37 right in front of you, that's helpful. Thanks.

38 MS. PARKER: Sorry. I just wanted to correct something
39 that Catherine said earlier if that's okay. You
40 said that there was no regulation that restricts
41 the use and application of lice treatments. In
42 fact, the **Health of Animals Act, FDA** and the **Pest**
43 **Control Products Act** all restrict the application
44 and use of lice treatments.

45 Q All right.

46 MS. PARKER: Okay. So one of the -- this is a very --
47 well, it's an approach document, not necessarily a

1 policy or a very structured document. But what it
2 does do is it sets the stage for hazard access,
3 critical control point approach to managing fish
4 health. So it's consistent with FAO guidelines
5 and it sets the stage for sort of hazard-based or
6 risk-based management of fish health so that there
7 are controls from brood stock and egg-take all the
8 way through to disease monitoring on farm, and
9 actually sets the stage for management actions
10 should there be a problem when the fish are in the
11 ocean.

12 So it takes a multi-stage approach and it's
13 consistent with both OIE, but particularly with
14 the FAO Hassett (phonetic) approach to health
15 management.

16 Q Before I forget to do this, I'll just put on
17 record that the document onscreen, Exhibit 1611
18 has a big watermark - it's more clear on the big
19 screen - indicating it's a draft document. I
20 think that fits with what we heard about it in
21 evidence, so this is just to clarify this is a
22 draft as opposed to a final policy or approach
23 document.

24 If I might turn, please, Ms. Stewart, with
25 the same question about fish health. If you'd
26 like to pick up on the point that Ms. Parker made
27 that's fine. Thank you.

28 MS. STEWART: Thanks, I will, and I agree with Mia that
29 there are controls in terms of what the farmers
30 can administer and the impact on their fish
31 stocks, what is shipped into the marketplace,
32 residues in product being delivered to the
33 marketplace. But that's all about their stocks.
34 When I talk about the administration of pest and
35 pathogen treatments in our marine environment, I'm
36 talking about deleterious substances going into
37 our receiving waters, into the commons. I'm
38 talking about the impact on non-farmed species, on
39 wild salmon and on other species in that
40 surrounding environment.

41 I mean, the same thing applies to the use of
42 SLICE, right? SLICE is authorized by Health
43 Canada for use on the farms, emamectin benzoate.
44 When CAAR tried to obtain the information on which
45 that decision was based, Health Canada told our
46 representative who contacted them that it was
47 proprietary. The information was -- their

1 decision was based on studies that were conducted
2 by the manufacturer of SLICE, and they were unable
3 to provide us with the studies that informed their
4 decision because they were conducted by the
5 manufacturer. That does not give me a great deal
6 of comfort that the health of our marine
7 ecosystems are being protected.

8 Sea lice are a crustacean. What's the impact
9 of SLICE on other crustaceans? Dr. John Volpe at
10 the University of Victoria was trying to do a
11 study on that, and asked the farms to give him
12 notice when they were going to be administering
13 SLICE in their feed to their farm fish and they
14 declined to do that. So he was reduced to taking
15 random samples based on a guesstimate of when they
16 might or might not be treating in order to try and
17 do some assessment.

18 So I have no doubt that the farms are
19 committed to doing their best to maintain the
20 health of their fish. My concern is the health of
21 our fish, the health of the wild ecosystem, and
22 that's where I think we're falling down on the
23 job. I think DFO needs to undertake an awful lot
24 more science analyzing what is happening outside
25 the farm environment.

26 For example, there's a study that was
27 undertaken by Dr. Orr and others around elevated
28 -- that found elevated levels of mercury in
29 rockfish in close proximity to fish farms. What
30 is DFO doing about that? Where's the analysis on
31 those impacts? That's where I think the
32 Department needs to take its enforcement
33 responsibilities and its environmental
34 responsibilities much more seriously.

35 Q Ms. Morton, I'm approaching the end of my own time
36 allocation to myself, but to close the circle, I
37 wonder if I could ask you to please respond to
38 this question about the approach taken to fish
39 health.

40 MS. MORTON: I would agree with Catherine. It is about
41 their fish. The new regulations are about their
42 fish. Like I said, it is not unlawful to expose
43 or even infect wild fish with pathogens. There's
44 a lot of information in the disease records that
45 speak to the potential for exotic pathogens having
46 arrived, and I don't see that that was captured
47 anywhere. I was certainly not alerted. I don't

1 hear anybody talking about it. I don't see the
2 type of testing done to certify these farms as
3 being free of those diseases.

4 So I think it is the number one concern is
5 disease transfer from salmon farms. A lot of that
6 is based on bad siting.

7 MR. MARTLAND: Panel members, thank you very much for
8 your time with my questions. I'm only the first
9 of a series of lawyers. I will just simply remind
10 you before I sit down that as you answer
11 questions, if you could please direct your answer
12 to the Commissioner or to the lawyer asking the
13 question as opposed to the other panel members.
14 That's very helpful for our process.

15 I'll ask next counsel for the B.C. Salmon
16 Farmers Association, Mr. Commission, with a 90-
17 minute allocation.

18 MR. BLAIR: Good morning, Mr. Commissioner. Members of
19 the panel, for the record, my name is Alan Blair.
20 I appear as counsel for the B.C. Salmon Farmers
21 Association, and also with me is my assistant, Mr.
22 Shane Hopkins-Utter.

23 I have a number of questions for our panel
24 members. Given our time constraints, I'll be
25 directing my questions, if I may, to specific
26 panel members and where appropriate, given our
27 time constraints, seeking answers from some of the
28 other panel members as well.

29 Mr. Lunn, I wonder if we might put up PPR
30 number 2, please.

31 MR. LUNN: Mr. Blair, maybe you could adjust your mike.

32 MR. BLAIR: Yes.

33
34 CROSS-EXAMINATION BY MR. BLAIR:

35
36 Q My first question is for Ms. Parker.

37 MR. BLAIR: Mr. Lunn, if you could also go to
38 paragraphs 17 to 24 which commence on paper page
39 9. Thank you. I'll try to move my binder up and
40 organize it.

41 Q So, Ms. Parker, my questions for you really relate
42 to this document specifically as perhaps an aid to
43 you and to the Commissioner to address the issue
44 of the precautionary principle. My specific
45 question for you, Ms. Parker, is can you explain
46 what role you think the precautionary principle
47 has in the regulation and management of salmon

1 farming? You, of course, may answer that
2 generally or you may use the preference,
3 precautionary principle, on the screen to commence
4 your answer.

5 MS. PARKER: Well, up on the screen is the
6 declaration --

7 Q Is your microphone...?

8 MS. PARKER: Sorry. I'm not usually accused of having
9 a quiet voice.

10 Up on the screen is the declaration on the
11 precautionary approach from *Rio 1992*. The
12 precautionary principle is, I think, very elegant,
13 because it doesn't say when in doubt, don't. It
14 says in the absence of scientific certainty of
15 risk, proceed cautiously and put measures in place
16 as though those risks exist and deal with them.

17 So I feel like it's a really elegant
18 connection between risk-based management and
19 adaptive management. So you have a scientific
20 risk assessment that says there's potentially risk
21 here. We can't guarantee there's risk, we
22 definitely can't guarantee there isn't risk. So
23 let's put measures in place as though the risk
24 exists. Let's collect information, let's do more
25 research, and then let's adapt those measures that
26 we put in place.

27 One of the things that I think is really
28 brilliant about the precautionary approach is it's
29 not about a single solution. It's about a suite
30 of measures that you put, so that you can be
31 flexible in how you apply those precautionary
32 measures. If you look at the siting criteria that
33 have been in place, both under the provincial
34 regulatory regime and the federal regulatory
35 regime, they carry them over consistently. And it
36 doesn't mean that they won't change, and I think
37 that's where that link we have with DFO having
38 science within DFO that we'll see more rapid
39 evaluation of those, and we may see new ones put
40 in place and old ones removed, or we may see the
41 current ones applied differently. So that's also
42 adaptive management.

43 So if you look at something like the one-
44 kilometre setback from a fish-bearing stream, with
45 that, that was put in place because adult spawners
46 hold in streams, and out-migrating juveniles hold
47 in the mouths of estuaries, that's where food is

- 1 abundant. So was there any knowledge that one
2 kilometre was enough or too much, or that there
3 was a definite risk there? No. But they applied
4 the precautionary principle and put that setback
5 in place.
- 6 Q Ms. Parker, can you indicate whether or not that
7 siting restriction, as you've called it, of a
8 kilometre, is that an example of the application
9 of the precautionary principle by industry or by
10 the regulators or by both, and if you can just
11 give us a sense of if it was applied, when it was
12 applied relative to the commencement of the salmon
13 farming industry?
- 14 MS. PARKER: Well, it's actually a principle that's
15 applied by both the regulator and by industry.
16 Originally when it was applied, there was a two-
17 tiered approach so that there was a one-kilometre
18 setback from "significant" streams, and a smaller
19 setback for streams that were rearing habitat
20 only. But that's a fairly esoteric decision to
21 make, so the industry defaulted to just using a
22 one-kilometre setback. It's simpler and it
23 provides the maximum amount of protection without
24 any haggling over what does "significant" mean.
- 25 Q And is this a recent application of the principle,
26 or did it exist from the early years of the
27 industry in B.C.?
- 28 MS. PARKER: I think it was formal -- Clare has a
29 longer industry -- Mr. Backman has a longer
30 experience in the industry than I do, but it was
31 definitely in place before the Salmon Aquaculture
32 Review, and it was formalized after that.
- 33 MR. BLAIR: I have a question on Exhibit 1711, please,
34 Mr. Lunn.
- 35 Q On the screen in front of you, members of the
36 panel, is the proceedings of the National Peer
37 Review Meeting on Aquaculture Pathways of Effects.
- 38 MR. BLAIR: If you could now -- thank you for enlarging
39 it. If you could now go to pdf 51, the top of
40 paper page 41, please.
- 41 Q Ms. Parker --
- 42 MR. BLAIR: In the first paragraph to the left, Mr.
43 Lunn, if you could enlarge that.
- 44 Q -- there's a reference here to stressor-effect
45 linkage and a 95 percent confidence. Can you put
46 a context around that paragraph?
- 47 MR. BLAIR: And perhaps just to put context for the

1 rest of the audience, if you could go back, Mr.
2 Lunn, and just pull up the bottom of the previous
3 page. We'll see there's a presenter's name and a
4 description of stressor-effect linkage. That's
5 perfect.

6 Q Could you speak to those issues, Ms. Parker?

7 MS. PARKER: Well, it relates back to that phrase
8 within the declaration that it's the absence of
9 scientific certainty. So you don't need certainty
10 to move forward. What you need is a
11 scientifically-based risk assessment, and then you
12 put the measures in place that makes sense within
13 that risk assessment.

14 MR. BLAIR: My question now relates to Exhibit 1632,
15 please, Mr. Lunn.

16 Q In a moment, you'll see the heading for this
17 particular exhibit is "Criteria for Siting New
18 Finfish Aquaculture Facilities".

19 Mr. Backman or Ms. Parker, can you let me
20 know the history of this document? I note on the
21 first line it says:

22
23 The following criteria have been in place
24 since March 2000...

25
26 Do you know when the actual document was written?
27 It seems to be reflective of a commencement date.

28 MR. BACKMAN: Well, the siting criteria for salmon
29 farms have been in a state of consistent and
30 continual evolution, so this document here, dated
31 around October 2000, represents what has been
32 added to that list going back from the very
33 beginning. As Ms. Parker mentioned, the
34 separation from salmon-bearing streams is one of
35 the original very first siting criteria. It goes
36 back to the mid-'80s when the original salmon
37 farms were being applied for and they were being
38 assessed.

39 Other long-standing separations and siting
40 guidelines are, for example, the one kilometre
41 from mapped First Nation reserves.

42 The point here is that the siting criteria
43 have been both scientific-based and also
44 precautionary when there hasn't been adequate
45 science done. So an agreed-upon separation has
46 been put in place, for example, the shellfish-
47 bearing intertidal beaches. This stands in place

1 until enough science or the research is backfilled
2 to bring about a decision to either increase or
3 decrease that later on.

4 As I say, each review - and there have been
5 many reviews of salmon aquaculture in British
6 Columbia - have progressively added to this list
7 of siting criteria, so by extension, making the
8 choice of sites and the locations more and more
9 protective of the wild environment in which we're
10 operating.

11 But this is not the only list that we have to
12 deal with. This is only the first cut, if you
13 will. This is the first tier looking at potential
14 location for a salmon farm. From here, once a
15 decision is taken that we can move forward to
16 actually gathering information on the ground,
17 there's a vast list of actual information that
18 needs to be captured from the farm site potential
19 location.

20 SCUBA surveys of shoreline, we actually look
21 not just at the mapped streams, but at every
22 drainage that is within the potential area for the
23 salmon farm, and determine whether or not it has
24 the potential for salmon, not whether --

25 Q I'm going to touch on that a little bit later.
26 I'd like, if we could, now move to Exhibit 1561,
27 please.

28 Mr. Backman, can you speak to this particular
29 exhibit on the screen as the Salmon Aquaculture
30 Dialogue Working Group Report on Salmon Disease?
31 It's a draft from March 2009. In the lead-off,
32 there's a Larry Hammell.

33 MR. BACKMAN: Yes, prepared for the Salmon Aquaculture
34 Dialogue, which is a certification process which
35 has been going on for a number of years.

36 Q And you've reviewed this document in preparation
37 for your evidence today?

38 MR. BACKMAN: Yes.

39 Q Can you indicate what it particularly speaks to?

40 MR. BACKMAN: Well, it speaks to the adequacy of the
41 actions and precautionary approaches taken in the
42 management and operation of salmon farms related
43 to their potential impacts on the wild fisheries
44 in the areas in which they're located.

45 MR. BLAIR: Mr. Commissioner, I note it's just about
46 ten after 11:00. If you'd like to take the break
47 now?

1 THE REGISTRAR: The hearing will now recess for 15
2 minutes.
3

4 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)
5 (PROCEEDINGS RECONVENED)
6

7 THE REGISTRAR: The hearing is now resumed.

8 THE COMMISSIONER: Mr. Blair?

9 MR. BLAIR: Thank you, Mr. Commissioner.
10

11 CROSS-EXAMINATION BY MR. BLAIR, continuing:
12

13 Q We still have on the screen Exhibit 1561 and my
14 question, I guess I'll go with you, Ms. Parker,
15 you'll note, on the screen, we have an excerpt
16 from this exhibit. Mr. Lunn has kindly cued up
17 the bottom of page 40, which discusses an overview
18 of disease control. And also, on the bottom of
19 the screen, you'll see that the table that he's
20 just showing a portion of is described as, "Eight
21 General Ways which Diseases can be Controlled,"
22 and speaks, at the bottom of page 40, about
23 biosecurity and isolation and then goes on of ways
24 of protecting farmed fish and exposing risks. Can
25 you take us through these eight methods, I guess,
26 from the series event, maybe down to "No action
27 taken," can you just walk us through that table as
28 quickly as you can, perhaps with examples.

29 MS. PARKER: Yes, so the categories of disease control
30 are listed in order of --

31 Q Go ahead.

32 MS. PARKER: Sorry -- are listed in order of severity,
33 and so you would see mass slaughter, which could
34 be ordered by Canadian Food Inspection Agency, or
35 by DFO, or by the company, themselves. It's very
36 rarely employed. I think the last time it was
37 used in British Columbia was during an IHN
38 breakout in the early 1990s. It's possible, as
39 well, that a smaller population of fish within a
40 farm might be culled, or within a tank in a
41 hatchery so that there would be disease testing
42 that could result in those fish being culled. It
43 happens, but, generally, our preventative measures
44 are such that that's a rare occurrence.
45 Quarantine isolation, a veterinarian may
46 quarantine a farm, or a tank, or a population of
47 fish pending the outcome of testing, or also if

1 fish are already stressed by an environmental
2 change, dissolved oxygen or harmful algae bloom,
3 and the quarantine would also be to reduce the
4 stress on the fish.

5 Q Quarantine can also apply, for example, to egg
6 importation. I think we have heard some evidence
7 of that; is that correct?

8 MS. PARKER: Quarantine can be applied to egg
9 importation or importation of any kind of genetic
10 stock which commonly is eggs in the salmon farming
11 industry, but it can also apply to shellfish or
12 other cultured stocks.

13 Q So as we're going down the table, from the top to
14 the bottom, are we getting more and more to sort
15 of the way in which the business operates in terms
16 of quarantining of the eggs and various
17 vaccination programs? Is that the idea, you go
18 from the extreme complete slaughter of a
19 population because of the risk of a disease down
20 to sort of more surveillance and the like?

21 MS. PARKER: You would regularly employ the bottom five
22 as part of the daily practice. So all salmon
23 smolt that are put to sea are vaccinated against a
24 number of diseases. Environmental management
25 occurs. Monitoring of environmental factors
26 occurs multiple times through the day at every
27 facility. As well, you have the fish health. The
28 surveillance of fish is the monitoring of the farm
29 population. This table is also in the context of
30 using management of on-farm or on-facility fish
31 health in the context of mitigating harmful
32 interactions with wild populations. And then --

33 Q Mr. Backman, do you have anything to add to the
34 table?

35 MR. BACKMAN: From a company perspective, we don't like
36 to have to invoke the higher levels with the
37 testing and mass slaughter, but like Ms. Parker
38 mentioned, that has occurred as recently as the
39 early thousands with the IHN, as she mentioned,
40 and it can occur in hatcheries, as well, with a
41 concern about the fish and their health might lead
42 to a decision made within the company to remove an
43 entire tank, and that's communicated to the
44 regulator.

45 Q Can you give an example to the Commissioner of a
46 situation where your company, Marine Harvest,
47 would utilize mass vaccinations in your business?

1 MR. BACKMAN: Well, it's related exactly to the
2 challenge that the Atlantic salmon have with the
3 IHN virus in British Columbia. The IHN virus is
4 very detrimental to Atlantic salmon. Most of the
5 Pacific salmon are quite resistant to IHN, but due
6 to the experiences in the '90s, we began to search
7 with the providers of fish health products, we
8 began talking, do some research to determine
9 whether we could come up with a vaccine, and the
10 bottom line is that today, all the fish that go
11 into the ocean go through an individual fish
12 vaccination program, where in that vaccination,
13 there's also some antibacterial components, but
14 there's also the IHN. Every fish is now
15 vaccinated.

16 MR. BLAIR: Could we please go, Mr. Lunn, to B.C.
17 Salmon Farmers Tab 2, and if you could orient it
18 to page 2?

19 Q I guess another question for you, Mr. Backman,
20 could you describe what this document is and what
21 this table represents, please?

22 MR. BACKMAN: Well, it's representing the relative
23 guidelines used by different jurisdictions where
24 salmon farming is carried out and with respect to
25 siting salmon farms. It dates from 2005 so it's
26 a few years out of date. What it shows here is
27 that British Columbia has a significant number of
28 siting requirements and, as I say, it dates from
29 2005 so that column would actually be longer
30 today. And it goes to the comment that's been
31 made many times that regulation in British
32 Columbia is more stringent or as stringent as it
33 is anywhere in the world and so this table
34 graphically represents that.

35 MR. BLAIR: Could we have PPR No. 20, the Aquaculture
36 Regulation, Mr. Lunn? Oh, I'm sorry, thank you.
37 Could we mark the last item?

38 THE REGISTRAR: It will be marked as 1802.

39
40 EXHIBIT 1802: Salmon Aquaculture -
41 Comparison of Regulations
42

43 MR. BLAIR:

44 Q And you'll see on the screen we have the Policy
45 and Practice Report for Aquaculture Regulation
46 dated July 28th, 2011, and if we could go to page
47 120, please? Now, Mr. Backman, can you comment on

1 this section of the PPR, please?
2 MR. BACKMAN: I think it's important here, what's been
3 brought out in the PPR is another level of the
4 iterative process of identifying suitable
5 locations for salmon farms and that, in
6 recommendation number 2 and 3, the comment was
7 made in this Salmon Aquaculture Review that we
8 needed to have planning processes undertaken to
9 re-evaluate stakeholder and fisheries interests to
10 see where there was conflicts to the potential
11 application of new salmon farms, to design those
12 planning processes so they could help guide our
13 thinking as we went forward. So that was
14 recommended. Those were carried out. The
15 Provincial Government went to work and developed
16 the Integrated Coastal Zone Management Plans.
17 There was different ones for different areas on
18 the coast, and they act as one of the first tier
19 levels in determining where we can focus our
20 efforts in looking for any new farm sites going
21 forward. So there's been a lot of pre-planning
22 that's been done here. And the end result of
23 these coastal zone plans is it's a very small area
24 of the coast within these plans that's currently
25 available for future consideration for salmon
26 farms.
27 Q Ms. Parker, you may know that we've heard from a
28 variety of witnesses, including a Dr. Ian Fleming
29 from Memorial University, earlier this week, I
30 think, or perhaps it was last week, they all run
31 together after a bit, he spoke about Norway's
32 national salmon protected area strategies.
33 MR. BLAIR: And I wonder if, Mr. Lunn, you could put up
34 B.C. Salmon Farmers Tab 73, please?
35 Q Ms. Parker, I understand that this is a report
36 that was prepared for the Government of Norway,
37 dealing with the protection, and restoration and
38 enhancement of salmon habitat; is that your
39 understanding, as well?
40 MS. PARKER: Yes, it is.
41 Q We see the word "Norway" on the screen. You've
42 read this portion of this document; is that
43 correct?
44 MS. PARKER: Yes, I have.
45 MR. BLAIR: Before I forget, I wonder if we might mark
46 it as the next exhibit?
47 THE REGISTRAR: 1803.

1 EXHIBIT 1803: Protection, Restoration and
2 Enhancement of Salmon Habitat, Focus Area
3 Report, Norway
4

5 MR. BLAIR: Thank you. Could we go, Mr. Lunn, to pages
6 8 and 9, please?

7 Q We heard, Ms. Parker, from Dr. Fleming, that
8 Norway's approach to addressing the issues of
9 protection of habitat was to have areas of
10 reserves. I think I'm correctly calling them the
11 National Salmon River and Fjord Program. And on
12 the screen, you'll see a map of Norway with these
13 reserves highlighted in red and named. Do you see
14 that on the screen?

15 MS. PARKER: Yes, I do.

16 Q Can you talk about the way Norway has done it and
17 the way British Columbia does it in terms of
18 protected strategies?

19 MR. BLAIR: And at pages 8 and 9, if you could scroll
20 to those, as well, Mr. Lunn? Maybe you can split
21 the page, 8 and 9, so the next two pages. Thank
22 you. Thank you.

23 MS. PARKER: So I think one of the things that's
24 important to note here is that the plan wasn't
25 originally developed to protect salmon habitat per
26 se, but it was to control water diversion from
27 salmon habitat.

28 Q Can I just interrupt you? Are you referring to
29 Norway or British Columbia?

30 MS. PARKER: Norway. Sorry.

31 Q Okay. Thank you.

32 MS. PARKER: Norway's plan. It started, I think, in
33 1989, it was revised in 2003, and then revised
34 again in 2007. And it's a pretty phenomenal
35 achievement, to be honest. They have,
36 approximately, 120 rivers, which are listed and
37 protected or have protected zones in them. Of
38 those, probably, two-thirds have detailed habitat
39 information gathered for them on record. And so
40 regardless of the fact that it wasn't intended to
41 protect salmon habitat, it has, in fact, done a
42 pretty good job of protecting habitat and has,
43 also, prioritized which portions of Atlantic
44 salmon habitat they would prioritize for habitat
45 restoration. So it's ambitious, it's far-reaching
46 and it's pretty impressive.

47 In British Columbia, instead of talking about

1 major river systems, we actually have put that
2 one-kilometre setback on every salmon-bearing
3 stream within the vicinity of a proposed salmon
4 farm. So what you end up with is protection of
5 those sort of smaller ephemeral streams that would
6 be coho habitat, maybe only wet part of the year.
7 So those would still get the same level of
8 protection that a major fish-bearing stream would.
9 And as well, we don't differentiate between
10 whether or not it's a significant stream or not a
11 significant stream, we just apply that measure,
12 and I think that that is important. And if you
13 look at provincial tools like the Ministry of
14 Environment's habitat wizard, it will show you
15 thousands and thousands of streams where we know
16 what species inhabit it, where they're located,
17 what the barriers to fish migration might be on
18 that, and that's the kind of level of detail that
19 we have in British Columbia that allows us to make
20 siting decisions and inform siting decisions and
21 provides protection for fish-bearing streams.

22 Q Okay. And thousands and thousands of data points
23 translates into water bodies, I think you've said,
24 large and small, in the dozens, or hundreds, or
25 thousands? Do you have any idea, in British
26 Columbia, how many fish-bearing streams would be
27 captured by that and applied to siting
28 regulations? Is it more than 100, more than
29 1,000?

30 MS. PARKER: It would be thousands. It would be
31 thousands of streams, probably tens of thousands.
32 If you look at the contribution of the aquaculture
33 industry to those kind of surveys, the ones that
34 we've identified through our siting application
35 process, that would number in the thousands alone.
36 And then, of course, forestry companies do it, and
37 mining companies do it. Marina proponents, any
38 project proponent could be looking at that sort of
39 thing, but it's a specific requirement for salmon
40 farming.

41 Q So just so we're clear on that, we can all figure
42 out that perhaps the Skeena and the Fraser are big
43 salmon-bearing rivers, but logging operations,
44 fish farming operations are required to identify
45 potential effects and so siting applications in
46 your industry, you're required to and have
47 identified many thousands, then, of data points

1 that weren't previously known; is that what you're
2 indicating?

3 MS. PARKER: If you look at the location, planning
4 location for a salmon farm, you have to have a
5 one-kilometre distance from any fish-bearing
6 stream. To make sure that we actually are doing
7 that in a realistic way, companies routinely will
8 survey three kilometres up or downstream, or five
9 kilometres up/downstream so they're actually
10 capturing between six and 10 kilometres of
11 coastline when they're doing that survey.

12 MR. BLAIR: Thank you. Could we please go to 00 for
13 Identification?

14 Q 00 for Identification is on the screen. You'll
15 see that this was prepared by Larry Hammell. We
16 heard earlier evidence that it was prepared at the
17 request of B.C. Salmon Farmers, and just to
18 orientate you, panel members, it's been put to two
19 previous witnesses, Drs. Kent and McKenzie. And
20 I'll summarize the record, but I believe they were
21 put to it and agreed with the summaries found
22 therein. Mr. Backman, my question is for you.
23 Are you familiar with this document?

24 MR. BACKMAN: Yes, I am.

25 Q Have you read it?

26 MR. BACKMAN: Yes, I've looked it over.

27 Q Do you agree with the summaries?

28 MR. BACKMAN: I do.

29 MR. BLAIR: I wonder if we could go to page 5, please?

30 Q You'll see the first line in the heading,
31 "Summary," and this report, of course, deals with
32 the importation of eggs. It says:

33
34 The probability of eyed eggs imported from
35 1995 to 2009 introduced any new pathogens to
36 British Columbia is 'extremely low' to
37 'remote'.

38
39 Do you agree with that?

40 MR. BACKMAN: Yes.

41 Q Thank you.

42 MR. BLAIR: Could we please bring up Exhibit 1471?

43 Q Mr. Backman, what is this document?

44 MR. BACKMAN: This document is referring to the results
45 of testing that's been undertaken since 2003
46 within the B.C. Fish Health Auditing Surveillance
47 Program, actually looking for evidence of the ISAV

1 virus in British Columbia on the farmed salmon.
2 What it shows clearly is that even though it's not
3 here, has never been discovered here in British
4 Columbia in the surveillance of wild fish and,
5 therefore, I think, Dr. Sheppard mentioned in his
6 panel that it's not necessarily required to look
7 for something that's never been described here,
8 industry has voluntarily undertaken testing to
9 provide extra levels of surveillance. And since
10 2003, there's been 4,726 samples taken, up to
11 2010, and every one of those has turned up a
12 negative result. There's been no positives
13 whatsoever.

14 What that does, when you take it into context
15 with the Hammell survey, is demonstrate that the
16 level of surveillance that's been taken on the
17 level of care and oversight that's been applied to
18 the issue of bringing eggs into British Columbia
19 has been very robust. The level of surveys done
20 in the country of origin and then again, the
21 quarantine and follow-up sampling here in British
22 Columbia has been successful in preventing any
23 exotic disease, including this particular one,
24 ISAV.

25 Q Now, Mr. Backman, speaking of disease or evidence
26 of concern, earlier in the testimony, there was a
27 reference made to a Conville Bay farm site and
28 some data which was produced by one of the other
29 participants, suggesting to some of the previous
30 witnesses that marine anaemia had been found in a
31 Conville Bay farm in 2006 or 2007. It was an
32 interesting eight quarter graph, apparently the
33 graph produced for the purpose of the explanation
34 had eight quarters in 2007.

35 The Conville Bay site is a marine harvest
36 site?

37 MR. BACKMAN: Yes, it is.

38 Q It's your company?

39 MR. BACKMAN: Yes, it is.

40 Q And you were made aware of the fact that the
41 evidence was discussing whether or not there'd
42 been an outbreak of marine anaemia in your
43 Conville Bay site in 2006 or 2007?

44 MR. BACKMAN: Right, I was made aware of that.

45 Q And so you went to look into the company records
46 that you have access to and discussed the matter
47 with your company veterinarian; is that correct?

1 MR. BACKMAN: I have done that, yes.

2 Q Tell us what you learned? I should say that the
3 records that were put before previous witnesses
4 were fish health database records which were
5 produced by the farms and into the Commission, and
6 so you had access to all of those same records?

7 MR. BACKMAN: That's correct, yes.

8 Q Yes, please, go ahead.

9 MR. BACKMAN: Well, it's quite simple, actually. In
10 speaking to the veterinarian, our veterinarian,
11 asking about the issue related to marine anaemia,
12 the simple answer was that it had never been
13 diagnosed onsite at Conville Bay. There was no
14 diagnosis whatsoever.

15 When I mentioned that while it was brought up
16 as a notation on Dr. Gary Marty, histopathology
17 done through a provincial audit, which was shared
18 here to the Commission, her comment back was she
19 was never made aware of that. But that was not
20 uncommon because histopathological reporting is
21 only one element of discovering whether or not
22 there is an issue on a farm site, and so that it's
23 very common and, actually, in most cases, the
24 veterinarian is not made aware of records made
25 through the provincial audit, and the reason for
26 that is that within the provincial team, and that
27 consists of the provincial veterinarians, fish
28 health experts, the decision is made that they're
29 not seeing something of a reportable nature.
30 Should they see something where there's a
31 histopathological result that's confirmed with
32 farm-based evidence, then they will quickly advise
33 the farm site. In reality, the farm site is
34 usually aware of these kinds of situations because
35 we're seeing the declines in numbers of our fish,
36 the mortality has arisen so we usually are aware
37 of that far before the provincial audit gets back
38 to us.

39 Q And speaking specifically of the Conville Bay
40 site, when you were aware of the evidence that was
41 produced and the suggestion of some spike in
42 mortality at that site, you specifically went out
43 with your fish vet and examined the information,
44 and then charted what you saw from the records?

45 MR. BACKMAN: That's right.

46 Q And you looked at both the fresh mortalities,
47 which we've learned are sometimes referred to as

1 fresh silvers, and you also had a look at the
2 overall or total mortality for the Conville Bay
3 site over that 2006 and 2007 year period, correct?

4 MR. BACKMAN: Right.

5 Q Now, we've heard discussions amongst counsel, and
6 for the benefit of the Commissioner, that these
7 fish health records can be produced, the raw data
8 can be produced, but it's often about the context.
9 Can you explain, with your examination of the
10 Conville Bay site as a proxy for that context,
11 what you saw when you looked at the records at
12 Conville Bay?

13 MR. BACKMAN: Well, there was a pattern of mortality,
14 which is not inconsistent with what we normally
15 see year over year. There was nothing
16 particularly unusual. And I was looking at the
17 entire -- I think that the information that was
18 provided to the Commission was the total marine
19 harvest mortality for fresh silvers. So what we
20 saw was some apparent rises in the mortality
21 graph, or spiking. When I went back and confirmed
22 that with the same data set that was provided to
23 the researchers who did the Project 5 reports and
24 looked at that pattern again, I didn't see a
25 pattern of spiking that was consistent with any
26 problems. The situation that I noticed in the
27 springtime was a rise in mortality from about
28 40,000 to 60,000 per quarter, and it was
29 consistent with the introduction of smolts. When
30 the smolts were transferred from the hatchery into
31 the ocean, we always see a spike in mortality
32 there because a lot of the smolts are actually not
33 perfectly competent to enter saltwater. So
34 there's what we call a smolt die-off period of
35 time. They're not diseased in any case, they just
36 simply are not quite prepared to enter saltwater.
37 So that was the normal mortality that I was
38 seeing in the springtime, and that was across the
39 entire company. It had nothing to do with
40 Conville Bay where we had chinook salmon that were
41 of a harvest size and were at the point of being
42 harvested out. But then I cast back and looked at
43 the previous fall, in 2006, to discover what that
44 mortality was about, because there was a couple of
45 lines there that were reaching 60,000. And that's
46 consistent with fall mortality due to algae blooms
47 which sometimes occur after the summer sunshine

1 and warmer water temperatures leads to the
2 increase, natural increase of algae bloom. So we
3 had seen some mortality in the fall of 2006 across
4 the company due to algae blooms. We'd seen some
5 mortality in the spring of 2007, due to the smolt
6 entry, but we hadn't seen anything else out of the
7 ordinary.

8 Q So when one looks at the raw data, the fish health
9 data that's been produced into the Commission
10 without the context of when the smolts were
11 introduced and maybe you have a die off because of
12 the adaptation process of the smolts to the marine
13 environment, or where you may have an algae bloom
14 and so for reasons of water quality, you have a
15 die off, absent that context, you just have a
16 total mortality spike, but without an explanation
17 such as you've just now given the commissioner?

18 MR. BACKMAN: We just see the normal pattern of
19 mortality year in and year out. We didn't see any
20 particular unusual spike in mortality.

21 MR. BLAIR: Now, Mr. Commissioner, and Commission
22 counsel, I should say that as Mr. Backman was
23 researching this particular Conville Bay, since it
24 seemed to be a matter of some interest, he
25 prepared a graph, which I've not tendered, or put
26 up on the screen, or given to Mr. Lunn because he
27 just was using it for his own preparation. We
28 have such a graph, I'm certainly happy to make it
29 available if counsel wishes to have it. I don't
30 require it. He's given a narrative of that
31 evidence, but one could be produced through
32 Commission counsel if any of the other parties
33 seek it. Notice was never given, but --

34 MR. MARTLAND: I'll suggest it be produced to us. It
35 seems to have some relevance, but we'll then
36 decide whether we'll circulate that to
37 participants. We'll see if there's input then as
38 to what we do. Thank you.

39 MR. BLAIR: In any event, questions could be put to Mr.
40 Backman after my examination later in that panel,
41 if others wish to use the graph. As I say, I
42 didn't seek to introduce it today. We have his
43 narrative on the points. Thank you.

44 Q So back to marine anaemia generally, has marine
45 anaemia been diagnosed by Marine Harvest Canada,
46 or the Province to your understanding, in that
47 time period, at that site?

1 MR. BACKMAN: No marine anaemia diagnosed at all.

2 Q Now, we're all intrigued, I guess I'll stay with
3 you, Mr. Backman, Marine Harvest has the highest
4 number of fish farm sites in the province?

5 MR. BACKMAN: We do.

6 Q You'd be well positioned, then, to describe what,
7 if any, distinctions or differences that may have
8 affected the very, very low returns of Fraser
9 River sockeye salmon in 2009, and the almost
10 unprecedented high returns in 2010; would that be
11 a fair comment, you could speak to those issues?

12 MR. BACKMAN: Well, yeah. I think we've heard from
13 multiple --

14 Q I'm just going to interrupt you for a second,
15 speak to those issues in the context of, because
16 that's the fundamental question for the
17 Commissioner, in the context of was there anything
18 different on the farms? Was there any evidence,
19 any pattern, any signature, anything at all if
20 we're looking for a reason for this very, very low
21 return and very, very high return, do you see I
22 anywhere in the data that you have access to, as
23 the largest fish farming company in British
24 Columbia, or through the B.C. Salmon Farmers
25 Association's wider access to the database? Can
26 you explain that from the fish health data or the
27 company records that you have access to?

28 MR. BACKMAN: No, there's no indication from all that
29 data that you just described that would lead one
30 to believe that there is some explanation within
31 the salmon farms, the Marine Harvest Salmon Farm's
32 operation 2007/2008 that could be construed to
33 have caused the low return in 2009 and the high
34 return in 2010.

35 MR. BLAIR: Could we please see Exhibit 1366, please?

36 Q On the screen is the question and answer document
37 that was prepared by Dr. Tom Watson, with the
38 assistance of a number of parties who are listed
39 on the cover page. And Mr. Backman, this document
40 was prepared specifically by the B.C. Salmon
41 Farmers Association for the purpose of introducing
42 questions and answers as the title, and I'd
43 suggest from the industry's perspective, and to be
44 tendered generally, but specifically before the
45 Commission?

46 MR. BACKMAN: That's correct.

47 Q And my questions are with respect to this exhibit.

1 MR. BLAIR: We'll take you to page 11, please, Mr.
2 Lunn.

3 Q And this particular portion of this document, Mr.
4 Backman, speaks of the relationship between
5 finfish aquaculture and First Nations in British
6 Columbia? You see it on the screen?

7 MR. BACKMAN: I can see it on the screen.

8 Q Thank you. Perhaps using that as a springboard,
9 can you give us your view of that relationship,
10 either by references comments and passages in this
11 document or generally from your experience over
12 many years?

13 MR. BACKMAN: Well, I'd be happy to. I think, working
14 with First Nations within the context of being
15 involved in Marine Harvest Canada has been one of
16 the most interesting and challenging, and also
17 exciting areas of the work that we do. What I'm
18 going to do is describe some, if not all, there's
19 too many, some, but not all of the relationships
20 that we have with First Nations groups, positive
21 relationships. But I'll preface it by saying that
22 the First Nations groups tend to be located on the
23 coast of British Columbia, sometimes in places
24 where the traditional resource activities, like
25 logging, have been in decline. So in some cases,
26 they are considered to be in socio-economic
27 decline, and in some places where we have moved
28 our operations in at their request, the situation
29 has reversed itself. So we've gone from very high
30 levels of unemployment, for example, in the Klemtu
31 area of middle coast of British Columbia, to the
32 position who is capable and interested in working
33 is able to work for the company, either in growing
34 the fish, or in the processing plant.

35 The Klemtu relationship is now in its 11th
36 year of operation. I think it has stood the test
37 of time in terms of how a group of First Nations
38 leaders who determined that they want to enter
39 into an agreement with a company, yet they want to
40 maintain control over the ability to monitor the
41 ocean for the aspects to the environment,
42 environmental impacts that are important to them.
43 After 11 years, they remain satisfied that they
44 haven't seen environmental impacts that are of a
45 concern to them to bring that relationship to a
46 close.

47 But that's not the only relationship that we

1 have. We have the Quatsino Sound. In Quatsino
2 Sound, the Quatsino First Nation is a group that
3 we have now a seven-year relationship with. In
4 there, we are working with them on their interest
5 in shellfish aquaculture. And they have an
6 ongoing shellfish aquaculture industry, and
7 there's ways that we can participate and assist
8 them. We also provide support for their
9 fisheries. They have a fisheries tech so there's
10 capacity building leading towards professional
11 capability within the band, as well.

12 I can move to in the area of the Queen
13 Charlotte Strait area, where we have a
14 relationship with the Fort Rupert Band, or the
15 Kwakiutl Band, and that's a long-term relationship
16 there, as well. It goes back to the Pan Fish
17 Company, which Marine Harvest is now operating the
18 farm sites from. And we were originally involved
19 with helping them with a business venture that
20 they had in the town of Port Hardy, as well as
21 continuing to operate our farms under the auspices
22 and the oversight of their fisheries staff, as
23 well, to ensure that the ecological aspects of
24 importance were not being compromised.

25 Most recently, we have new relationships
26 beginning just last year with the Comox Band, the
27 Campbell River Band, the Cape Mudge Band, and all
28 of these will be developing over the next years
29 into specific areas of mutual interest. The Comox
30 Band has an interest in shellfish aquaculture and
31 so there may be ways that we can work with them
32 from the benefit of our experience, to work with
33 them to benefit their interests in shellfish
34 aquaculture.

35 But it doesn't stop there just with the First
36 Nations chiefs and councils, it also moves to some
37 of the business relationships with other groups.
38 The Qwe'Qwa'Sot'Em Faith Fishing Company has been
39 many years operating a freight boat business where
40 they go around to our farm sites and collect
41 freight materials and move things to and from the
42 farm site. They have a dedicated boat for that
43 that employs about eight or nine people within
44 their band.

45 The James Walkus Fishing Company based out of
46 Port Hardy has been our dedicated harvest company
47 contractor moving all of our fish from the farm

1 sites around the coast to our processing plant in
2 Port Hardy. And we're just in negotiation with
3 that group now for a renewal and it could lead to
4 some exciting new developments with harvest boats
5 on the coast. I'm just hitting some of the high
6 points here.

7 Q Mr. Backman, you had the opportunity, in preparing
8 to come before the Commission, to review a report,
9 a socioeconomic report, which I understand my
10 colleague, Mr. Kelleher, will be entering later,
11 counsel for the Aboriginal Aquaculture
12 Association, and I understand that you looked
13 specifically at the economic benefits in terms of
14 wages, the bottom line, really. Can you indicate
15 what that report, in summary fashion, as I say,
16 we'll let Mr. Kelleher enter it generally, but did
17 you look at the income levels that your industry
18 provided to First Nations groups?

19 MR. BACKMAN: I did. I think that the comment was made
20 earlier that it was --

21 MR. BLAIR: Hand signals between counsel about whether
22 we're going to bother to put it up. I just wanted
23 the brief summary of the wage structure and not
24 get into the report. Mr. Kelleher will have a
25 chance to do that tomorrow.

26 Q So I'm sorry to interrupt you. Go ahead, please,
27 sir.

28 MR. BACKMAN: The comment was made that most of the
29 First Nations participants in the industry were at
30 minimum wage job levels. So notionally, at the
31 current minimum wage, that's about 16,500 a year,
32 give or take. And the actual experienced income,
33 on average, for aboriginal folks working,
34 aboriginal people working in our processing plants
35 is about double that, at 32,000. And in fact,
36 working within the production of salmon on our
37 farm sites, it's higher again, averaging at 48,000
38 per year. So I just wanted to point out that it's
39 not minimum wage jobs. And that's aside from the
40 particular ventures and business opportunities
41 that I just took a moment to go through.

42 Q I'd like to shift gears a little bit and speak,
43 perhaps more abstractly, about science,
44 independent science, science information coming
45 from diverse sources. We have a diverse panel,
46 certainly. Ms. Parker, would you like to describe
47 sort of the concepts of science from diverse

1 sources? Those of us who aren't scientists, I
2 think, think that scientific methodology will all
3 line up, and the scientists will all lead and
4 agree and will move forward with a broader basis
5 of knowledge, but if anything, this Commission
6 this uneducated non-scientist that that doesn't
7 always seem to be the case. Can you speak to that
8 issue? This is the perspectives panel so this
9 seems to be the question that is largely in the
10 minds of many of us who are trying to wrestle with
11 this conflicting science.

12 MS. PARKER: There's some comfort in the idea that
13 science means consensus, but I think it's exactly
14 the opposite, that good science comes from strong
15 and vocal debate. And you need to have
16 information and data coming from diverse sources.
17 And if I can give a small nod to my colleagues in
18 the environmental lobby, I think that a lot of the
19 efforts that they have had, I've participated on
20 Canadian science advisory processes with some of
21 them and appreciated the input that they have put
22 forward and the push that they give others to
23 answer specific questions. I think that adds huge
24 value, and I think one of the things that's really
25 important to understand in science is that you
26 don't get a good answer if everybody agrees from
27 the outset, that you have to have people looking
28 at it from different perspectives, applying
29 different methods, arguing, disagreeing, meeting
30 again to discuss.

31 And so one of the values, I think, that we
32 have in a science-based process is that you have
33 the ability to have this diverse discourse and
34 bring all these opinions, perspectives and results
35 together, and then you sort of drift slowly
36 towards the body of evidence, and that's where it
37 comes from. And I think that that is something
38 that we're going to see is going to add increasing
39 value to how we go forward.

40 Q Ms. Stewart or Ms. Morton, would you like to get
41 in and discuss the abstract nature of the lack of
42 consensus in science? Either one of you can lead.

43 MS. MORTON: The way I see it, the science that
44 promotes salmon farming is what the salmon farmers
45 use, but science that I have done has often not
46 been even cited in their responses to me. There's
47 been a lot of debate back and forth about my

1 method so that stimulated me to, for example, when
2 I did a study on do sea lice kill juvenile pink
3 salmon, I invited Dr. Brian Riddell and Dr. Brent
4 Hargreaves to come and view the experiment right
5 off the bat so that I didn't need to meet their
6 opposition later, I could adapt the study right
7 away, which I did. And yet, when Dr. Jones finds
8 a highly conflicting result in that pink salmon
9 are completely resistant to sea lice after they
10 weigh .7 grams, he will not even address the
11 difference between our findings. So for me, I
12 watched the fish die, I'm an eyewitness to it, I
13 measured it and I went the lengths of putting it
14 into a journal so it's very difficult. I don't
15 work on sea lice any more because I figured it
16 out. Where there's fish farms, there's sea lice.
17 It's an extremely easy thing to study, way easier
18 than whales.

19 Q Ms. Morton, I'm going to interrupt you. There's
20 fish everywhere in the ocean and there's sea lice,
21 not just with fish farms. Do you agree that sea
22 lice is a naturally occurring phenomena and
23 there's lots of sea lice in areas where there are
24 no fish farms, surely? Do you agree with that
25 principle?

26 MS. MORTON: Yes, the sea louse is a benign crustacean
27 parasite and --

28 Q And you agree that salmon farms come into the
29 ocean, to the marine environment because they come
30 from freshwater hatcheries and they come in
31 without sea lice?

32 MS. MORTON: Absolutely.

33 Q So they pick up the sea lice from the wild fish?

34 MS. MORTON: That's right.

35 Q And wild fish would have sea lice whether the
36 salmon farms are there, or not?

37 MS. MORTON: Not when they weigh .1 grams, not before
38 they've developed their scales. The interesting
39 thing about sea lice is they have a timer built
40 in. They change their body shape every few days
41 for the first 30 days. So when you're studying
42 the juvenile pink salmon coming out of a river and
43 you pick up 100 every kilometre from the Glendale
44 River to the first salmon farm at Doctor Island,
45 for example, the fish are beautiful. You get to
46 Doctor Island, they're sprinkled with copepodites,
47 which only last a number of hours. You go past

1 the farm, the lice get older, you get to the next
2 farm and there's more lice. So there's two, for
3 me, profound issues with salmon farms, one is
4 amplification of local endemic parasites and
5 diseases, and the other is exotic. So the sea
6 lice fall into a dangerous amplification because
7 all the Pacific Salmon that come into the coast in
8 the fall die, which is a remarkable natural thing.
9 Why does nature do that? It's to break the cycle
10 of disease, but salmon farms have given the sea
11 lice a place to over-winter and reproduce and so
12 the young fish meet them before they're ready.
13 Q I'm sorry, mature salmon come back into the waters
14 of B.C. and they die to break the cycle of
15 disease, you figured that out, that's why they
16 die?
17 MS. MORTON: I wished I'd figured it out, but no, it
18 wasn't me.
19 Q Okay. So a bit of an extrapolation there, yes?
20 MS. MORTON: No.
21 Q I'm going to suggest to you that your experience
22 with sea lice gained some notoriety as a result of
23 some studies you did in the Broughton Archipelago
24 in the early 2000s; do you agree with that?
25 MS. MORTON: It gave me a Doctor of Science at the
26 Simon Fraser University.
27 Q Honorary Doctor?
28 MS. MORTON: Correct.
29 Q Yes. And you'll agree that from those first
30 reports, there have been -- it's like a ping-pong
31 match, or a tennis match, there have been reports
32 in support of those earlier reports, and reports
33 that are quite scathing in terms of the
34 methodologies used? You'll agree that it's a
35 ping-pong match, or a tennis match back and forth
36 on some of that science? You'll agree you've
37 certainly read it, correct?
38 MS. MORTON: I would characterize it more as mud
39 slinging. I don't see the ping-pong. We all
40 agree, those of us that are out there, that the
41 sea lice are coming from the farms. Even Dr.
42 Marty's study said as the number of sea lice
43 increase on the farms, they increase on the
44 adjacent pink and chum salmon. That should have
45 put the whole argument to rest right there.
46 Q Is the mud slinging, from your opinion, only
47 coming from one direction? Is it only the salmon

1 farmers who are flinging mud, or a little bit of
2 mud going both ways?

3 MS. MORTON: I'm defending myself at this point.

4 Q I'm sorry?

5 MS. MORTON: I'm defending myself at this point. I'm
6 not going to just quietly take it because it needs
7 to be argued back.

8 Q But the question started around diverse science
9 and whether or not there's a conflict in science
10 or whether there's a consensus. It's clear
11 there's no consensus. My question of you is do
12 you agree that on both sides of that equation, the
13 scientific debate, parties are coming to different
14 conclusions for different reasons? Do you agree
15 with that?

16 MS. MORTON: Definitely for different reasons, but the
17 biology of it, Mr. Blair, is extremely easy and
18 whether you're talking to a scientist in Norway,
19 Scotland, Ireland, Chile, Eastern Canada, or
20 British Columbia, because I talk to them all, fish
21 farms definitely amplify sea lice, and we have got
22 to move past that.

23 Q And so all of the reports that would disagree with
24 that position of yours, you say are categorically
25 wrong?

26 MS. MORTON: They do not disagree with that position,
27 it's their interpretation.

28 Q I see. Ms. Stewart, your turn. The question
29 started with science and, you know, should there
30 be consensus, should we expect consensus, or
31 should we expect what Mr. Commissioner has had to
32 wrestle with for 120 days, I think, and counting.

33 MS. STEWART: Sure. Well, I'm not a scientist, and I
34 don't play one on television so I'm not going to
35 get into the arguments around science, but I would
36 make a couple of comments. There's been some, I
37 think, perhaps questioning around why CAAR and the
38 member groups of CAAR would engage in dialogue and
39 in any attempt at collaborative work with Marine
40 Harvest, which we have been doing over the past
41 few years, and the scientific debate was one of
42 those specific reasons. One of our hopes was that
43 there has been this "my science/your science"
44 debate and if we could agree on the methodology
45 going in, if both parties could accept the
46 construct of the science, then both parties,
47 presumably, would accept the outcomes. We were

1 confident in what those outcomes would be. The
2 science -- my understanding, as a non-scientist,
3 but talking to many, many scientists from a lot of
4 different countries around the world, is that the
5 weight of scientific evidence is quite clear, and
6 as Ms. Morton said, that the farms amplify the
7 naturally-occurring sea lice, they act as a
8 reservoir for the lice. We believe that
9 collaborative work with the company would perhaps
10 assist in putting that debate to rest. I have to
11 say that progress has been glacial at best, but
12 that was why we embarked on that effort. And I
13 think, the other day, Mr. Swerdfager referred to
14 his attempts to develop some sort of dialogue
15 between all the parties. I just want to make it
16 clear that at the time when he proposed that
17 dialogue, CAAR was in dialogue with Marine
18 Harvest. The Province was facilitating a process
19 called the Broughton Archipelago Plan with all the
20 companies except Creative, and we were also in
21 dialogue there. And when Mr. Swerdfager proposed
22 that dialogue, we said we don't have the capacity
23 to deal with another process, come to the table
24 with the Province, or if DFO wants to facilitate a
25 process, bring the First Nations to the table. We
26 respect and understand the need for government to
27 government relationships, but we also feel that
28 it's critically important, if you're going to
29 involve the parties, that First Nations have to be
30 there. That didn't happen, that's why we didn't
31 participate, but I do believe that DFO could play
32 a significant role in bringing the parties
33 together to discuss methodology and purpose going
34 into scientific studies and perhaps reach some
35 conclusions coming out.

36 Q You know, Ms. Stewart, the point you're making on
37 dialogue is very important because out of all of
38 this process, counsel and the participants will be
39 invited to assist the Commissioner with
40 recommendations and so I think I hear you saying
41 that pace notwithstanding, you're pleased that
42 CAAR has entered into this dialogue, it's been
43 productive for you, or constructive, or you hope
44 it to be?

45 MS. STEWART: Well, yes, "hope" would be the operating
46 word. I think that there have been some benefits,
47 some positive outcomes, and I could speak to those

1 at much greater detail, and I'm sure Clare could,
2 as well, but --
3 Q I was just going to go to --
4 MS. STEWART: -- the pace of collaborative science and
5 the pace of change has been glacial and very
6 discouraging.
7 Q I was just going to go to Mr. Backman because you
8 agree, Ms. Stewart, that Marine Harvest has been
9 championing the cause of dialogue with CAAR in
10 this collaborative approach, Marine Harvest and
11 Mr. Backman?
12 MS. STEWART: I'm not sure I'd use the word
13 "championing." We've had a lot of discussions
14 around how our dialogue is communicated and what
15 efforts the company would make to actually
16 communicate it in a positive way, but certainly,
17 they've been willing to engage in that dialogue,
18 as have the member groups of CAAR.
19 Q Can we talk in terms of productive, or not,
20 glacial, or not? Let's talk about good faith.
21 Certainly, CAAR enters the dialogue in good faith.
22 CAAR intends to be productive, and constructive in
23 dialogue with multi stakeholders, yes?
24 MS. STEWART: That was our intent, yes.
25 Q And I'm assuming you haven't abandoned that
26 attempt, you're still trying to be there in good
27 faith and have collaborative dialogue? I'm not
28 suggesting otherwise, by the way.
29 MS. STEWART: No, we haven't abandoned the dialogue,
30 but I would say that there is a pall of
31 discouragement over many of the member groups of
32 CAAR at the lack of progress and the glacial pace
33 of implementation.
34 Q You're not alleging bad faith of any of the other
35 parties, you're just suggesting that it's a
36 complex area to reach consensus, or are you
37 alleging bad faith?
38 MS. STEWART: I'm not alleging bad faith, but I would
39 say that to a degree, it's my belief, and I
40 certainly can't speak for the other groups of
41 CAAR, or even for living oceans on this, this is
42 my personal perspective, that I think that there
43 has been some mastery of the art of foot dragging.
44 Q Well, Mr. Backman, perhaps you're the champion, or
45 perhaps you're the master of foot dragging, but
46 would you like to get into the debate, Marine
47 Harvest, what does Marine Harvest and what do you,

1 Mr. Backman, attempt to get out of the dialogue
2 with these diverse stakeholders?

3 MR. BACKMAN: Yeah, I'll start with the diverse
4 stakeholder piece because I think where we started
5 this discussion was different kinds of research,
6 sometimes they're polarized outcomes, what do we
7 make of that? And I think from our perspective in
8 the industry and Marine Harvest, every bit of
9 research that comes our way is a bit of the
10 puzzle, it helps to inform what the outcome should
11 be in terms of our adaptive management approaches
12 to the way we operate our farms.

13 Sometimes pieces of the information are not
14 complete, sometimes they need to be broadened out,
15 sometimes the precepts, the structure, the amount
16 of information brought in, the kinds of
17 statistical tests that are done on a study needs
18 to be redone in order to cast it into a more
19 comparative study with others that have been done.

20 What I'm getting at here is we have a lot of
21 different people that have been in this now for
22 nine or 10 years, but what have we learned about
23 all of this, and the study of sea lice, for
24 example? Well, we've gone from maybe a position
25 early on where a company, even someone like
26 myself, would have said, "Well, maybe salmon farms
27 aren't producing the sea lice that we see on the
28 wild fish." And because sea lice have been there
29 forever, they're having no effect on the wild
30 fish. And then there's been the opposite
31 position, that sea lice are harming the
32 populations of the wild fish and they're all
33 coming from the salmon farms. What have we
34 learned? Well, we've learned, I think, and it has
35 been glacial slow because it's taken 10 years and
36 good research takes time, but we've learned that,
37 yes, the salmon farms can be a place where the sea
38 lice are amplified. I mean, that's been proven.
39 And yes, when the pink salmon, for example, are
40 very small, the damage can be quite extensive to
41 the pink salmon. However, when the pink salmon
42 are beyond .7 of a gram, that's not the case.
43 We've also learned that on a population basis, the
44 sea lice on the pink salmon leaving do not have a
45 correlation to the returning size the following
46 year. So we're beginning to get some kind of a
47 pattern here about what actually we know about sea

1 lice and pink salmon, and from the work that's
2 been done at the Broughton. And it's been a bit
3 of a long, hard slog, but I think it's been
4 valuable. It's been something that's been worth
5 doing, and it hasn't solved all of the questions,
6 it hasn't answered all the questions, hasn't
7 solved all the problems, but I think it's provided
8 a very fundamental foundation for which we can
9 move forward into the program that we're very
10 hopeful, under the new regulator, is going to
11 provide a basis for taking this to the next level,
12 and I'm referring to the Integrated Management of
13 Aquaculture Program, the IMAP, because this is
14 someplace where we can actually take this kind of
15 knowledge and start turning it into regional
16 programs to benefit the environment. And also to
17 allow the fish farms use a one size fits all
18 approach. So it's been a beneficial process.

19 Q Mr. Backman, you've made reference to adaptive
20 management approaches.

21 MR. BLAIR: And Mr. Lunn, if you could pull up Exhibit
22 1615 and go to page 29?

23 Q Mr. Backman, you've made reference -- firstly,
24 we'll have a look at the cover sheet, but as he's
25 pulling that up, you made reference to the complex
26 challenges. I think you really all have.

27 MR. BLAIR: Page 29, it's a text.

28 MR. LUNN: I think this document has 15 pages.

29 MR. BLAIR: 1615? Try B.C. Salmon Farmers Tab 47. Oh,
30 sorry, B.C. Tab 47.

31 MR. LUNN: The Province, or B.C. Salmon Farmers?

32 MR. BLAIR: B.C. Tab, B.C. Government Tab 47.

33 MR. LUNN: Thank you.

34 MR. BLAIR: We'll see whether we -- no? Give me a
35 moment. Try B.C. Salmon Farmers Tab 47. Ah,
36 thank you. Could we go to page 29 of that
37 document? Paper, please. Thank you. Back of the
38 page, I believe.

39 MR. LUNN: Page 29?

40 MR. BLAIR: 29, yes. Thank you. Perfect.

41 Q If we all just take a moment to read that first
42 paragraph, we see that it highlights -- well, just
43 for reference, this is a document prepared in
44 2004, "Recommendations for Change," and it's
45 talking about aquaculture. And we were
46 discussing, as a panel, a few minutes ago, the
47 issue of dialogue and the complexity. Now, this

1 document is now approaching seven or eight years
2 old, and it speaks of this highly complex
3 challenge which requires new approaches. How are
4 we doing, Mr. Backman, as a representative of the
5 B.C. Salmon Farmers industry? Are we making
6 progress in addressing complex challenges? Is the
7 industry moving forward or backwards, in your
8 view, in attempting to deal with management
9 technologies to manage your industry in
10 conjunction with environmental protection?

11 MR. BACKMAN: If I can just pick up on what we were
12 just mentioning a moment ago, and this is a big
13 concern about how is industry responding to the
14 management of sea lice, for example, on the salmon
15 farms vis-à-vis conservation of wild fish, and one
16 of the key things that we've seen in the last 10
17 years has been the imposition of the Sea Lice
18 Action Plan, which was a precautionary approach,
19 asking the salmon farmers to limit the sea lice on
20 their fish to a maximum of three motiles. What
21 has that done? Well, in the area of the
22 Broughton, where we had a lot of research, it's
23 actually created a situation where year in and
24 year out, for the past few years, there have been
25 very, very few sea lice on the farmed salmon and
26 very, very few sea lice on the wild salmon. It's,
27 however, required a lot of use of the therapeutant
28 SLICE, and therefore, there's now a need to take a
29 look at that and see where is the most effective
30 use of that product and where can we not be as
31 concerned about using that product? We need to
32 refine that, going forward.

33 So I think that the Province is making good
34 efforts towards that regard. I think that we've
35 also seen now that with the federal government
36 moving into the zone of being directly involved
37 from the science perspective and a regulatory
38 perspective, they're already stepping forward with
39 new interests and new ideas about how they want to
40 bring some of the concerns that have been brought
41 up in the public debate and bring them into the
42 mix, as well.

43 Q One of the adaptive technologies that Marine
44 Harvest has been looking at and piloting, in fact,
45 has been looking at the viability of closed
46 containment; is that correct?

47 MR. BACKMAN: Yes.

1 MR. BLAIR: I wonder if we could go to Exhibit 1555,
2 please?

3 THE COMMISSIONER: I'm sorry, which document was that?
4 Which document are you referring to?

5 MR. BLAIR: Exhibit 1555, 1555, it's a paper of Gary
6 Marty, Sonja Saksida and Terry Quinn. If you
7 could highlight the end of the abstract, please,
8 the last half a dozen lines? Thank you.

9 Q So other witnesses have been referred to the
10 passage, specifically, the last four lines, which
11 reads:
12

13 We conclude that separating farmed salmon
14 from wild salmon proposed that coordinated
15 fallowing or closed containment will not
16 increase wild salmon productivity and that
17 medical analysis can improve our
18 understanding of complex issues related to
19 aquaculture sustainability.
20

21 So there's the words "closed containment," Mr.
22 Backman, and the conclusions of those three
23 parties. To just put a brief context on closed
24 containment, can you describe the pilot projects
25 that Marine Harvest is working on or attempting to
26 work through on closed containment?

27 MR. BACKMAN: Well, it's using some technology that we
28 have been developing in our hatcheries,
29 recirculating aquaculture system technology, where
30 the majority of the water that's used to grow the
31 fish is recirculated within the facility, it's
32 cleaned and refreshed, and then reused with the
33 fish. The benefits of having that kind of a
34 system, which is highly technological in terms of
35 the comparisons to a single pass hatchery, where
36 the water just flows in and out, the benefits to
37 using that is you maintain the quality and the
38 control over the environment of the water in which
39 fish are living in terms of chemical makeup of the
40 water, freedom from pathogens. And so those
41 elements are beneficial to the grower. We can be
42 sure that we're not going to be losing our product
43 due to changes in the environment. And so our
44 pilot that has been described has been a
45 commitment to take this technology, which has been
46 developing around the world, but here, in British
47 Columbia, Marine Harvest has more examples of this

1 RAS than any of the other growers at this present
2 time, and we feel we've learned a few things about
3 how it operates, to keep the costs down and keep
4 the efficiencies up. And the intention was to
5 translate that into a new project which would
6 actually grow fish to harvest size and to be able
7 to document with actual operational information
8 about what the costs were going in and what the
9 challenges were to get the fish not just to the
10 size that we're used to right now, about 100
11 grams, but take them up to five, five-and-a-half
12 kilograms in size, and to do this here in British
13 Columbia, using the available water supplies
14 available on the coast and infrastructure
15 available on the coast.

16 This, in recirculating aquaculture done at a
17 commercial scale hasn't been done for Atlantic
18 salmon in British Columbia.

19 Now, our example, our test or our preliminary
20 document for this showed us that the likelihood of
21 it being economically profitable at this time was
22 slim, but it was something that it was worthwhile
23 to take what we know now to the next level and
24 actually determine where improvements could be
25 made to bring in greater efficiencies and see what
26 level within our entire range of growth options,
27 what level would this kind of opportunity, this
28 RAS to harvest, where it would fit into the mix.

29 MR. BLAIR: Mr. Lunn, could you pull up B.C. Salmon
30 Farmers Tab 24, please?

31 THE COMMISSIONER: Mr. Blair, I was a bit confused, the
32 earlier discussion you had around Exhibit 1615,
33 which then you made reference to Tab 47 of your
34 binder, has that been marked as an exhibit?

35 THE REGISTRAR: It has not.

36 MR. BLAIR: We actually -- I'll just go back and check.
37 Thank you for pointing that out.

38 THE REGISTRAR: It has not been marked.

39 MR. BLAIR: I don't think it has been.

40 MR. MARTLAND: The registrar is usually on the ball, he
41 said it isn't. Perhaps it should be marked as an
42 exhibit.

43 MR. BLAIR: Yes, thank you.

44 THE REGISTRAR: Tab 47 will be marked as 1804.

45 MR. BLAIR: Thank you.

46 MR. MARTLAND: I should say the registrar is always on
47 the ball.

1 THE REGISTRAR: Thank you.
2

3 EXHIBIT 1804: Recommendations for Change,
4 Report of the Commissioner for Aquaculture
5 Development to the Minister of Fisheries and
6 Oceans Canada
7

8 MR. BLAIR: Can you take up somebody else's time while
9 you -- I agree with my learned friend's remarks.

10 MR. LUNN: You asked for Tab --

11 MR. BLAIR: I've forgotten now, but we could go to 24,
12 B.C. Salmon Farmers 24. Yes, thank you.

13 Q Briefly, if we can, Mr. Backman, you'll see from
14 the title, following up on our discussions about
15 closed containment, that this report was
16 specifically prepared by the industry so that the
17 inquiry that we're in front of might be informed
18 on some of the technical challenges with closed
19 containment systems. You're familiar with the
20 report?

21 MR. BACKMAN: Yes, I am.

22 Q And can you, in summary fashion, take us through
23 the report? We could take you to the conclusion
24 page, which is page 19, but discuss the report
25 generally, please.

26 MR. BACKMAN: Well, sure. It gathered information, I
27 guess, in three general areas. One, we asked the
28 group to look at the East Coast of Vancouver
29 Island, which had the ability to support an
30 operation like this. We asked them to look for
31 appropriate sites. So there was a siting
32 component, there was an evaluation of the existing
33 technology that's currently available and can be
34 used. So there was a current best technology
35 component, and then there was an analysis of the
36 likelihood of the economic viability coming out of
37 it.

38 So very quickly, what we learned about siting
39 is that the access to the amount of water that's
40 required, and the quality of water that's required
41 is actually quite limiting and of about 17, 18
42 sites that were evaluated from the Oyster River to
43 Port Hardy, there was only two locations that
44 might actually provide a good location to build
45 this pilot. So that was the first thing on the
46 coast of British Columbia where we think there's
47 access to a lot of groundwater. If you put down a

1 well, you're bound to get lots of good water. We
2 were surprised to find that it actually isn't that
3 available.

4 Then number two was looking at the technology
5 and how it would have to be operated in order to
6 run the fish, not, as I say, just to 100 or 150
7 grams for smolt release, but actually up to about
8 a five-kilogram size, and the result there was
9 that we would have to run the densities higher
10 than we normally run them in our hatcheries. Not
11 higher than they've been done in tests of the
12 equipment elsewhere, but we'd have to hold them
13 at, you know, 80, 90 kilograms per cubic metre for
14 a significant period of time. So that was going
15 to be something that there isn't a lot of
16 commercial scale experience with. And certainly,
17 because of those kinds of technological
18 challenges, the cost of running the facility and
19 the cost in the fish at the end of the day was
20 going to be quite significant and was going to be
21 debateable about whether or not there would be an
22 actual ability to make a profit on the fish when
23 it was grown so the recommendation here was to
24 expect and look for about a 15-percent premium
25 price. That's fine, there are retailers who are
26 interested in a product that comes from this, but
27 it limits the volume that you can sell to these
28 folks who are willing to retail at a premium
29 price. So these are all elements of the program
30 and they're all important aspects of moving
31 forward and understanding how this kind of
32 technology is going to fit into the mosaic of
33 growing salmon in British Columbia.

34 MR. BLAIR: Mr. Commissioner, this report would fall
35 into the category of a number of reports that the
36 B.C. Salmon Farmers commissioned specifically to
37 inform the Commission. We've established a
38 pattern that I ask it to be mark it as an exhibit,
39 people object, and we quickly default back to
40 marked for identification. I am going to wonder
41 out loud whether or not this report, however,
42 should properly be marked as an exhibit proper.
43 Parties on all sides of this equation seem to be
44 clamouring for information about closed
45 containment. Many of the people who are opposed
46 to aquaculture are in favour of closed
47 containment. This is a report which is

1 specifically on closed containment in British
2 Columbia. We have a witness on the stand who has
3 requested the report, he's spoken to it. I would
4 like to think that if we're moving forward towards
5 recommendations, we might actually move forward
6 productively and have this document marked as a
7 full exhibit and so I make that application.
8 MR. MARTLAND: Mr. Blair's point included the if of
9 whether there was an objection, or not. Perhaps
10 that's the next question, is whether there is an
11 objection from anyone to this going in? If there
12 is, the shorthand would be that it's marked for
13 ID, but I don't see anyone rising to make that
14 point.
15 MR. BLAIR: Ms. Gaertner would like to see the front
16 page of the document, please.
17 THE COMMISSIONER: Just for clarification, Mr. Blair,
18 and I apologize because this microphone is not
19 close enough, just for clarification, it refers to
20 a aquaculture judicial inquiry. I'm not aware of
21 one. Is that just you're talking about us? Is
22 that what they're talking about?
23 MR. BLAIR: I am talking about us, yes.
24 THE COMMISSIONER: All right. Thank you.
25 MR. BLAIR: Yeah. That's how independent it was, we
26 let them put whatever title they wanted. In any
27 event, if it might be the next exhibit? I don't
28 hear anyone rising.
29 THE COMMISSIONER: Very well.
30 MR. BLAIR: Thank you.
31 MS. GAERTNER: Well, Commissioner Cohen, could we have
32 the suggestion that the title be changed so it
33 reflects that this inquiry is not just about
34 aquaculture?
35 THE COMMISSIONER: Well, I raise that the title is not
36 correct. I think it would be easy to amend the
37 title.
38 MR. BLAIR: If no one objects, we can --
39 MR. MARTLAND: Well, I'm going to suggest that it may
40 be relevant, now that we've had this discussion,
41 to keep this document as is. The record will
42 reflect these comments that have been made about
43 an incorrect title.
44 MR. BLAIR: Thank you.
45 THE REGISTRAR: The document will be marked as 1805.
46 MR. BLAIR: Thank you.
47

1 EXHIBIT 1805: Perspective on the Technical
2 Challenges Associated with Closed System
3 Aquaculture for Grow-out of Salmon of B.C.
4

5 MR. BLAIR: Thank you. I note the hour, Mr.
6 Commissioner.

7 THE COMMISSIONER: Thank you.

8 THE REGISTRAR: The hearing is now adjourned until 2:00
9 p.m.

10
11 (PROCEEDINGS ADJOURNED FOR NOON RECESS)
12 (PROCEEDINGS RECONVENED)
13

14 THE REGISTRAR: Order. The hearing is now resumed.

15 THE COMMISSIONER: Mr. Martland.

16 MR. MARTLAND: Mr. Commissioner, I've just, in fact,
17 confirmed Mr. Blair does not have further
18 questions remaining, which is helpful to us. So
19 we move, next, to counsel for the Aquaculture
20 Coalition with 90 minutes.

21 MR. McDADE: Thank you, Mr. Commissioner. My name is
22 Greg McDade. I'm counsel for the Aquaculture
23 Coalition, so Dr. Morton is one of my clients.
24

25 CROSS-EXAMINATION BY MR. McDADE:
26

27 Q Let me start with you, Dr. Morton, and get a sense
28 of how involved in this matter you've been. I
29 understand you spent a fair bit of time looking
30 through the ringtail database?

31 MS. MORTON: I did. I've basically been doing that for
32 the last nine months, close to 2,000 hours, by my
33 estimate, would be actually a conservative
34 estimate.

35 Q So you've read extensively, in terms of the DFO
36 documents?

37 MS. MORTON: I have.

38 Q And you've been working on aquaculture-related
39 issues for how long?

40 MS. MORTON: Well, it started with a letter in 1989.
41 When salmon farms first came to the Broughton
42 Archipelago I thought they were a good idea and
43 offered myself, actually, as a welcome wagon to
44 the families, because we had a one-room school, we
45 really wanted more families. But the commercial
46 fishermen in my area were concerned and I was the
47 only person with a word processor, so I began

1 writing letters to DFO in about 1989.

2 Q And in your research efforts in relation to sea
3 lice and other research relating to aquaculture, I
4 gather much of your research has been field-based?

5 MS. MORTON: That's right. I live in the Broughton
6 Archipelago. There's no roads, there's no
7 electricity. I was there 26 years studying
8 whales, and so it was a natural and easy thing to
9 begin this research.

10 In the first 10 years of talking to DFO, I
11 just wrote letters, because I saw myself as a
12 whale researcher and didn't want to branch out
13 into anything else. But the letters back to me
14 were always, "Dear Ms. Morton, there's no evidence
15 of," whatever the concern was. And when it got
16 around to sea lice I realized, "Okay, they're just
17 saying there's no evidence, not that there's no
18 problem," and so because I was there, I could just
19 do the research myself.

20 Q And in the course of your research you actually
21 work with real fish in the field?

22 MS. MORTON: That's right. In following the juvenile
23 pink salmon -- well, it was a neighbour that came
24 to me with one pink and one chum salmon
25 approximately four centimetres long sprinkled with
26 what looked like small sesame seeds attached to
27 it, and they were sea lice, but he didn't know
28 that and I didn't know that. But he said, "What
29 are these?" because, he said, his guests were
30 coming from Scotland because sea lice from salmon
31 farms had destroyed the sea trout and the Atlantic
32 salmon. And when they saw the salmon farms, they
33 said to him, "Do you have the plague of lice,
34 yet?" And so he was really upset and he said,
35 "Can you figure out, what -- are these sea lice?
36 Are they now exploding around these farms as
37 well?"

38 Q So in conducting your experiments in the field,
39 can you estimate how many fish you've tested, or
40 how many days of testing you've been involved in?

41 MS. MORTON: Well, at first I was killing the fish, so
42 I limited the number of fish, but in the first
43 year I looked at 724, and then, since then,
44 approximately 2,000 every year, except in 2007 I
45 did 9,287. But after two thousand and
46 approximately three I figured out how to look at
47 them alive. And so what we did is a beach seine

1 and then collect the fish in a bucket and then
2 each fish gets put into a baggy, and if I can work
3 in less than 45 seconds, I can hold it down on a
4 piece of graph paper and that way measure it, and
5 then use a hand lens to look at the fish, and I
6 have an assistant always to write the data down,
7 so we can go through the fish extremely fast.

8 Q And what percentage of your time have you spent
9 actually in the field studying fish?

10 MS. MORTON: Well, it's hard to separate, because my --
11 I had a hydrophone in my house, so I'm listening
12 for whales 24 hours a day, so that was part of the
13 research in the whales, because you can tell every
14 pod by their voice, so I was basically doing
15 research 24 hours a day.

16 In terms of the salmon, in following the
17 juvenile salmon from, you know, the beginning of
18 March through middle of June is full time, very
19 full time, because that's their outmigration
20 period. And then after that, there's, you know,
21 sporadic work but, as well, the analysis of the
22 data, the writing of the paper, so it ramped up
23 slowly for me, it's just kind of an on the side
24 thing. And then, beginning in 2001 with the sea
25 lice, I just abandoned everything else and just
26 worked on this.

27 Q So I take it you know most of the DFO scientists
28 who've testified before the Commission over the
29 last couple of weeks at least?

30 MS. MORTON: I do, yes.

31 Q How many of them have you seen out in the field?

32 MS. MORTON: Let's see, well, I didn't see Brian
33 Riddell, but he used to visit me every year and
34 would come out and actually look with me in the
35 boat for three days each year, which I had
36 enormous respect for, because he actually came out
37 and looked. Dr. Hargreaves would come out as
38 well, but he wasn't looking at the fish, he was
39 organizing the sampling crew, so he didn't
40 actually look at the fish. So nobody that I've
41 seen on the stand, other than Dr. Connors, has
42 actually looked at the fish.

43 Q So in your ringtail research over the last nine
44 months and your investigation of these matters,
45 have you also talked to experts and talked to
46 these scientists in addition to your research?

47 MS. MORTON: I have. One of the things that really

1 bothered me all the way through this process is I
2 was convinced, for the first 10 years, if I just
3 could line up my words in the right order that I
4 would get a response from DFO that said, "Okay, we
5 accept the problem. Here's what we're gonna do
6 about it." But I never got that. And so I was
7 always left you know, "What are they thinking?"
8 They did so many things that just caused conflict
9 with my community, with the First Nations
10 community around us, the Que'Qwa'Sot'Em, the
11 biology of the situation was just completely
12 ignored, and ringtail was just like one big, long
13 "aha" response for me, "Oh, okay, so that's what
14 they think about that," and I saw what they think
15 about me and I saw how they communicate with each
16 other, and I could see how they respond to
17 biological events and how they didn't respond.

18 So I also read the data, I read the briefing
19 notes, and then I talked to various scientists and
20 said, you know, "Are you reading the disease
21 records from the salmon farmers?" asking questions
22 of various people, and then communicating with a
23 lot of the papers that were cited around the
24 world, "What is this virus in the Coho and Chiles?
25 Is that infectious salmon anaemia? What do we
26 know about that?"

27 So I ended up reaching out to people in
28 Chile, eastern Canada, Norway, Scotland, as well
29 as British Columbia.

30 Q And as a result of all of your research in the
31 database and your extensive investigations, I
32 gather you've got a perspective on the issues
33 before the Commission, in terms of what's happened
34 to the sockeye since 1992 and, in fact, what
35 happened to the sockeye in 2009, and you've
36 prepared your evidence in written form. Can we
37 have Exhibit BBB (sic) up on the screen? Have I
38 got the wrong one? That doesn't look like you. I
39 thought it was BBB.

40 MS. MORTON: So while --

41 MR. McDADE: It's number one on our list, Mr. Lunn.

42 Yes, thank you.

43 Q So this is a document, I gather, that really
44 encapsulates the evidence you want to give today?

45 MS. MORTON: That's correct.

46 Q And you wrote this document yourself?

47 MS. MORTON: I wrote it myself.

1 Q Yes. And you adopt it as your evidence?

2 MS. MORTON: Yes, I do.

3 MR. McDADE: Can I have that marked as the next
4 exhibit, please?

5 MR. TAYLOR: I'm objecting. I'll let others
6 (indiscernible - overlapping speakers) --

7 MR. McDADE: I see my friend from the salmon farmers
8 and the Province on their feet as well.

9 MR. BLAIR: I'm objecting as well. For the record,
10 Alan Blair, for the B.C. Salmon Farmers
11 Association.

12 MR. PROWSE: I'm objecting as well, My Lord -- or Mr.
13 Commissioner.

14 MR. McDADE: On what basis?

15 MR. TAYLOR: Well, I'll go first, but I think we should
16 start with knowing what the Commission's position
17 is.

18 MR. MARTLAND: It's easy for me to do this, Mr.
19 Commissioner. I would like to hear what the basis
20 for the objection is. We've taken a broad
21 approach, generally speaking. We can anticipate
22 what some of the concerns may be. I would like to
23 learn what the objection taken to this document
24 is. It is a case where notice has been given, the
25 witness is here.

26 MR. TAYLOR: All right, well, I'll go first, and we can
27 probably proceed in the order of our participant
28 number. As Mr. McDade has elicited in evidence,
29 this is a document that the witness prepared for
30 this particular inquiry. It's said to be her
31 evidence. She's here to give her evidence *viva*
32 *voce*, not to tender a written document.

33 And before I forget, I want to point out that
34 if this document were to go in, Mr. McDade would
35 then leave it to all of us to have to cross-
36 examine on a lengthy document not put in through
37 *viva voce* -- the facts not put in through *viva*
38 *voce* evidence, and we don't have time to do that.
39 So it would leave evidence essentially not cross-
40 examined, and that wouldn't be right or fair, in
41 my submission.

42 But there's more substantive reasons for it
43 as well. This document, which we've reviewed, is
44 Ms. Morton's own account or review of
45 documentation that she's looked at. And she then
46 puts her interpretation on the documents and her
47 understanding and her views and so forth. Again,

1 to the extent they're her views, this is the
2 perspective's panel and that can be elicited *viva*
3 *voce*.

4 To the extent that it's Ms. Morton's
5 interpretation of documents, that's for you, Mr.
6 Commissioner, in the final analysis, and for
7 counsel along the way in submissions to do it, but
8 it's not for witnesses, in my submission.

9 As well, the document, itself, is, in large
10 measure, and I've just alluded to this argument,
11 it's her argument, and Mr. McDade can put forth
12 what is argument when he makes his submissions on
13 behalf of his client, but not in through evidence.

14 And there's also a pound in there of Ms.
15 Morton's commentary on other witnesses and what
16 other witnesses say. And again, some of that can
17 be done in *viva voce* evidence, but some of that is
18 probably also going to result in some objections
19 to the extent that we start to engage in
20 commentary on witnesses, as opposed to eliciting
21 facts.

22 So really, what it comes down to, it's not
23 factual evidence. To the extent that there are
24 facts in it, it should be put in through *viva voce*
25 or in person evidence. And to the extent that
26 there is references in there to documentation
27 that's not in evidence, you can't backdoor getting
28 in what documents might or might not say and/or
29 one's interpretation of what documents might or
30 might not say through this kind of document when
31 the documents, themselves, are not in evidence.
32 At best, it's really submissions.

33 Now, going beyond that, some of what's in the
34 document that Ms. Morton has prepared is based on
35 evidence, or is statements that is purportedly
36 based on evidence, but in addition to what I've
37 said about the evidence not being there in some
38 cases, there's other instances where what she says
39 is simply contrary to the evidence. And I'm going
40 to take you to an example of that. In the
41 document in question, and I'll read it, so I don't
42 need to take you to it particularly, but if you
43 want to see it on the screen, it's page 59, under
44 the Conclusion, this document says, "What Miller
45 found," so that's a reference to Dr. Kristi
46 Miller, who's testified and, Mr. Commissioner, you
47 have her evidence.

1 What Miller found ran deeply against DFO
2 policy.
3

4 Well, that's not her evidence, but it's not the
5 most important thing here. The document goes on:
6

7 The sockeye appeared to be dying of a cancer-
8 causing virus that originated in salmon farms
9 on the narrowest portion of the Fraser
10 sockeye migration route. The geography,
11 pathology, fluctuations -
12

13 -- I mispronounced that --
14

15 - and timing all fit perfectly.
16

17 It's that sentence:
18

19 The sockeye appeared to be dying of a cancer-
20 causing virus that originated in salmon farms
21 on the narrowest portion of the Fraser
22 sockeye migration route.
23

24 Despite Mr. McDade's constant harping of that
25 refrain, that is not the evidence and it's not for
26 this witness to try and say that that is the
27 evidence of Dr. Miller. You have Dr. Miller's
28 evidence. You have Dr. Garver's evidence as well.
29 And they both said, "This is a work in progress.
30 Science and research is underway, and we do not
31 reach the conclusion" which I have just outlined
32 Ms. Morton wishes they had, but they haven't.

33 And there's -- this document is replete with
34 statements that are simply contrary to the
35 evidence. Another example is at the top of that
36 same section, under Conclusions, on the same page:
37

38 The biology of the fluctuating Fraser sockeye
39 returns is a pattern of exceptional clarity.
40 With healthy sockeye runs occurring in the
41 Columbia River, the sockeye of western
42 Vancouver Island that migrate through Port
43 Alberni Inlet, where there are no salmon
44 farms -
45

46 -- just pausing there; there are salmon farms on
47 the west coast. They're not directly in Port

1 Alberni Inlet, but there are salmon farms on the
2 west coast. But continuing on --

3
4 - and even in the Harrison sockeye which
5 originate in the Fraser, but avoid the
6 cluster of salmon farms...

7
8 Well, the evidence is that Harrison stocks go both
9 ways, both Juan de Fuca and up Johnstone Strait,
10 and the evidence is that there is declines in
11 productivity of a number of species in a number of
12 areas quite apart from the Fraser sockeye. So
13 that's simply not the evidence.

14 And it's going to be both wrong and confusing
15 to put in a document that we can't cross-examine
16 on from a sheer time limitation standpoint that is
17 then there, that is an inaccurate account of what
18 the evidence is and/or is based on -- on
19 statements that are based on material that's not
20 in evidence.

21 So really what it comes down to is, it's
22 unreliable, it's not the best evidence, it's
23 inappropriate to put in and improper to put in
24 evidence through a written thesis, if you like, as
25 opposed to your *viva voce* and *viva voce* is the
26 evidence that we should hear and get on with.

27 MR. BLAIR: Mr. Commissioner, Alan Blair, for the B.C.
28 Salmon Farmers Association. I've read the
29 document and clearly it purports to be a quasi-
30 expert report, and I note that this panel is
31 specifically before this Commission not as
32 qualified experts but for their unique and
33 individual perspectives on the matter.

34 The document's full of hearsay and
35 speculation. There are science conclusions that
36 she draws which are far beyond her expertise. But
37 what is of most concern to me and to this process,
38 I think, if I may, and we don't need to pull it up
39 on the screen now, but we can, because we filed
40 it, Ms. Morton's *curriculum vitae* starts with,
41 registered professional biologist since 1988. And
42 the **Code of Conduct** lists what conduct a
43 registered professional biologist is entitled to
44 -- how they are to conduct themselves. And among
45 other matters, and we can pull it up paragraph by
46 paragraph, but a professional biologist is to be
47 objective and honest in all matters, reports,

1 testimony. Objective is certainly not what this
2 document is.

3 It would be a violation of the **Code of Ethics**
4 of a registered professional biologist if they
5 failed to separate their personal views from
6 professional activities and to be impartial and
7 factual when expressing professional opinions.

8 Perhaps most concerning is it would be a
9 breach of the **Code of Ethics** for a professional
10 biologist to injure the reputation of another
11 person through malice or negligence.

12 Now, Ms. Morton may choose to do so in the
13 world of the blogs and the web and endless
14 postings, which we've -- all could read if we
15 chose to, but to make good that breach of a **Code**
16 **of Ethics** violation here, under oath, would be
17 professional misconduct. Her own **Code of Ethics**
18 would seal that. I can't imagine it's a wise area
19 to tread, to file a document which amounts to a
20 professional breach of her **Code of Ethics**.

21 MR. PROWSE: Mr. Commissioner, I adopt my friend from
22 Canada's objections. Fundamentally, this is a
23 document which I think we can anticipate will
24 largely form the basis of written submissions and
25 perhaps oral submissions at the end of the day.
26 It's not a document that I submit qualifies as
27 evidence in this hearing.

28 And secondly, the document is certainly
29 verging on purporting to provide expert opinion
30 evidence on matters particularly of disease which
31 are well outside of this witness's realm of
32 expertise. So I adopt the objections of my friend
33 from Canada.

34 THE REGISTRAR: That was Mr. Prowse, from the Province
35 of B.C.

36 MR. LEADEM: Mr. Commissioner, Leadem, initial T.,
37 appearing as counsel for the Conservation
38 Coalition. I'll be very brief.

39 I think this is not a question of
40 admissibility so much as it is a question of
41 probative value, and I think that once you
42 determine that it's admissible, and I could hear
43 no grounds upon which it's inadmissible, other
44 than fairness, and we're all operating under the
45 same time constraints here, I wish that I could
46 have had a lot more time to cross-examine many of
47 the witnesses that preceded these witnesses to the

1 forum. So it really goes to weight, it doesn't go
2 to admissibility, so I'd ask you to allow it to be
3 admitted. You, yourself, can judge its probative
4 value at the end of the day.

5 MR. MARTLAND: Mr. Commissioner, I'm going to, through
6 the court, ask members of the gallery simply to do
7 their best - I appreciate it may be exciting, or
8 it may not be - but I'll ask folks, nonetheless,
9 to please abstain from making noise during these
10 proceedings.

11 Ms. Gaertner had a further point.

12 MS. GAERTNER: Mr. Commissioner, I've canvassed with
13 all the counsel of First Nations so that you only
14 have to hear from one of us, and we actually,
15 having not heard what Mr. Leadem was going to say,
16 adopt his position, and submit that this is a
17 matter of weight. As it relates to the issue of
18 fairness, I can only emphasize that we have all
19 been operating with a significant challenge of
20 trying to pick and choose what we have time to
21 make submissions on and what we have time to
22 actually cross-examine on. And so what's good for
23 the goose is good for the gander on that one.

24 MR. MARTLAND: Mr. Commissioner, from our point of
25 view, the question of admissibility is one that
26 falls to your discretion to be determined. In my
27 respectful submission, given the well-established
28 practice in public inquiries which, generally
29 speaking, take a much broader approach to
30 questions of receivability or admissibility, and
31 not even evidence of information, there are
32 examples of public inquiries for commissioners who
33 have boarded planes and sat in meeting rooms to
34 receive relevant information. So there's a broad
35 process and a broad approach.

36 This Commission has not taken that approach;
37 this Commission, in a number of respects, is
38 trial-like. The rules do permit evidence and
39 information to be brought forward in a flexible
40 way.

41 We've certainly seen, and I think we've
42 increased the pace in recent days of the number of
43 reports, whether they're reports written for the
44 Commission or things published in academic
45 journals that are put in, in a very quick fashion.
46 Mr. Taylor's point about being able to
47 meaningfully cross-examine on the entirety of a

1 document is true. Generally speaking, though,
2 that's been a disadvantage to folks like Mr.
3 McDade and Mr. Leadem in not being able, for
4 example, to cross-examine Dr. Saksida on six or
5 eight journal articles that she has written which
6 are now in evidence.

7 In our respectful submission, to echo what
8 Mr. Leadem had to say, the concerns identified
9 about there being views or interpretations,
10 concerns about underlying documents or underlying
11 facts or previous testimony, concerns about this
12 being submissions as opposed to argument, all
13 speak to the question of weight. They are not
14 decisive in terms of the question of
15 admissibility. And certainly the concern that you
16 or anyone would fall into the mistake of saying
17 someone has said something about the evidence that
18 governs the question, is not a real concern.
19 You'll have the advantage of all the evidence and
20 will be well-placed to do it.

21 In terms of the fairness concern about cross-
22 examining this witness, I would expect that
23 counsel leading, or at least Mr. McDade, through
24 leading his witness, will cover what he wants to
25 identify as the key points. That would be a fair
26 basis, I would suggest, for other counsel to be
27 focusing their questions in terms of what was led
28 in the *viva voce* portion of the evidence.

29 Ultimately, Mr. Commissioner, this is a
30 question for your discretion. Those are the
31 further submissions we had.

32 THE COMMISSIONER: Mr. McDade?

33 MR. McDADE: I simply agree, it's just a matter of
34 weight, and point out that we have not had the
35 luxury of being able to call witnesses, and we do
36 not have the luxury of being able to choose time.
37 This is the only way we get this story and this
38 perspective before the court -- or before the
39 Commission.

40 THE COMMISSIONER: Yes, thank you, counsel, for your
41 very helpful submissions. I think you heard Mr.
42 Martland say, yesterday, we have a number of
43 exhibits, now, that have been marked for
44 identification, and they fall into different
45 categories in terms of the areas in which they
46 have been entered and, to some extent, in a few
47 cases there have been submissions directly with

1 respect to the admissibility of those exhibits.
2 In other cases, it was simply marked for
3 identification and left for a later time to deal
4 with.

5 My ruling is this: Mr. Martland, and I think
6 he is attempting to work with you in arriving at
7 an omnibus position with respect to exhibits that
8 have been marked for identification, which many of
9 you here want to have marked as exhibits, may or
10 may not be able to reach an accord with all of you
11 on that matter pertaining to the exhibits you wish
12 to have marked.

13 I, frankly, doubt that this particular
14 document will reach an accord, simply because of
15 the positions you have taken here this afternoon.
16 So I am going to leave it, for the moment, marked
17 for identification purposes. I have not read this
18 document, I do not know what is in it. I only
19 know what Mr. Taylor and Mr. Blair have alluded to
20 and, of course, the rest of you.

21 Mr. Leadem, of course, raises a point which
22 I, in general, agree with, but as I have not seen
23 this document, I have not heard the testimony of
24 Dr. Morton, I do not know, frankly, how to put the
25 emphasis or non-emphasis on the positions they've
26 taken.

27 So this document is going to remain for
28 identification purposes. Mr. McDade has a full
29 opportunity to elicit evidence from Dr. Morton,
30 all of you will have an opportunity to cross-
31 examine her in due course, and if you do not reach
32 an omnibus position, I will issue a separate
33 ruling with respect to the admissibility of this
34 particular document.

35 I do not feel it would be fair, frankly, at
36 this point to simply enter it without giving
37 consideration to all of your remarks, and once I
38 have an opportunity to consider this document as
39 well. Thank you.

40 MR. McDADE:

41 Q Well, in that circumstance, then, Mr.
42 Commissioner, I think it's important that I spend
43 a little more time on the document than I would
44 otherwise have done. We may have to go through it
45 page by page. So could we have page 3 up on the
46 screen, the opening position.

47 Could you describe the point you're making

1 here, Dr. Morton?

2 MS. MORTON: Yes. This was presented at the SFU think
3 tank that I attended in 2009, and it shows that
4 the productivity, which is the number of spawners
5 returning from each female sockeye, has been
6 dropping since approximately 1992 in quite a
7 precipitous manner.

8 Q And the purpose of your examination is to try and
9 give your perspective on why that has been
10 occurring?

11 MS. MORTON: For me, the startling thing was that in
12 1992 salmon farms were sited on the Fraser sockeye
13 migration route. And, of course, we had an
14 enormous resurgence. So the 2010s would be up at
15 approximately 7.2 on that chart, which I would
16 like to explain further into this.

17 Q All right. Could we turn to the next page,
18 please. Now, you have a figure here. Can you
19 describe that and tell us what you want to say
20 about that?

21 MS. MORTON: Yeah, so in the biological world you
22 rarely get patterns this bold. You can see the
23 Fraser River and you can see a red line that goes
24 to the north. Those are the runs of Fraser
25 sockeye that have been in collapse from 1992,
26 approximately, to nineteen -- to 2009. And then
27 down to the blue line is another Fraser stock;
28 that's the Harrison sockeye. And I don't know
29 where Mr. Blair gets his information, but citing
30 **Tucker et al** in this paper, it's a DFO paper where
31 they did extensive DNA sampling, and they did not
32 find the Harrison sockeye up going along eastern
33 Vancouver Island. They only went down around the
34 southern end of Vancouver Island.

35 Also, down below that, you see the Columbia
36 River sockeye, which are doing quite well. And
37 then, very interestingly, the ones coming out of
38 Alberni Inlet have been doing very well. The
39 circles designate salmon farmed areas.

40 Q And the next section of your paper deals with pre-
41 spawn mortality, and you cite a number of pieces
42 of information that you've learned from the
43 ringtail database. Can you describe that for us?

44 MS. MORTON: Yes. I really didn't now that much pre-
45 spawn mortality, but in reading through ringtail I
46 became highly educated on it. If you look at the
47 third paragraph down:

1 Since 1995, an average of 58% and up to 95%
2 of the Late run sockeye have died [of pre-
3 spawn mortality].
4

5 It goes on, down below, it says it's very
6 disturbing, a different pattern. These are
7 e-mails and reports by DFO people and also Mike
8 Lapointe from the Pacific Salmon Commission.

9 Q And most of those e-mails have been entered into
10 exhibits previously, but the one, that CAN108807,
11 I don't believe is yet an exhibit. That's Tab 5,
12 Mr. Lunn, Tab 5 of the Aquaculture list. That's
13 the e-mail from Brian Riddell that you're
14 referring to there?

15 MS. MORTON: Yes, correct.

16 MR. McDADE: Could that be the next exhibit, please?

17 THE REGISTRAR: Exhibit 1806.
18

19 EXHIBIT 1806: E-mail from Brian Riddell to
20 Alan Cass, et al, Subject: Cultus Lake
21 prespawning mortality 2006, dated December 8,
22 2006
23

24 MR. McDADE:

25 Q And the next heading is Early Entry. That's a
26 related phenomena, is it, to pre-spawn mortality?

27 MS. MORTON: Yeah, so there was a couple of things that
28 started in the early 1990s. One was pre-spawn
29 mortality, so dying just before spawning, but
30 another one was the late runs of Fraser sockeye,
31 which normally held out in front of the river.
32 Presumably that evolved to keep them away from
33 warm water. They were on longer doing that. And
34 so that was one of the other things that really
35 has sparked a lot of conversation within DFO of
36 which I have read.

37 Q And you go over and deal with that -- much of that
38 conversation over the next two pages. Can you
39 summarize that for us?

40 MS. MORTON: Yes. So if you just scroll down a little
41 bit more, Mr. Lund (sic), the December 8th, 2006,
42 if we can get the rest of that? They're seeing
43 elevated pre-spawn mortality, and they're
44 wondering if it's a freshwater parasite, called
45 Parvicapsula, which, when I wrote to Brian Riddell
46 a couple of years ago, that was his response back
47 to me, they thought it was Parvicapsula because

1 the fish were heavily infected with it, and so
2 that -- in opening them up, that's what drew their
3 attention first.

4 Q The document at the bottom, November 10th, 2006,
5 can we have Aqua Tab 9 up on the screen? Is that
6 the document you're referring to there?

7 MS. MORTON: Yes. Timber Whitehouse, throughout these
8 ringtail documents, seems very knowledgeable on
9 the state of the Fraser sockeye, and I do a lot
10 from his work.

11 MR. McDADE: And could we have that as the next
12 exhibit, then, please?

13 THE REGISTRAR: It will be marked as 1807.

14
15 EXHIBIT 1807: E-mail from Timber Whitehouse
16 to Keri Benner and Paul Welch, Subject:
17 Cultus Diagnostic Update, dated November 10,
18 2006
19

20 MR. McDADE: And can we go over the -- back to the
21 document, to the next page, Mr. Lunn?

22 Q Can you describe the chart that you've got there?

23 MS. MORTON: Yes. So this was also presented in 2009,
24 and it's astonishing. So these orange bubbles
25 show the amount below average returns for each of
26 those runs, and you see they're broken down into
27 the names of the runs, but also clumped as to
28 whether they were Early, Summer or Late. And
29 astonishingly, one of them is in complete --
30 running completely contrary to the others, and
31 that's the Harrison.

32 So it does make a biologist wonder, what is
33 different about those fish? Are they from a
34 different river? Are they -- you know, what do
35 they do different? The Harrison have two very
36 different life histories strategies. One is they
37 leave the river when they're very small, like the
38 pink and chum, so that means they -- right now,
39 what's happening is the Fraser sockeye adults are
40 passing salmon farms and they're coming in from
41 all over the open ocean and they're going into the
42 river and they're going straight into the nursery
43 areas of the Fraser sockeye that are raising in
44 there as smolts.

45 But the Harrison are gone. They left already
46 in May and June. So they don't get that exposure.
47 Plus, they're not going by the salmon farms. So,

1 for me, this was an astonishing graph.

2 Q And what were the -- were there symptoms being
3 found that were unusual, in your view?

4 MS. MORTON: Yeah. So if you go to the next page, here
5 we hear from people like Dr. Christine
6 MacWilliams, who was on the stand, and other
7 scientists from the University of PEI. Also,
8 David Patterson, who has been mentioned here. And
9 the one from Christine MacWilliams, I -- I just --
10 it's the most interesting. She goes:

11
12 ...despite finding everything but the kitchen
13 sink, there's no smoking gun... The gills of
14 every fish were compromised to some degree...

15
16 So these pathologists were mystified by what could
17 happen. In the e-mail above, he said that these
18 were possibly:

19
20 ...the worst looking...gills...I have ever
21 seen... The gill pathology is profound and
22 highly unusual... The mystery deepens.

23
24 These guys were on it. They were curious in trying
25 to figure this out, but they couldn't.

26 MR. McDADE: So let me, Mr. Lunn, ask for Aquaculture
27 document 11. That's the e-mail identified at page
28 7, is it? Can I have that as the next exhibit?

29 THE REGISTRAR: 1808.

30
31 EXHIBIT 1808: E-mail from David Willis to
32 Brian Leaf, et al, Subject: Prespawn update:
33 Upper Pitt (as of Aug 25), dated August 26,
34 2008

35
36 MR. McDADE: And Aqua Tab 14, can that be Exhibit 1809?

37 THE REGISTRAR: So marked.

38
39 EXHIBIT 1809: E-mail from David Patterson to
40 Kristi Miller-Saunders, Subject: Cultus lake
41 sockeye salmon histology samples - gill form
42 of a Parvicapsula-like parasite is present,
43 dated January 31, 2007

44
45 MR. McDADE:

46 Q Aqua Tab 15, that's the e-mail dated December 20
47 -- sorry, that's the memo you were referring to

1 from Dr. MacWilliams?

2 MS. MORTON: Yes, that's right.

3 MR. McDADE: Can that be Exhibit 1810?

4 THE REGISTRAR: So marked.

5

6 EXHIBIT 1810: Memorandum from Pacific
7 Biological Station to Rick Stitt and Doug
8 Lofthouse, Weaver Creek Spawning Channel,
9 Subject: PSM Loss Investigation Oct 29, 2009
10 Summary Report, dated December 21, 2009
11

12 MR. McDADE: And Aqua Tab 16, can that be Exhibit 1811?
13 THE REGISTRAR: So marked.

14

15 EXHIBIT 1811: 2007 Late Run Research on Pre-
16 Spawning Mortality, David Patterson and Mike
17 Bradford
18

19

19 MR. McDADE: And Aqua Tab 17, can I have that as
20 Exhibit 1812?

21 THE REGISTRAR: So marked.

22

23 EXHIBIT 1812: E-mail from Brad Thompson to
24 Mark Higgins, et al, Subject: Nadina Gill
25 Samples, dated May 24, 2009
26

27

27 MR. McDADE: Now, if we could go over the page, back to
28 the document, you then -- sorry, at page 9 of the
29 document.

30

30 MS. MORTON: Or go to page 10, maybe.

31 Q The next topic, yes, is -- relates to Dr. Kristi-
32 Miller's MRS study; is that --

33

33 MS. MORTON: Yes.
34 Q You took an interest in that through your database
35 research?

36

36 MS. MORTON: Yes. So, first of all, I was shocked to
37 run across her work in ringtail, because I sat in
38 the 2009 Simon Fraser University think tank, and
39 we were supposed to figure out what had happened
40 to the sockeye and report back to the public, and
41 we were never told about this work.

42

42 So basically what happened was so many
43 sockeye were dying in the Fraser River, the DFO
44 realized that before they could open a fishery
45 they would have to figure out how many were going
46 to die in the river, and so they tasked their
47 genomic profiler, Kristi Miller, to try to figure

1 that out, and they, by the sounds of it and
2 reading their work, they thought they were going
3 to -- she was going to find that they ran out of
4 steam, that they hadn't fed well enough. But she
5 stumbled on the truth, uncomfortable truth, that
6 there was a pattern which she said looked like a
7 virus. Because the switches in the cells that
8 were turned on and off, 40 of them were responding
9 to leukemia-type impact 3 to brain cancer, a lot
10 to a compromised immune system.

11 And then there's a lot of documents in
12 ringtail of her thought process, which was really
13 a remarkable thing to be able to see, because if
14 you just read her science paper you can't see her
15 thinking out loud, and I know she has said she
16 would not have put some of those thoughts down,
17 but she did, and she's highly respected in her
18 field. I did phone around to weight her work, and
19 everybody said it's a new field, but she's highly
20 respected.

21 And so naturally she went looking for, "Okay,
22 what could it be?" and we are still at that point,
23 even though she started asking that question
24 several years ago, but the first thing, she's
25 like, "Okay, well, it looks like a retro virus."
26 There's only two retro viruses in salmon. And,
27 "Oh, look, one of them occurs in salmon farms that
28 went into the Fraser sockeye migration in 1992,"
29 and so I went and read all of those papers and her
30 further work.

31 So two of her really interesting PowerPoints,
32 one of them already is an exhibit, and the other
33 one is the one above.

34 Q That's 6139?

35 MS. MORTON: Yeah.

36 Q Could we have Aqua Tab 19 on the screen? And
37 that's the document there?

38 MS. MORTON: Yes, correct.

39 MR. McDADE: Can we have that marked as Exhibit 1813?

40 THE REGISTRAR: So marked.

41
42 EXHIBIT 1813: Fisheries and Oceans,
43 Physiological control of entry timing and
44 fate
45

46 MR. McDADE: And could we also have Aqua Tab 21?

47 Q That's a document that you refer to on the --

1 MS. MORTON: Yes.

2 Q -- on the next page? Can we have that marked as
3 the next Exhibit 1814?

4 THE REGISTRAR: So marked.

5

6 EXHIBIT 1814: Paper prepared for Cohen
7 Commission by Kyle Garver, 2011

8

9 MR. MARTLAND: I'm just going to pause to see if I can
10 clarify if we might put a date or at least some
11 better descriptor on this last document? I just
12 had a quick glance. I appreciate we're doing this
13 at highway speed, but it flashed on screen. I
14 didn't learn --

15 MR. McDADE: I see.

16 Q Could we date that?

17 MS. MORTON: Well, a lot of documents in DFO were not
18 dated, but this one appears to be 2010, as far as
19 I could figure out.

20 Q Perhaps if we can go to the bottom of one of the
21 pages and blow up the computer reference? It
22 seems to --

23 MS. MORTON: Or 2011, I guess, the proposal.

24 MR. McDADE: Yes, that's probably the best we can do.
25 All right. There's the next document I wanted to
26 mark is at Tab 22. It's an e-mail from Dr.
27 Miller, dated October 2nd, 2009. Can I have that
28 as Exhibit 1815?

29 THE REGISTRAR: So marked.

30

31 EXHIBIT 1815: E-mail from Kristi Miller-
32 Saunders to Chuck Parken, Subject:
33 Clarification Question, with attachment
34 titled, 2009 Fraser Sockeye Meeting
35 Hypothesis, dated October 2, 2009

36

37 MR. McDADE: And at Tab 24, there's another e-mail from
38 Dr. Miller, dated October 5th, 2009. Can I have
39 that as Exhibit 1816?

40 THE REGISTRAR: So marked.

41

42 EXHIBIT 1816: E-mail from Kristi Miller-
43 Saunders to Mark Saunders, Subject: Briefing
44 report, dated October 5, 2009

45

46 MR. McDADE: And at Tab 25 there's another e-mail,
47 dated November 4th, 2009, that you referred to.

1 Can that be 1817?

2 THE REGISTRAR: So marked.

3

4 EXHIBIT 1817: E-mail from Kristi Miller-
5 Saunders to Mark Saunders, Subject: Version
6 2, dated November 4, 2009

7

8 MR. McDADE:

9 Q Now, dealing with Dr. Miller's evidence and what
10 you learned about these -- her thought processes
11 in relation to the decline of the sockeye since
12 1992, did you draw any perspectives from that?

13 MS. MORTON: Well, she was saying that it wasn't only
14 how many times or the percentage of fish that had
15 the mortality-related signature, but how many
16 organs they had it in. And so, for example, she
17 went over that last year, or when she was up here.
18 So in 2008, there was a high percentage of sockeye
19 that had it in one organ, but in two thousand --
20 the generation that went out for 2009, so the 2007
21 fish, had it in several organs. And so she felt
22 that when it was showing up in several organs it
23 was probably more pathogenic to the fish.

24 Now, this is a work in progress, but what
25 really disturbs me is that her budget for working
26 on sockeye has been removed. And within ringtail
27 I came across many proposals where she outlines in
28 great detail of what needs to be done to figure
29 out what this disease is. And I think we really
30 -- we owe it to ourselves, we owe it to,
31 certainly, the First Nations of the Fraser River,
32 are the Fraser sockeye dying of brain tumours and
33 infectious disease? Because when I read back into
34 the literature, we had Craig Stephens on the
35 stand, and I was surprised he didn't talk more
36 about it. But in his PhD thesis that he wrote in
37 1995 he said a neoplastic infectious virus could
38 have profound regulatory impact on this industry.
39 He also flagged human health concerns. And he
40 suggested that we should be careful, that this is
41 going to appear in wild fish. He said that the
42 government really should have paid the farmers to
43 remove these fish to reduce the risk to the Fraser
44 sockeye.

45 So it's been, honestly, a huge weight on me
46 to know all of this and not be able to tell the
47 First Nations, first of all, of my territory, and

1 of their territory that I live in, and of the
2 Fraser First Nations. So it feels very good to be
3 able to get some of this out, now. But I think
4 it's urgent that we learn what this is.

5 And when Dr. Kent was on the stand, he
6 retracted a lot of what he wrote in his papers,
7 and that needs to go back to the scientific
8 journals, like the *Journal of Cancer* he published
9 several times in, about this virus.

10 So I know we want to go -- speed through
11 this.

12 Q Let me ask you this: Dr. Miller is now talking
13 about a potential identification as parvovirus,
14 but as I understand her evidence, she's still
15 connecting that up with the early entry and the
16 pre-spawn mortality.

17 MS. MORTON: That's right, so --

18 Q Does it matter what we call it?

19 MS. MORTON: It doesn't matter what we call it. And so
20 it was interesting, on the stand, to hear these
21 men to say they don't -- they actually don't know
22 what it is. They never went the final stage to
23 visualize it. They never were able to actually
24 figure out if it was a virus or not; they're
25 calling it a syndrome. I think Dr. Miller is
26 going to figure it out because of the technology
27 that she is so skilled at.

28 So first she saw the signal in the cells of
29 the fish that they were reacting to this thing,
30 but she can also, with the help of Kyle Garver,
31 figure out what it is, and I believe she needs to
32 be unfettered in that job and to figure out what
33 it is. But it doesn't matter what it ends up
34 being called, we need to know if it's a human
35 health issue and also is it what's destroying the
36 Fraser sockeye.

37 Q And when you said "these gentlemen never figured
38 it out," I think you were referring to the
39 plasmacytoid leukemia or the marine anaemia back
40 in the late '90s or --

41 MS. MORTON: That's right, so --

42 Q -- early -- the early '90s.

43 MS. MORTON: -- Dr. Kent pioneered it. He was director
44 of the Pacific Biological Station. During a
45 portion of that he actually named it plasmacytoid
46 (sic) leukemia. Dr. Craig Stephens did his PhD
47 thesis, so as another, Dr. Ribble, and they very

1 helpfully, in a 1997 paper, gave us a diagnostic,
2 because they said it's a difficult thing to
3 understand and to diagnose, so they said, if
4 there's interstitial cell hyperplasia of the
5 caudal kidney, you're probably got it.

6 Q So whatever that disease was that they were
7 talking about in the 1990s -- sorry, I see another
8 objection.

9 MR. PROWSE: Yes, Mr. Commissioner, I simply want to
10 state on the record that for the reasons that I
11 objected to the written report, I think much of
12 what we're hearing is a dialogue between counsel
13 and the witness about evidence which ought, in my
14 submission, to be, at the end of the day, a
15 submission between counsel for the participant and
16 the Commission, and I don't think this is
17 evidence. And asking what her "perspective" is I
18 don't think really advances the matter. So I
19 object to the line of questioning on that basis.

20 Sorry, and for the record, Cliff Prowse, for
21 the Province on B.C.

22 MR. McDADE: I'll take that as a statement for the
23 record and proceed, Mr. Commissioner.

24 Q In your research, did you see a connection between
25 plasmacytoid leukemia and BKD?

26 MS. MORTON: There was a lot of reference to plasmatoid
27 (sic) leukemia causing a swelling in the kidney,
28 and a lot of confusion in the early days. They
29 expressed this. And I guess the reason that Mr.
30 McDade and I are trying to do this is because I
31 spent so much time reading all this. You really
32 need to know it to -- and I don't want you to have
33 to go through the 2,000 hours, but when you look
34 at what they did in the Fraser River, they tested
35 those Cultus sockeye dozens of times for BKD and
36 the tests came up negative, negative, negative.
37 They were losing 100 percent three years in a row,
38 according to Mike Lapointe, of pre-spawn
39 mortality. They thought it was BKD, but it
40 wasn't.

41 So when I heard that salmon leukemia looks
42 like BKD, it did make me wonder, and then, with
43 Miller's work on top of it, it does make a person
44 wonder if that's what they were dying of.

45 Q And when you went to the fish health database,
46 what did you find?

47 MS. MORTON: Well, the early records from the salmon

1 farming were scattered and very hard to interpret,
2 but when I came across BCP002864 written by Dr.
3 Gary Marty, there I had something I could really
4 just look at. And he -- I found that the symptoms
5 that Drs. Kent and Stephens and Ribble had said
6 are the diagnostic simple for marine anaemia,
7 they're being diagnosed regularly. And in the
8 abbreviations tab, Dr. Marty was saying, "These
9 can be associated with a clinical diagnosis of
10 marine anaemia."

11 But then I heard Dr. Sheppard say he doesn't
12 believe in marine anaemia and he's not going to
13 diagnose it on a farm level. So it's not going to
14 appear on the records. But Dr. Marty is seeing
15 something, and we do need to figure out what that
16 is, and he is seeing it in Chinook farms, in
17 particular, in higher severity, but he's also
18 seeing it in the Atlantic farms as a level 1
19 severity.

20 Q So you saw -- can we have 2864 up on the screen?
21 That's Exhibit 1549, one of the subjects of his...

22 Now, Dr. Morton, you saw Dr. Marty do a -- do
23 some magic with Excel and highlight the ISH column
24 next to the diagnosis column. You remember seeing
25 that during his evidence?

26 MS. MORTON: Yes, he collapsed columns, I believe, K
27 through perhaps AT, or --

28 Q And he drew some conclusions about that?

29 MS. MORTON: But we need to go to the Pacific tab down
30 on the bottom.

31 Q So he did that --

32 MS. MORTON: Thank you.

33 Q He did that with the Atlantic salmon farms?

34 MS. MORTON: That's right.

35 Q What do you see when you do that with the Pacific
36 salmon farms?

37 MS. MORTON: You see more number 3s and especially more
38 number 2s under the ISH column, which you've got
39 to pan to the right, yeah. It's under kidneys, so
40 you're in liver. Stop. So yeah, AT. So if you
41 were to get rid of AS all the way back to the Y
42 columns --

43 Q Can we sort --

44 MS. MORTON: In any case, yes.

45 Q So can --

46 MS. MORTON: Can you sort these?

47 Q Is it possible to sort by that, or are we

1 stretching our --
2 MR. LUNN: Do you want the sort from largest to
3 smallest?
4 MS. MORTON: Yes, please.
5 MR. McDADE: Largest to smallest.
6 MS. MORTON: Yes. Perfect. That's good enough.
7 MR. McDADE: That's good enough. We can scroll down.
8 Q There are an exceptional number of 3s and 2s,
9 particularly 2s, in the Pacific salmon, are there
10 not?
11 MS. MORTON: Yes.
12 Q And many of those are associated with non-
13 diagnosis, not the KRS diagnosis?
14 MS. MORTON: That's right. A lot of these were, if you
15 were able to collapse the columns, you'd see they
16 were open diagnoses, which we know to be cases
17 unsolved.
18 Q And so the Pacifics are the Chinook salmon?
19 MS. MORTON: That's right.
20 Q That were present in the Discovery Islands?
21 MS. MORTON: Yes. So --
22 Q What's the significance of this finding for you?
23 MS. MORTON: Well, the next thing I became curious
24 about, of course, is when you're looking at the
25 pattern of the Fraser sockeye, you do want to
26 wonder what happened in 2010. And so when I saw
27 Miller's work and I saw what Kent and Stephens
28 said about this disease, that it spreads from
29 Chinook to sockeye, they actually tested that,
30 that it was lethal to sockeye, I wondered, Well,
31 how many Chinook farms are there on the Fraser
32 sockeye migration routes along eastern Vancouver
33 Island? And so I went to the database that Josh
34 Korman organized and he lists whether they're
35 Atlantic or Chinook, so I just looked at the
36 Chinook farms. And interestingly enough, after
37 June of 2007, there have been no Chinook farms on
38 the Fraser sockeye migration route. And so the
39 fish that came back in 2010 went by no Chinook
40 farms and were not exposed to these numbers and
41 the severity of these symptoms and they came back.
42 Now, this is for somebody else to figure out,
43 but this is the pattern that I'm able to read from
44 these databases and from the information that's in
45 ringtail.
46 Q Can we have Exhibit QQ up on the screen? Now,
47 this is a graph and a chart of numbers that you

1 prepared?

2 MS. MORTON: That's right. So I looked at what were
3 the most high risk diseases, but I also looked at
4 the ones of interest so -- for me, in trying to
5 track this down. So I looked at BKD, and you can
6 see it's the blue line. Now, interestingly, in
7 early 2007, a lot of these symptoms spike, and I
8 don't know why that is. But you also can see the
9 brain haemorrhaging, which is going to remain a
10 mystery until somebody tracks that down, but
11 certainly Dr. Miller saw it in the Fraser sockeye,
12 and in 2007, Dr. Marty began to look for it in the
13 farmed salmon and he found it. He notes that he
14 was able to diagnose a lot more causes of death
15 once he started looking in the brains and finding
16 this haemorrhage situation.

17 If we could go down to the next few graphs.

18 Q Well, let me just stop for a second. You prepared
19 this from document 2864, simply by counting fish
20 under each of these headings under the columns.
21 So this is an arithmetical exercise, not a matter
22 of judgment?

23 MS. MORTON: That's right. The way the data's taken
24 from the farms, the way the fresh silvers are
25 collected, you can't really say that -- you can't
26 really say how prevalent this is in the
27 population, but you can say simply how many fish
28 they found with that disease, and they found that
29 consistently over the years, so that was the
30 measure I chose. You could also use the
31 percentage of silvers that have these, but...

32 Q So I just --

33 MR. MARTLAND: Sorry, Mr. McDade. Mr. Commissioner,
34 I've just noticed that Mr. Backman had indicated
35 he had a point, and I appreciate Mr. McDade may
36 have been looking at the screen, but perhaps he
37 can permit him the opportunity to make that
38 further point?

39 MR. McDADE: Well, I suppose. If it gets added to my
40 time.

41 MR. BACKMAN: I'll be very brief. I just wanted to
42 point out a couple of things in this interesting
43 discussion that have been glossed over and are
44 incorrect. And there was a point made about the
45 fish migrating around the south of Vancouver
46 Island not encountering salmon farms, and I think
47 that there are several salmon farms operating in

1 Puget Sound and there are Chinook salmon farms
2 operating on the west coast of Vancouver Island.
3 The second point also related to salmon farm
4 operation was in relation to the statement made
5 about the end of salmon farming -- the end of
6 Chinook salmon farming after 2007. There are two
7 Chinook salmon farms that continue to operate in
8 Discovery Pass, one at Yellow Island and one at
9 Middle Bay. So I think it should be -- and they
10 continue to operate until the present.
11 Q So let me just be clear, though, and I'll come
12 back to this point, the farm at Conville Bay,
13 which is the very farm we were talking about in
14 terms of marine anaemia, so I understand that
15 switched from Chinooks to Atlantics in mid-2007,
16 or perhaps there was a period of fallowing in
17 between?
18 MR. BACKMAN: The Chinook salmon have not been placed
19 back into that farm; that's correct. But there
20 are still Chinook salmon in the area.
21 Q In your company?
22 MR. BACKMAN: Not in my company.
23 Q Okay. So thank you for that. Perhaps this is,
24 since this is an appropriate time -- well, first
25 of all, can I mark that, now, as a full exhibit,
26 now, Mr. Commissioner?
27 MR. TAYLOR: We've been through this before. This is
28 how it got to be an exhibit for identification,
29 and it's part of this, what's being called,
30 omnibus approach to see what we do with this and
31 many other exhibits.
32 MR. McDADE: I don't think that's true, Mr.
33 Commissioner. It was because Dr. Morton hadn't
34 been on the stand yet, that's why it was for
35 identification.
36 MR. TAYLOR: I mean, still, you can do many things with
37 numbers, and we heard some of that just now from
38 Ms. Morton --
39 MR. McDADE: Well, there have been many similar
40 exhibits marked by previous witnesses. I don't
41 understand this at all.
42 MR. TAYLOR: Well, I'm still speaking, until the
43 gallery interrupted.
44 THE COMMISSIONER: Ladies and gentlemen, I think
45 Commission counsel have asked, respectfully, that
46 you honour the process here, and I would be very
47 grateful if you could withhold any comments while

1 you're in the public gallery. It would be very
2 helpful for all of us. Thank you very much. Mr.
3 Taylor?

4 MR. TAYLOR: Thank you. Ms. Morton spoke to -- you
5 could look at the information she had and put it
6 together this way or that - she was speaking to
7 that a few moments ago - this is properly, in my
8 view, something that should remain an exhibit for
9 identification. We can deal with it later. It's
10 not simply a matter of arithmetic. We're
11 bordering on expert evidence at the moment, and it
12 should remain for identification.

13 THE COMMISSIONER: Mr. McDade, I really don't want to
14 cut into your time. I think these kinds of
15 documents may, in the end, all be marked, but I
16 think we're going to run into this difficulty, and
17 I would respectfully suggest that we move on. We
18 will deal with these. If I have to make separate
19 rulings on these, I will. Hopefully, counsel will
20 work out an understanding about marking these
21 documents, but in the meantime, I'd like you to
22 move on.

23 MR. McDADE: All right.

24 Q So you were going -- Dr. Morton, you were going to
25 take us to the next page?

26 MS. MORTON: Yes. So, now this one was so interesting
27 to me because in three different years two
28 completely different symptoms. One is supposed to
29 occur mainly in Chinook as an endemic virus or
30 disease or symptoms or syndrome, marine anaemia
31 symptoms, and so that's the brown line. It spikes
32 the quarter before the infectious salmon anaemia-
33 like lesions, so this is the exotic virus. And so
34 I pondered this a long time, had it up on my wall,
35 just considering it, and the marine anaemia
36 syndrome is noted by many scientists to be an
37 immune-suppressing situation for the fish. It
38 takes a co-factor to actually kill the fish. So
39 BKD, *Loma*, different parasites, IHN, all of these
40 things attack a fish more easily if it's weakened
41 with marine anaemia, and --

42 MR. PROWSE: Mr. Commissioner, I rise to object again.
43 The witness is now getting into questions of
44 interpretation of disease and that's outside her
45 field of expertise, and I think that's a
46 significant objection that must be made.

47 THE COMMISSIONER: Mr. McDade?

1 MR. McDADE: Again, Mr. Commissioner, we sought to
2 qualify Dr. Morton as an expert and Commission
3 Counsel said that she'd be called at the
4 perspectives panel and able to give her
5 perspectives on these matters. And I don't know
6 why counsel for the Province is so determined to
7 keep this information from you, but it should be
8 allowed.

9 THE COMMISSIONER: I think so long as it's made clear
10 that this is a perspective and not an opinion, Mr.
11 McDade, it is fine.

12 MR. McDADE: Yes.

13 THE COMMISSIONER: I did start to collect the
14 impression that we were moving off the perspective
15 kind of evidence. Thank you.

16 MR. McDADE: Yes, I'm simply trying, Mr. Commissioner,
17 to put some of these questions in front of you.
18 The conclusions to be drawn from them are yours.

19 MS. MORTON: Yeah, the only thing I would want you to
20 take this -- take from this, Mr. Commissioner, is
21 that Dr. Miller needs a chance to look at what
22 this is. Somebody more experienced with disease,
23 who's known to speak freely, needs to look at
24 this.

25 Q And can we go back to your report, back to Exhibit
26 BBB (sic) and go back to page 19. I just want you
27 to explain this particular chart and how you've
28 constructed it. Not this one, the next one. Or
29 the one at the -- sorry, the next page over. Yes.

30 MS. MORTON: So in this one I just -- I just put --
31 marked where the two -- when the 2009 Fraser
32 sockeye were going to sea, just the time, and the
33 2010s and the 2011s. So whatever marine anaemia
34 syndrome symptoms are, there was a lot of them
35 when the 2009s went to sea, and those fish had a
36 very high percentage of them had what Miller
37 wonders might be this very thing. So I'll just
38 leave it at that.

39 And then, if we go down, I was interested to
40 hear that Yellow Island Chinook farm was
41 operating, because that is not in Mr. Korman's
42 database. But the second one that was mentioned
43 is a closed containment facility. So in any case,
44 there were fewer Chinook farms, I would say, or
45 fewer Chinook salmon in farms on the Fraser
46 sockeye Discovery Islands migration area.

47 Q This lower one was prepared from Dr. Korman's

1 documents?
2 MS. MORTON: From Dr. Korman's data. And I do take
3 Clare Backman's point about there being farms in
4 other areas, but it is a matter of dispersion. So
5 if you have a small body of water with a large
6 number of pathogens going into it, the density of
7 those pathogens, I think we could all accept would
8 be higher than if they are dispersed right out
9 into the open Pacific.
10 Q So could we go to the map on the next page?
11 Sorry, I've got a different version here. Let me
12 change -- change for a second and go to -- if we
13 could have 2850 up on the screen, Mr. Lunn?
14 That's the 1549, the other database.
15 MR. MARTLAND: I wonder if I could just make sure the
16 record reflects -- I think this is 1549-206; is
17 that right, Mr. Lunn? Thank you.
18 MR. McDADE: Yes, thank you for that, Mr. Martland. So
19 if we could go to Tab 17, please? Now, if we
20 could just follow in there on line 231.
21 Q There's a diagnosis here of marine anaemia. If we
22 could go backwards to the -- well, we can see on
23 the -- on Column A that that's a 2006 fourth
24 quarter, at P.3-24. Now, I wanted to suggest to
25 you, Mr. Backman, that that's Conville Bay. You
26 don't know?
27 MR. BACKMAN: If you're saying it's Conville Bay, I'll
28 have to accept that. It's not my area of
29 expertise on this panel.
30 Q So you didn't look at -- when you were saying,
31 earlier, that there was no diagnosis of marine
32 anaemia that your vets were aware of, you hadn't
33 looked at this document?
34 MR. BACKMAN: If this is the document that was brought
35 in earlier on the other panel, when Dr. Gary Marty
36 was being discussed -- or being questioned, then I
37 remember this particular point being brought up,
38 but I addressed that earlier in my comments.
39 Q All right. Could we go to Tab 3 of that same
40 spreadsheet. If we could go up to line 381 --
41 371. Sorry, just a sec. I'm not sure I've got
42 the same number. Maybe try 393. Yes, there's the
43 same farm, P.3-24. This is the histology report
44 for that farm. And if you scroll over to Tab J,
45 the histology report says 23 of 24 - sorry, we
46 lost it --
47 MS. MORTON: That's good.

1 Q Dr. Morton, what does it say there for you?

2 MS. MORTON: Well, the *Loma* parasite was in 23 out of
3 the 24, and -- or *Loma* was in 23 of 24 and they
4 had hematopoietic hyperplasia compatible with
5 marine anaemia, but not direct evidence clinical
6 signs include marine anaemia.

7 This is where it does get confusing for me,
8 because some people, like Dr. Saksida yesterday,
9 said histology was the gold standard for
10 diagnosing this. Later, in other evidence, here,
11 I see there's a gram stain test for marine
12 anaemia. It's very clear that there's a lot of
13 confusion around this syndrome, and I don't think
14 -- it's hard for me to find the right words so
15 that nobody's going to object, but there's a lot
16 of confusion on how to diagnose it, what it is,
17 and whether people are going to report it.

18 Q So can you tell me, Mr. Backman, am I correct in
19 understanding it's possible that the audit finds a
20 diagnosis but they don't tell your vets?

21 MR. BACKMAN: I think I mentioned before that the vet
22 made no diagnosis of marine anaemia at the farm
23 site. I think I also mentioned, and we all heard
24 Dr. Gary Marty say that histopathological work is
25 one element in the overall package of material
26 that's provided to the fish health professionals,
27 and it has to be consistent with what the rest of
28 the people are seeing at the farm site; the
29 veterinarian and the fish health professional. So
30 something that says indication of fish anaemia
31 could be a rule-out of some other things that are
32 on the farm site.

33 Q So it's possible that the audit vet could diagnose
34 marine anaemia, but your farm vets could diagnose
35 something else; is that what you're saying?

36 MR. BACKMAN: No. I'm saying that the Provincial
37 audit, bringing that piece of material forward
38 from Dr. Marty did not make a diagnosis of marine
39 anaemia; it made an observation, as was stated by
40 Dr. Marty, an observation of symptoms that could
41 be of a number of things, including marine
42 anaemia. They did not make a diagnosis of marine
43 anaemia; therefore, none was conveyed to the
44 company vet, and the company vet independently did
45 not diagnose marine anaemia at any point in time
46 on the farm site.

47 Q So what you're saying is there was no formal

- 1 diagnosis, but 23 of 24 fish having marine anaemia
2 symptoms doesn't make a diagnosis, in your mind?
- 3 MR. BACKMAN: I'm saying the professionals felt that
4 the information given to them by the
5 histopathological tests on those 23 weren't
6 confirmed by the rest of the information available
7 to them to be confirmed as marine anaemia.
- 8 Q And that's your professionals? You feel that your
9 vets have the right to make that determination
10 independently of the Provincial auditor? Is that
11 what you're saying?
- 12 MR. BACKMAN: I think that all the fish health
13 professionals have the ability to work
14 independently of each other, and if the Provincial
15 audit folks and the veterinarian there felt they
16 had a case for marine anaemia being present at the
17 farm, they would have advised that to our staff.
18 And conversely, if our staff felt that, based on
19 what they were dealing with at the farm site
20 level, if they were dealing with marine anaemia,
21 they would have made that call, themselves, as
22 well.
- 23 Q Is it reasonable to say, and let's just leave that
24 for a minute, but in terms of that level of
25 information that you have, the public has never
26 had access to that level of information until this
27 Commission?
- 28 MR. BACKMAN: That's correct.
- 29 Q If your farm vets don't make a diagnosis, it
30 doesn't get reported?
- 31 MR. BACKMAN: If our farm vets don't make a diagnosis,
32 that's correct, it doesn't get reported because,
33 in their professional opinion, it doesn't exist.
- 34 Q It doesn't exist. So if 23 of 24 fish died of
35 these symptoms, it doesn't exist?
- 36 MR. BACKMAN: I'll state, again, that the information
37 we have before us was that 23 samples were taken
38 that had histological results which could be
39 consistent with marine anaemia or other things,
40 and at the farm site they weren't seeing that
41 particular disease present itself.
- 42 Q So just as to the level of reporting to the
43 general public and the level of reporting that
44 people have access to, in that eventuality they
45 get access to absolutely nothing? They're not
46 told that 23 of 24 fish died, they're not told
47 what the symptoms are, they're not told anything,

1 it simply is not reportable in any way?

2 MR. BACKMAN: That's an extremely important point to
3 make and I'm glad you made it, because what
4 happens here is that when this kind of information
5 that has to be considered within the context of
6 the training required for fish health
7 professionals working from a variety of levels,
8 working together, is made -- put into a place
9 where the public has access to it, a lot of bits
10 and pieces of information can be taken out of
11 context and can be considered independently of all
12 the rest of the context. What's important - yes,
13 it is important that this information gets made
14 public and is out in the public domain - but it's
15 also important that the proper context and proper
16 professionals are looking at the information.

17 Q You would support making this level of information
18 public?

19 MR. BACKMAN: I think that this will be -- that will be
20 a decision made by the regulator and the audits
21 are going to be made by the Federal Fisheries and
22 Oceans. They've made a commitment to public
23 disclosure of information. I don't know whether
24 that's what they're going to do or not.

25 Q But from the fish farm industry's perspective,
26 there's no reason why they shouldn't be made
27 public?

28 MR. BACKMAN: I think at this point in time, under the
29 new regime, the fish farmers are actually
30 producing monthly reports on fish health events,
31 which is a big step up from what we were doing
32 before. I mentioned there's a number of
33 additional reports that are now being required,
34 and this is one of them.

35 Q So a monthly report of a fish health event. But
36 can I just be clear: if it's not diagnosed, it's
37 not a fish health event?

38 MR. BACKMAN: In the -- in the --

39 Q In the current structure?

40 MR. BACKMAN: Yeah, in the opinion of the veterinarian
41 and the fish health professionals, they would be
42 reporting events that were actually occurring on
43 the farm, not --

44 Q Yes.

45 MS. STEWART: I think I just wanted to add a little
46 perspective on the public reporting issue, because
47 I've had countless discussions with Mr. Swerdfager

1 about this, and my understanding was that there
2 was at least a tentative or preliminary agreement
3 between the Department of Fisheries and Oceans and
4 the industry that disease information would be
5 withheld for a probably significant period of time
6 in order not to influence the marketability of the
7 product. In other words, the farms don't want it
8 going public if there are diseases, because they
9 might have problems selling those fish. And that
10 disease information would eventually be made
11 public, but probably after that grow-out cycle,
12 after those fish had been marketed.

13 Now, this is just based on conversation with
14 Mr. Swerdfager. I'm not in a position to say
15 whether or not that has been finally determined.

16 MR. McDADE: Well, right after the break I think we'll
17 go to the question of the licence and what is
18 reportable. So maybe this would be a good time,
19 Mr. Commissioner.

20 THE REGISTRAR: The hearing will now recess for 10
21 minutes.

22
23 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS)
24 (PROCEEDINGS RECONVENED)
25

26 THE REGISTRAR: The hearing is now resumed.

27 MR. MARTLAND: Mr. Commissioner, just as Mr. McDade
28 recommences, I'll alert him and you that because
29 on our clock the objections arising earlier took
30 about 17 minutes of time, so what we'll propose to
31 do - this is rather precise - but Mr. Kelliher
32 would much prefer to deal with his questions
33 today. We're proposing that Mr. McDade would run
34 from now till 3:48, that the last 12 or so minutes
35 would go over to Mr. Kelliher for his questions.
36 We'd then convene at four o'clock and then Mr.
37 McDade will do the math, but he'd have some
38 remaining time tomorrow morning for his further
39 questions. Thank you.

40 MR. McDADE: That's satisfactory.

41
42 CROSS-EXAMINATION BY MR. McDADE, continuing:
43

44 Q Could I have -- speaking of reporting, could I
45 have document 1594 up on the -- now, as I
46 understand that, Mr. Backman and Ms. Parker, this
47 is the current licence used by Fisheries and

1 Oceans Canada, that it's quite a lengthy document,
2 but it defines what the obligations are of the
3 fish farms for reporting?

4 MR. BACKMAN: Yes, it is the document.

5 Q Can we go to page 35 of that document. This is,
6 as far as I can tell, the sum total of the
7 obligations to report in relation to fish health
8 events, fish health and fish mortality events.
9 Ms. Parker, you're shaking your head. Is there
10 another part of the licence I should be looking
11 at?

12 MS. PARKER: Can we go to -- I think it's section 4 of
13 the licence and, I'm sorry, I couldn't see when
14 you put this up, this is the Marine Finfish
15 Licence? Yes.

16 Yeah, so within section 4 there is recording
17 and reporting requirements, which have to do with
18 fish transfer, fish health certifications, I think
19 that's 4.1(b)(iv), risk assessment, diagnostic
20 reports, stock compartmentalization, biosecurity
21 measures. I think if you scroll a bit more, then
22 again in 4.4 there's information, fish health
23 information, age/life, species, proposed date of
24 transfer. Then there's the actual Fish Health
25 Management Plan, and so we should probably -- and
26 Sea Lice Monitoring, so section 6, as well. If
27 you go to the appendix related to section 5 -- oh,
28 appendix 4, as well, is reporting requirements.
29 There's a lot of reporting requirements.

30 Q Well, the only actual document that I could find
31 that engages what the report is, is page 35.
32 Let's just go there.

33 MS. PARKER: There's --

34 Q Is there another appendix here that I'm missing?

35 MS. PARKER: Well, you asked about reporting, and
36 there's monthly fish health reports, there's fish
37 health attestations, all those are embedded in the
38 text of the documents, and they are contingent
39 reporting. So some of the reporting is monthly,
40 some is quarterly, some is event-based.

41 Q Right. But fish health management, let's look at
42 the document that has to be completed for each
43 individual health event, at Part C. Are you
44 saying that there's some other document that the
45 fish farmers have to supply under the licence,
46 relating to a fish health event?

47 MS. PARKER: Relating to the fish health event, this is

1 the actual form that needs to be filled out.

2 Q Right.

3 MS. PARKER: But there's supplementary information that
4 must be provided with it.

5 Q This is the form that DFO gets, and the only form
6 that they will have to put up on their website.
7 Under "Diagnosis" there's a small line. Now, this
8 is -- Dr. Morton, what do you have to say about
9 this, compared to the hundreds of pages of
10 database that we've seen --

11 MS. PARKER: Excuse -- excuse me.

12 Q Let me come back to you, Ms. Parker.

13 MS. MORTON: Well, I don't think Dr. Marty could fit
14 everything that he's been saying about each one of
15 these fish in each one of these farms in that
16 small space. And a question that's large in my
17 mind is in April of last year, 2010, the Salmon
18 Farmers said they didn't need the Province's
19 services any more, so I don't even know if the
20 audits have been done since 2010 and what's going
21 on at this point. I searched for that through
22 Ringtail and there seemed to be a lot of
23 indecision about it, so it's very hard to know
24 what's going on.

25 Q Ms. Parker, I'll come back to you. DFO can't
26 report what they don't know. In other words, they
27 can't report what the fish farmers don't have to
28 report to them, right?

29 MS. PARKER: This form does not represent the sum total
30 of information that needs to be reported in
31 support of a fish health event, or in support of
32 fish transfers, fish movements, all of those have
33 fish health reporting. DFO would hold all of that
34 information and could report on that.

35 And there's a -- I'd just like to clear up
36 something that was said earlier about reporting
37 delays. And I think it is accurate to say that
38 there are some reporting delays. My understanding
39 from reading the fish health, or the reporting
40 policy is that the licensing -- delays and posting
41 information are not from market access, but
42 actually to make sure that companies are being
43 compliant with Securities legislation, such that
44 if they have a mass mortality event, for example,
45 from a plankton bloom, shareholders have to be --
46 have to be notified prior to the general public
47 being notified to present -- to prevent sort of

1 insider trading information. However, I think
2 that delay is something like two weeks, so it's
3 not a significant delay.
4 Q Ms. Parker --
5 MS. PARKER: And that wouldn't preclude reporting to
6 CFIA, et cetera, on OIE reportable diseases.
7 Q You'd agree with me, wouldn't you, that this is
8 completely inadequate for public reporting, if
9 that's all there is.
10 MS. PARKER: That's not all there is, so I can't really
11 agree with that.
12 Q If that's all there is, that would be completely
13 inadequate in your view, isn't it?
14 MS. PARKER: You're asking me to suppose that that
15 would be the only thing?
16 Q All right. Well, maybe you can go off tonight and
17 figure out what extra stuff there is, because I
18 think we'll be seeing --
19 MS. PARKER: I could run through it now.
20 Q No, no, let's go to -- let's go to Mr. Backman.
21 Do you agree that that's completely inadequate?
22 THE COMMISSIONER: Mr. Blair.
23 MR. BLAIR: I have an objection, the witness is doing
24 their very best to identify a number of documents
25 and the complexity of it, and Mr. McDade is
26 jumping over the witness's answer. He's inviting
27 her to go away to come back tomorrow prepared to
28 indicate what else she might be able to indicate,
29 and she said, I heard her, "I can do it now." And
30 he jumped on top of the answer, and I think that's
31 disrespectful of the witness.
32 MR. McDADE: Yeah, we're all working in time delays,
33 but if you have something in particular to point
34 out to me, do it now.
35 MR. TAYLOR: Well, we're probably at the point I wanted
36 to get to, but he wants the witness to do it
37 tomorrow after thinking about it overnight. The
38 witness says she'll do it, and he won't let her do
39 it, but now I think he is.
40 MR. McDADE:
41 Q Okay, go ahead. What is there in the licence that
42 says they have to report?
43 MS. PARKER: Well, we can start back with -- sorry, we
44 can start back with section 4.
45 Q Section 4 relates to "Transfer of Fish". I've
46 asked about fish health events. Could we just
47 answer the question I've asked.

1 MS. PARKER: Section 4.1(b) says:

2
3 (b) the licence holder has obtained written
4 confirmation, executed by the source
5 facility's veterinarian or fish health staff;
6 that, in his/her professional judgment:

7
8 (i) mortalities...

9
10 Which is the fish health concern -

11
12 ...have not exceeded 1% per day due to
13 any infectious diseases, [or] for any
14 four consecutive day period during the
15 rearing period;

16
17 (ii) the stock to be moved from the
18 source facility shows no signs of
19 clinical disease requiring treatment;

20
21 Q This not a fish health event, is it, it's a
22 transfer of fish.

23 MS. PARKER: This is fish health reporting.

24 Q What I'm asking for is a fish health event, a
25 disease in your fish farm, when you have a disease
26 outbreak, what do you have to report other than
27 the form that we looked at on the licence.

28 MS. PARKER: If you can scroll down to the section
29 where it refers to the fish health event form,
30 which I think is -- I might not be that fast, Mr.
31 Lunn. I think if you go a little bit farther --
32 so all of section 7.1, of 7, is fish health
33 reporting.

34 Q No, 7.1 is Fish Health Record Keeping, is it not?
35 It's what the fish farmers have to keep records
36 of, not what they have to report.

37 MS. PARKER: There is a section, and I'm sorry, I can't
38 find the reference very quickly.

39 Q Well, that's why I was going to suggest you take
40 overnight.

41 MS. PARKER: "Undertake the following measures to
42 determine" -- where it refers to the fish health
43 event report, it also says that you must put the
44 diagnostic records with it, mortality records, et
45 cetera.

46 Q So that's it. Do you think that that's adequate,
47 compared to the disease records that we've seen in

1 this Commission?
2 MS. PARKER: I think that the level of fish health
3 reporting -- the level of animal health reporting
4 in salmon farming far exceeds that in any other
5 food production, and I think it's a fantastic
6 start. I think it's very transparent, and I think
7 the fact that the information is -- will be
8 available to the regulator in full, because of the
9 detailed records that must be kept and can be
10 provided upon request, is frankly quite robust.
11 Q You think that's robust, that's your evidence.
12 MS. PARKER: Yes, I do.
13 Q So you were a director of affairs at Grieg for how
14 many years?
15 MS. PARKER: Four years.
16 Q And how you're at DFO?
17 MS. PARKER: Yes.
18 Q What's your job at DFO now?
19 MS. PARKER: I work at Aquaculture Management
20 Directorate as a Senior Policy Analyst.
21 Q You write Policy for Aquaculture?
22 MS. PARKER: Yes, I do, primarily with the East Coast
23 of Canada.
24 Q Mr. Backman, you're with the industry still. Can
25 you assure this Commission that you will not
26 resist providing the disease information at the
27 level that we've seen before this Commission?
28 MR. BACKMAN: Marine Harvest is going to completely
29 comply with the requirements of the new Pacific
30 Aquaculture Licence. The conditions of licence
31 indicate a variety of information, both mortality-
32 related, fish health-related, and as you're asking
33 for, fish health events on different scales of
34 information over different periods of time, and we
35 will be reporting entirely consistent with that.
36 Q You can't think of any reason, from an industry
37 perspective, that you -- that DFO wouldn't put on
38 their website all of this information?
39 MR. BACKMAN: I mentioned once before, DFO is engaging
40 and endeavouring to put more and more information
41 up on their website, and we're learning as we go
42 as to what that's going to -- what's going to be
43 on the website.
44 Q Obviously you'll comply with what DFO requires.
45 But what I'm asking is if DFO was to require more,
46 you wouldn't have any objection to it?
47 MR. BACKMAN: DFO adds conditions of licence; we will

1 comply with the conditions of licence. This is an
2 ongoing -- the conditions of licence are ongoing,
3 and they're adaptive and we will comply with how
4 they change.
5 Q So for Mr. Commissioner, there's no good reason
6 from an industry's perspective why we couldn't
7 require a lot more information than is currently
8 required, from your perspective.
9 MR. BACKMAN: Again, we are -- we are complying with
10 the licence as it's laid out, the conditions of
11 licence as it's laid out.
12 Q Yes.
13 MR. BACKMAN: And expected to change over time, and we
14 will continue to comply.
15 Q And there's no good reason why we shouldn't put
16 forward a recommendation that more information, as
17 much information as is available be available
18 publicly. We don't need to keep any disease data
19 secret any more, do we?
20 MR. BACKMAN: Every counsel is free to bring forward
21 their recommendation, and if that's the
22 recommendation to be brought forward, I think it
23 should be.
24 Q Will you instruct your counsel to consent to that
25 recommendation?
26 MR. BACKMAN: I said if you wish to bring forward that
27 recommendation, that's in your purview to do.
28 Q I see. All right. Can we have, sorry, Tab 2 of
29 the Aquaculture Coalition's documents on the
30 screen. Now, this is the report by Dr. Tucker, I
31 think, that you were referring to earlier, Dr.
32 Morton?
33 MS. MORTON: That's correct.
34 MR. McDADE: Can we have that marked as the next
35 exhibit.
36 THE REGISTRAR: Exhibit 1818.
37
38 EXHIBIT 1818: Tucker, Salmon Aquaculture-
39 Comparison of Regulations, May 25, 2005
40
41 MR. McDADE: Can we have document 40 on the screen.
42 That's an email from Dr. Jones to Dr. Miller dated
43 October 8th, 2008, that's referred to in your
44 report. Can we have that marked as the next
45 exhibit.
46 THE REGISTRAR: Exhibit 1819.
47

1 EXHIBIT 1819: Email from Simon Jones to
2 Kristi Miller-Saunders, October 8, 2008
3

4 MR. McDADE: Can we have document 43, please. This is
5 an email from Dr. Miller dated November 16th, 2010
6 that you referred to in your report. Can we have
7 that marked as the next exhibit.

8 THE REGISTRAR: Exhibit 1820.
9

10 EXHIBIT 1820: Email string between Diane
11 Lake and Kristi Miller-Saunders re "Media
12 lines - fish disease", November 16, 2010
13

14 MR. McDADE: Document 52, an email from Stewart Johnson
15 referred to in your report. Can we have that
16 marked the next exhibit.

17 THE REGISTRAR: Exhibit 1821.
18

19 EXHIBIT 1821: Email string between Stewart
20 Johnson, Arlene Tompkins and others re "brief
21 summary needed related to Sx response", from
22 November 2, 2009 to November 3, 2009
23

24 MR. McDADE: Thank you.

25 Q In the very few minutes I have remaining today,
26 Dr. Morton, I'd like to address the experience in
27 other places with fish health and disease. This
28 is a question I addressed to Dr. Fleming. In your
29 research, what's your experience in terms of other
30 -- the health of fish stocks, wherever there's
31 been fish farming in other countries?

32 MS. MORTON: Well, there's a number of research papers,
33 one by two people that I know, Jennifer Ford and
34 Ransom Myers, talking about how wild salmon
35 decline exceptionally wherever there's salmon
36 farms, due to the amplification of disease and
37 also genetic pollution.

38 I talked to a lot of people. I went to
39 Norway and I gave a presentation at the University
40 of Bergen and met with scientists there. And
41 there's severe problems with sea lice, with
42 pancreatic disease, salmon alphavirus. And the
43 theme that keeps coming up in speaking to these
44 different scientists is new and emerging diseases.

45 So when it was proposed to bring Atlantic
46 salmon eggs into British Columbia, the Ministry of
47 Environment provincially put up quite a fight.

1 They called it Russian roulette and many other
2 things. And so one has to wonder, of course, if
3 new and emerging diseases are constantly becoming
4 a problem with this industry, they were not
5 screened for in eggs previously.

6 There's serious troubles everywhere. When we
7 talked about what Norway has and what regulations
8 Norway has, they're not doing very well either
9 with this industry.

10 Q So you mentioned the screening of eggs. Mr.
11 Backman, would you agree with me that your company
12 has not -- has imported eggs from other countries?

13 MR. BACKMAN: Marine Harvest has in the past imported
14 eggs, yes.

15 Q Yes. And I take it this is self-evident. You've
16 only screened for the diseases you know about at
17 the time you brought them in?

18 MR. BACKMAN: The screening required both at the point
19 source of the eggs and here again in British
20 Columbia is quite robust. They're quarantine
21 procedures. I think we've already heard a lot
22 about the process that happens at the point of the
23 source, and the -- and then what happens here in
24 British Columbia. And but your point is taken
25 that everything that is screened for is diseases
26 that are -- that are known, described, and are
27 able to be tested for.

28 Q And in other countries, your company and your
29 parent company have seen a number of new diseases
30 come into their fish farms, even though they were
31 taking all the care that they could possibly take.

32 MR. BACKMAN: I'm not -- I'm not an expert on the
33 disease situation in other countries. But I'm
34 sure that new diseases are being discovered as
35 time goes forward. We have the very discussion
36 about Dr. Kristi Miller and her work tells us that
37 there's -- this is a field that is growing.

38 Q All right. And there's no way to protect against
39 that, is there. Simply nothing you can do to
40 protect against that?

41 MR. BACKMAN: We operate according to the available
42 procedures that are internationally accepted as in
43 Canada and British Columbia, and we make the tests
44 and for the variety of diseases that are being
45 tested for.

46 Q So for instance parvovirus, if it turns out to be
47 the thing that's been connected to the decline of

100

PANEL NO. 62

Cross-exam by Mr. McDade (AQUA)

Cross-exam by Mr. Kelliher (LJHAH)

1 the sockeye, you haven't been testing for that?

2 MR. BACKMAN: There isn't yet a test for that, Mr.
3 McDade.

4 Q Okay.

5 MR. BACKMAN: So when a test is developed and if it's
6 found to be of concern beyond the level of
7 information that's currently available, it will be
8 added, I'm sure, to the list of tests.

9 Q And if it turns out the parvovirus came from the
10 fish farms, you'll be able to say that you
11 completely complied with all the regulations that
12 were in place, won't you?

13 MR. BACKMAN: Well, that's a level of speculation again
14 that it's just bordering on -- on inventing
15 stories. But, yes, you know, we're so far right
16 now from knowing where the parvovirus is, what
17 exactly it's made up, its complete structure is,
18 where it's located, these are steps that we're
19 taking over the next, who knows, years.

20 Q If there's a new disease present on any of your
21 farms today, there's nothing in an open net farm
22 that keeps that spreading outside to the wild
23 salmon, is there?

24 MR. BACKMAN: The status of the fish health on our
25 farms these days is in the main healthy and
26 without disease events. The disease events that
27 are occurring at our fish farms when they do arise
28 are endogenous diseases that are present up and
29 down the coast and challenging the wild fish day
30 in and day out.

31 MR. McDADE: Well, I'll come back to that point, Mr.
32 Commissioner, tomorrow morning. I'm going to cede
33 the floor to my friend.

34 THE COMMISSIONER: Thank you, Mr. McDade.

35 MR. MARTLAND: Thank you. Mr. Commissioner, Mr.
36 Kelliher for the Aboriginal Aquaculture
37 Association until 4:00.

38 MR. KELLIHER: Panellists, my name is Steven Kelliher,
39 and I am counsel for the Aboriginal Aquaculture
40 Association.

41

42 CROSS-EXAMINATION BY MR. KELLIHER:

43

44 Q Mr. Lunn, can I ask you to bring up the Socio-
45 Economic Benefits Report. Now, all of you may
46 have had a chance to look at this document, but I
47 understand, Mr. Backman, you've particularly taken

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1 some time to review it in detail; is that correct?

2 MR. BACKMAN: I have looked at it, yes.

3 Q Sir, can I take you to page 5 of the document,
4 please. And particularly the second and third
5 paragraphs, if they could be highlighted at page
6 5. That is page 3, Mr. Lunn. Page 5 is second,
7 and there we are. Sir, you gave some evidence
8 earlier about the involvement of First Nations in
9 aquaculture along the coast of British Columbia.

10 MR. BACKMAN: That's correct.

11 Q And I'm asking you to address yourself to the
12 second and third paragraph here, and I'll ask you
13 if this information accords with the information
14 that you are aware of, particularly referring to
15 the number of aboriginal individuals involved in
16 the aquaculture process itself, and the reference
17 here is:

18
19 The 108 aboriginals employed in salmon
20 farming operations earn \$5,441,000 annually.

21
22 And then the various graphs are set out beneath,
23 that detail those figures. Is that an amount that
24 you are familiar with and does it accord with your
25 own research in this area?

26 MR. BACKMAN: On the one hand marine harvest doesn't
27 keep detailed information about the First Nation
28 or non-First Nation backgrounds of folks, so this
29 information was gathered for the report, aside
30 from myself and my Human Relations Department. So
31 we can't offer that up directly. But for the
32 purposes of doing the report, and for the people
33 that responded directly who have that information,
34 it is consistent that a number of individuals
35 working at -- 108 individuals, would, yes,
36 represent that level of income annually.

37 Q All right. These figures don't surprise you, and
38 they accord with your general sense of what would
39 be earned by First Nations in fish farming in
40 British Columbia?

41 MR. BACKMAN: That's correct, yes.

42 Q All right. Can I ask, Mr. Lunn, to go to page 6,
43 please. Now, Mr. Backman, as well as in the
44 aquaculture process itself, there are other areas
45 of employment that are open to First Nations, and
46 I'm thinking of the processing operations. Are
47 there First Nations employed with your company in

1 that capacity?

2 MR. BACKMAN: A significant number of people working at
3 both of our processing plants are First Nation.
4 In fact, in the Klemtu operation, mid-coast
5 British Columbia, almost all, I would say 95
6 percent, are of First Nation origin. And in the
7 larger facility in Port Hardy, I think the
8 percentage would be around 50 percent.

9 Q All right. And if I could bring your attention,
10 please, to the fourth full paragraph on that page
11 6, beginning:

12 The 178 aboriginals employed in salmon
13 processing operations earn \$5,557,000
14 annually.
15

16
17 Does that accord with your understanding of the
18 incomes obtained by First Nations in working in
19 the salmon processing operations in connection
20 with aquaculture?

21 MR. BACKMAN: Yes, it does.

22 Q All right. And are there other training
23 opportunities that are made available to First
24 Nations as a result of association with
25 aquaculture in the processing of its product?

26 MR. BACKMAN: Yes. Every employee working at a salmon
27 farm in the first two years undergoes
28 approximately 20 separate training courses. They
29 range everywhere from first-aid, food safety
30 training, forklift operations, WHMIS training,
31 there's a variety of courses that are offered to
32 First Nation individuals who are working at the
33 company.

34 Q All right. Sir, can I take you to page 8, the --
35 at 3.5, "A Success Story: Kitasoo". Can you just
36 have a moment, please take a moment to review
37 those few paragraphs.

38 Are you familiar with that site? You are, of
39 course.

40 MR. BACKMAN: In Kitasoo, yes, I've been there many
41 times.

42 Q All right. And if I can take you to the last
43 sentence in the first full paragraph:

44 Today, salmon farming provides 15 full-time
45 equivalent jobs for Kitasoo First Nation
46 members worth \$50,000 annually.
47

1 And:
2

3 The Kitasoo have also constructed a
4 processing plant. The plant currently
5 processes 1.4 million pounds of farmed salmon
6 each month - generating gross revenues of
7 ~\$2.2 million monthly. Processing activities
8 employ 30 full time equivalent jobs at full
9 operation - contributing approximately \$1
10 million in wages to [that village's] economy.
11

12 Does that accord with your knowledge of that
13 situation?

14 MR. BACKMAN: It does, and it's one of the few
15 opportunities for that remote village to engage in
16 this level of economic involvement on the coast of
17 B.C. So it's very, very important to the village.

18 Q Right. Meaning that the older industries of
19 mining, logging, what fishing there was, were in
20 decline, and the community was in severe economic
21 circumstances, correct?

22 MR. BACKMAN: That's correct, yes.

23 Q And the benefits that have come to that community
24 from aquaculture have been enormous and made an
25 incredible difference in the lives of those
26 people, correct?

27 MR. BACKMAN: That's correct, and in my understanding
28 from many visits up there, yes.

29 Q Now, bearing in mind this is a perspectives panel,
30 I'm going to ask you a question, each of you, that
31 I asked a series of scientists that have been on
32 the stand, testified over the last few days.
33 Their names were Drs. Korman, Connors, Dill,
34 Noakes, Jones, Saksida and Orr. Each of them,
35 with I think the largest qualification being Dr.
36 Orr's, gave a positive answer to the proposition,
37 the question of whether open-pen fish farming
38 could on the West Coast of British Columbia
39 coexist with thriving wild stocks. Each of them
40 from their own specific area of expertise, whether
41 it be a veterinarian, an ecologist, a statistician
42 that operates in this area, gave an affirmative
43 answer to that proposition. And I'm wondering
44 what, if I could begin with Ms. Parker, what would
45 your view be in that respect, and why?

46 MS. PARKER: Yes, I think that fish farms can coexist
47 with wild stocks. And I think that's partly

1 because of the precautionary framework towards
2 management that we have in place. I think it's
3 because of the adaptive management. I think it is
4 because it -- we have the science to -- we have
5 the science and the ability to make good
6 decisions. We have risk-based management. And
7 with all that in place, we can continue to have
8 coastal employment. And I think one of the values
9 of salmon farming is it's not just minimum wage
10 jobs in coastal communities. It is highly skilled
11 technical positions.

12 Q Ms. Stewart.

13 MS. STEWART: I think many of the answers that you got
14 were very qualified, and I heard Mike Price and
15 others saying that it's entirely theoretical.
16 They could potentially coexist if, for example,
17 there was one open net cage farm in an entire
18 region like the Broughton Archipelago.

19 Q I didn't refer to Mr. Price.

20 MS. STEWART: Well, okay. But I'm just saying that I
21 think that all of the various answers were often
22 qualified. And I would also suggest that the
23 question would have to engage around the current
24 levels of production of potential increases in
25 production.

26 But I'd just add, as well, that I understand
27 fully the importance of employment in those
28 communities. I know Percy Starr, as well, and
29 spent many, many hours and days and time in the
30 Kitasoo community, and Mr. Starr was very clear
31 that this was a choice that they were largely
32 forced into due to the collapse of the wild salmon
33 stocks and they couldn't go fishing. And at the
34 time, I was working with Greenpeace and he used to
35 say to me, "Catherine, what do you want us to do,
36 go whaling?"

37 And honestly, I believe that if DFO would
38 support the wild stocks to the extent that they
39 support the aquaculture industry, perhaps
40 communities wouldn't be faced with those choices.
41 It's their right to make that decision, but --

42 Q Yes or no, Ms. Stewart?

43 MS. STEWART: What's the question?

44 Q Right.

45 MS. STEWART: Can they coexist?

46 Q You see, it's not wholly an opportunity to make
47 speeches.

1 MS. STEWART: They may coexist --
2 Q The idea is to eventually get around to answering
3 the question.
4 MS. STEWART: Yeah. It may be possible, and I --
5 Q Mr. Backman?
6 MS. STEWART: -- said at the beginning, it may be
7 possible for them --
8 Q Mr. Backman, can I ask you --
9 MS. STEWART: -- to coexist if there is a serious limit
10 on the production, and at current levels, I don't
11 believe so.
12 Q All right. It's possible if it were limited and
13 best practices; is that right?
14 MS. STEWART: Seriously limited.
15 Q Seriously limited. Mr. Backman?
16 MR. BACKMAN: I think that the report 5 results has
17 shown us that currently the information that was
18 shared, that aquaculture is coexisting with the
19 wild fish without demonstrated significant risk of
20 disease, I think that the answer to your question
21 is yes, the possibility is there now and it
22 remains and going into the future, with keep up
23 the standards that we have today, and we keep the
24 actions in place to look at and reduce any
25 viability as they come up.
26 Q All right. Ms. Morton.
27 MS. MORTON: There are no First Nations on this coast
28 that want to see the Fraser sockeye wiped out.
29 Q There's nobody in this room that does, either, Ms.
30 Morton.
31 MS. MORTON: We're not talking about Marine Harvest and
32 Grieg employees at this point, but I believe the
33 answer to your question is no. This industry
34 cannot survive biologically. There are viruses
35 attacking this industry around the world, and what
36 are those towns going to do when what happened to
37 Chile happens again here.
38 Q All right. So you tell the First Nations, such as
39 Kitasoo, to pull their nets out of the water and
40 close down the processing plants; is that right?
41 MS. MORTON: If I had a choice between the wild salmon
42 and the ability to bring them back, and an
43 industry that brings salmon from Atlantic and
44 feeds them on fish from Chile, in a small port
45 town like Kitasoo and uses them as an example that
46 all other First Nations are supposed to swallow,
47 with the scientists that have been up here before,

1 you have preyed on their respect for First
2 Nations. Out of respect for First Nations, they
3 acquiesced to you. You're a very skilled lawyer.
4 But what about the people of the Broughton?
5 What about the people that are in the audience
6 right now who have said no to the industry and are
7 being run over as if they don't count. What about
8 them?

9 Q Can you -- can you explain this to me, Ms. Morton,
10 the names that I read out earlier are well-
11 respected scientists with a very significant
12 history and body of knowledge in this sphere. All
13 of them carry Ph.D.s. All of them say that the
14 wild stocks can coexist within water nets. You
15 are the only one that says no. Why is that?

16 MS. MORTON: That's because I don't work for a
17 university. I don't work for the Government of
18 Canada. I don't work for the Province of B.C. I
19 don't work for a First Nations community. I am
20 completely independent. I might be the only
21 independent --

22 Q You are pure, are you? You're the only one that
23 isn't corrupted by business, by government, by a
24 university; is that correct?

25 MS. MORTON: Perhaps.

26 MR. KELLIHER: All right. Those are my questions.

27 THE REGISTRAR: Mr. Kelliher, did you wish to have that
28 document marked?

29 MR. KELLIHER: Oh, yes, please. Might that be marked
30 as an exhibit for identification, please, Mr.
31 Commissioner.

32 THE COMMISSIONER: Thank you.

33 MS. FONG: Only as an exhibit for identification, for
34 clarity, and not for --

35 MR. KELLIHER: Well, how clear does it need to be, I
36 just --

37 MS. FONG: Oh, thank you, I just wanted to be clear.
38 Thank you.

39 THE REGISTRAR: That will be marked EEE, triple "E".

40
41 EEE FOR IDENTIFICATION: Socio-Economic
42 Benefits of Finfish Aquaculture in BC
43 Aboriginal Communities, Canadian Aquaculture
44 Systems Inc., August 2011
45

46 MR. MARTLAND: Mr. Commissioner, that concludes the
47 first of the two days for this panel. We're on

1 schedule. We convene until tomorrow at 10:00 a.m.
2 Thank you.
3 THE REGISTRAR: The hearing is now adjourned till ten
4 o'clock tomorrow morning.
5

6 (PROCEEDINGS ADJOURNED TO SEPTEMBER 8, 2011
7 AT 10:00 A.M.)
8
9

10
11
12
13 I HEREBY CERTIFY the foregoing to be a
14 true and accurate transcript of the
15 evidence recorded on a sound recording
16 apparatus, transcribed to the best of my
17 skill and ability, and in accordance
18 with applicable standards.
19

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22 _____
23 Diane Rochfort
24

25 I HEREBY CERTIFY the foregoing to be a
26 true and accurate transcript of the
27 evidence recorded on a sound recording
28 apparatus, transcribed to the best of my
29 skill and ability, and in accordance
30 with applicable standards.
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35 Irene Lim
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37 I HEREBY CERTIFY the foregoing to be a
38 true and accurate transcript of the
39 evidence recorded on a sound recording
40 apparatus, transcribed to the best of my
41 skill and ability, and in accordance
42 with applicable standards.
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46 _____
47 Karen Hefferland

I HEREBY CERTIFY the foregoing to be a true and accurate transcript of the evidence recorded on a sound recording apparatus, transcribed to the best of my skill and ability, and in accordance with applicable standards.

Pat Neumann

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