

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.

Thursday, November 4, 2010

Tenue à :

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

le jeudi mercredi 4 novembre 2010

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| Charlene Hiller | Rio Tinto Alcan Inc ("RTAI"). |
| Alan Blair Shane Hopkins-Utter | B.C. Salmon Farmers Association ("B.C.SFA") Seafood Producers Association of B.C. ("SPAB.C.") |
| Gregory McDade, Q.C. Lisa GLowacki | Aquaculture Coalition: Alexandra Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society ("AQUA") |
| Tim Leadem, Q.C. Society; Georgia Strait | Conservation Coalition: Coastal Alliance for Aquaculture Reform Fraser Riverkeeper Alliance; Raincoast Conservation Foundation; Watershed Watch Salmon Society; Mr. Otto Langer; David Suzuki Foundation ("CONSERV") |

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| | |
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| David Butcher | Southern Area E Gillnetters Assn. B.C. Fisheries Survival Coalition ("SGAHC") |
| Chris Watson ("TWCTUFA") | West Coast Trollers Area G Association; United Fishermen and Allied Workers' Union |
| Keith Lowes | B.C. Wildlife Federation; B.C. Federation of Drift Fishers ("WFFDF") Maa-nulth Treaty Society; Tsawwassen First Nation; Musqueam First Nation ("MTM") Western Central Coast Salish First Nations: Cowichan Tribes and Chemainus First Nation Hwiltsum First Nation and Penelakut Tribe Te'mexw Treaty Association ("WCCSFN") |
| Brenda Gaertner Leah Pence | 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 ("FNC") Council of Haida Nation |

APPEARANCES / COMPARUTIONS, cont'd.

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| Tim Dickson | Sto:lo Tribal Council Cheam Indian Band ("STCCIB") Laich-kwil-tach Treaty Society James Walkus and Chief Harold Sewid Aboriginal Aquaculture Association ("LJHAH") Heiltsuk Tribal Council ("HTC") |
| Krista Robertson ("MTTC") | Musgagmagw Tsawataineuk Tribal Counsel |

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1
Wendy Watson-Wright
Cross-exam by Mr. McDade (AQUA)

1 Vancouver, B.C. /Vancouver (C.-B.)
2 November 4, 2010/le 4 novembre 2010
3

4 THE REGISTRAR: The hearing is now resumed.

5 MR. WALLACE: Good morning, Commissioner Cohen. For
6 the record, Brian Wallace, Commission Counsel.

7 We have Dr. Wendy Watson-Wright on the line
8 from Paris. I have indications from three
9 participants that they have questions for Dr.

10 Watson-Wright: Mr. McDade from the Aquaculture
11 Coalition for ten minutes; Mr. Leadem for 20
12 minutes, from the Conservation Coalition; and Ms.
13 Gaertner for ten minutes from the First Nations
14 Coalition. If anyone else has anything, I don't
15 have it listed so please come and speak to me.

16 Mr. Commissioner, just in terms of
17 scheduling, was it your wish to carry on directly
18 from this witness to the panel when it's
19 concluded, or to wait until ten o'clock?

20 THE COMMISSIONER: I'm content just to carry on, Mr.
21 Wallace.

22 MR. WALLACE: Thank you. There may be some confusion
23 among participants, so we should see who is here
24 when that time comes.

25 Thank you. I have nothing further in
26 introduction. So, Mr. McDade.

27 THE REGISTRAR: Prior to starting, Doctor may I remind
28 you that your affirmation is still in effect.

29 DR. WATSON-WRIGHT: Yes.

30 MR. McDADE: It's Gregory McDade from the Aquaculture
31 Coalition, for the record.
32

33 CROSS-EXAMINATION BY MR. McDADE:
34

35 Q Doctor, I'd like to start with the Research
36 Agenda. I believe that's Exhibit 40. Do you have
37 that in front of you, the Five-year Research
38 Agenda?

39 A I will.

40 Q And if we could go to part VI and VII, Aquatic
41 Animal Health and Sustainability of Aquaculture.

42 A Yes. Page -- which page was it, 6, or part VI?

43 Q Page 10, I think of the document.

44 A Okay.

45 Q Now, there --

46 A Yes.

47 Q These two items, and all the rest have a number of

1 bulleted points under "Priority Areas for
2 Research".
3 A Yes.
4 Q Were those the priority areas, or were they simply
5 illustrations of the types of...
6 A These are illustrations of the priorities.
7 Q So there are other priorities that are not here?
8 A No, these were considered to be the priorities,
9 I'm sorry. But of course, if something else came
10 up that people felt was absolutely essential, then
11 it would have been there.
12 Q So these priorities, as I understood your
13 evidence, were developed based on science?
14 A They were developed in conjunction with
15 scientists, yes, as well as with the client
16 sector.
17 Q But in determining how -- why they were
18 priorities, they were compared against other
19 possible lines of research and these were chosen.
20 What were the criteria you were using?
21 A Well, you really, for the criteria and putting
22 together the research agenda, you would be much
23 better to speak to Dr. Rice, who actually was the
24 one who put together the agenda. But essentially
25 the criteria were, or what was felt by Science and
26 by the client sectors to be the areas where
27 management needed advice the most. Now, this is
28 -- yes, and this is in conjunction with the
29 National Aquatic Animal Health Program, of course.
30 Q Now, I note that the first bullet in both number
31 VI and number VII have to do with diseases for
32 wild and cultured stocks.
33 A Yes.
34 Q And so is that based on an assessment of risk?
35 A The order of the bullets is not critical here, so
36 they are not ranked.
37 Q Okay. Sorry, no, I understand that, but the fact
38 that they're there as a priority, that represents
39 the fact that the -- that it's recognized that the
40 answers are important to assess the risk to wild
41 and cultured stocks.
42 A Yes.
43 Q And that's based on ecological risk; am I correct?
44 A Yes. Of course the aquatic animal diseases are
45 part of the ecology.
46 Q So is the reason that you're choosing to research
47 those issues based on scientific assessment of

1 risk, or is it for political or public relations
2 purposes?
3 A This would have been for scientific purposes of
4 risk, and as I said, the part of it is in
5 conjunction with the National Aquatic Animal
6 Health Program, which would mean that it would
7 also involve the Canadian Food Inspection Agency.
8 Q So as I understand it, this is a priority area,
9 because in DFO Science's view, there was some risk
10 that disease could be harmful to the wild stocks.
11 A Well, there's a risk to both the cultured and the
12 wild stocks.
13 Q Yes.
14 A But if I could just -- if I could just mention
15 that the NAAHP, the National Aquatic Animal Health
16 Program also deals -- it deals with exportable
17 seafood, so both wild and cultured, and very
18 important for Canada to be able to demonstrate due
19 diligence in terms of assuring that what we do
20 export is disease-free, as much as possible, and
21 that we have zonation and things like that. So
22 this is part of why this is there, for sure.
23 Q And I take it, it's self-evident that the reason
24 that you would spend money studying these issues
25 is because you didn't know the answers yet.
26 A Well, we never have all the answers, that's for
27 sure.
28 Q But these are done, these studies would be planned
29 in good faith without knowing what their outcomes
30 would be, wouldn't they?
31 A Well, if we knew the outcomes, then we wouldn't
32 have to do the study; so, yes.
33 Q So is it fair to say that these studies were
34 motivated by a real concern for the consequences
35 to wild and cultured stocks?
36 A The proposal of the priority area for research
37 recognized that disease is an issue for both wild
38 and cultured stocks. Yes.
39 Q And can I ask you whether you think it would be
40 appropriate to use scarce research dollars to do
41 research solely designed to help industry with its
42 public perception problems?
43 A That is not what DFO Science does. DFO Science
44 does research based on the needs of management.
45 Q So you wouldn't -- you wouldn't be doing this
46 research because of -- simply because of public
47 perception.

1 A No, sir, we would not.

2 Q Now, if I could look at the bullet points under
3 number VII, I note that the first four or so are
4 -- are what might be said to be focused on
5 ecological risk, whereas the last two bullets have
6 an aspect at least to them of -- of doing research
7 around commercial -- for commercial purposes, to
8 improve profitability, or efficiency, or to
9 identify new commercially important genetic
10 aspects. So it might be said that that's research
11 to meet the government's objectives around
12 enhancing the aquaculture industry.

13 A It would certainly have -- I mean, if it all works
14 out, it would be helpful to industry. But the
15 primary reason for DFO to be doing the research is
16 not specifically to help industry. For example:

17
18 Developing high-efficiency, environmentally-
19 friendly, and industry-diversifying culture
20 technologies...

21
22 The "high-efficiency", of course, relates to the
23 food conversion, and I think we all would like to
24 see that come down. The "environmentally-
25 friendly", absolutely. This is certainly a very
26 important part of DFO's mandate. And of course
27 diversification, I think diversification of any
28 portfolio is a good thing, both ecologically, and
29 in the end it would probably help the industry.

30 Q So my question for you is though, as the senior
31 person in charge, is how you go about prioritizing
32 between two types of research: research, say,
33 that may be helpful to, in this case the
34 aquaculture industry, but in other aspects of this
35 document perhaps the oil and gas industry. In
36 other words, research that might confer benefits
37 to the public, compared to risk that is designed
38 to reduce risk to -- on an ecological basis.
39 You'd agree with me you're doing both types of
40 research?

41 A I would say that the research we do, or did, or
42 are continuing to do, would satisfy both purposes,
43 but, yeah, it would.

44 Q And you're aware that one of the objectives of the
45 federal government is to grow the aquaculture
46 industry.

47 A Yes.

- 1 Q And does Science play a role in assisting in that?
2 A Well, again, Science plays a role in that we
3 undertake research in order to support management
4 requirements.
5 Q All right. So these -- these bullets that will
6 assist the industry, are they developed from the
7 bottom up by scientists?
8 A They were developed both ways, from bottom up and
9 top down.
10 Q It just strikes me as --
11 A But certainly the scientists have to have input
12 because they know what the scientific questions
13 are.
14 Q Well, yes. But do you have a number of scientists
15 who are recommending up that they'd like to do
16 more research to enhance industry? Is that what
17 their burning research desires are?
18 A I have never heard that.
19 Q So it seems to me that there must be some
20 involvement of the industry in setting these kinds
21 of priorities.
22 A Well, certainly some of the scientists talk to the
23 industry because of the issues, but most
24 scientists are interested in the scientific
25 question, not whether it's going to help industry
26 or not.
27 Q Okay. Well, if you're studying -- how do you deal
28 with the -- the inherent conflict at times between
29 studying issues that are designed to mitigate risk
30 from an industry such as aquaculture, and studying
31 benefits which are designed to grow the industry?
32 A I don't think it's that simple. It's not a black
33 and white issue. The work that we do may do both.
34 But, you know, it's not sort of I'm going to set
35 out to do this to help the industry. If this is a
36 scientific question and therefore we're going to
37 undertake scientific research to try to answer
38 that question in order to support management
39 needs.
40 Q But if you're asking the question in your
41 research, as I see that -- as I think you were, of
42 was there a risk of disease from aquaculture being
43 passed on to wild stocks, you'd have to agree with
44 me that there was at least in your mind a
45 possibility that there was that risk?
46 A There's always a risk. There's a risk in
47 everything we do, and as it says, you know there's

1 cultured to wild, wild to cultured, it's -- it's
2 an ecosystem, as we discussed yesterday. So it's
3 not a black and white thing.
4 Q But if it turns --
5 A But I mean, as I say, the science that is
6 undertaken within the Department of Fisheries and
7 Oceans is undertaken in order to try to give
8 management tools for making decisions.
9 Q But if it turns out that your science discovers
10 that fish farms create an enhanced risk of disease
11 to wild salmon, then growing the industry might be
12 the wrong thing to do. Isn't that right?
13 A That's not for me to answer. That would be for
14 management. But certainly, Science would bring
15 whatever risks are found to the attention of
16 management. That is the role.
17 Q So but do you -- does the precautionary principle
18 suggest that if -- if there's a significant risk,
19 that you would cease to do certain of these
20 activities?
21 A That Science would cease to do it?
22 Q No, that the -- that government would cease to do
23 it.
24 A Science would bring the risk to the attention of
25 the management, and then, yes, if the risk is
26 significant and if there's a good scientific basis
27 of evidence for that, and it seems apparent that a
28 decision must be taken, then the precautionary
29 approach would apply.
30 Q So do you see any conflict between those two
31 tasks?
32 A Not for Science, no.
33 Q All right. Can I ask you whether the Minister's
34 office was involved in setting priorities?
35 A Nope. No, was not, not scientific priorities.
36 Q And I've already asked you about the aquaculture
37 industry. As I understand, it they weren't
38 directly involved --
39 A No.
40 Q -- except that they were talking to scientists.
41 A Scientists talk to all kinds of industry. They
42 talk to the wild fish industry, they talk to the
43 oil and gas industry. They have to talk to the
44 people that are involved.
45 Q And is the Director General for Aquaculture
46 Management involved in setting priorities?
47 A The Director General for Aquaculture would have

1 been consulted.

2 MR. McDADE: All right. Those are my questions. Thank
3 you very much, Doctor.

4 MR. WALLACE: Thank you, Mr. McDade.

5 Mr. Commissioner, the next participant is the
6 Conservation Coalition, Mr. Leadem.

7 MR. LEADEM: For the record, it's Leadem, initial T.,
8 appearing on behalf of the Conservation Coalition.

9

10 CROSS-EXAMINATION BY MR. LEADEM:

11

12 Q I would bid you a good morning, Dr. Watson, but
13 I'm not sure what time it is there.

14 A Well, it's about 4:51 p.m.

15 Q All right. I represent a group of environmental
16 non-governmental organizations, and so my
17 questions to you will come with that -- within
18 that context. And I will also be asking you
19 questions predominantly based upon the minutes
20 from the Science Management Board.

21 A Okay.

22 Q I don't know whether you have hardcopies of those
23 available to you, but I'm going to ask that they
24 be broadcast, and the first one is the -- I
25 believe been marked as Exhibit 43 in these
26 proceedings.

27 A Could you just tell me the date?

28 Q April 22, 2008.

29 A Okay. Yes, I have those.

30 Q Thank you. I'm going to ask you to turn to the
31 third item on that Agenda, which is an item
32 entitled "Science Peer Review and Advice". Do you
33 see that?

34 A Yes.

35 Q And the specific reference that I want to refer
36 you to is found within paragraph 3. But before I
37 go there, I want to make sure that when it says
38 "W. Watson-Wright introduced the item" that's you,
39 is it not?

40 A That would be me, yes.

41 Q And then if we drop down to paragraph 3, I find
42 these words:

43

44 The presenter emphasized making better use of
45 risk and uncertainty in the planning for peer
46 reviews...

47

1 So I take it that when it says "the presenter",
2 that would be you, as well; is that correct?
3 A No, I introduced it, but Mr. Serge Labonte
4 presented it.
5 Q Okay.
6
7 The presenter...stressed the following
8 aspects; [the] need for approval of advice,
9 making use of reference points and limits
10 within the advice provided, training of
11 future Chairpersons --
12
13 A Yes.
14 Q
15 -- ensuring that the science advice process
16 is at "arms-length"...
17
18 And I'm just going to stop there.
19 A Yes.
20 Q Because in brackets next to the "arms-length"
21 there's an explanation:
22
23 (absence of political-management
24 interference...)
25
26 A Correct.
27 Q And that's important to keep science and the
28 politics separate, is it not?
29 A Yes, it is. That's part of the SAGE principles,
30 the Scientific Advice for Government Excellence.
31 Q Right. That science advice should be predicated
32 on science and not necessarily what the
33 politicians want to do. Isn't that fair to say?
34 A That is correct.
35 Q And so when you're developing this peer review and
36 advice program, you want to make sure that it's
37 free from political interference, correct?
38 A Yes, and it's a very sophisticated process within
39 DFO, I should say.
40 Q And you know that's always a danger because at
41 times politicians like to get scientists to say
42 what the politicians want to say, rather than what
43 the scientists ought to say. Isn't that fair?
44 A That happens occasionally, although we've been
45 very fortunate that DFO, at least while I was
46 there, that the Ministers that we had didn't do
47 that.

1 Q Right. But you are aware from the past
2 discussions that in the past that was a problem in
3 DFO - I'm going back maybe a couple of decades -
4 with politicians trying to interfere with the
5 science?

6 A I was not party to those discussions.

7 Q But you're aware of those, those events?

8 A No, I'm not aware of the events. I'm aware that
9 people say they happened, but I'm not aware of the
10 actual events.

11 Q All right. When did you join the Department of
12 Fisheries and Oceans?

13 A 1989.

14 Q Okay.

15 A January 3rd.

16 Q Now, later on in the discussion under item 3,
17 "Science Peer Review and Advice", the "Action
18 Plan".

19 A Yes.

20 Q There's a number of things that were appropriate
21 for consideration and I'm going to ask you to
22 focus on item (c), which is actually on the next
23 page, on page 3.

24 A Yes.

25 Q And I find these words:

26
27 c) the concept of a "two-tiered" process for
28 the provision of science advice, which would
29 bring together first (1) scientists and
30 industry to discuss data and information and
31 then (2) internal and external scientific
32 experts to peer review the information and
33 draft the scientific advice.

34
35 Do you recall that discussion?

36 A Not that specific, no. I mean, of course, I was
37 there. I don't recall the particular discussion
38 during the meeting.

39 Q That "two-tiered process" that's being mentioned
40 there, do you know if that's something that the
41 Science people had taken forward?

42 A Yes, well, of course, it's very, very important to
43 talk to industry, and in particular in terms of
44 the harvest fishery, the harvest fishermen have
45 very much information in terms of conditions, and
46 what the fish look like, they're very -- they're
47 quite sophisticated. And in most peer review

1 processes, in fact, those that have information to
2 offer and expertise to offer, are invited as
3 participants in the peer review process.

4 Q So generally -- sorry, I didn't meant to interrupt
5 you. Do you want to continue?

6 A No, that's okay. I do not remember this
7 particular discussion, but it is absolutely
8 essential to involve industry, as I said, in -- in
9 providing information and providing data and
10 providing expertise, in order that Science has as
11 much information and expertise as they have. So
12 this would be trying to include, we'd call,
13 traditional fishers knowledge, for example.

14 Q Okay. So under "Action 2", which you will find
15 bold -- in bold letters there, I find these words:

16
17 The Board directed Science to move forward
18 with a refined Action Plan, including the
19 potential use of pilots for a two-tiered
20 process for peer review.

21
22 Do you know if that's been done?

23 A I would think it has. We certainly did come
24 forward with a refined Action Plan, and as I said,
25 it's quite a sophisticated one. As for the two-
26 tiered process, I believe that probably Dr.
27 Richards would be able to answer that, or if not,
28 somebody from the Ottawa Canadian Science Advisory
29 Secretariat office.

30 Q You're not aware of that.

31 A Well, let's say my memory is not as good as it
32 used to be, and so it's -- I wouldn't like to say
33 yes and be not certain.

34 Q That's reassuring to me. My memory's not as good
35 as it used to be, either. I'll reserve my
36 questions, then, for Dr. Richards when her panel
37 resumes.

38 I'd like you to now turn to the Science
39 Management Board Minutes from October 27, 2009.
40 Mr. Commissioner, I believe these have been marked
41 as Exhibit 46 in these proceedings.

42 A Yes, I have those.

43 Q And you were in attendance, were you not?

44 A Yes, I was. I actually facilitated that meeting.

45 Q I see that under "Opening Remarks", number 1. I
46 want you to please turn to the second page under
47 item 2, "The Increasing Intensity and Spectrum of

1 Ocean Use".

2 A Yes.

3 Q And to drop down to the last bullet on that page,
4 the one that says:

5
6 Over the last 15 years, there has been
7 significant growth in Environmental Non-
8 governmental Organizations (ENGOS). ENGOS
9 typically lobby government to pursue
10 conservation objectives in favour of resource
11 exploitation objectives. In terms of Science
12 priorities, what should the balance be?
13

14 I find that question quite interesting. Did
15 the --

16 A (Indiscernible - overlapping speakers) that's why
17 it's a question.

18 Q Sorry?

19 A I say that's why it's a question.

20 Q All right. Is it -- but it's more than just a
21 rhetorical question, is it?

22 A No, it's a real question, but it is a question.
23 And you'll note there's not an answer there.

24 Q All right. Because that's where I was going with
25 that.

26 If you have a resource that where the primary
27 focus should be conservation, do you agree firstly
28 with that concept, that with respect to fisheries,
29 the primary objective should be conservation of
30 the resource?

31 A Conservation of the resource comes first --

32 Q Yes.

33 A -- before anything else. Yes.

34 Q Right. So if you have to strike a balance, to me
35 that sees that you're trying to balance
36 conservation with exploitation, and aren't those
37 two terms antithetical to one another?

38 A Well, I don't think so. Again, in terms of
39 Science and what it needs to do, the basis of the
40 DFO Science really is conservation, or
41 sustainability, for sure. That would be the
42 primary consideration.

43 Q So really, then, going back to that not so
44 rhetorical question, "What should the balance be?"
45 I'm going to suggest to you that in a regime where
46 you have suggested that conservation must come
47 first, it's not really a balancing so much as it

1 is an acknowledgment in that type of situation,
2 conservation must come first. And so the balance
3 must always tip in favour of conservation. Is
4 that fair?
5 A In terms of the work that Science does, again
6 Science in DFO, within the government, undertakes
7 its science in order to support management
8 needs --
9 Q Yes.
10 A -- and needs for decision. So if Science feels
11 that there's a very large risk of some certain
12 activity, then certainly Science brings that to
13 the attention of management.
14 Q Right. I understand that management makes the
15 decisions and scientists are in the position of
16 providing the advice.
17 A Right.
18 Q So as scientists, and particular as scientists
19 which are concerned with conservation of the
20 species, wouldn't the primary advice be that one
21 must consider conservation first and then one can
22 look at exploitation of the resource. Isn't that
23 the starting point?
24 A Well, that's the way the Department works, anyway.
25 The conservation comes first, and then if it
26 appears that there is not a large risk to
27 conservation of a species or an ecosystem, then
28 it's: All right, how far can we go in terms of
29 use that is sustainable.
30 Q I'd like to now move on in that same document to
31 number 5. There is a discussion entitled "Best
32 Practices in DFO - Industry Collaboration:
33 Aquaculture as a case study". And this was led by
34 Jay Parson, Director of Aquaculture Science. Is
35 he still with DFO, to your knowledge?
36 A Yes, he is, although he's in a different position.
37 Q Now, under that heading I see "Purpose".
38 A I beg your pardon?
39 Q I want to refer you to the "Purpose" of this
40 discussion.
41 A Okay.
42 Q
43 In response to SMB request for information on
44 our collaboration with industry, ...
45
46 I'm just going to stop there. When it says "our
47 collaboration with industry", who is the "our"

1 that's being spoken of there?

2 A It would be DFO Science. DFO Science does have
3 collaborations with industries of all types.

4 Q Okay.

5
6 ...DFO Science's relationship with the
7 aquaculture industry will be discussed with
8 emphasis on its successes, best practices and
9 challenges; and to explore whether these are
10 transferable to other regulated ocean
11 industries (e.g., offshore oil and gas).

12

13 So that was the purpose for this particular
14 discussion being held by the Science Management
15 Board; is that right?

16 A Yes. It was to have an intellectual discussion on
17 the whole notion of these, yes.

18 Q And the first bullet under the heading "Direction"
19 I find these words:

20

21 The role of science in aquaculture should be
22 re-evaluated. For example, the Department's
23 experience with sea lice, in particular, with
24 respect to what has transpired with Sockeye
25 Salmon in the Fraser River in 2009.

26

27 And then once again some very difficult questions:

28

29 In this case, what is the role of science?
30 To solve the problem or to help inform the
31 debate?

32

33 A Yes. And I would say that it's both.

34 Q So both, you would say that the role of science is
35 both to solve the problem by conducting research
36 into the sea lice issue, as well as --

37 A Well --

38 Q Sorry.

39 A Yeah, it's to inform the -- it's to provide advice
40 on the issue.

41 Q Well, it's to provide advice, but also you ask a
42 very important question there: To solve the
43 problem. Is it the role of Science as you see it
44 to solve the problem of sea lice and in
45 aquaculture?

46 A The role of Science is to provide the state of the
47 science, and what is known about the issue, to

1 management. So I would say the wording is -- this
2 is probably the wording that was mentioned in the
3 meeting.

4 Q Yes.

5 A But again the role of Science is the same in all
6 manners. It is to actually find out what is going
7 on, is there a problem, what is the problem, what
8 is the issue, what needs to be done, what research
9 needs to be done, what monitoring needs to be
10 done, in order to help inform management.

11 Q Yes. I understand that.

12 A Yes.

13 Q But in order to solve the problem, wouldn't it be
14 of some importance for DFO scientists to actually
15 perform the research themselves in order to help
16 resolve this problem?

17 A Yes. And DFO Science scientists have been
18 performing research on the issue, and have been
19 doing monitoring on the issue.

20 Q The second bullet under that "Direction" heading
21 says:

22

23 Science must inform the Department
24 surrounding the risks posed by the
25 aquaculture industry and provide advice in
26 developing strategies and regulations to
27 mitigate identified risks.

28

29 A That would be correct.

30 Q And that is being done, to your knowledge, is it?

31 A Yes, absolutely. And Dr. Richards would be able
32 to tell you about some of the science in that
33 region that's being done.

34 Q Okay. And I'll wait for her to rejoin the panel
35 after your testimony is finished.

36 The third bullet under that heading, under
37 "Direction", refers to the "precautionary
38 principle". And there is a discussion about:

39

40 The precautionary approach should be the
41 guiding principle in balancing economic
42 prosperity and environmental protection to
43 achieve sustainable development.

44

45 A That is --

46 Q Those are your personal views, as well, are they
47 not?

1 A Well, it wouldn't matter whether they were or were
2 not my personal views. They're certainly the
3 professional views and that's what DFO Science is
4 there to do. But, yes, they happen to be my
5 personal views, too.

6 THE COMMISSIONER: I think it's item 5, Mr. Lunn.

7 MR. LUNN: Thank you.

8 MR. LEADEM:

9 Q The fourth bullet down makes mention of:

10
11 Engagement on scientific issues could be used
12 as a means to improve relations with First
13 Nations on a range of issues including but
14 not limited to aquaculture, sea lice, and the
15 wild capture fishery.
16

17 That was the point of a --

18 A Yes.

19 Q -- discussion at that -- at that time, was it not?

20 A Yes. And this is not abnormal. I call it science
21 for diplomacy, and science is fairly often used
22 around the world for diplomacy purposes and for
23 engagement purposes. Because as you probably
24 know, scientists are more -- they're interested
25 in the issue and not the politics. And most of
26 our stakeholders within DFO are also interested in
27 the scientific issues. So it is a good way to --
28 to establish good relationships with all the
29 stakeholders and the client industries, and it
30 makes communication and information exchange a
31 whole lot better.

32 Q And I believe the last bullet speaks to that
33 diplomacy issue, as well, does it not?
34

35 DFO should assess the current model for
36 engaging with stakeholders to resolve
37 contested ocean spaces and consider how
38 Science can help the Department move forward
39 and achieve resolutions.
40

41 That's what you're interested in, is it not?

42 A Yes. Again, Science is there to help and I think
43 Science has a fairly large role to play in terms
44 of bringing stakeholders together, in some cases
45 to undertake marine spatial planning, which is
46 becoming more and more of interest around the
47 world.

1 Q You can turn to page 6 of those minutes, under the
2 heading "Wrap-up Discussion", item number 7.

3 A Yes.

4 Q There are two specific bullets I'm going to refer
5 you to. The first one:

6
7 [The Science Management Board] discussed the
8 importance of the wild capture --

9

10 I take that to mean the wild stock of fish.

11

12 -- and the expanding aquaculture industry as
13 well as other emerging industries and the
14 increasing spectrum of ocean use.

15

16 Those are issues that are very much alive to the
17 scientific community with DFO, are they not?

18 A Within DFO and beyond, yes.

19 Q Right. And the fifth bullet down says:

20

21 In the discussion on aquaculture, the issue
22 of sea lice was highlighted as an example of
23 where DFO must do a better job in terms of
24 stakeholder engagement, departmental
25 communications, and engaging the scientific
26 community to further our collective
27 understanding of the issue.

28

29 So that was the general wrap-up from the
30 Scientific Management Board that met on that day,
31 was it not, and that was a -- that was a result of
32 the discussion.

33 A Yes, that certainly came up in the discussion,
34 along with all the other bullets.

35 MR. LEADEM: Thank you, those are my questions.

36 MR. WALLACE: Thank you, Mr. Leadem.

37 Mr. Commissioner, the next participant I have
38 on the list is the First Nations Coalition, and
39 Ms. Gaertner, and I have no other participants
40 listed at the moment, so if anyone else wishes to
41 ask, please come and see me.

42 MS. GAERTNER: Thank you, Mr. Commissioner. Brenda
43 Gaertner, and with me Leah Pence, for the First
44 Nations Coalition.

45

46

47

1 CROSS-EXAMINATION BY MS. GAERTNER:
2

3 Q It's amazing what technology allows us to do.
4 It's the first time I've ever been in a courtroom
5 asking questions of somebody sitting in Paris. So
6 I just wanted to bring to you something that often
7 happens in meetings with First Nations when we
8 start the day, which is we're at least usually in
9 the same room, and we at least usually have
10 experienced the same weather. But I know you know
11 Vancouver, and so this morning when I walked to
12 work this morning, I was absolutely shocked how
13 beautifully warm and soft the morning was, because
14 it's November, and it's sunny and the sky was
15 clear. And so that's what we're experiencing here
16 today, Doctor.

17 A And it's actually the same here in Paris. It's
18 unusually warm.

19 Q My questions for you this morning are -- I have
20 about four or five different topics that I want to
21 cover, and I have to acknowledge that my questions
22 are going to be more at the 70,000-foot level as
23 it relates to ecosystem science with you, and I
24 think that at this stage in the discussions with
25 Commissioner Cohen that might be useful. And I'm
26 going to save some of the more specific questions
27 to the panel for the rest of the day.

28 And I wanted to begin briefly, and we could
29 go to Exhibit 47, page 4 and 5 for this --

30 A If you could tell me the title.

31 Q Sure. It's the "New Ecosystem Science Framework".

32 A Okay.

33 Q And maybe just as a background again, so you
34 perhaps understand the perspective from which I'm
35 asking these questions, one of the particular --
36 two of the particular interests that my clients
37 have with respect to this inquiry is that
38 Commissioner Cohen has been asked not to spend his
39 time focusing on finding fault in these
40 circumstances, and looking specifically to trying
41 to find recommendations for improved management
42 and sustainability.

43 A Right.

44 Q And so it's an effort on my part to not in any way
45 suggest that Science in any way is at fault in
46 these circumstances, but rather to focus on the
47 challenges that we're facing.

1 And when I looked at the framework material,
2 particularly I looked at the broad spectrum of
3 issues that you've identified, 1 through 9 on
4 those pages at page 4 and 5, and I want to start
5 with some basic questions.

6 You'll agree with me that institutionally at
7 least, within the Department of Fisheries and
8 Oceans implementing ecosystem science is somewhat
9 of the new kid on the block as it relates to
10 Science in the Department of Fisheries and Oceans.

11 A Yes.

12 Q And you'll also agree, and I'll turn you
13 specifically to paragraph 8 on page 5, that the
14 information that's necessary for ecosystem
15 science, at least, is somewhat lacking and it's a
16 bit of a challenge ahead of us to find out how to
17 gather that information, who to gather it from,
18 how to bring it together from the various
19 different departments and from the various
20 different holders of that information; is that
21 correct?

22 A Yes, and that's why it is important to engage as
23 many who have information as possible in a very
24 positive sense.

25 Q Absolutely. And another -- another observation
26 that my clients have had and I have shared it, is
27 that another challenge in the gathering of the
28 information is that very generally there are sort
29 of two types of information that could be useful
30 at a ecosystem science base. There's the
31 quantitative approach, and that quantitative
32 approach would be the -- something like detailed
33 temperature data, or the kind of data that science
34 is most comfortable with; is that correct?

35 A Yes.

36 Q And the other more difficult one is things like
37 the qualitative approach. And those would be the
38 types of things that perhaps you're looking for
39 when -- in item number 2, when you're beginning to
40 talk about the types of indicators that would be
41 useful and the possible interrelationships within
42 the ecosystem, and those are sometimes what can be
43 considered more qualitative, like the health of
44 the air, or the water, and how that -- the fish
45 are looking and what's the health of the fish,
46 those types of indicators; is that correct?

47 A That's true, and that's why I think it's very

1 important to include traditional knowledge within
2 any sort of assessment and advice. Traditional --
3 yes, traditional ecological knowledge and I
4 mentioned traditional fishers knowledge, but, yes,
5 very important.

6 Q Exactly where I was talking you next, so thank you
7 very much. And my question around the challenges
8 of integrating the different holders of knowledge
9 is that the -- I'm just wondering from your
10 experience within the Department of Fisheries and
11 Oceans, and internationally, whether specific
12 steps have been taken to begin to develop the
13 types of protocols and necessary relationships of
14 respect. You'll acknowledge that there are
15 challenges associated with the sharing of that
16 information in occasions, and whether you're aware
17 of any steps the Department is taking, or whether
18 there's any tools that this Commission could make
19 themselves -- make available to them to consider
20 the types of protocols or approaches that would be
21 useful to integrate the traditional ecological
22 knowledge and the more scientific knowledge.

23 A I know there have been efforts made for sure
24 within the Department to include the traditional
25 knowledge. I don't know that it's been done in a
26 formal way. Certainly some Chairs of the Science
27 Advisory Processes explicitly try to do that. I
28 don't think we've -- I don't think, and again,
29 probably Dr. Richards could speak more to this.
30 but I don't think that there's an actual formal
31 process for doing that.

32 Having said that, yes, internationally there
33 is work going on and I'm just becoming familiar
34 with that. In fact, UNESCO is trying to lead
35 something in terms of traditional knowledge and
36 including it in the Arctic, for example. So it's
37 essential. And I really do believe that it will
38 require an international effort to actually be
39 able to do it well, and so that everybody's
40 comfortable and everybody feels that both types,
41 both quantitative and qualitative knowledge have
42 been included in the assessments.

43 It's not just for First Nations or aboriginal
44 peoples, though. It is also the other types of
45 traditional knowledge. And in fact Mr. Bevan and
46 I had discussed this at one point, and he, too, is
47 very much a proponent of trying to include the

1 qualitative knowledge that may mean a change in
2 the types of questions that managements asks of
3 Science, as long as we were -- as long as Science
4 is asked quantitative questions, then they'll come
5 up with quantitative answers. So what kind -- how
6 to frame the questions differently so that both
7 qualitative and quantitative data can be included,
8 and not just data, information.

9 Q Thank you very much. That's extremely helpful. I
10 was going to finish, and I'm just going to pick up
11 now on those international -- that international
12 work that you're involved in. Particularly I'm
13 aware of and we have already before the Commission
14 the biological -- the Biological Code -- the
15 Convention of Biological Diversity. Are there any
16 other specific codes of conduct or international
17 conventions that may be useful to the Commissioner
18 in his work? I'm also aware of the -- and we have
19 referenced in one of the materials the UN Food and
20 Agricultural Code of Conduct for Responsible
21 Fisheries in 1995. Are there any other specific
22 documents you could immediately think of that may
23 be useful when considering the complexities of
24 bringing together the different holders of
25 knowledge for ecosystem science?

26 A Not off the top of my head. But again I suspect
27 that Mr. Bevan and Dr. Richards may have that
28 information more at their fingertips. I don't
29 want to put them on the spot, but I suspect they
30 may. And I'd have to think a little bit more
31 about it.

32 Q All right. Well, I'm sure if there's something
33 that does to come to your mind, that there will be
34 a way that you'll be able to bring that to our
35 attention, and I would appreciate that.

36 A Yes. I certainly have the mechanism, so I'll be
37 happy to do that.

38 Q Thank you. My next area of questions or inquiry
39 of you is the whole area of cumulative impacts,
40 and the challenges associated with that. And
41 particularly, I guess it's fair to say that from
42 my client's perspective, the challenges associated
43 with the complexity of the ecosystems for the
44 Fraser River sockeye and for the world -- and for
45 the impacts that are happening, is that we're
46 really in a state where we've got both cumulative
47 impacts and new impacts happening simultaneously.

1 Would you agree with me on that?

2 A Yes.

3 Q Would you also agree with me that that reality
4 presents some significant challenges for
5 scientific study?

6 A Yes, I think that that's without a doubt.

7 Q And I wonder if you could also help me in
8 understanding whether there's any approaches or
9 methodologies, or some kind of combination of the
10 two, in which either at DFO scientific level, or
11 again in the international community that's begun
12 to help us tackle how to assess cumulative impacts
13 in -- in a wild stock.

14 A The question had certainly been coming up more and
15 more for DFO Science from the Oceans Habitat
16 Sector within the Department as to how do we
17 actually get a handle on this. Again, I don't
18 believe, unless significant work has been done in
19 the past year, I don't think that, you know, we
20 have a defined approach for doing that. But
21 clearly as part of the ecosystem science, I mean,
22 that's what you're dealing with is the cumulative
23 impact and those that are coming on top. And
24 that's really the big challenge for the world,
25 isn't it, to try and figure out how one impact
26 then accumulates, and then -- and the others, the
27 impact on the impact, you could say that.

28 Worldwide I'm not familiar at this point with
29 where one might be on cumulative impacts. But
30 again, those -- that's why it's so important for
31 DFO scientists to be involved internationally,
32 which they are, thankfully.

33 And Dr. Richards in her work with
34 organizations such as PICES, which is the North
35 Pacific Marine Science Organization, may be able
36 to tell you what's going on globally in that area,
37 and also within DFO Science what is going on at
38 the moment, as well as Dr. Mithani.

39 Q Thank you. And just building on that challenge,
40 the cumulative impacts and the new impacts, I want
41 to turn you to -- well, again, I guess it's just
42 exhibit -- the same exhibit we were at, and
43 actually the same pages we were at. And given
44 that -- again my observation is that when you
45 developed your framework for beginning to do
46 ecosystem science within DFO, there was a broad
47 range of issues that you felt yourself facing,

1 particularly the need to develop more information,
2 the need to develop risk assessments, the need and
3 particular in paragraph 4, or item number 4 on
4 page 5, you recognized again that in addition to
5 the cumulative impact and the new impact, some of
6 these impacts could happen very abruptly, if I --
7 if I've got that correctly. And that that abrupt
8 -- those types of abrupt changes are often very
9 difficult to integrate institutionally; is that
10 correct?

11 A Yes. And the whole concept of regime shift is
12 very interesting. In fact, there was a very
13 interesting study done on the East Coast whereby
14 one of the scientists put together all of the
15 monitoring data from as far back as it went. I
16 think, you know, back to the 19 -- at least the
17 '50s, and some of it beforehand. All, everything
18 that was being monitored in a particular part of
19 the Atlantic, and this was then put in the context
20 of what happened to the species. And there was a
21 whole -- it was very nicely displayed in a colour
22 chart where you could see that as it became --
23 well, let's say, as it became colder, then the
24 whole species structure changed so that it went
25 from favouring finfish to favouring shellfish.
26 And but, you know, that really does lie on very
27 comprehensive monitoring data over a long period
28 of time, and I would say monitoring and long-term
29 datasets are key to being able to establish trends
30 and to actually see what's going on.

31 Q Thank you. If I was to bring those all together
32 now, so we've got cumulative impacts, we've got
33 new impacts, we've got the potential for abrupt
34 impacts, is it fair to say that this growing
35 uncertainty is causing both global, and I'm going
36 to suggest with the Fraser River, given the
37 increased water temperatures that we're
38 experiencing here in the Fraser River, that
39 they're both global and local changes that can
40 result in very abrupt challenges for any fisheries
41 manager, or any scientist reviewing that. Would
42 you agree with me?

43 A Yes. Now, how abrupt, I'm not sure, but that's
44 the question, right?

45 Q Well, abrupt is abrupt, I would suggest, and it's
46 always -- I mean, in the context of -- yeah, in
47 societal responses to that, it's always difficult

1 when the change is happening quickly, or we
2 identify a change happening quickly. Yes?

3 A Yes. But as I say, it's all relative, right, if
4 we're talking about how long have we been here on
5 earth, then "abrupt" has a different concept than,
6 you know, how many fish came back last year versus
7 this year. Yes.

8 Q Point well taken. Thank you. I want to just turn
9 then to what I heard yesterday. I'm not sure,
10 Doctor, if it came from you or from other in the
11 panel, but it's clear that the Privy Council
12 Framework for the Application of Precaution in
13 Science is considered a Bible within science work.
14 Was that your words or was that -- or would you
15 agree with that sentiment, at least?

16 A I do think that I said that.

17 Q Oh, okay. Great. And I guess I just want to echo
18 concerns that many of my clients have, and that
19 given all of these uncertainties, that one of the
20 clear places we are in is not an application of
21 precaution in any one particular decision, that is
22 also very necessary, but we're really in an age of
23 precaution. Would you agree with me on that?

24 A I'm not sure I understand what you're...

25 Q Okay. Well, I'm going to -- I'll try to build it
26 again and see if you'll -- you'll come with me,
27 and if not, I'm very interested in how your views
28 are on this.

29 So we've got cumulative impacts. We've got
30 new impacts, all occurring to a wild stock that
31 travels through many different ecosystems that are
32 subject to change. We've got growing uncertainty
33 around the global and local changes that are
34 affecting that stock, and the potential for abrupt
35 changes. And so it's not really in the
36 application to one particular question or one
37 particular issue alone that we need to apply
38 precaution, it's more comprehensively.

39 A Yes, absolutely. Yes.

40 Q And then I just have one final question for you --
41 oh, potentially two, sorry. But I just wonder,
42 again it's concern that's been raised by many of
43 my clients with me regarding Commissioner Cohen's
44 terms of reference, and particular the emphasis on
45 one of the species within the Fraser River
46 watershed, being the sockeye. We've heard a lot
47 about the growing policy and awareness of the

1 importance of ecosystem approaches, and that, of
2 course, is not something new for First Nations,
3 from a First Nations perspective. So I wondered
4 if you could provide any comments or
5 recommendations on how we, as we begin to do the
6 work under these terms of reference and assist
7 Commissioner Cohen, how we might take care not to
8 become too Fraser sockeye centric.

9 A I think you just said it, don't become too Fraser
10 sockeye centric. I think there is clearly a need,
11 and I believe from the studies that I've seen that
12 are being undertaken, there are many ecosystems to
13 look at. I mean, you can look at the whole
14 Fraser, but that's a big ecosystem, and within the
15 Fraser there are smaller ecosystems, and then
16 there's the Strait of Georgia ecosystem, and of
17 course there's the big North Pacific ecosystem.
18 And I do believe that from everything I've read so
19 far, that the Commission is taking more of an
20 ecosystem-based approach, and trying to look at
21 all different kinds of causes, recognizing that
22 there's probably -- well, we don't even know
23 what's the status, given -- given the returns this
24 year.

25 But it's doubtful that there's any one
26 particular reason for any one particular return.
27 And that it is important to keep the mind at, you
28 know, the 70,000 feet in order to keep open to any
29 possibility of what might be impacting on the
30 Fraser River sockeye in wherever they happen to
31 be. And because they roam so far, there's a lot
32 of territory to cover and a lot of issues.

33 MS. GAERTNER: Thank you very much, Doctor.

34 Those are all my questions, Commissioner
35 Cohen.

36 A Thank you.

37 THE COMMISSIONER: Mr. Wallace, I just have a couple of
38 brief questions.

39 MR. WALLACE: Thank you.

40 THE COMMISSIONER: Thank you.

41
42 QUESTIONS BY THE COMMISSIONER:

43
44 Q Dr. Watson-Wright, can you hear me?

45 A Yes, I can.

46 Q Thank you again for making yourself available, not
47 just on one evening but on two evenings. We're

1 very grateful to you.

2 I just have two very brief questions that
3 arose out of what you've said already.

4 When you were answering questions about the
5 connection or contact between DFO Science and
6 industry, I think there were some questions put to
7 you from the documents in that regard. I just
8 wanted to ask you whether to your knowledge is
9 there a protocol within DFO around the manner or
10 method of contact between DFO Science and any
11 outside party, be they another government agency
12 or university or industry representatives. And if
13 I --

14 A Could I just say that somebody keeps sort of going
15 in front of the camera, so it's difficult to see
16 you.

17 Q Oh, I see. I'm sorry. Yes, I'm sorry. We just
18 -- it's just the way the room is set up, so we
19 apologize for that.

20 A Well, as I mentioned there was Collaboration
21 Guidelines which were put together within Science,
22 and of course there is the -- you know, DFO would
23 have its own -- and the Government of Canada has
24 policies for dealing -- for partnering with
25 outside organizations. But again the
26 Collaboration Guidelines and Framework for
27 Science, DFO Science, I don't know where that is.
28 I don't have a copy.

29 Q All right. Maybe I can just bring that down a
30 little bit closer to the ground. On any
31 particular project that DFO Science may be
32 involved with, and in your earlier testimony you
33 mentioned that there's often reaching out beyond
34 just in-house to others to discuss that particular
35 project for input that may be of assistance.

36 A Yes.

37 Q Is it anyone within the project from the DFO side
38 that may reach out, or is there some protocol
39 around is it a senior level person, is it the
40 particular scientist working on the project. How
41 is this in fact implemented, that is, the reach-
42 out? Is it just picking up the telephone and
43 calling industry, or is there some formality
44 around it?

45 A Well, for a particular project, generally speaking
46 it would be the project leader. But again many
47 scientists, they have, you know, their own

1 particular research project that they may be
2 working on. I don't know how often one might pick
3 up the phone, but certainly it happens because of
4 the need for this communication and information
5 sharing.

6 Having said that, it's very clear and stated
7 clearly, there is -- absolutely if there's any
8 question or a perceived question of conflict of
9 interest, that is certainly not condoned, and the
10 Science people know that.

11 Q And may I just -- just one more question on that
12 point, and then I have one other question. Is
13 there a record kept of these contacts between DFO
14 Science on a particular project, or generally, and
15 the outside party?

16 A I would say not because, you know, it's important
17 on a day-to-day basis, you know, for example let's
18 say there's a biologist working on lobster in a
19 particular area of the Bay of Fundy. I know
20 that's not what you're studying, but that's -- I
21 spent a number of years there. And, you know:
22 What did you find today out there? What was --
23 what were the conditions like? Were you -- you
24 know, was it murky, or was it a lot of turbidity.
25 those things. So this is an ongoing thing and it
26 would be impossible, I would say, to keep track of
27 all these sorts of conversations.

28 Q All right. And may I just touch on one other
29 point. You said that in talking about risk
30 assessment, and I apologize to you, I don't have
31 your verbatim answer. But essentially what you
32 said that if there's not a large risk, then
33 management or, I'm sorry -- you said if there's
34 not a large risk, then you'd consider sustainable
35 use or the use that is sustainable if there's not
36 a large risk. And that -- is that consideration
37 one of Science, or is that consideration of what
38 is sustainable use one of management?

39 A Science generally in its advice are to give limits
40 of, you know, what would be the risk of doing
41 this, in particular for the capture fishery. You
42 know, if you harvest at this level, this would be
43 the risk of -- to the stock. And if you harvest
44 at this level, there might be more risk, and if
45 you go down here, then there's no risk of
46 depleting the stock. Certainly Mr. Bevan could
47 speak to that very easily.

1 THE COMMISSIONER: All right. Well, thank you very
2 much, Dr. Watson-Wright, again for your time and
3 for your cooperation.

4 DR. WATSON-WRIGHT: It's my pleasure, and, Mr.
5 Commissioner, do you feel that I will be required
6 to appear again? It's only a question. I'm
7 not... or you'll let me know.

8 THE COMMISSIONER: Well, Dr. Watson-Wright, my role and
9 my practice has been to leave that with Commission
10 counsel to determine, and often in discussions
11 with participants' counsel. So that will be
12 something they will take under advisement, not
13 myself. But thank you again.

14 MR. WALLACE: Thank you.

15 DR. WATSON-WRIGHT: Thank you.

16 MR. WALLACE: Dr. Watson-Wright, before you hang up,
17 our rules provide that Canada has an opportunity
18 to ask some wrap-up questions, as do I. At the
19 moment I do not have any, but perhaps Mr. Taylor
20 does.

21 DR. TAYLOR: Mitchell Taylor. Thank you, Dr. Watson, I
22 don't have any questions. I appreciate your time
23 on both evenings, as the Commissioner has already
24 said. Thank you very much.

25 DR. WATSON-WRIGHT: You're very welcome.

26 MR. WALLACE: Thank you. Let me add my thanks, Dr.
27 Watson-Wright.

28 In answer to your question whether you will
29 be required, that will -- I don't know the answer
30 to that, but we will contact you if we do through
31 your DOJ counsel. It may be that on some specific
32 issue your input might be requested. Or perhaps
33 at the end when we do a further wrap-up with more
34 general questions, there may be some loose ends
35 arising from the specifics during the hearings.
36 Thank you very much.

37 DR. WATSON-WRIGHT: Okay.

38
39 (WITNESS STOOD DOWN)

40
41 THE COMMISSIONER: Mr. Wallace, would it be convenient
42 to stand down for ten minutes while you reassemble
43 the panel?

44 MR. WALLACE: Yes. Mr. Commissioner. I noticed Mr.
45 Giles in jeans and feeling very uncomfortable. He
46 might like a little more time so he can get back
47 to his normal mufti.

1 THE COMMISSIONER: He was hoping you wouldn't mention
2 that, Mr. Wallace.

3 MR. WALLACE: I'm afraid I don't expect ever to see it
4 again, and I couldn't resist.

5 THE COMMISSIONER: I was tempted to perhaps maybe
6 readdress the dress code for this Commission. He
7 looks far more comfortable.

8 THE REGISTRAR: The first in 15 years in the courts.

9 THE COMMISSIONER: Thank you very much.

10 THE REGISTRAR: The hearing is now adjourned until ten
11 o'clock.

12
13 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)

14 (PROCEEDINGS RECONVENED)

15
16 THE REGISTRAR: The hearing is now resumed.

17 MR. WALLACE: Thank you. Mr. Commissioner, let me
18 again introduce the people with me, Meg Gaily,
19 Associate Commission counsel, and our assistant,
20 Jon Major.

21 Mr. Commissioner, we're back with Mr.
22 McDade's examination of this panel. By my
23 calculation and declarations from other counsel,
24 it appears we have about two-and-a-half hours of
25 examination scheduled.

26 THE COMMISSIONER: Mr. Wallace, just for the record,
27 again, I wonder if you might not just identify the
28 members of the panel, just for the record.

29 MR. WALLACE: Oh, thank you very much. For the record,
30 on the panel, we have David Bevan, Associate
31 Deputy Minister, Dr. Mithani, the Assistant Deputy
32 Minister of Science, Dr. Laura Richards, the
33 Regional Director of Science, Paul Sprout, the
34 former Regional Director General, and Alan Cass
35 from the Science Division.

36 THE COMMISSIONER: Thank you very much. Mr. McDade?

37 MR. McDADE: Thank you, Mr. Commissioner, and for the
38 record, it's Gregory McDade for Dr. Morton and the
39 Aquaculture Coalition. Can we have Exhibit 40
40 back up on the screen, the five-year research
41 agenda, please? Thank you.

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

44
45 Q Now, Mr. Bevan, we were interrupted by the -- at
46 the close of the day yesterday. Let me just
47 continue on. As I understood your evidence from

1 yesterday, the Department understands that there
2 is a real risk of disease in wild salmon
3 populations, but the research priority areas
4 referring to that were partly on that list because
5 of public perception; would that be your evidence?

6 MR. BEVAN: No, that wouldn't quite be accurate. I
7 think perhaps -- when we looked at risk, we look
8 at the probability of an event occurring, and we
9 look at the consequences of the event should it
10 occur. When we looked at that assessment relevant
11 to aquaculture, for example, there is a risk that
12 needs to be monitored, and if the risk is deemed
13 to be very high, there has to be action taken to
14 mitigate that risk.

15 When we looked at it, internally, we did not
16 come to a risk perception inside based on that
17 calculation that it was extraordinarily high, but
18 we did come to a conclusion that it was something
19 that warranted attention.

20 On the -- when we started to receive external
21 information that -- and the -- that there was a
22 very high potential risk and a very high
23 consequence, that information coming from sources
24 outside the Department, it did spark a debate
25 within the Department as to, well, is -- do we
26 have it right or do they have it right, or is
27 there some fact in the middle of this that needs
28 to be warranting more attention from us? And I
29 think that's what has started to drive some of the
30 questioning. We can't assume we have it right and
31 that the -- that everybody else is wrong, or that
32 the group is wrong, et cetera. We need to do due
33 diligence to make sure that in the -- that the
34 risk is better -- is well understood and in the
35 event that it is indeed found to be a high risk,
36 that it was well managed in terms of action taken.
37 So it wasn't because of public perception or --
38 that it was driven, it was that there was an
39 alternative view. And if the alternative view is
40 more accurate than the internal view, we can't
41 live with that kind of circumstance, we need to do
42 investigations in order to determine if there's
43 something there that we're not -- we didn't
44 assess, or if there isn't, then we need to have
45 that communicated to the public. So it's a matter
46 of caution, if you would. Now, we need to be sure
47 that we aren't making an error in our assessment

1 and then our perception of risk is not accurate.
2 Q So -- and now, you refer to the matter of the --
3 some qualitative or quantitative assessment of
4 risk as being high risk, but don't you -- you'd
5 agree with me that you also factor in the
6 magnitude of the consequences, right, so that a --
7 even a lower-risk event that will have very
8 significant and adverse consequences is something
9 that ought to be managed?

10 MR. BEVAN: Yes, what we have is quadrants are set out.
11 So we have -- the most extreme risk is high
12 probability and high consequence and that's
13 something that obviously needs to be attended to.
14 You can have high probability, low consequence,
15 that's in a lower concern. You can have low
16 probability, high consequence. That's a higher
17 risk than high probability, low consequence. And
18 then, of course, the lowest is low probability and
19 low consequence. So we map out the risks on that
20 kind of a quadrant. And when we did that, we were
21 of the opinion that the aquaculture risk posed to
22 the ecosystem wasn't that high.

23 However, the external information coming in
24 was that it is, and we can't live with the gap
25 between our perception and the perception that
26 exists that it's high probability and high
27 consequence and that's why that became a focus of
28 research, because we can't live with an error. We
29 need to better understand it. So that's the
30 reason why we're questioning ourselves on that
31 issue.

32 Q Well, wouldn't it have been the Department's
33 opinion at that point that then it was low risk,
34 but high consequence?

35 MR. BEVAN: We didn't come to the conclusion that it
36 was low risk, high consequence, we came to a
37 conclusion that -- well, compared to the view of
38 others, we didn't share the view that the
39 consequences were extraordinarily high. And I'm
40 getting out of my area of expertise here --

41 Q All right.

42 MR. BEVAN: -- because that should be left to the
43 scientists who are much better equipped to assess
44 the risk than we are. Our decision at the time
45 was that we better get to the bottom of the
46 difference, we can't live with the difference
47 because if the external studies were right, that

1 was too much risk for us to take. Now, we didn't
2 share the point of view, based on our own research
3 as I understand it, and that's better left to our
4 Science people, the -- we didn't share the view
5 that the risk was as high as was being suggested
6 by some of the external studies, but that is
7 unacceptable for us to ignore. We need to get to
8 the bottom of the issue.

9 Q So when you referred yesterday to perception, I
10 had understood you to be talking about public
11 perception of the aquaculture industry, but what
12 you're saying today is that it was external
13 scientific evidence that you were reacting to?

14 MR. BEVAN: We are -- well, there is, obviously, a
15 perception in the public, but that public
16 perception is driven, in part, by the external
17 views that are coming from scientific papers and
18 that, both of those, together, raise questions,
19 but we have to be sure that we have it right
20 because there's too much at stake.

21 Q Well, would you agree with me that it would be
22 inappropriate for the Department to use scarce
23 resource -- or research dollars to do research
24 solely to assist the industry with its public
25 perception?

26 MR. BEVAN: That's true. Having said that, the reality
27 is that we have to have a high degree of
28 confidence that we have it right. And right --
29 that warrants expenditure. And even if our
30 perception of risk is lower than the external
31 perception, that doesn't mean that we should just
32 be confident that we have it right when there's
33 that much at stake. So sort of a risk assessment
34 there is that there's a need to gather more
35 information because if we think it's lower
36 probability, lower consequence, and it's not, then
37 the outcomes would be unacceptable to the Canadian
38 public, for sure, and to us, as well. Now,
39 therefore, there's a priority to spend those
40 dollars to determine whether or not we have it
41 right. And as you saw from the Science Management
42 Board, we were asking ourselves these questions
43 because we have to.

44 Q And that research is still ongoing? You're not
45 able to answer that question today?

46 MR. BEVAN: I think I'd be better equipped to have
47 someone else answer that. I think, Paul Sprout.

1 MR. SPROUT: Well, I wasn't going to answer that, but
2 could I just clarify something for the purposes of
3 public perception of risk, just for my
4 understanding so that perhaps later, I may be able
5 to speak to this from a regional perspective.

6 When you say "public risk," are you referring
7 to the perception that industry has of their risk
8 and DFO's reaction to that? Do I understand you
9 correctly?

10 Q Sorry, Mr. Sprout, I was just asking -- Mr. Bevan
11 used the word yesterday, I was asking him what he
12 meant.

13 MR. SPROUT: No, but I'm trying to understand your line
14 of questioning, and I'm deducing from it that you
15 are -- when you say "public perception," you're
16 talking about the industry, the aquaculture
17 industry's perception of their risk. I just want
18 to know if I'm understanding that correctly from
19 your perspective?

20 Q No, no, I think the question I was asking that Mr.
21 Bevan has referred to you is the question of
22 whether the Department has completed the research
23 that is set out in the 2007 agenda which is going
24 to identify or quantify that risk.

25 MR. SPROUT: I understand the subsequent question you
26 just asked, but I'm going back to the previous
27 question on public perception. So I've not
28 characterized it correctly from your point of
29 view?

30 Q Well, maybe you could just answer the question I
31 asked.

32 MR. SPROUT: I'd have to defer to Dr. Richards on the
33 risk assessment.

34 Q All right.

35 MR. SPROUT: But I do have a view about public
36 perception and perhaps, at a later point, I could
37 talk to that.

38 Q Perhaps we'll get to that. Dr. Richards?

39 DR. RICHARDS: Yes, Mr. Commission. I think you asked
40 whether the research is complete and this was
41 identified as a five-year research plan so the
42 five years are not yet up, although they're
43 perhaps getting close to that. But basically,
44 what happens when you start doing research on any
45 kind of question is inevitably, you find out that
46 the situation is more complex than you first
47 expect, and that's simply a consequence of the

1 whole ecosystem approach that we've been
2 discussing, the fact that we do need to include
3 and incorporate broader pieces of the ecosystem.

4 So as soon as you start to go down one path,
5 you begin to bring up other questions that you
6 didn't know enough to initially ask. So you know,
7 research just doesn't begin and end. Research is
8 ongoing. We develop, we get clarification, but
9 say, inevitably, there's always more work to be
10 done and always we end up with, you know, a new
11 set of questions that we need to ask.

12 Q So when do we get to the stage, Dr. Richards,
13 where you have enough information to recommend
14 that we take some action?

15 DR. RICHARDS: Well, the role of Science, again, is not
16 to recommend that we take action. The role of
17 science as, I think, has been pointed out, is
18 really to give a description of the state of the
19 system as best as we know it, and then we -- you
20 know, it's the other parts of the Department, it's
21 the management arm of the Department whose role it
22 is to then take that information and to then make
23 any management-related decisions about that.

24 Q Well, if it turns out that this Commission
25 determines that disease was a causative factor in
26 the 2009 Fraser River sockeye, what role does
27 science play in identifying that problem, and when
28 do you identify it?

29 MR. BEVAN: I think that, obviously, it's going to be a
30 challenge to determine the exact causes, and I'll
31 leave that to the Commission. The reality is that
32 right now, the advice from Science does not say
33 that we should do anything radical. We are,
34 obviously, working with industry on a number of
35 areas to try and mitigate and minimize any risks
36 posed, and that means things like sea lice
37 management in terms of timing with migration, and
38 those kinds of factors.

39 We have a new set of tools that we will be
40 able to use in British Columbia for fin fish
41 aquaculture after December, but at this point,
42 some of the actions suggested by certain people
43 are -- we don't think they are actually warranted
44 because the risk that's been identified by Science
45 to us, as decision makers, hasn't pointed out a
46 problem that would warrant a radical step that is
47 being required or requested, I should say, by --

1 and suggested by some external observers.

2 Q Well, we've just heard from Dr. Richards that
3 Science is never going to be done on this point.

4 MR. BEVAN: That --

5 Q But when do you reach a point where you have
6 sufficient science that you take some sort of
7 action? How does that work?

8 MR. SPROUT: Perhaps I could respond to that question.

9 You asked earlier, when do we get to the stage
10 where we recommend that we take action? So I
11 understand from your question that you think we've
12 taken no action. So I have two observations.
13 First of all, I think Dr. Richards could talk
14 about the research that's been going on on
15 Broughton Islands that's around trying to look at
16 the issue of wild versus farmed interactions which
17 has generated information which informs management
18 decisions, which are actions.

19 Well, what are some of the actions the
20 Department and the Provincial Government has put
21 into place with respect to the management of
22 aquaculture fishery? Well, from the Department's
23 perspective, our jurisdiction at this point is
24 relatively narrow. It will expand considerably on
25 December the 18th, but the actions that we put
26 into place include things like environmental
27 processes for site screening, for determining
28 whether farms can be located in certain sites
29 given concerns around bottom deposition. The
30 Province has a role in terms of waste management,
31 in terms of sea lice controls, in terms of
32 monitoring, and all of these are actions. So
33 there's research under way and there's actions by
34 both levels of government in terms of the
35 management of this particular sector.

36 So it's not like as if there aren't things
37 underway and are happening in terms of specific
38 activities related to the management of this
39 sector.

40 Now, if you're raising questions that there
41 remains scientific uncertainty, that's a fair
42 observation. It's also a fair observation to say
43 that further actions might be contemplated in the
44 future based on further information from Science
45 and Risk Assessment. But I come to the
46 observation and the question is when do we set the
47 stage to recommend that we take actions? I think

1 the response is we have taken actions.

2 Q All right. Well, that's a question I think we'll
3 get into later in the Commission's hearings. I
4 won't debate that with you now.

5 MR. SPROUT: I'm not debating it with you, I'm
6 responding to your question. You asked when are
7 we going to take actions. I have now laid out a
8 series of measures at the Provincial and Federal
9 Government level. In fact, I could go on to talk
10 about the additional actions the Province has
11 taken, the moratorium they've issued in the
12 Northern B.C. for new sites, the restrictions that
13 they've applied for renewal of sites in existing
14 locations, the capacity limits they've imposed on
15 farms. Those are all actions, and I think you
16 have to put them into this context to look at the
17 question you're posing. So I am responding to
18 your question.

19 MR. McDADE: All right. Can we have Document 6147 up
20 on the screen?

21 Q Dr. Richards, you wrote this memorandum in 2009,
22 did you not?

23 MR. BLAIR: For the record, Alan Blair appearing for
24 the B.C. Salmon Farmers Association. Perhaps I
25 could just have Mr. McDade confirm if this is one
26 of the series of documents which were disclosed to
27 the participants either Tuesday night or
28 Wednesday?

29 MR. McDADE: Actually, I don't think this document was.
30 This document is the one referred to in the *Globe*
31 *and Mail* article that came out yesterday.

32 MR. BLAIR: Well, then that would apply even more so.

33 MR. McDADE: I think, though, this is Dr. Richards' own
34 document. Surely, I can examine her on that.

35 MR. BLAIR: Mr. Commissioner, we have a position to
36 take with respect to the application of Rule 61 of
37 the **Rules of Procedure**. The **Rules of Procedure** in
38 this matter, and apologies to the panel, if you'll
39 please just indulge us for a bit. We have **Rules**
40 **of Procedure**, Mr. Commissioner. There are 72
41 rules in all. Fifteen times within those 72
42 rules, the word "shall," which we all understand
43 to be an imperative, is found throughout those 72
44 rules. I believe, 13 of the 15 times that the
45 word "shall" is found in the **Rules of Procedure**,
46 they refer to either document production, or
47 sharing of distribution in terms of the mechanism.

1 Rule 61 is very, very clear with respect to
2 what it says. It says:

3
4 Before a document for the purpose of cross-
5 examination, counsel shall provide reasonable
6 notice to the witness and all participants
7 having an interest in the subject matter of
8 the proposed evidence.
9

10 Now, this is a situation where we have the first
11 of 800 -- not counting this document, 824 pages
12 were produced by this participant either Tuesday
13 night or Wednesday morning, and you've heard
14 references yesterday to it actually crashing
15 systems as the documents came through various
16 people's email delivery systems. It had to be
17 batched by Commission counsel so that it wouldn't
18 crash them and yet, it did, as well. I'm not sure
19 how long this document is, but it would add to the
20 824 pages.

21 Now, we have a clear violation, in my
22 respectful submission, of Rule 61, and there are a
23 number of solutions that I can propose. The
24 lengthy solution would be for the Commission to
25 listen to my application on Rule 61. A far more
26 expedient solution would be for my friend to
27 simply acknowledge that he's in breach of Rule 61
28 since, clearly, he has not met the words nor the
29 spirit of Rule 61 and withdraw these documents.

30 Secondly, the Commission could summarily
31 review the rule and direct all of us that Rule 61
32 will be applied and draw the conclusion that since
33 we shall provide reasonable notice, this is the
34 clearest of examples that it has not occurred.

35 We received 824 pages from the Aquaculture
36 Coalition as recently as now, and on Tuesday, we
37 received 146 pages from the Conservation
38 Coalition. Most of the documents are not in
39 Ringtail, they are new to all of us. It wouldn't
40 matter, frankly, there are hundreds of thousands
41 of pages in Ringtail.

42 The B.C. Salmon Farmers, whom I represent,
43 produced 56 pages on Friday well advance of the
44 reasonable notice provisions for the panel and all
45 of them are DFO documents. You can find them all
46 in Ringtail. And so I will proceed with my
47 application, rather, my objection on the basis of

1 the application of Rule 61, but I would like to
2 hesitate at this moment to say that we do see that
3 the various documents have been produced by,
4 notably, the Conservation Coalition and the
5 Aquaculture Coalition fall into two broad
6 categories. There are other DFO reports and
7 government documents on the one hand, and then
8 there are a number of other documents, including
9 publications, academic publications, that sort of
10 thing, and they're in a second category.

11 We want to be clear that in our respectful
12 submission, Mr. Commissioner, all the documents
13 offend Rule 61 and it's an imperative and so we
14 don't really see how this line of questioning can
15 exist unless my friend either withdraws all of the
16 documents or acknowledges that he's in breach of
17 Rule 61 and asks for discretion to be exercised,
18 as it can be, under Rule 62.

19 We would have complete different submissions
20 with respect to the request to apply Rule 62, the
21 Commissioner's discretion, based on the nature of
22 the many reports that have been received. And,
23 again, I've drawn the distinction between the DFO
24 documents, and others.

25 We object to the late production of documents
26 by the Conservation Coalition and the Aquaculture
27 Coalition and request them to be excluded. We
28 formally object that participants should be
29 entitled to produce documents on the 2nd and 3rd,
30 and now the 4th, for witnesses which will be
31 called this week.

32 We should say that yesterday, when the matter
33 was first raised, your senior counsel acknowledged
34 that there was a degree of prejudice to the
35 participants if this were to proceed, and we have
36 the ruling from yesterday, Mr. Commissioner, which
37 we, of course, all respect and we are now to the
38 point where a document is going to be introduced,
39 one of many. And so we now have it squarely on
40 our plate with, I understand, Mr. Wallace's
41 statement yesterday that introducing documents is
42 prejudicial to the process.

43 The **Rules of Procedure**, Mr. Commissioner, are
44 very clearly to avoid ambush, and I use the word
45 "ambush" because I'm going to be referring the
46 Commissioner to a Supreme Court of Canada decision
47 that speaks specifically of judicial procedure and

1 the need for rules to be both flexible, and also
2 to enable the Commission to do its work.

3 I've referred to a section, Rule 61, and
4 clearly this is a breach of it. I've referred to
5 s. 62 and would stand down largely on the issues
6 of DFO reports and government documents,
7 notwithstanding the breach of s. 61 because, of
8 course, the Commissioner has the discretion under
9 62 to allow, deny, or allow on terms, production
10 of documents, even if they are late.

11 The case I was referring to, Mr.
12 Commissioner, is a Supreme Court of Canada
13 decision called **Consortium Developments v. The**
14 **City of Sarnia**. It's a 1998 case and the quote
15 that I'd like to make is found at paragraph 41 --
16 yes, paragraph 41 of the decision. And the court
17 says, expressing concern around risks:

18
19 ... unnecessary, avoidable or wrongful
20 collateral damage on the participants ...
21 Judicial inquiries are not ordeals by ambush.
22

23 That's the end of the quote. The court held that
24 commissions are generally not considered to be
25 adversarial in nature, but it's my respectful
26 submission that to permit these documents entered
27 at this time, when we know they can be handled in
28 a separate part of the Commission, promotes an
29 adversarial approach by ambushing a party to these
30 proceedings, my client.

31 We acknowledge, Mr. Commissioner, that we're
32 all challenged to produce documents in a timely
33 fashion. This includes Commission counsel, who
34 has not been able to lead by example in producing
35 documents in a timely fashion, but we hasten to
36 add we recognize their best efforts. We
37 acknowledge that the Department of Justice has
38 been under a huge burden to produce the documents
39 and so, too, has my friend, Mr. Wallace, and we
40 acknowledge that we're all trying to work within
41 that constraint. But there are rules of procedure
42 and this approach clearly offends Rule 61 and
43 we're seeking a ruling on that, unless my friend
44 withdraws the documents.

45 We should say, Mr. Commissioner, that the
46 lateness of these documents and the fact that
47 about 12 of 32 documents, we believe, are

1 available in Ringtail, means that we've had a
2 selective subject matter production by
3 participants which seem to be intended to surprise
4 some of the participants who are affected by these
5 documents, notably ourselves and the two levels of
6 government.

7 I should say that this is not the first time
8 that we have had discussions about this. You
9 might well appreciate that while our fax machines,
10 and emails, and Blackberries on Tuesday night,
11 there was discussion amongst counsel on how to
12 handle this yesterday morning, Wednesday morning.

13 We are in receipt of correspondence from your
14 senior Commission counsel, indicating that given
15 the late nature of the document production,
16 without reference specifically to Rule 61, that it
17 would be Commission counsel's position, yesterday
18 morning, that they would not allow the documents
19 to be admitted into evidence on the grounds that
20 "it would be inappropriate for the participants to
21 put them to witnesses appearing today or
22 tomorrow," and then lists three reasons why. This
23 is Mr. Wallace's communication to counsel:
24

- 25 1. The documents were not provided within a
26 reasonable time required by fairness and
27 our rules;
- 28 2. They do not relate to science and
29 decision making, but to aquaculture,
30 which is covered in detail later;
- 31 3. They are not the right witnesses and if
32 it turns out that they are appropriate
33 questions for them, they will be back at
34 the end of the hearing.
35
36
37

38 That's a direct quote from the correspondence. We
39 have had no meaningful opportunity to review and
40 consider these lengthy reports. We, in fact,
41 arrived yesterday morning under the belief that
42 the position that Commission counsel had taken in
43 writing was going to be advanced at the outset
44 yesterday morning.

45 Now, of course, it unfolded slightly
46 different and just briefly, for the record, the
47 objection first arose with my friend, Mr. Taylor,

1 from the Federal Government, rising to make the
2 objection generally, but you'll recall that, in a
3 brief comment by senior Commission counsel, he
4 acknowledged that -- and I'm quoting from
5 yesterday's transcript, Mr. Wallace said
6 yesterday:
7

8 So that was my take on the documents, that
9 basically there is prejudice and an
10 inappropriateness in hearing from it now. In
11 my submission, there is no prejudice to
12 leaving it until aquaculture, and seeing how
13 it develops later.
14

15 Now, Mr. Commissioner, I rise a make this request
16 for a ruling under s. 61 on the main basis of
17 procedural fairness and prejudice. We note that
18 several of the documents produced recently by the
19 Aquaculture Coalition and the Conservation
20 Coalition are, in fact, some of the same documents
21 that these participants used in their application
22 under Rule 19. That was an application to the
23 Commissioner for the production of aquaculture
24 fish health records.

25 So these documents, or some of them, have
26 already been introduced through that application
27 process for a specific purpose, and the specific
28 purpose is to support their allegations that fish
29 health and fish stocking records from farm-owned
30 and operated by this participant's member
31 companies is evidence that salmon farms are
32 responsible for the Fraser River sockeye
33 mortality.

34 Now, yesterday, we waited until we got to the
35 point where a document was about to be entered
36 because we needed to see the context. We know the
37 context. We've read some of these documents in
38 another context, in an application specifically
39 alleging that the fish companies are, through
40 disease transmission, killing fish. So the
41 application that my friend wishes to put these
42 documents to is clear to us, at least.

43 I have to make these submissions against the
44 backdrop of the unequal positions that we all have
45 in this Commission, and unequal, I mean in terms
46 of jeopardy or risk. The terms of reference
47 clearly indicate that aquaculture, salmon farming

1 is one of the parts of the mandate that this
2 Commissioner needs to look into. So my client, in
3 effect, while this is not a trial, is the subject
4 to scrutiny which most of the other participants
5 are not under.

6 Further, the Commissioner was asked by some
7 members, some participants, to make a
8 determination on whether or not the terms of
9 reference which said, in part, that you are not --
10 and I'm loosely quoting, you are not mandated to
11 seek to find fault, but, in fact, requested a
12 determination on what those words may mean for
13 this Commission. We made no submissions on that
14 request of a determination of what those words
15 meant, but we read with interest when, and I'm
16 paraphrasing, the Commissioner noted for all of
17 the participants that it was well within your
18 mandate to determine what factors may have caused
19 the decline, and that you disagreed that you were
20 not -- while you were not directed to seek to find
21 fault, you could find fault, or indeed, as I
22 believe I have your -- the reasons correctly,
23 could even, in the appropriate circumstances, find
24 misconduct.

25 So breaking those down loosely, I think I
26 understand that the Commissioner has interpreted
27 the terms of reference to be able to find factors
28 leading to the decline or find fault, if some
29 could be found, leading to the decline, or indeed,
30 misconduct, if that situation would arise.

31 Now, our client has been specifically named.
32 Our industry has been specifically named as a
33 factor that you are to examine to determine
34 whether or not such evidence exists. In that
35 circumstances, the rules around procedural
36 fairness are heightened and the law, again, is
37 clear on that.

38 Now, I don't profess to be expert on
39 procedural law as it relates to commissions of
40 inquiry or rules of procedure, which is why I had
41 on retainer since day one, the author of the book,
42 *Procedures of Inquiry* and receive updates from Mr.
43 Manson, a professor of the University of Law at
44 Queens University day and night as I need them.
45 And it is clear that what we have is a situation
46 here where this would be a severe breach of rules
47 of procedural fairness. And so the simple

1 solution to avoid all of this would be for the
2 documents to be withdrawn, or simply for the
3 Commissioner to direct that Rule 61 has been
4 breached, refuse to exercise the discretion that
5 you clearly have under Rule 62, certainly in those
6 classes of documents which we find most offensive,
7 being the non-governmental documents, the non-DFO
8 documents, and exclude them for another time.

9 The same case I referred Mr. Commissioner to
10 earlier says, dealing with natural justice, the
11 court establishes a spectrum between matters where
12 little procedural protection is needed, and those
13 were the inquiries:

14
15 ... more likely to impact on individual
16 rights ...

17
18 The Supreme Court went on, Mr. Commissioner, to
19 say that where a commissioner may make findings of
20 fault, "... the full strictures of natural
21 justice," must apply.

22 Well, we have that situation here and, again,
23 that's the same **Consortium Developments** case from
24 the Supreme Court of Canada, at paragraph 29. So
25 clearly, it's our respectful submission, Mr.
26 Commissioner, that procedural fairness includes
27 the right to disclosure with sufficient
28 information to provide for meaningful
29 participation in the hearings. And that is the
30 language, really, that you find in the **Quebec**
31 **Attorney General v. Canada National Energy Board**
32 case, a 1994 decision found in Supreme Court
33 Reports at 159, in paragraph 29, which says
34 there's a necessity of timely disclosure.

35 We also say in our submission that these
36 documents are off topic. We were advised by
37 Commission counsel that this introductory panel
38 and last week's panel was a panel introducing
39 general evidence.

40 In a letter from Commission counsel entitled,
41 "The Commission's intended course of action,"
42 dated July 7th, 2010, a list of topics was
43 attached as Appendix 2, Mr. Commissioner. We note
44 that under that topic aquaculture is listed as its
45 own separate topic, including several sub-topics.
46 Those include among them regulation and
47 management, information and data management,

1 siting of fish farms, environmental assessments,
2 sea lice and disease.

3 It's our respectful submission that there's
4 no prejudice to the two participants who seek to
5 lead these documents so late in the day today.
6 These two participants will have an opportunity to
7 produce all of these documents later in the
8 Commissioner's hearings when the specific topic of
9 aquaculture is addressed. There is no prejudice
10 for them to be precluded from producing these
11 documents to this panel. And when documents were
12 -- rather, when questions were put to the panel
13 yesterday, I recorded three occasions when one or
14 the other member of the panel said, "This is
15 beyond our area of expertise."

16 In a letter from senior Commission counsel,
17 Mr. Wallace, on October 22nd, he wrote:

18
19 The evidence to be called in the fall
20 hearings is intended, for the most part, to
21 be in the nature of introductory, overview
22 evidence.

23
24 The process is a difficult one, Mr. Commissioner.
25 We've all acknowledged in various ways to you, or
26 amongst ourselves, that -- as the Commission's
27 panels have, that this is a very, very large and
28 difficult job. We understand that. We understand
29 that our client faces a risk, perhaps unique,
30 among all of the participants here. And so we
31 have been attempting to comply with the rules to
32 the letter of the law. So much so that prior to
33 the commencement of the first panel last week, in
34 the previous week to that, we wished to confirm
35 our understanding with respect to the use of the
36 panel, which I've just outlined from the earlier
37 correspondence, suggested it would be introductory
38 in nature. And so we specifically sought
39 instructions or directions in writing from
40 Commission counsel, which we received with respect
41 to the issue of cross-examination, and we were
42 advised that the panels being of an introductory
43 nature, there would be no cross-examination. Of
44 course, we know that last week, we commenced with
45 cross-examination. I raised that issue with
46 Commission counsel and I received an
47 acknowledgment of a miscommunication, but we had

1 gone out of our way in advance to ensure we
2 understood that this was a introductory panel, we
3 were here to listen to these people and the people
4 last week. We prepared accordingly. You didn't
5 hear a lot of cross-examination from us, in part,
6 because we had been directed.

7 Now, I'm not subscribing anything other than
8 a difficult time for everybody to deal with what's
9 on their plate, but that is the history that
10 brings us to this point of ambush, and "ambush" is
11 the word used by the Supreme Court of Canada, and
12 ambush is what happens when 824 pages are dropped
13 on a participant that a Commissioner might find to
14 be at fault.

15 So the solution for this is these documents
16 should not be entitled to be admitted. We have
17 been deprived of an opportunity to effectively
18 prepare, to answer these documents, or to cross-
19 examine on them. There's been a lack of
20 consistent and coherent direction as Commission
21 counsel has tried to work through the many, many
22 tasks that they have and I subscribe nothing but
23 best efforts on their part, but it has worked to
24 the detriment of our client. Those are my
25 submissions.

26 THE COMMISSIONER: Thank you.

27 MR. McDADE: Mr. Commissioner, I'm a little surprised
28 by the --

29 MR. TAYLOR: Well, I have some submissions, but I
30 thought Mr. Wallace might go next.

31 MR. McDADE: Well, Mr. Commissioner, perhaps I could be
32 clear --

33 MR. TAYLOR: But I'd like to say something at some
34 point.

35 THE COMMISSIONER: Just one at a time, please, counsel.
36 Mr. McDade?

37 MR. McDADE: I think this is an application in a
38 vacuum, so to speak. My friend's application
39 seems to be focussed on the 32 documents that we
40 gave notice of and this is not one of those
41 documents. And I think it's probably highly
42 unlikely that I'm going to be referring to any of
43 those documents so I'm thinking this is both a
44 premature and an unnecessary application, if that
45 shortens matters up. This is just one document
46 that we're dealing with and it will have to be an
47 application under s. 62 because this document only

1 came to our attention yesterday. So you know, the
2 issue about all the governmental documents and the
3 DFO documents, and the science reports, frankly, I
4 was not planning to refer to most of those
5 documents in any event. So I think it's an
6 unnecessary debate we're getting engaged in. We
7 should focus on this document.

8 THE COMMISSIONER: It was why, Mr. McDade, I had
9 requested yesterday, and I know counsel attempted
10 to do this, they have been very gracious
11 throughout in attempting to do this, was to have
12 discussions around these kinds of issues to see if
13 counsel can't reach some common ground so that if
14 documents are, in fact, not going to be put to a
15 witness, there's not much point in having a
16 dispute between whether that document should be
17 admitted, or not.

18 I don't know what your other learned friends'
19 views are about documents they may have provided
20 where there's an assertion of late production,
21 but, again, I don't want to use up the valuable
22 time we have available for these panel members if
23 it's unnecessary.

24 MR. McDADE: That's why I interjected, frankly. I
25 think we should focus on this one document and
26 that's it.

27 THE COMMISSIONER: Now, I don't know what the position
28 is of your learned friend, Mr. Leadem, or perhaps
29 other participants' counsel, who may have also
30 documents that they want to put that were not
31 delivered until this week.

32 MR. LEADEM: Mr. Taylor and I had a brief discussion
33 and I've withdrawn all but one document, and I
34 understand he does not object to that one
35 document.

36 THE COMMISSIONER: Mr. Taylor?

37 MR. TAYLOR: I'm not sure when I'm going to be able to
38 speak on all of what I'd like to speak, but I have
39 a number of points.

40 Dealing with Mr. Leadem only at this moment,
41 Mr. Leadem and I did speak, as he said, and one
42 document that Mr. Leadem wants to put to this
43 panel is a letter that was written by Mr. Sprout,
44 and I'm fine for Mr. Leadem to do that. I don't
45 know what he's going to do with it. I might have
46 some objections to what he tries to do, but he can
47 put the letter. So I'm only speaking to that

1 point, but I do have some other things to say on
2 the objection that was just made and the document
3 we're talking about, but I'll wait until I have a
4 chance to speak to those things.

5 THE COMMISSIONER: All right. May I just put to
6 counsel now, I hear what Mr. McDade has said,
7 which is of the documents that Mr. Blair was
8 alluding to, he does not intend to put those
9 documents to this panel. However, there is a
10 document on the screen which I understand the
11 genesis for that document comes from some
12 newspaper article, and he does intend to put that
13 document to the witness. And whether or not it
14 would be possible to allow him to ask his question
15 and then wait for any objections that might be
16 made by counsel that I could make a ruling on with
17 respect to a specific document that is before the
18 hearing, is that a reasonable way to proceed,
19 counsel?

20 MR. TAYLOR: I'll probably make my points at that
21 point, then, when he puts the question and there
22 will be an objection.

23 THE COMMISSIONER: Well, I find it easier to deal with
24 a matter when there's actually a question being
25 put to a witness based upon a document and then
26 counsel have an opportunity to direct their
27 objection to the specific question. Mr. Blair?

28 MR. BLAIR: Mr. Commissioner, as I indicated at the
29 outset of my remarks, the very easy solution was
30 for the parties who are producing what I consider
31 to be the offending documents to merely indicate
32 they're withdrawing them. That would get us past
33 today.

34 THE COMMISSIONER: I think Mr. --

35 MR. BLAIR: And I think I'm hearing that.

36 THE COMMISSIONER: I think Mr. McDade has indicated to
37 you that he's not going to put those documents to
38 these panel members at this time.

39 MR. BLAIR: I must say the Supreme Court expression of
40 "judicial inquiry by ambush" seems still somewhat
41 appropriate, that we might be expected to read 800
42 pages of documents and then not examine them the
43 next day so that's a matter that Commission
44 counsel and other counsel can work through, but
45 it's certainly hard to know that we should be
46 reading or not be reading. Otherwise, we'll be
47 flooding the airwaves with documents for no

1 apparent purpose.

2 On the document in question, I can't see it
3 so it's difficult for me to know whether I have an
4 objection to it, or not.

5 THE COMMISSIONER: All right. Well, we'll try and move
6 -- I'm sorry, Ms. Gaertner?

7 MS. GAERTNER: Mr. Commissioner, I just want to wade in
8 just briefly on this topic, more generally than
9 anything else, rather than specifically, and that
10 is I think it is reasonable to anticipate that
11 when we have a panel of expert witnesses and we're
12 working under the time constraints that we're all
13 working under and the number of documents that
14 we're working under, that it will be likely that
15 many of us may find a document at the last moment
16 that is both relevant and useful to you and to the
17 panel.

18 We have a panel here of expert witnesses who
19 are quite capable of looking at their own
20 materials and reviewing them and advising you if
21 they need time to consider it more. And I'm sure
22 that they will do that and they'll consider it
23 more and get back to you. And so in the interests
24 of public fairness in this matter, and in the
25 interest of the fairness of all of us who are
26 working very hard, I would suggest we get on with
27 this question if it's been authored by one of the
28 panel members.

29 THE COMMISSIONER: Thank you, Ms. Gaertner.

30 MR. TAYLOR: Mr. Commissioner, I've been careful not to
31 speak too generally, but I seek leave now to speak
32 to it because Ms. Gaertner has just opened up the
33 whole gamut.

34 The situation is being skewed in the
35 presentation here and I seek to make a couple of
36 comments, if I may?

37 THE COMMISSIONER: Well, I was going to -- I never want
38 to cut off counsel, Mr. Taylor, from making
39 comments, I think that's entirely appropriate, but
40 I -- again, in the interest of time, if we could
41 perhaps deal now with the specific issue that has
42 been raised. Mr. McDade has graciously indicated
43 that he's not going to put these documents to
44 these panel members at this time. There is a
45 document on the screen. I'm certainly going to do
46 whatever I can to ensure that counsel have an
47 opportunity to read it so they know what's in it

1 and I would prefer not to make a ruling on its
2 admissibility until the question has been asked,
3 and then counsel have an opportunity to direct. I
4 certainly would not cut off counsel at some
5 subsequent time from giving me their positions
6 generally on the matters that Ms. Gaertner raised,
7 but I'm trying to move forward so we can deal with
8 this panel and get on with the balance of the
9 questions for this panel. Mr. McDade?

10 MR. McDADE: Thank you, Mr. Commissioner.
11

12 CROSS-EXAMINATION BY MR. McDADE, continuing:
13

14 Q Well, let me first establish, Dr. Richards, you
15 wrote this document, you were the author of it?

16 DR. RICHARDS: Mr. Commissioner, I did have the main
17 pen on this document, but I did write it in
18 consultation with my staff, who are more expert in
19 this area.

20 Q All right. Well, without, at first, going
21 directly to the document, is it correct, then,
22 that in 2009, you briefed the Minister about an
23 emerging theory that there was a -- that disease
24 was the cause of the 2009 sockeye --

25 MR. TAYLOR: I object.

26 MR. McDADE: On what ground?

27 MR. TAYLOR: Ambush, back door, derailing, breach of
28 rules, unfair, prejudicial are all words that
29 apply. The topic that this panel has been
30 presented for is science and the role of science
31 and, more specifically, the role of science and
32 decision making in the Department. And most of
33 the evidence has stuck to that. Mr. McDade seeks
34 to turn this part of the inquiry into an
35 investigation on aquaculture, which it's not. We
36 have not prepared, as counsel, for that. The
37 witnesses have not been prepared for that. These
38 witnesses, while scientists, are not here as
39 expert witnesses, which is directly contrary to
40 what Ms. Gaertner just said, they are here as DFO
41 officials to speak to science and the role of
42 science, and so forth, in decision making.

43 And to turn this panel into something else
44 is, as I say, prejudicial and unfair, and
45 importantly, it's off topic. Commission counsel
46 sets, as I understand it, the agenda for what will
47 be covered when, and has done so, and, in fact, I

1 commend Commission counsel because they have quite
2 a thorough and far-looking-ahead agenda that they
3 have given to counsel.

4 The topics for this Commission from week to
5 week should not be governed by either ambush or
6 what the *Globe and Mail* reported yesterday, they
7 should be governed by Commission counsel's agenda.

8 And a big part of the prejudice here is going
9 beyond that people have not had adequate
10 opportunity to prepare, it's that we're now going
11 to have cross-examination on a topic not before
12 this panel without there having been any evidence
13 in chief, and that is highly prejudicial, in my
14 submission. Thank you.

15 MR. McDADE: Mr. Commissioner, the question arises
16 because of Mr. Sprout's evidence, they take
17 action. This is an extraordinarily important
18 question for exactly this panel, which is when
19 Science identifies a problem, what is done with
20 it, and this document may become one of the most
21 important documents before this Commission.

22 I don't seek to determine whether it's true,
23 or not. I don't seek to put this forward to see
24 whether we have expert evidence on it, or not.
25 That appropriately belongs in March. The question
26 for this panel is how Science -- the Science
27 Sector intervenes in making management decisions.
28 And Mr. Sprout went on at some length about how
29 they take action when Science identifies a
30 problem.

31 Dr. Richards, yesterday, gave evidence that
32 she wasn't certain or didn't know enough to say
33 there was a risk, and this document, authored by
34 her, establishes that there's a very significant
35 risk of a new viral disease that is the cause of
36 the 2009 sockeye depletion. It would be passing
37 strange that we would have Dr. Richards present
38 for a panel and not be able to ask about it.

39 MR. TAYLOR: In reply, Mr. Commissioner, you can see
40 from what's on the screen, the very first point in
41 the document that Mr. McDade chooses to put is
42 that there's something that went before, which he
43 chooses not to put, and you can see in that first
44 paragraph, as well, that there having been a
45 previous document, which, again, is off topic for
46 this panel, the note that he wants to put deals
47 with one factor. So he wants to delve into

1 aquaculture, which is set for March, or sometime
2 in the spring, and there'll be a week, I believe
3 it is, on that, and it will, in my view, clearly
4 take the week, and disease will be one of the
5 topics covered there. He now wants to delve into
6 it right here. It's going to open up this panel,
7 in my submission, to another week's worth of
8 evidence if we go there.

9 THE COMMISSIONER: Thank you, counsel. I'm going to
10 sustain the objection, Mr. McDade, and I will, as
11 soon as I have an opportunity, give you a written
12 ruling as to why, but at this time, I'm going to
13 direct that you certainly are entitled to continue
14 with your questions, but that this document, at
15 least at this time in the hearings, not be
16 introduced.

17 MR. McDADE: Yes, I'll respect that ruling, Mr.
18 Commissioner, but can I ask -- can we have an
19 assurance that Dr. Richards will be returned so
20 that we can ask her about it at the appropriate
21 time?

22 THE COMMISSIONER: I believe I heard Commission counsel
23 indicate that the members of this panel would be
24 returning.

25 MR. WALLACE: Mr. Commissioner, we can give that
26 assurance, that we will -- it's our intention --

27 THE COMMISSIONER: I'm sorry, I can't hear you, Mr. --

28 MR. WALLACE: Sorry. It's our intention, Mr.
29 Commissioner, that all the evidence that you
30 should hear that would be useful to you, you will
31 hear, and we are putting together hearings. I
32 don't, at the moment, know whether Dr. Richards is
33 scheduled to be with us for the aquaculture
34 sessions, but I will certainly put this forward
35 and I will give the assurance now that if it's
36 required for Mr. McDade to canvass the document,
37 we will recall Dr. Richards for that purpose.

38 MR. McDADE: Thank you.

39 THE COMMISSIONER: Thank you.

40

41 CROSS-EXAMINATION BY MR. McDADE, continuing:

42

43 Q Well, Dr. Richards, can I ask you generally, when
44 Science determines an emerging risk that could be
45 of some consequence, what do you do about that?

46 DR. RICHARDS: Okay. Yes, thank you, Mr. Commissioner.
47 I think, first of all, I mean, it really -- that's

1 a very open-ended question so I'm -- it really
2 depends a lot on the context. Often, these things
3 do come in a much broader context and, you know,
4 for example, an emerging risk that we're dealing
5 with now might be something like ocean
6 acidification, which has -- you know, is part of a
7 very much broader topic, but when you often have
8 these kinds of issue emerge, initially, you have a
9 very poor understanding of this and you have a
10 poor understanding of the consequences. So
11 generally, the first thing that you try to do is
12 to try to -- in fact, you know, if you think it is
13 going to be something important, then you might
14 put together a research team. You would certainly
15 canvass, try to find out what kind of research has
16 been done on the topic. You might look to the
17 international expertise on a particular subject
18 area, and then try to determine a way to go
19 forward. That way forward may entail, you know, a
20 new research program and if so, then we'd have to
21 determine where that fits into the overall
22 priority of all the other things that we do in
23 order to understand whether that's something which
24 is going to rise to the top of the list in terms
25 of something being funded, or not.

26 You know, another example might be the work
27 that we do on tsunami research. You know, we know
28 that tsunamis, we saw from what happened in
29 Indonesia that there could be a major catastrophic
30 risk. We know that there are certain factors
31 about that kind of risk that is here and we could
32 -- you know, we could have that kind of tsunami on
33 the B.C. Coast. There's probably more work that
34 could be done, but then so Science's role would be
35 to raise the possibility, but then it's not --
36 then it's into the broader question about whether
37 that does come to the top in terms of the overall
38 funding, you know, from the departmental
39 perspective, whether that is something which fits
40 under the departmental priorities and, as I
41 mentioned, you know, is high enough on the list
42 that there would be funding and a research project
43 established to carry through on that kind of
44 topic.

45 Q So in 2007, we saw your plan in terms of research,
46 and I suggest to you that starting in about 2007,
47 your Science Sector became aware of a novel virus

1 that was being identified in sockeye salmon. My
2 question to you is did you change your Science
3 agenda at all in respect of that developing
4 concern?

5 DR. RICHARDS: Mr. Commissioner, I need to step back on
6 that. I think that we were not aware of this. In
7 fact, we still are not aware of whether there is a
8 virus, or not. We are certainly undertaking some
9 work and, in fact, the whole genesis of this is
10 because we are moving forward with some new
11 technology. We now have some new genomics
12 technology that was not available to us
13 previously, and when you have different tools,
14 when you start to look at different tools, you
15 tend to find things that you did not notice before
16 and then it gives you some other opportunities to
17 look and suggest some new questions and some new
18 avenues to research.

19 The doesn't mean that when you start to go
20 down that path, you understand necessarily what
21 you're seeing or it does take some time, then, to
22 try to fully come to grips with and understand the
23 nature of what you're seeing and interpret those
24 data.

25 In this case, to my knowledge, we're still
26 not -- we have still not identified a virus. In
27 the particular instance in which counsel's
28 referring, certainly, we do know that there are a
29 whole host of diseases that affect salmon, and
30 those will come up later, I understand, in the
31 testimony, and a very large, long list of diseases
32 which could potentially affect salmon, just like
33 any other vertebrate organisms like humans. There
34 is -- salmon, as an organism, are susceptible to a
35 large number of disease agents.

36 Q The next point I'd like to canvass with you is the
37 question of how parliamentary committees, or
38 recommendations of the Government are handled
39 under your research agenda. Now, you're aware
40 that in 2001, the Standing Committee on Fisheries,
41 in their recommendations, set as a priority basis
42 that the Federal Government determine the
43 probability of disease and parasite transfer
44 between cultured salmon and wild fish. That's the
45 same terminology, or similar terminology to the
46 priority item in the 2007 research agenda. What
47 was the response to the 2001 recommendation? Was

1 there any?

2 DR. RICHARDS: Mr. Commissioner, I don't recall that
3 there was a specific response to that
4 recommendation because of that recommendation. I
5 do, however, recall that we were doing a fairly
6 significant research project, you know, and as Mr.
7 Sprout indicated, I think the reference here is to
8 the work that we were doing in the Broughton, and
9 around that time, we did -- I can't remember
10 exactly what year, but it was around that time, we
11 did initiate a fairly major research program to
12 try to better understand the issues of sea lice in
13 the Broughton Archipelago. That program involved,
14 you know, monitoring of juvenile pink and coho --
15 sorry, yeah -- no, pink and chum salmon and
16 through various sampling mechanisms where we were
17 doing routine sampling in the waters around the
18 Broughton Archipelago, and we sustained that
19 program over a fair number of years, and with
20 repeated surveys to look at incidents and then
21 other samples of those fish to look at levels of
22 the -- of sea lice to try to address that
23 question.

24 So we did initiate a fairly major program. I
25 can't recall exactly any specific link with the
26 Standing Committee Report.

27 Q The Standing Committee also recommended the same
28 thing in 2003.

29 MR. BEVAN: If I may, Mr. Commissioner, when standing
30 committees make recommendations to a department,
31 the department, as a matter of course, has to
32 respond to those recommendations in writing.
33 While I don't have the Standing Committee
34 recommendations, nor the DFO response in front of
35 me, those -- the DFO response would be in writing
36 and, perhaps, that would be a clearer response to
37 these questions than looking at the change in
38 priorities for the actual science work. It would
39 at least directly respond to the question.

40 Q It's the more time gap that I'm interested in.
41 And my question, Dr. Richards, you responded about
42 sea lice, but the question was also about disease,
43 and given the current suspicion around disease,
44 can you say that that's been a research priority
45 since 2001?

46 DR. RICHARDS: Mr. Commissioner, as I mentioned, we do
47 have a program on national aquatic animal health,

1 which was initiated -- or that program more
2 formally came in, I believe, more in the mid-
3 2000s, but we have traditionally had some
4 expertise in fish health within the Department,
5 and within Science, and we have had ongoing
6 research programs in fish health, you know, for
7 many years within the Department. With those
8 research programs, have, as I mentioned, you know,
9 identified a whole host of disease issues, and a
10 lot of the genesis of this work had to do with our
11 work with the Salmon Enhancement Program, and the
12 work within spawning channels, for example, more
13 so than within the wild fish populations.

14 Q Well, it's now nine years later and we're still
15 researching the same issue. When do you think
16 we'll be in a position to make determinations that
17 will actually impact on the siting of fish farms
18 on migratory corridors? How long does that take
19 to come to conclusions?

20 DR. RICHARDS: Well, I think, as Mr. Sprout has
21 mentioned, Mr. Commissioner, we know -- I think
22 the Government has taken actions, but that's not
23 for me to speak. What I can say is that we -- as
24 I mentioned earlier, you know, research is
25 ongoing. Some of these questions are very
26 difficult, challenging questions. As much as the
27 management might like, we can't be asked a --
28 posed a question one day and have an answer
29 tomorrow. I mean, often, these questions take
30 many years to articulate and often the questions
31 lead to more uncertainty, when we try to bring in
32 the broader vehicle system approach and look at
33 the range of factors, the scope gets broader and
34 broader. So we tend to -- the research tends to
35 go on in the sense of we will look at, really,
36 continuous refinements to some of these questions.

37 Q In, I believe, about 2006, your Department entered
38 into something that's described on the website as
39 the State of Knowledge Initiative. You haven't
40 spoken about that. Can you just tell us about
41 that.

42 DR. RICHARDS: Yes, Mr. Commissioner. I'm not really
43 the correct person to work on that. That as
44 really something which was led nationally. It was
45 an attempt to pull together, as I recall, some of
46 -- to -- some of the information. I'm sorry, I
47 really -- I'm not really familiar with this and

1 I'm concerned that I'm not going to give you a
2 correct answer if I continue to speak.
3 Q As I understand it, there was a series of 12
4 reports that were produced in terms of the
5 research priorities. Is there somebody on the
6 panel who can speak to that?
7 DR. RICHARDS: Probably, it would have been -- this
8 question would have been better address to Dr.
9 Wendy Watson-Wright.
10 MR. McDADE: Can we just pull up that website in that
11 regard?
12 Q This -- you'll see in the fourth paragraph, it
13 describes, "State of Knowledge Initiative," led by
14 Aquaculture Science and Environmental Science.
15 You were not involved in that, Dr. Richards?
16 DR. RICHARDS: Yes, Mr. Commissioner, I was not
17 directly involved in that. This was a program
18 which was led through the -- nationally. There
19 were, I believe, a series of reviews and papers
20 pulled together, but I was not directly involved
21 in that work, nor contributed to reviewing any of
22 that material, nor participated in any of the
23 meetings.
24 Q One of those 12 papers, which are -- there's a
25 link to it at the bottom of the matter, which I
26 won't take you to, but one of those 12 papers
27 involves the transmission of disease. What
28 happens to these initiatives when you come up with
29 a new agenda? Was the work completed; do you
30 know?
31 DR. RICHARDS: Mr. Commissioner, I'm not familiar. I
32 would need some time to review this material. I'm
33 sorry, I'm not prepared to speak to it today.
34 MR. McDADE: All right. Mr. Commissioner, I won't
35 pursue that any further, then. Those are my
36 questions. Thank you very much.
37 THE COMMISSIONER: Thank you.
38 MR. WALLACE: Thank you, Mr. McDade. Next on the list
39 I have the Conservation Coalition, Mr. Leadem.
40 MR. LEADEM: Thank you, Mr. Commissioner. For the
41 record, Leadem, initial T., appearing as counsel
42 for the Conservation Coalition.
43 I believe most of the panel members were
44 present in court, or earlier, when I was cross-
45 examining Dr. Watson-Wright; is that correct?
46 THE COMMISSIONER: I think they're acknowledging that's
47 correct, Mr. Leadem.

1 MR. LEADEM: Thank you.

2
3 CROSS-EXAMINATION BY MR. LEADEM:

4
5 Q I want to begin by turning to a document that's
6 been marked as Exhibit 51 in these proceedings.
7 It should be the Framework for the Application of
8 Precaution and Science-based Decision Making about
9 Risk. And I believe the panel may have heard some
10 evidence about this yesterday when Dr. Watson-
11 Wright was giving her evidence in direct
12 examination. I want to focus on page 2 of that
13 document, under the heading, "What is the
14 application of precaution," that appears about a
15 third of the way down. I find these words:

16
17 The application of precaution, the
18 precautionary principle, or the precautionary
19 approach recognizes that the absence of full
20 scientific certainty shall not be used as a
21 reason for postponing decisions where there
22 is a risk of serious or irreversible harm.

23
24 How did that definition of what we can call the
25 precautionary principle come to be confirmed to
26 those terms here?

27 MR. BEVAN: The application of the term, "precautionary
28 approach," has been something that is a policy of
29 the Government of Canada, and with respect to
30 Fisheries, also is noted in the United Nations
31 Fisheries Agreement, and is also noted in a number
32 of management measures in regional fish management
33 organizations and, specifically, something like
34 NAFO. That's the terminology that is used and
35 that has been the terminology and the framework
36 used by the Government of Canada, Department of
37 Fisheries and Oceans in the application of the
38 precautionary approach to a number of fisheries,
39 and we're intending to have the precautionary
40 approach apply to all key fisheries in Canada over
41 the course of the next few years.

42 It exists already in a number of fisheries
43 and are intention is to have it apply to all key
44 fisheries, major fisheries over the course of the
45 next few years.

46 Q I thank you for that, Mr. Bevan. I wonder if we
47 could take a look at the extract from the **Canadian**

1 **Environmental Protection Act.**

2 THE COMMISSIONER: Is that the same document, Mr.
3 Leadem?

4 MR. LEADEM: It's not a document.

5 THE COMMISSIONER: Oh, you're talking about the
6 statute?

7 MR. LEADEM: I'm talking about the statute.

8 THE COMMISSIONER: I'm sorry.

9 MR. LEADEM: I believe it's s. 2(1) I provided to Mr.
10 Lunn earlier.

11 MR. LUNN: I'll just bring it up, here.

12 MR. LEADEM: If we can go down to s. 2(1)(a), I believe
13 it is.

14 Q I realize this isn't the **Fisheries Act**, panel
15 members, but I'm going to draw your attention to
16 the definition of the precautionary principle
17 that's confined in s. 2(1)(a). So the Act itself
18 would read:

19
20 In the administration of this Act, the
21 Government of Canada shall, having regard to
22 the Constitution and laws of Canada and
23 subject to subsection (1.1),
24

25 (a) exercise its powers in a manner that
26 protects the environment and human health,
27 applies the precautionary principle that,
28 where there are threats of serious or
29 irreversible damage, lack of full scientific
30 certainty shall not be used as a reason for
31 postponing cost-effective measures to prevent
32 environmental degradation, and promotes and
33 reinforces enforceable pollution prevention
34 approaches;
35

36 So I want to contrast that definition which I find
37 in Canadian statute with the definition that the
38 DFO has adopted in Exhibit 51. I don't find the
39 exact comity of language; would you agree with
40 that concept?

41 MR. BEVAN: I think that the meaning is very similar,
42 actually. I think, in both cases, we recognize
43 there is no possibility of coming to scientific
44 certainty and full consensus, generally speaking.
45 That's wishful thinking on the part of management
46 if they expect to have that degree of certainty

1 before taking a decision. The precautionary
2 approach, both as we apply it and the Department
3 of Fisheries and Oceans, and as noted in that
4 statute, recognizes that and says that, in both
5 cases, where there is a risk of irreversible or
6 significant harm, you must take it -- you must
7 act. And you're not going to have absolute
8 certainty to allow you to take those decisions.
9 You must take those decisions recognizing the
10 uncertainty.

11 And in dealing with the risk management,
12 that's what we have been doing and that's what
13 we're reflecting in our decision rules in the
14 precautionary approach that we have applied in a
15 number of fisheries. So we have defined the areas
16 where the likelihood is that we'll be entering
17 into a zone where there's a possibility of serious
18 and irreversible harm, and then we have laid out
19 decisions, rules that would guide management in
20 the event we find ourselves in those
21 circumstances. I don't see a huge difference
22 between the meaning of either of those documents.

23 Q Well, I'm gratified that you don't see that
24 because that means to me that you're interpreting
25 it, perhaps, correctly, but at the same time, I'm
26 going to draw your attention specifically to the
27 language after the word, "postponing." Because in
28 your policy articulation, you have the word,
29 "decisions," which, to me, is an ambiguous term
30 which could connote a decision about anything.
31 Whereas in the statutory definition, after the
32 word, "postponing," I find the word, "cost-
33 effective measures." So the emphasis is that you
34 will actually adopt cost-effective measures as
35 opposed to making decisions. And if you take my
36 point, Mr. Bevan, what I'm simply referring to is
37 the ambiguity that a decision, to me, could be a
38 decision to, for example, go ahead with a project
39 so that the lack of scientific uncertainty would
40 not necessarily preclude you from going ahead with
41 a project such as the development of a power
42 resource. Do you take my point?

43 MR. BEVAN: I understand what you're saying. I think
44 it should be noted that in the Canadian law, there
45 actually is a possibility of going ahead with the
46 power project, for example, in the event of a
47 harmful alteration or disruption of fish habitat

1 so notwithstanding that statute, there are a whole
2 suite of other statutes that guide fish habitat
3 decisions and actions.

4 I guess from our perspective, we are so used
5 to the fact that a decision usually is a decision
6 on a particular action so we didn't see it that
7 way. The Minister has to decide on total
8 allowable catch, on harvesting opportunities, on a
9 whole suite of measures that are regulatory in
10 nature and these decisions happen on an annual
11 basis often. So when we think about a decision,
12 we think about a decision leading to an action.

13 Q I appreciate that clarification. I suppose when
14 it comes down to it, and this is not merely an
15 argument on semantics, Mr. Bevan, I put to you,
16 it's one on approach, that if you look at the
17 actual definition that the Rio Conference actually
18 promoted, which is now enshrined in the **Canadian**
19 **Environmental Protection Act**, for example, that
20 the language really speaks to looking at cost-
21 effective measures to prevent the environmental
22 degradation. It doesn't talk about making
23 decisions in the absence of uncertainty, or in the
24 absence of certainty.

25 MR. BEVAN: Well, I understand that. What I'm trying
26 to explain, I guess, in response to that is that
27 the decisions are going to be relevant to a total
28 allowable catch. I -- establishment of a no-
29 harvest zone to protect vulnerable ecosystems, or
30 the -- a restriction on certain gear use, and
31 those kinds of things. So in our vernacular, I
32 guess, when we think about a decision, we think
33 about a decision leading to a set of rules that
34 will be applied to a human activity, and with the
35 understanding that we have the authority under the
36 **Fisheries Act** to take action to ensure that those
37 decisions are, in fact, reflected in action.

38 Q Would you consider going back to this definition
39 contained in your policy and revising it, in light
40 of some of the comments that we've just had,
41 particularly with respect to the language in order
42 to achieve consistency among Federal statutes?

43 MR. BEVAN: I'd have to also look at what's currently
44 reflected in the framework for sustainable
45 fisheries. So I'm not quite sure -- and quite
46 frankly, the focus we have is actually going out
47 and putting these precautionary approaches in

1 place in fisheries as a starting point. That's
2 what we want to do. I don't know whether or not I
3 need to enter into consultations on the
4 definitions and whether or not that will actually
5 achieve a result on the real world. Our focus is
6 to try and apply the precautionary approach in a
7 number of key fisheries prior to the 2011 fishing
8 season. That's the primary focus, and I take your
9 point, and it may be something that we could look
10 at, at some point in the future, but -- or -- and
11 it may already be reflected in the way the
12 sustainable fisheries framework deals with the
13 precautionary approach.

14 Q I'll move on from Exhibit 51. Now, those of you
15 who were here in court while I was cross-examining
16 Dr. Watson noted that she made a couple of
17 deferrals during the course of that, and I don't
18 know whether it would be timely for me to pursue
19 that with you now, but I'm going to ask you at
20 least the questions and if it is necessary to --
21 for example, for you, Dr. Richards, to come back
22 to give that information, or for the -- some other
23 person from DFO to give that information, perhaps
24 you can tell me that.

25 In the course of asking her some questions,
26 Dr. Watson, specifically with reference to
27 Exhibit 46, the extracts that I was putting to her
28 from the minutes of the -- perhaps we can get that
29 up. Thank you. And I believe it was number 5.
30 You may recall that I had asked her some questions
31 concerning best practices in DFO, the industry
32 collaboration, aquaculture as a case study. And I
33 believe she made a reference that some of the
34 questions I was asking with specific reference to
35 some of the research that was being conducted in
36 the Pacific Region were better placed to you, Dr.
37 Richards. I don't know whether this is the time
38 to put those questions to you, but I'm going to
39 suggest that at some stage in the proceedings, I'd
40 like to ask some questions from someone in the
41 Pacific Region, if not you, then you can tell me
42 from whom these questions are more appropriately
43 addressed. Would you be the appropriate
44 authority?

45 DR. RICHARDS: I think you will -- Mr. Commissioner, I
46 think I need to hear the questions and then I can
47 answer.

1 MR. LEADEM:

2 Q All right. Well, as in everything, Mr.
3 Commissioner, it's often the context that provides
4 the information. If we can look at the direction
5 that is listed there, it says:

6
7 The role of science in aquaculture should be
8 re-evaluated.
9

10 Are you familiar with the discussion that led up
11 to that particular sentence?

12 DR. RICHARDS: Mr. Commissioner, I did not participate
13 in this meeting and no, I was not familiar with
14 the discussion which led up to that context.

15 Q Are you familiar, for example, with the
16 Department's experience with sea lice, in
17 particular, with respect to what has transpired
18 with sockeye salmon in the Fraser River in 2009?

19 DR. RICHARDS: Mr. Commissioner, I am familiar with the
20 research we have done on sea lice. I am not sure
21 why we have this specific link here to the Fraser
22 River, but I guess that's the context of your
23 question.

24 Q Mr. Sprout, were you present during this
25 discussion?

26 MR. SPROUT: I was.

27 Q So you, in your capacity as Regional Director
28 General, was present as a member of the Management
29 Committee, this Science Management --

30 MR. SPROUT: Science Management Board.

31 Q -- Board.

32 MR. SPROUT: That's correct.

33 Q All right. Perhaps you can provide the context
34 for this. Why is this discussion being focussed
35 by the SMB at that time?

36 MR. SPROUT: I think I can provide my recollection of
37 it, and I think, as well, I can simultaneously
38 factor in the point I raised earlier that I wanted
39 to speak to, which is about public perception.

40 So this Board is being held -- what is the
41 date that this was being held?

42 Q This is in October of 2009 --

43 MR. SPROUT: Okay. All right.

44 Q -- is the date of it. I can't give you the exact
45 date, but it should appear on the front.

46 MR. SPROUT: So this -- I want to set the context for
47 the Commissioner. So the Board is meeting, from

1 my perspective as a Regional Director General,
2 after we've had an extremely poor return of Fraser
3 River sockeye. 1/10th of the projection, in order
4 of magnitude, less than what was projected. And
5 in setting this context, it's also important to
6 set out that during the course of the very poor
7 return in 2009, so this is in the course of the
8 summer of 2009, various individuals and groups
9 raised concerns that the decline was related to
10 sea lice. So the extremely poor return of 2009
11 was related to sea lice.

12 Now -- so this is the context under which
13 someone like myself would be going into a
14 conversation with my colleagues on this Science
15 Management Board. And I recollect that in the
16 course of the board meeting, that someone like
17 myself would flag, "Okay, these are questions that
18 are being raised by these groups. You know, what
19 is our ability to try to extract and answer some
20 of these questions that are emerging and what do
21 we need to do in the longer run to try to clarify
22 to the extent we possibly can?" And I think
23 that's the context under which I would have
24 behaved and I recollect in that meeting.

25 And I believe when they say "direction,"
26 here, I think there's probably a bit of a roll-up
27 of the conversation that's occurring. And so I
28 believe that from my perspective, at least, given
29 the context of the extremely poor return and the
30 allegations raised by some about what the cause of
31 that was, that we would be wanting, as a
32 Department, to reflect on that relative to our
33 research, subsequent research and studies and so
34 forth to try to elucidate and try to move forward
35 on some of these matters. And I believe that's
36 the context under which -- that I would be
37 reacting to and is my recollection of this
38 particular statement.

39 Q Thank you for that. With respect to those two
40 questions that are postulated at the end of that,
41 "What is the role of Science to solve the problem
42 or to help inform the debate?" Do you recall how
43 that came into being, or what was the nature of
44 the discussion at the Scientific Management Board?

45 MR. SPROUT: No, I don't, and I have to admit, you
46 know, in looking at this right now, I don't know
47 whether science can solve problems. Science can

1 elucidate, clarify, inform, explain, assist, et
2 cetera, but the solving of problems, that's a
3 different question because the problems, in my
4 experience, often are -- revolve around human
5 perceptions on ability to accept risk,
6 perspectives that are different based on interest.
7 And at the same time, the context is informed by
8 science which often cannot provide precision. And
9 so I think if you're -- if we're looking for
10 science to kind of solve the problem, I'm a little
11 bit worried about that because I think that model
12 is problematic because it implies that you're
13 going to get precision around uncertainty. And
14 the experience I have, you know, in this field
15 over 30 years is one science study leads to
16 another and to another. It doesn't mean you don't
17 do things, it doesn't mean you don't take actions,
18 and I intervened earlier to make the point that,
19 in fact, you do take actions along the pathway,
20 but I think to anticipate that there will be
21 clarity of science in terms of resolving problems
22 is incredibly optimistic.

23 So I think science informs the debate, and
24 then I think society or processes around that need
25 to make decisions. And personally, in answer to
26 this question, I believe you have to bring people
27 together to inform them of the best science you
28 have at the time and to make decisions that
29 ideally, most people can live with that -- and
30 then you move on until the next information from
31 science would suggest something different.

32 So in summary, I believe, personally, I would
33 -- I think that this statement is more help inform
34 the debate, rather than the problem, solve the
35 problem.

36 Q Is that the universal acceptance on the panel?

37 MR. BEVAN: Yes, science provides information to a
38 decision making, but the -- as noted by Dr. Wendy
39 Watson-Wright this morning, science is there to
40 provide independent and objective advice, and then
41 that has to be considered by decision makers. So
42 in our understanding of things, Mr. Commissioner,
43 science is a risk assessor and it is the
44 responsibility of management to be the risk
45 manager.

46 Q You may recall the discussion that I had earlier
47 with Dr. Watson in which we talked about making

1 sure that science was at arm's length from
2 politicians. And I take it that all of you on the
3 panel would agree with me that science must be
4 independent of that political process. In other
5 words, the politicians should not have a say in
6 what the science should be? Mr. Mithani?

7 DR. MITHANI: Thank you very much. Mr. Commissioner,
8 as Dr. Wendy Watson-Wright agreed that, yes,
9 science needs to be independent, at arm's length.
10 I also, in my opening statements, when I was
11 questioned, talked about the independence and the
12 objective advice. The role of science is to
13 provide advice. What comes in terms of a decision
14 or recommendation to the Minister really has a lot
15 of other factors and science is truly independent
16 in providing that advice, and it has certainly
17 continued.

18 Q And sometime that can be a challenging
19 proposition, particularly if you're dealing with
20 ministers who have decision-making powers.
21 Sometimes you have to take a courageous stance, as
22 scientists and advise the Minister that he or she
23 may be doing the wrong thing; is that a fair
24 statement?

25 MR. BEVAN: I think it's fair to say that ministers are
26 often presented with scientific advice that is
27 rather inconvenient for them, but they get it
28 notwithstanding that, and they have to take a
29 decision with respect to whatever it is, total
30 allowable catch, or the harvest rates, or
31 whatever. They have to take a decision in
32 consideration of the scientific advice, along with
33 all sorts of other considerations that may also
34 come to bear. But they may get advice that is not
35 to their liking, but they definitely get it. And
36 I have not seen attempts by -- well, I shouldn't
37 say that. I have not seen ministers try to
38 influence the outcome of science advice. And
39 whether that happened at some time, it would have
40 had to have happened before I became directly
41 engaged in management of Fisheries.

42 Q Are there actually processes to insulate the
43 scientists from being manipulated by politicians?

44 MR. BEVAN: The processes that we use, and I'll have to
45 let the regional people here talk about the
46 Pacific process, generally speaking, what it is,
47 there's data obtained by Science from various

1 sources. Then there will be what's called a
2 regional or zonal assessment process. That then
3 will lead to a stock status report, which then
4 informs the consultative process that's undertaken
5 with respect to how to respond to that and what
6 advice to give to the Minister on how management
7 intends to respond to it.

8 Now, the process is very open and transparent
9 with respect to science so the process takes place
10 and unfolds with respect to the science in a way
11 that means that external stakeholders, external
12 experts, et cetera, are all possibly -- or all can
13 be present at that regional or zonal assessment
14 process. But I could ask if there's anything to
15 add with respect to specifics in the Pacific
16 Region.

17 DR. RICHARDS: Yes, Mr. Commissioner, I think we did
18 discuss some of that yesterday, when I -- we went
19 through the PSARC or the CSAS process, where we do
20 go through a formal peer review. At that peer
21 review meeting, we do invite external people to
22 come as full participants. We do have a record of
23 advice from that meeting. That advice is then
24 tabled and presented to the managers who requested
25 that advice. That advice is -- we try to arrive
26 at that advice by consensus, but it may be that
27 you can't arrange or arrive at consensus, in which
28 case we try to ensure that we provide alternative
29 points of view with a justification around that so
30 that we can ensure that we hear different sides of
31 the story and that we can make sure that we
32 portray the full picture to the decision maker.

33 Q That segues into the PSARC process very neatly
34 because that's where I was going to next, Dr.
35 Richards. I thank you for that.

36 MR. WALLACE: Mr. Commissioner, by my reckoning, Mr.
37 Leadem is about halfway through his questions. We
38 have another hour or so beyond his time.
39 Everyone's been -- the panel and the recorder have
40 been at this since 10 o'clock, I wonder if a short
41 break would be in order?

42 THE COMMISSIONER: Is that convenient, Mr. Leadem?

43 MR. LEADEM: Yes, thank you, very much.

44 THE REGISTRAR: Okay. We'll now recess for 10 minutes.

45
46 (PROCEEDINGS ADJOURNED)
47 (PROCEEDINGS RECONVENED)

1 THE REGISTRAR: The hearing is now resumed.

2 MR. LEADEM: Panel members, I'm -- sorry.

3

4 CROSS-EXAMINATION BY MR. LEADEM, continuing:

5

6 Q I need to turn the mike on first so you can hear
7 me. I'm at the stage where I wanted to move into
8 the PSARC, the Pacific Scientific Advice Review
9 Committee. That's something that you chair, is
10 it, Mr. Cass?

11 MR. CASS: Not currently but I have until February of
12 this year.

13 MR. TAYLOR: If I may interject. Mr. Cass, you're
14 going to have to get the mike in front of you at
15 all times.

16 MR. CASS: I'm wired but I'm not sure --

17 Q You're on, thank you. You've been sitting there
18 diligently at the end not chiming in very often.

19 MR. CASS: Not sure about diligently. Yeah, to answer
20 your question, I'm not currently in that position
21 but I was up until February.

22 Q Is it true that there's a pilot program for a two-
23 tiered approach to that program now to PSARC? In
24 other words, Tier 1 would be involvement of DFO
25 scientists and industry and then Tier 2 would
26 involve DFO scientists and then external people
27 and just generally more people?

28 MR. CASS: Mr. Commissioner, we don't have a formal, as
29 you -- as you describe it, two-tier process.

30 There are occasions where scientists may interact
31 with stakeholders, industry or others, to -- to
32 develop their programs. But that's not part of
33 the formal peer review process, if I understand
34 your -- your -- the question, Mr. Commissioner.

35 DR. RICHARDS: Mr. Commissioner, I think I can explain
36 the genesis of -- of this pilot program, as it was
37 described. What happens is most of the work
38 initially that had been done through PSARC was
39 really dealing with capture fisheries. And when
40 we're dealing with capture fisheries, some of the
41 data that are used in terms of -- that -- that are
42 input into the -- into the models that are used to
43 estimate the abundance of the stocks, in order to
44 do that you need to have some kind of index. And
45 one of the pieces of information that was used as
46 an index was the catch rate on the commercial
47 fisheries. So often, data from commercial capture

1 fisheries would be used as a piece of the input
2 into the stock assessment that would be fit into
3 the modelling exercise.

4 And I think that there were questions raised,
5 you know, valid questions about how good those
6 data were and what -- whether there were some
7 alternative interpretations of changes in those
8 data. For example, you know, changes in methods
9 that the industry were using. And so the intent
10 of that, which -- which lasted probably for a
11 couple of years where we did this process, but it
12 was mostly in the context of meeting, for example,
13 with the groundfish capture sector and trying to
14 have some understanding of what -- of the data
15 that they were part of collecting and making sure
16 that the scientists, when they were putting it
17 into their assessment process, understood some of
18 the limitations around what that -- the
19 interpretation of those data. So that was the
20 intent. And it was really just dealing with the
21 capture fisheries.

22 Q So it has nothing to do with this PSARC process
23 that I've been talking about with Mr. Cass?

24 DR. RICHARDS: No, it was -- there was some -- some
25 discussion but I don't think it was ever really
26 formally implemented, about having a process where
27 before we got to the table with a review and the
28 research documents that were the roll-up and the
29 analysis from -- that would be based on some data,
30 that there would be some discussion. And I recall
31 that we did a few meetings around this but perhaps
32 I -- perhaps sometimes in the '90s that I recall a
33 couple of meetings with industry. But it was
34 mostly just saying, you know, because this were
35 data that they had collected and we wanted to make
36 sure that we understood the constraints under
37 which they collected it because obviously how they
38 choose to fish may affect the interpretation of
39 those data. And from the science perspective, we
40 wanted to make sure that we understood those
41 processes so we could put a fair interpretation on
42 the data. But it was nothing something, which is
43 routinely carried through.

44 Q Mr. Cass, earlier when you were answering one of
45 my queries about PSARC, you mentioned that often
46 times there are discussions between DFO scientists
47 in the industry. How do you keep those

1 discussions at arm's-length? Because if one of
2 the things you're trying to do is insulate the
3 science from the people that you're trying to
4 regular, for example, how do you keep those
5 discussions at arm's-length? How do you keep them
6 transparent?

7 MR. CASS: Yeah, there's been a lot of effort in
8 developing the process around the peer review
9 issue within DFO and it was mentioned this morning
10 by Dr. Wendy Wright of the SAGE principles, which
11 are designed to have impartial and objective
12 participants at meetings, who are there as
13 individuals and not as representatives of
14 industry, for example. And so there are
15 assurances that science meetings are conducted
16 with -- with transparency and with objectivity and
17 -- and impartiality. That's -- and there's
18 letters sent out to participants on that issue
19 when they're -- when they are invited.

20 Q And at these PSARC meetings, I understand that in
21 attendance are representatives from industry, as
22 well as representatives from the environmental
23 groups that might be interested; is that right?

24 MR. CASS: There are individuals who are invited
25 because of their interest in the issues who happen
26 -- who may be representatives of other client
27 groups. As you mentioned, environmental groups or
28 industry. That's correct.

29 Q Representatives from academia are there?

30 MR. CASS: Correct.

31 Q I want to go back to preserving that arm's-length
32 with industry. When you're setting priorities and
33 particularly in a field where you're dealing with
34 industry, whether it's the commercial fishing
35 industry or whether it's the aquaculture industry,
36 how do you preserve the arm's-length discussions
37 in setting science priorities when you're dealing
38 with these people who are mostly going to be
39 affected by what it is that you're doing by the
40 science that you're doing? What kinds of
41 processes do you do?

42 MR. CASS: Mr. Commissioner, the -- in terms of
43 requests that we get from, for example, the
44 fishery and aquaculture sector in the region, the
45 requests come from DFO through those sectors and
46 so those requests may be developed with
47 consultation with other groups. But it's -- the

1 requests are developed within DFO and that's --
2 that's what's received and that's what's assessed
3 in terms of prioritizing (sic) the -- the work that
4 would be done by science to -- to meet the
5 requests, if they -- if they become priorities and
6 are acted on.

7 Q Are there formal meetings that you establish with
8 respect to industry from time to time where you
9 discuss the science that you're going to embark
10 upon? Some of the language talks -- that I've
11 seen talks about collaboration with industry. And
12 I guess I want to come back -- I want to hammer on
13 this. How do you preserve that as an arm's-length
14 transaction? These are the people that you're
15 dealing with on a day-to-day basis and yet they're
16 the very people that you're trying to regulate.
17 You know, how do you preserve that arm's-length
18 transaction so that science is not simply seen as
19 being the lackey of industry?

20 MR. CASS: Mr. Commissioner, that's the -- one of the
21 essence, if you like, of peer review, that it is a
22 science peer review process that invites
23 stakeholders, for example, industry to provide
24 their insights and expertise in the area that
25 they're familiar with, whether it be localized
26 knowledge or other issues. But the due weight of
27 evidence in a review is a science construct that
28 takes that into account. But it's, again, going
29 back to objective and impartiality is part of the
30 -- the pillars, if you like, of the -- of the peer
31 review process.

32 Q I take it from your answer then, Mr. Cass, that
33 you would not be in favour of adopting a Tier
34 1/Tier 2 approach certainly with respect to peer
35 review and PSARC, would you?

36 MR. CASS: Well, if -- again, I defer to Dr. Richards.
37 But if you mean Tier 1 or Tier 2, which I'm not
38 familiar with but I do understand the concept as
39 I'm hearing it, if that means Tier 1 is a separate
40 engagement with industry to arrive at advice --
41 science-based advice, then I'm not sure that I
42 would see an opportunity there to -- if that's --
43 if that's the narrow focus of the -- of the Tier
44 1, which is to -- to have a separate involvement
45 with simply industry --

46 Q Yes.

47 MR. CASS: -- and not the full engagement of the broad

1 spectrum that may be necessary to arrive at the --
2 at the advice and conclusions of a -- of a
3 meeting.

4 MR. SPROUT: Could I add to this conversation briefly?

5 Q I'm not going to be able to stop you, I'm sure,
6 Mr. Sprout.

7 MR. SPROUT: Dr. Richards may be able to provide other
8 -- another perspective from her role in science
9 but I want to go back to your initial question
10 because what you said -- what you asked is, is
11 preserving arm's-length and transparency. Those
12 are the two aspects that you raised. And I want
13 to say the department has relationships with --
14 with a large suite of different clients. So that
15 includes the commercial fishery, the recreational
16 fishery, First Nations, the aquaculture provinces
17 and so forth. So we're meeting separately with a
18 broad range of these groups. And that includes
19 environmentalists.

20 So the -- I guess the question is, is in all
21 of those exchanges, all of those groups are
22 providing their perspective on their interests.
23 Commercial, their perspective. Recreational,
24 their perspective. First Nations, their
25 perspective. And so forth. So all of this is
26 happening. I think the view the department has is
27 that these interactions are really important in
28 informing the department as it ultimately makes
29 decisions consistent with its policies and
30 directions. So I think in answering at least in
31 part the question related to PSARC is, is there
32 transparency (sic) in the PSARC process? Are
33 other parties able to come to the PSARC process?
34 And as we talked about yesterday in the terms of
35 reference, there is public participation. The
36 public can choose to come. And in fact, various
37 interests can choose to come and participate as --
38 and criticize papers that are being presented in
39 the PSARC science process. So that transparency,
40 I think, is -- is an important consideration.

41 The other comment I have is that I think that
42 eventually we have to come to the notion of how it
43 is we can bring an integrated conversation into
44 this discussion because I think everyone will have
45 a perspective, environmentalists, commercial
46 fishing interests, recreational fishing interests
47 and First Nations on a subject, particularly

1 fishing. And I think the challenge is to see
2 whether you can get the same people -- those
3 people into the same room so the transparency is
4 happening and then the debate is happening in a --
5 in a frank and clear way and then the outcomes,
6 ultimately decisions, are as informed as possible.
7 And I believe when it comes to this aspect of
8 PSARC, that the structure the department has in
9 this region really encourages that sort of
10 transparency. And I believe that helps go to the
11 question you're raising on arm's-length because
12 you get diversity of opinion. And the department
13 then must respect its ethical values, it must
14 respect its responsibilities in terms of policy
15 direction, the role of scientists relative to
16 being objective and -- but I think it's aided by
17 the transparency.

18 So it's just an observation I have that I
19 wanted to make. Thank you.

20 Q And I thank you for that, Mr. Sprout, because it
21 leads into two things, one of which is that
22 recognition, as I did with the previous panel,
23 that your job is not an easy one, that you've got
24 a lot of different competing interests and a lot
25 of challenges that you face. But the second point
26 is that the current status quo in which DFO meets
27 singularly with one client group, for example,
28 industry and singularly with First Nations groups,
29 I think that it would be much more appropriate to
30 try to achieve this in more of a forum sense so
31 that people are understanding one another's
32 positions, being able to respond to one another's
33 positions in the context of hearing from everyone
34 rather than singularly.

35 MR. SPROUT: Okay. So that's a really interesting
36 observation. And idealistically, I would agree
37 with you. But practically, I think we have to
38 take a somewhat different approach to get to what
39 you have just described because the reality is
40 that fisheries management and science and its role
41 of science is very complicated. And to assume
42 that we could meet in one room with all the
43 parties at the very start to the very end of the
44 process, regrettably, is not reasonable. I think
45 to get to that stage, I think the steps we have to
46 take is to have conversations bilaterally, as
47 appropriate, but ultimately to bring the

1 distillation of those conversations into a broader
2 form exactly as you have characterized. And
3 aspirationally, I think that's where the
4 department has -- that's where the department has
5 gone on fisheries management. And my personal
6 view is that's where we need to go in terms of
7 aquaculture. It needs to come -- it needs to come
8 in to the debate and the conversation in a broader
9 forum. And those are steps that I think are still
10 to be taken. But you need to -- you need to bring
11 into this a sense of pragmatism given the
12 complexity of what you're facing with a view that
13 those -- that incremental steps that I've laid
14 out, I think, would reflect more accurately what
15 you're facing but still embrace, I think, the
16 notion of a common forum where that makes sense
17 and can work in a practical way.

18 Q I'm going to pass to you another approach to that
19 one that you've just articulated, which is like a
20 refereed or an observer approach where you may
21 have the discussions on a basis of having industry
22 and DFO have the discussion but have an observer
23 also be present to achieve that degree of
24 transparency that you're trying for.

25 MR. SPROUT: We have used facilitators. We've used
26 independent parties to do, I think, what you've
27 just described. They've been met with various
28 successes. I think at the end of the day, I
29 believe that the people that have an interest in
30 the outcomes, whether that's fisheries management
31 or aquaculture, need to work more collaboratively
32 and to try to find as much consensus on the
33 outcomes as possible and to be accountable for
34 that participation and outcome. I don't think
35 that the model of transferring that to a third
36 party is a model that I've observed works
37 effectively in the experiences that I have been
38 exposed to over a long period of time. I -- I
39 recognize that the model of bringing people
40 together is an optimistic one.

41 And I know that to get there we will have to
42 address things like capacity with First Nations.
43 We're going to have to recognize rights and title
44 where those are described. I know that it is
45 going to be a challenge to bring some groups
46 together in the same room. I know that there will
47 be outstanding policy questions and operational

1 questions that will have to be resolved to inform
2 those discussions. But ultimately, I think that's
3 where we need to go to address the reality, I
4 think, of what we're facing, which is that
5 scientific uncertainty is a characteristic. It is
6 unlikely to be diminished or to be removed, one
7 scientific uncertainty replaced with another and
8 we will have to find a mechanism that has human
9 beings trying to reconcile and -- and trying to
10 find as much consensus as possible.

11 Q I'm going to move on from that -- from that high-
12 level discussion. And I tend not to think very
13 well in terms of the abstract, Mr. Cass, so I'm
14 going to come back to you to PSARC because to me
15 I'd like to understand things by using a concrete
16 example just so I understand how PSARC functions.
17 And if we take the example for -- just for the
18 sake of argument of sea lice, we know, for
19 example, that DFO has researched sea lice; is that
20 right?

21 MR. CASS: Mr. Commissioner, DFO has researched sea
22 lice, yes.

23 Q Right. Has this research been vetted through the
24 PSARC process, to your knowledge?

25 MR. CASS: There has been one review that I'm aware of
26 in the 2000's on the Broughton -- in the early
27 stages of the Broughton work. And to my
28 knowledge, I can't recall a specific session on
29 sea lice recently.

30 Q So I take it from your answer then that not very
31 much of the research that DFO is doing on sea lice
32 is vetted through the PSARC process; is that
33 right?

34 MR. CASS: Mr. Commissioner, the only review that I'm
35 aware of occurred in the early 2000's specifically
36 on the Broughton.

37 Q Okay. I'm going to wrap up pretty soon. I've got
38 two more areas to get to. One is a quick area, I
39 hope, if -- if I can resist asking Mr. Sprout or
40 Mr. Bevan the questions. And I say that with all
41 respect, obviously. The Fisheries Research Board
42 of Canada. That was -- that was a -- that used to
43 do independent research up until 1979, I believe,
44 when it just sunk into oblivion. Most of you may
45 not have been around when the Fisheries Research
46 Board of Canada was operating. Mr. Bevan, I think
47 you were. It produced its own journal. It had

1 its own core of scientists. It was very
2 independent in the -- in terms of the work it was
3 doing. What was the problem with dropping that
4 model and going with the models that we're seeing
5 -- we're now seeing promulgated by the science
6 department?

7 MR. BEVAN: I confess that I was rather junior at the
8 time and was focused on fish inspection, food
9 inspection and working with Health Canada and Ag
10 Canada. As I recall, however, there was an issue
11 of organizational change, as well as -- possibly
12 as well as funding. And I recall the -- our
13 neighbours were, in fact, board -- working for the
14 research -- Fisheries Research Board and I recall
15 the lab closing. So I don't know if it was
16 motivated by cuts or motivated by the
17 reorganizations of departments. So I can't really
18 comment on that model and why it was changed,
19 other than to give you that -- that information.
20 There'd have to be much more research done into
21 the thinking behind it.

22 Q All right. I may -- I may come back to that, Mr.
23 Commissioner, with another panel. And finally, I
24 just want to deal with the issue of communications
25 to the media with respect to science. And in that
26 regard, I want to see if I can just -- this
27 question's going to be for you, Mr. Sprout, and
28 hopefully you know where I'm going with this
29 because I want to pull up on the screen a letter
30 that you wrote to the editor back in August of
31 2009, a letter to the editor of the Globe and
32 Mail. I think it's the last tab of the documents
33 that I asked to be presented to the witnesses for
34 cross-examination purposes, Mr. Lunn.

35 MR. LUNN: Yes.

36 Q Thank you. It's a -- it's a short letter. I
37 don't think you probably came up with the title,
38 "Fishing for Answers". But certainly that is the
39 letter that you wrote to the Globe and Mail and
40 that would have been in August of 2009; is that
41 right, Mr. Sprout?

42 MR. SPROUT: That's correct. That is the letter that
43 is under my signature.

44 Q All right. And I take it from your response you
45 authored that letter, did you?

46 MR. SPROUT: I recall that I authored a somewhat longer
47 letter, not very much longer. That version is

1 edited slightly over what I recollect.
2 Nevertheless, essentially, I think it does reflect
3 the version that I recollect. But it is -- it is
4 slightly different, as I recall.

5 Q All right. Now, does science inform your -- the
6 first two sentences of this particular extract
7 from your letter?

8
9 Sea lice from fish farms are not the
10 explanation for this year's extremely poor
11 marine survival of Fraser River sockeye.
12

13 MR. SPROUT: Yes, it does.

14 Q All right. And when you go on to say, "Sockeye
15 returns to the Skeena River were also
16 significantly lower," and you refer to two species
17 -- or at least:

18
19 The sea lice species found on juvenile
20 sockeye in the Strait of Georgia are not the
21 same species that typically infects farm
22 salmon.
23

24 That was also your advice from your scientist, was
25 it?

26 MR. SPROUT: Yes, I was informed by science.

27 Q Well, I'm not going to debate with you the merits
28 of that science. But the question that I'm going
29 to have for you is when do you come out, so to
30 speak, as a regional director general, and make
31 these statements in the media? Why did you do
32 this?

33 MR. SPROUT: Well, that's a good question. And I
34 apologize if I'm going to be a little bit long in
35 my response but I do have a number of observations
36 on this letter and -- in response to your
37 question.

38 So the letters to the editor typically are
39 associated with other letters that are showing up,
40 probably correspondence that's showing up in the
41 same -- very same paper. So I don't know whether
42 you have that available to juxtapose with the
43 letter that we have today. But I think the short
44 response is there's -- this was probably initiated
45 by some other -- some other triggering event. And
46 I'm guessing it was an article, a letter or
47 something in the globe. I just can't recall.

1 But I want to deal with the -- I think the
2 elements of the letter. And I want to take this
3 back to my role. I also want to talk about a
4 couple things that I referred to earlier today.
5 And I want to talk about sort of going -- you
6 know, where do we go from here? Because you've
7 asked kind of the question of the role of the RDG,
8 okay?

9 So first of all, what this letter says is
10 that the sea lice cannot explain the extremely
11 poor return of Fraser sockeye in 2009. Okay. In
12 order of magnitude, less than predicted. It does
13 not rule out that sea lice might have been a
14 contributor. It just says you cannot -- it cannot
15 explain the decline. It does not rule out that
16 predation would have been a contributor. It does
17 not rule out that freshwater contamination could
18 have been a contributor. It does not rule out
19 that overharvesting could have been a contributor.
20 It does not rule out that disease could have been
21 a contributor. It simply says that the
22 explanation for the extremely poor return of
23 sockeye in 2009 was not sea lice. Not exclusively
24 sea lice.

25 Now, I want to go on from that point. You
26 have asked the question whether science helped
27 inform my -- this letter. And my answer is, it
28 did, that science would have -- typically in these
29 kinds of correspondence, the letters are reviewed
30 at least preliminarily by the various different
31 sectors or in the case of the region, branches.
32 So that would have included the Science Branch or
33 the Fisheries Management Branch and so forth. And
34 then there would have been some sort of process in
35 Ottawa for vetting as well. So the letter that --
36 that is under my signature is a departmental
37 letter. It's not Paul Sprout. Yes, I am the head
38 for this -- the senior federal representative in
39 B.C. and the Yukon but I am writing on behalf of
40 the department and the department is informing
41 this letter through its science, through its
42 fisheries management, et cetera.

43 Now, I want to deal with the issue of sea
44 lice because the letter is referring to sea lice.
45 I've talked about it not excluding other
46 possibilities. But the reality is, even though
47 some disagree, is that there is the dispute around

1 the science of sea lice. And in 2009 when this
2 letter was being drafted, it was -- it was the
3 Department of Fisheries and Oceans' view that
4 there has been no causal relationship established
5 between the abundance of the returns of Broughton,
6 chum and pink salmon and sea lice. So the returns
7 of those species have not been tied in to sea lice
8 from the Department of Fisheries and Oceans'
9 perspective at the time that this letter was being
10 drafted.

11 Now, in writing this letter, it's important
12 to also remind counsel that the lack -- the fact
13 that there -- there is no scientific consensus
14 doesn't mean that you don't take action. I mean,
15 science not having a consensus on an issue, I
16 mean, for me, that's just normal. Like tell me a
17 science question, a big science question where
18 there isn't a debate. It's just -- in my
19 business, going into a group -- a room of
20 scientists, if there's ten of them, you're
21 probably going to have 11 opinions. So -- but do
22 you not take action? The answer is, is you do
23 take action. And I explored earlier some of the
24 measures that we've taken with respect to disease
25 transmission, sea lice controls and so forth with
26 respect to farms in spite of the fact that there
27 isn't consensus. And I want to make that clear.
28 I think it's an important aspect.

29 I want now to draw your attention to
30 perspectives of risk. You see, I know of a
31 fishery that kills wild salmon year after year
32 after year. Absolutely kills them. It's called
33 the wild capture fishery. Every year in this
34 province we kill thousands, hundreds of thousands
35 and millions of salmon. Now, is there no risk in
36 allowing for wild capture fisheries? There is
37 risk. We attempt to mitigate that risk by how we
38 fish, where we fish, when we fish and how much we
39 fish. We try to mitigate but we still provide for
40 a commercial, recreational and First Nations
41 fisheries on wild Pacific salmon in spite of the
42 risk. And I think this perspective is important
43 because at the end of the day, if what you're
44 seeking from this panel is satisfy us that there's
45 no risk with farms, I'm not sure that the science
46 will ever establish that. If the question,
47 though, is, how do we best manage what we don't

1 know to be certain but which people have genuine
2 concerns around, then I come back to your earlier
3 observation, which is that we need to have people
4 come together, they need to share knowledge and
5 information, they need to -- we need to find as
6 much consensus. That may be abstract but it's
7 relevant.

8 Q Thank you for your answer, Mr. Sprout. One final
9 question. Obviously, I come -- or I'm privileged
10 enough to be counsel for the people who -- of all
11 the people in this room are probably in the best
12 position to say they care about the salmon not for
13 commercial purposes, for traditional purposes, for
14 purposes of growing them and seeing them grow.
15 They occasionally may eat them. I have to confess
16 that -- that I -- that I will eat wild salmon from
17 time to time. But we come from a different
18 perspective than most other groups at this
19 hearing. And we want a voice as well at the table
20 and will you give us that voice?

21 MR. SPROUT: Absolutely. And I can give a quick
22 example. When I was a young biologist working in
23 Prince Rupert, I had responsibility for managing
24 the Skeena River sockeye fishery. And I'm going
25 back now to the '80s. And I recall the challenge
26 that we faced at that time with the commercial
27 fishing industry because we wanted to reduce the
28 fishing time because they wanted to conserve Coho
29 salmon that were co-migrating with sockeye salmon.
30 It was very challenging because we -- we dealt
31 mostly with the one sector, who had an interest in
32 harvesting. I'm not trying to give the impression
33 there aren't commercial fishermen that were not
34 concerned but I'm just saying that we had
35 principally once perspective.

36 My view is the environmental perspective is
37 crucial. My view, and I think it's the
38 department's view, is your perspective, along with
39 others, helps inform us in a consensual manner
40 where that is possible. And it's under those
41 circumstances that we make the best possible
42 decision. So I agree with you, you need to have a
43 voice and I think this region over the last
44 several years has tried to bring that voice at
45 least into the fishery side and, arguably, we need
46 to go further in other areas.

47 MR. LEADEM: All right. I apologize, Mr. Commissioner.

1 I went over my time. The discussion was just too
2 enthralling for me to stop.

3 THE COMMISSIONER: Thank you very much, Mr. Leadem.
4 Mr. Wallace?

5 MR. WALLACE: Mr. Commissioner, the next counsel on the
6 list is Ms. Gaertner for the First Nations
7 Coalition.

8 THE COMMISSIONER: I think Mr. Butcher is standing
9 thinking maybe he's next.

10 MR. WALLACE: I apologize.

11 MR. BUTCHER: I think I'm next in order.

12 MR. WALLACE: Indeed. Thank you, Mr. Butcher.

13 MR. BUTCHER: It's David Butcher. I'm counsel for the
14 Area E Gillnetters. And Mr. Sprout, I counted 19
15 lawyers in the room and I'm sure there are far
16 more than 30 opinions on almost anything in here.
17

18 CROSS-EXAMINATION BY MR. BUTCHER:
19

20 Q I want to ask some questions particularly of the
21 two regional representatives about some human
22 resource issues in this science group. We heard
23 from Mr. Taylor yesterday -- or answers to Mr.
24 Taylor's questions that I think you have 466 staff
25 in the region and 55 scientists; is that correct?

26 DR. RICHARDS: Yes, that's correct, Mr. Commissioner.

27 Q First of all, can you tell us how those numbers
28 compare with historical highs?

29 DR. RICHARDS: Mr. Commissioner, I understand that
30 there is some work going on that will be looking
31 at our full budget situation in the region over
32 time. Unfortunately, it's a bit difficult for us
33 to track numbers in our system and so I don't --
34 we don't really have -- keep good track of that,
35 unfortunately, so I can't give a precise answer to
36 that.

37 My recollection when I looked at the job
38 description for my position, which was also part
39 of the evidence that was presented to the panel
40 earlier, I saw 380, as the numbers at that time.
41 So -- but subsequent to that, we did have a bit of
42 a reorganization that might have added those other
43 bodies. So I think that the numbers have been --
44 there have been some decreases but some new
45 programs and some increases. So I think it's been
46 -- it has changed -- it's fluctuated a bit but I
47 think the overall numbers have been reasonably

1 stable.

2 Q Over what period of time?

3 DR. RICHARDS: Well, I'm just looking at the last ten
4 years.

5 Q And I take it you're telling us that because of
6 government restructuring the bringing in of
7 programs from one ministry into another and so o,
8 it's very difficult to track that but you are
9 going to be providing that information to the
10 Commission?

11 DR. RICHARDS: Well, I understand that there has been a
12 -- I mean I don't think that we -- I don't recall
13 that we were specifically asked for the
14 information on FTE's or that number. I understand
15 that there is one of the projects of the
16 Commission that is going to be looking at the
17 history of our budgets or finances. I'm not quite
18 sure what the scope of that is but certainly we
19 would be -- you know, we can try to look at that.
20 I'm just not sure, unfortunately, through our
21 systems how available those precise numbers are.

22 MR. WALLACE: Mr. Commissioner, the budget issue is set
23 for hearing at -- almost at the end of the
24 hearings and, as I mentioned earlier, we had
25 thought of bringing it in at this point but we
26 didn't have the information needed to do it. So
27 we'll certainly keep Mr. Butcher's questions under
28 advisement for that panel.

29 Q I don't know if there's anybody else on the panel
30 who can go -- whose experience can take us back
31 further than ten years. Are you able to tell us
32 that the scientific component for the department
33 has remained stable, say, over 20 years or have
34 there been significant reductions over that longer
35 period?

36 DR. RICHARDS: Mr. Commissioner, unfortunately, one of
37 the complications around trying to answer this
38 question has been that there have been some
39 organizational shifts. And even though there --
40 the numbers may have been on that order, I think
41 those numbers are -- I would be into speculation,
42 if I went back earlier. But certainly there have
43 been shifts over time of what those individuals
44 have been doing, as the priorities have shifted
45 around different programs within the federal
46 government.

47 Q I'll try a slightly different set of questions.

1 Are you able to tell us how those 55 scientists
2 and the other biological staff are allocated as
3 between the different areas of scientific work
4 that you do? And I'm not asking for specific
5 numbers, obviously, but general allocations. And
6 obviously, at the end, I'm specifically interested
7 in how many are allocated to wild salmon issues.

8 DR. RICHARDS: Okay. Well, I can say that the number
9 of scientists that are allocated to the wild
10 salmon issues is a relatively smaller number out
11 of that group. Certainly, we can give you the
12 precise numbers and I'm just a little nervous just
13 to give you a precise number because I would then
14 -- having to do those calculations in my head,
15 which are not necessarily accurate and I do not
16 want to mislead this. We can provide that precise
17 information. Perhaps I should leave that.

18 Q That is something you can do through your counsel?

19 DR. RICHARDS: Yes, we can certainly do that.

20 Q Of the 55 scientists, the Ph.D. people, how many
21 of those were involved in actual scientific
22 research? How many are involved in
23 administration?

24 DR. RICHARDS: The scientists, those 55 are -- are
25 individuals, which are in the category of research
26 scientist. And what I -- and those are
27 individuals who are doing strictly science work,
28 not administration. They may have some
29 administrative responsibilities. As scientists
30 increase in the organization, they are often
31 leading teams, sometimes quite large teams, so
32 they -- they may also be section as part of that
33 but they are still -- still being expected to
34 conduct scientific research in addition to that.
35 Now, I should be clear in going back to your
36 previous question that a lot of the research
37 that's being done on salmon that would be relevant
38 to the work of this panel is also being done by
39 individuals within the biologist group. Some of
40 those individuals do have Ph.D.'s. They are also
41 doing some original research so there is sometimes
42 a bit of a fuzzy boundary between those different
43 categories. Fundamentally, the difference in the
44 -- between those different groups is that the
45 scientists have a clear progression scheme, which
46 is based on their ability to do research and the
47 impact and influence of that research and the

1 amount of innovation that they're able to bring to
2 the program, where the biologists are -- have --
3 their classification is determined by the job that
4 management asked them to do. So it's a bit of a
5 different context but they both are -- often are
6 doing research and perhaps sometimes similar
7 research and often collaborating.

8 Q Would you be able to go this far and agree that
9 perhaps less than 25 percent of your scientific
10 strength is allocated to wild salmon issues in
11 this province? Or have I set the number too high?

12 DR. RICHARDS: Well, we can -- I would prefer that we
13 can provide you, if you're -- I'm sure we can work
14 out what those specific figures are, Mr.
15 Commissioner. I'd rather give you the exact
16 number than try to speculate.

17 THE COMMISSIONER: Mr. Butcher, I notice the time. Is
18 this a convenient place to take the lunch break?

19 MR. BUTCHER: Certainly.

20 THE COMMISSIONER: Thank you very much.

21 THE REGISTRAR: The hearing is now adjourned until two
22 o'clock.

23
24 (PROCEEDINGS ADJOURNED FOR NOON RECESS)
25 (PROCEEDINGS RECONVENED)

26
27 THE REGISTRAR: The hearing is now resumed.

28
29 CROSS-EXAMINATION BY MR. BUTCHER, continuing:

30
31 Q Mr. Sprout and Mr. Bevan, you were both at this
32 meeting which is recorded by the minutes --

33 THE REGISTRAR: Excuse me --

34 THE REPORTER: Your microphone's not on.

35 Q Mr. Bevan and Mr. Sprout, I have pulled up Exhibit
36 38 which is the minutes of the Science Management
37 Board for January 23rd, 2006. You were both at
38 this meeting?

39 MR. BEVAN: That's correct.

40 Q One of the issues being discussed at the meeting
41 was the question of the future human resource
42 requirements of your section?

43 MR. BEVAN: I believe that would have been related to
44 science, the science sector.

45 Q Or the science sector, yes. And it appears to me
46 from the notes that are on pages 2 and 3 with
47 respect to human resources issues, that there were

1 two particular problems facing the science sector
2 at this time. One was budget restraints currently
3 being -- or being imposed at that time by the
4 Expenditure Reduction Committee, and the other was
5 the aging of your scientific staff; is that fair?
6 MR. BEVAN: I think that's fair. I would point out
7 that the experiment reduction process was also
8 offset. I can't recall if it was later that year
9 or another time, it was offset by an increase of
10 money. So there's ins and outs all the time in
11 these budgets.
12 Q Yes. No, over a 20-year period there would be
13 periods of hiring and periods of attrition with no
14 hiring?
15 MR. BEVAN: There would be less hiring at certain
16 periods than at other times, yes. There was a
17 science renewal process and there was, as noted by
18 Dr. Wendy Watson-Wright, there was hiring at that
19 time.
20 Q And the action that was provided for, the action
21 item in the minutes, was that the science sector
22 was to develop a human resource strategy.
23 MR. BEVAN: I just wonder if that could -- I don't see
24 that on the screen.
25 Q Oh, sorry. I think we can go to page 3. There.
26 At the top of page 3. You can see the action
27 there is written as science sector to develop
28 human resources strategy.
29 MR. BEVAN: Yes, that's the recommendation or the
30 decision from the Science Management Board.
31 Q And that recommendation resulted in the report
32 that is now marked as Exhibit 49.
33 MR. BUTCHER: I wonder if that could be pulled up,
34 please.
35 Q Is that correct?
36 MR. BEVAN: I believe that to be the case.
37 Q If we can go to page 8, please? On page 8 there
38 are a list of five different risks or weaknesses
39 identified in your human resources profile, and
40 they are insufficient infrastructure, depleting
41 knowledge, science spread too thin, fulfilling
42 client needs and partnership failures, correct?
43 MR. BEVAN: Yes, that's correct.
44 Q And on the next page, there's a reference in the
45 top paragraph to:
46
47 Regional risk management workshops held in

1 2006 have confirmed that the most severe
2 risks that the science sector is currently
3 facing are science spread too thin and
4 knowledge risks. Both of these risks are
5 human resources related and presented as
6 issues and risks with the implementation of
7 this national human resources strategy.

8
9 I've read that correctly?

10 MR. BEVAN: Yes.

11 Q I have a question really for the regional people.
12 Did those risks exist in this region and with
13 respect to salmon, and your knowledge base with
14 respect to salmon?

15 DR. RICHARDS: Mr. Commissioner, I was part of the team
16 that was working on -- or that was inputting into
17 the development of these risks for the sector.
18 The way that the exercise was done, it was
19 encompassing our whole suite of programs and we
20 didn't specifically look at it with respect to the
21 salmon issues. We might have looked at it with
22 respect to the overall pieces within our advice
23 that we give on fisheries and aquaculture to the
24 fisheries management group, but we would not have
25 articulated down on a sort of a species-specific
26 level at the level that you're asking the
27 question.

28 Q All right. But this is a national document
29 setting out the risks in your human resources
30 status at the time and the first question that I
31 have is did those risks exist in this region?

32 DR. RICHARDS: I can't recall exactly what the
33 individual regional risks were that fed into that,
34 but it is likely that they did apply in this
35 region.

36 Q Would you agree that at that time the science was
37 spread too thin?

38 DR. RICHARDS: Mr. Commissioner, I think the spread too
39 thin reflects back to some of the other things Dr.
40 Wendy Watson-Wright talked about earlier in the
41 context of having many demands on the science
42 activities and because of the many demands, that
43 led to the exercise with Science Management Board
44 that she described but because of those many
45 demands that we did have, I would describe -- and
46 that was the wording that we had used, yes.

47 Q And were there knowledge risks here, as well?

1 DR. RICHARDS: I think the knowledge risks reflect the
2 fact that we did have an aging workforce, like
3 elsewhere within the Federal Public Service, and
4 we wanted to ensure that we could transfer that
5 knowledge when people did retire.

6 Q And what steps have you taken since this report to
7 implement succession planning so that there are
8 younger scientists working along with the older
9 scientists for a period of time to ensure there's
10 knowledge transfer?

11 DR. RICHARDS: Well, I think Dr. Wendy Watson-Wright
12 referenced the fact that we did go through
13 subsequent and I think there is some discussion in
14 the strategy about having knowledge transfer
15 agreements. We did have a period of about, I
16 can't recall exactly, about three years where we
17 did have budget set aside where we could bring in
18 -- start hiring people before others retired so
19 that we had an opportunity to transfer knowledge
20 and we have used that within the organization and
21 that was very helpful.

22 In addition to that, we have an emeritus
23 program so that when some of our scientists do
24 retire, many of our scientists are -- well,
25 they're scientists because they just love the work
26 that they do and so I know -- I guess -- first of
27 all, I should say that we were expecting many of
28 them to retire and they didn't retire, so that
29 they're still around because they just -- the like
30 the work, but those that do retire often we would
31 have an emeritus agreement with them that they
32 would then be still on-call and still active
33 perhaps in working with some of the younger staff
34 and engaged in some mentoring. So we have gone --
35 so there's a few things, we have hired some staff.
36 We did use this knowledge transfer to do some
37 bridging for some staff, and in addition, we have
38 an emeritus program.

39 Q Can you quantify that for us? How many Ph.D.'s
40 have you hired since this report was written in
41 June 2007? How many new biologists do you have to
42 take on the work that is required to be done?

43 DR. RICHARDS: I think I don't want to misspeak here,
44 Mr. Commissioner I mean, those are specific facts
45 that we should be able to provide on request and
46 so I can't do that. We have hired some new staff.
47 We've also -- some of those new staff may have

1 left subsequent to that time, as well. But we can
2 probably look at the -- provide figures for the
3 court on the actual number of staff that were
4 hired.

5 In terms of scientific staff, it was on the
6 order of about between six and eight, ten,
7 somewhere -- it was more than six in terms of the
8 scientist category over that period. Now, but
9 these are spread across the whole science program.

10 Q Are you able to tell us how many salmon scientists
11 you've hired since June 2007?

12 DR. RICHARDS: Okay. We did hire Dr. Carrie Holt, who
13 is working on issues that are relevant here. In
14 terms of that piece, we had hired Dr. Marc Trudel,
15 I believe, during that period. He's also been
16 very active and will be providing advice. We also
17 hired some scientists who are more in fish health
18 and disease. I believe Dr. Kyle Garver was in
19 that period. I believe we hired Dr. Stewart
20 Johnson in that period, and those would be
21 probably the main staff engaged in the issues that
22 are in front of us here.

23 Q I'm going to turn the question to Mr. Sprout.
24 When you were the regional director general with
25 the broader responsibilities for management, were
26 you concerned that these identified risks were not
27 being met by the Science Department?

28 MR. SPROUT: I was concerned, I think, about two
29 principal things. Number one was the aging
30 workforce of Science and we have a cadre that's
31 been in place for a very long period of time.
32 They have remarkable knowledge. They're all close
33 to retirement if, in fact, at retirement age and
34 so I think there was a real concern about if a
35 large proportion of this group decided to go at
36 the same time. We had not recruited for many
37 years and as a consequence, if that bulge moved
38 out quickly or rapidly, I was worried about the
39 information gap that that could present.

40 The other area that I was concerned about is
41 more focused. I felt on the stock assessment side
42 in salmon that we had consolidated many of our
43 programs over time because of budget concerns. We
44 had not been able to -- we had to respond to the
45 budgets that we had and that the consolidation of
46 work still obviously provided stock assessment
47 information, but I was concerned that stock

1 assessment on salmon was something that we needed
2 to be very careful about diminishing and we needed
3 to look for opportunities for new technologies to
4 try to overcome some of the resources that weren't
5 as -- weren't as ready or as available as they had
6 been in the past.

7 So those were the two areas that I was
8 concerned about, the aging workforce, which I
9 believe the science renewal agenda and Laura's
10 response does address and she has referred to the
11 new scientists that have come in. I've met
12 several of them. They're remarkable. They're
13 going to assume roles in the future that are going
14 to be impressive, and I -- but the other area that
15 I did raise specifically and is a continuing
16 interest of mine is the issue of stock assessment.
17 That remains a challenge in my view.

18 Q When you say a challenge, something that is not
19 having enough resources dedicated to it?

20 MR. SPROUT: I am concerned that we need to pay more --
21 we need to pay attention to this area. There are
22 significant resources directed at it. I don't want
23 to give the impression otherwise, but I'm also
24 mindful of the fact that over time through
25 inflation increases that don't match -- cost the
26 budget, contract increases and so forth, that you
27 have to adjust the program to reflect the
28 resources you have and I would want to really be
29 paying attention to that area in salmon to make
30 sure that we're doing the best possible work that
31 we can. So that would be an area of interest for
32 me when I was the RDG.

33 Q Going to move on to one last document, please,
34 Exhibit 40.

35 MR. BUTCHER: If you can go to page 7, please, Mr.
36 Lunn.

37 Q And paragraph 4.2 begins with these words:

38
39 The following research priority areas reflect
40 the research that is considered essential to
41 address federal and departmental priorities
42 and public good needs for the next five
43 years.

44
45 There are then listed, I think, eight different
46 areas of research, maybe a few more than that.
47 Have any of those essential needs been met on a

1 research -- or from the research side since 2007?

2 DR. RICHARDS: Mr. Commissioner, these are very general
3 research areas and so yes, indeed, work has been
4 -- research activities have been conducted in
5 these areas, but I don't think it's fair to say
6 that things have been met. I would not use those
7 words. Certainly science is something that
8 progresses, but sometimes it progresses in baby
9 steps and as I mentioned earlier, as soon as we
10 begin some activities, we often find more
11 questions to answer as we gain more knowledge on
12 something. So yes, we have done research in these
13 areas so that -- and that work is ongoing.

14 Q But despite the need to meet -- to do that work to
15 ensure that the public good is satisfied, the work
16 is not yet completed in any of those areas?

17 DR. RICHARDS: Well, Mr. Commissioner, these are very
18 generic areas of research and so we may move from
19 one question to another question within these very
20 general areas, but these are very broad,
21 encompassing areas.

22 Q I have two last very broad questions, perhaps for
23 you, Dr. Richards, perhaps for you, Mr. Sprout.
24 Are there any particular successes or failures of
25 the Science Branch that have impacted on salmon
26 management, particularly Fraser salmon management,
27 that you could point to from, say, the last 20
28 years? Is there something that your sector has
29 done really well that has really contributed or
30 something that you have really failed to do?

31 DR. RICHARDS: Well, I mean, again it's a fairly broad
32 question and probably takes a bit more thought
33 than I've got to give to this. I might say that
34 there's probably a couple areas we can go here.
35 One area would be -- I mean, one thing that we've
36 been able to do, Mr. Commissioner, is use some new
37 technology to address some questions and questions
38 that we would not have before been able to answer.
39 One of those is we've had some major improvements
40 in things like our hydro-acoustic technology which
41 has allowed us to do more effective counting of
42 some stocks, some of -- in some areas, for salmon
43 and get more precise information. There, however,
44 you know, it's -- again it's not without its
45 challenges and there's lots of issues with the
46 data, but that is a technology that we have been
47 able to use more and to help us get some more

1 precision around those numbers.

2 Another area that's again related to coming
3 in new technology is our work on DNA and our
4 ability to use our DNA technology to do very
5 precise identification of stocks of salmon, so we
6 can now know when we collect salmon at sea, can
7 pinpoint fairly precisely the species and the
8 stock within the species of salmon, and so I think
9 that those are major areas where we've had some
10 successes.

11 Q Those, though, are both building blocks that
12 provide you with the tools to continue research
13 that would be very valuable, I presume?

14 DR. RICHARDS: Those are both building blocks for
15 research, but they also feed directly into
16 management. They feed into our ability to know
17 precisely which stocks of salmon are where in the
18 ocean, for example, or which stocks are being
19 caught in capture fisheries, and the acoustic
20 technology allows us to get more precise estimates
21 and -- of fish that are reaching the spawning
22 grounds.

23 Q And is the weakness with the acoustic technology
24 simply that you haven't been able to put it in
25 enough streams?

26 DR. RICHARDS: It's more than that. The technology
27 itself is not quite that simple. It is like other
28 technologies, it does need some interpretation
29 along with the data. It works better in some
30 specific physical environments than in others. It
31 really does depend a bit on the nature of the
32 stream bed. Depending -- because we're dealing
33 with a -- with a sound beam that comes down, so
34 depending on the surrounding area, it would affect
35 the properties of the sound beam and how that's
36 reflected back and whether or not there is some
37 distortion. You know, for example, bubbles coming
38 through will create some distortion. The physical
39 geography of the area will also affect that, so
40 it's not quite that simple.

41 Q One last question then for Mr. Sprout, as the
42 manager is there anything that you think that
43 science really should have done for you in your
44 time as a manager but didn't do?

45 MR. SPROUT: Actually, I was concentrating on the other
46 question.

47 Q Well, answer the other question then, as well.

1 MR. SPROUT: I thought I'd give two examples. One is
2 going back 20 years or more and then give a more
3 current one. The coded-wire tag program - I'd
4 like to explain what that is. The coded-wire tag
5 program is a program where we insert, the
6 department does, small metal tags into the snout
7 of the fish and those tags have a code on them and
8 it allows you to determine where that fish was
9 tagged, what stream that fish was tagged. Then
10 the -- one of the fins of the fish is clipped, the
11 adipose fin. And then in the ocean or in any
12 fishery where that fish is captured, you recover
13 that fish, take the tag out and you can decode the
14 tag and you can tell where that fish originated
15 from.

16 Now, that description I've just provided, up
17 until very recently, is the fundamental -- is the
18 foundation of our stock identification program in
19 terms of fishery management. And recently, more
20 recently, DNA analysis and other types of frankly
21 more sophisticated techniques may replace that.
22 But that technique is crucial in the management of
23 fisheries and I would give science an enormous
24 credit for its development, its assessment and its
25 modelling and it's arguably one of the -- I think
26 one of the very important things that science has
27 done.

28 The second is a more current example, and
29 that's the management adjustment. And I want to
30 explain what that is. We know from the behaviour
31 of sockeye, particularly in the last 15 years or
32 so, that something is happening to the sockeye in
33 the ocean and something is happening to them in
34 some cases into freshwater. And so increasingly
35 it became evident that we need to factor in the
36 in-season conditions that the sockeye experience
37 as they migrate up the Fraser River before they
38 get into the Fraser River and make adjustments in
39 our fisheries for mortality that is caused by
40 environmental factors. And we call that the
41 management adjustment factor. And that factor has
42 now meant what was a very dynamic system
43 beforehand, in-season management, is -- it's
44 turned it into a system where we actually adjust
45 our exploitation rate for Fraser sockeye based on
46 river temperatures in the Fraser River, levels of
47 water and estimated -- and estimations of what we

1 think they might -- that might -- how that might
2 impact Fraser River sockeye.

3 And I think those two things, in my opinion,
4 have been contributed by science and have had very
5 important effects in terms of fishery management
6 decisions.

7 Q One last chance for either of you prepared to
8 admit that there's been any significant failures
9 that you wish you could have again, you could go
10 back and do something again and do it very
11 differently.

12 MR. BEVAN: You know, I can't cast -- I'm not aware of
13 any significant failures, but I share the
14 frustration of everybody that science often cannot
15 answer the question in a prescriptive way that
16 would then remove doubt. But I believe that would
17 be a claim I would make against -- about any
18 science.

19 MR. BUTCHER: Thank you very much.

20 THE COMMISSIONER: Mr. Wallace, can I just ask one
21 question flowing from Mr. Butcher's question? Mr.
22 Sprout mentioned stock assessment. Can you just
23 tell me what activities would be included within
24 stock assessment?

25 MR. SPROUT: So, Mr. Commissioner, what that refers to,
26 salmon stock assessment, is that the department
27 has to make determinations of how many fish have
28 spawned and one aspect of that is counting the
29 fish, and there are various techniques for
30 counting the fish. Some, frankly, quite simple,
31 like walking along the bank of a river and
32 observing fish; some very sophisticated where you
33 apply tags and then you sub-sample the population,
34 count the number of tags to un-tag fish,
35 extrapolate for the full population. Other
36 techniques include fences across rivers or creeks
37 where the rivers or creeks are very small, other
38 -- and there are further techniques.

39 These techniques are all designed to count
40 the number of fish that spawn on the spawning
41 grounds and those counts then inform ultimately
42 how many fish came back from how many fish had
43 spawned originally and become the basis for
44 projections into the future. And I was referring
45 to those activities, Mr. Commissioner, and the
46 point I was raising is that we need to pay
47 close attention to the level of activities the

1 department is putting into that effort and we need
2 to make sure we maintain a reasonable standard so
3 that there's reasonable confidence in those
4 estimates and it's just something I think that
5 requires careful attention over time.

6 THE COMMISSIONER: Thank you.

7 MR. WALLACE: Thank you, Mr. Commissioner. Ms.
8 Gaertner, there was one other participant who I
9 neglected, who I thought I didn't see but is here,
10 and this is Ms. Smith. Before Ms. Smith takes the
11 podium, there was a letter to the editor from Mr.
12 Sprout that Mr. Leadem addressed this morning
13 which was not marked as an exhibit. I wonder if
14 that letter to the editor to the *Globe & Mail*
15 signed by Mr. Sprout can be marked as the next
16 exhibit, please?

17 THE REGISTRAR: Exhibit number 60.

18
19 EXHIBIT 60: Letter from Mr. Sprout to the
20 editor of the *Globe & Mail*
21

22 MR. WALLACE: Thank you. Ms. Smith?

23 MS. SMITH: Lindsay Smith on behalf of Areas B and D.

24
25 CROSS-EXAMINATION BY MS. SMITH:
26

27 Q Mr. Sprout, I suppose I'll direct the question at
28 you, given that your recent comments with regards
29 to stock assessment. Would you agree with me that
30 that's a fundamental cornerstone of the management
31 of the fishery and the science underpinning it?

32 MR. SPROUT: I would.

33 Q All right. And I don't know whether anybody on
34 the panel is in a position to give an opinion with
35 regard to whether or not they've seen a trend over
36 the years with regard to the efforts put forward
37 by the department in stock allocation and the type
38 of activities that you've talked about counting.
39 Have you seen an increase, decrease, for example,
40 of on-site monitoring?

41 MR. CASS: I can perhaps answer that to some extent,
42 Mr. Commissioner. And it depends on -- within
43 salmon, certainly depends on the species that
44 you're focused on. For Fraser sockeye, as I think
45 perhaps has been mentioned, there has been a trend
46 if you like, to allocating more resources and
47 therefore more effort on monitoring of Fraser

1 sockeye compared to other species of salmon, let's
2 say, in the last decade, roughly last decade. So
3 that's one observation that I think holds, if
4 that's -- Mr. Commissioner, if that's addressing
5 the question that you're posing.

6 Q All right. But given weak stock management and
7 that type of an approach and given the evidence
8 with regard to ecosystems, there's an interplay
9 between all of these species; would you agree with
10 that?

11 MR. CASS: Certainly an interplay in -- within an
12 ecosystem, an interplay perhaps between species of
13 salmon where they co-exist, that, sure.

14 Q Okay. And with regard to the risk assessment, and
15 perhaps this is for Dr. Richards, my understanding
16 of your evidence - and perhaps Mr. Bevan, as well
17 - is that when there was -- or when there is an
18 assessment of risk, there is input taken from, for
19 example, Canadian universities, the science
20 community within Canada, within the department,
21 and also the international community; is that
22 correct?

23 DR. RICHARDS: Yeah. I -- it's -- Mr. Commissioner, I
24 just am a little confused about the context of the
25 question. When we were talking about the risk
26 profile that was in one of the documents we just
27 looked at, that was really in the context of the
28 overall science ability to deliver on the
29 programs, so that was really looking internally
30 whether the science program could do the work and
31 deliver as was expected of it.

32 Q Okay.

33 DR. RICHARDS: And it wasn't divided so detailed into
34 -- you know, say we didn't do that analysis
35 separately for the programs that would be under
36 discussion here.

37 Q All right. With regard to the risks, one of the
38 areas under discussion earlier today was with
39 regard to aquaculture and some of the sequellae or
40 potential risks that are associated with that
41 activity, I'm wondering whether the department
42 scientists would have looked at, for example, work
43 arising in either Norway or Chile with regard to
44 their experiences.

45 DR. RICHARDS: Okay. Mr. Commissioner, I think this
46 question is really in the context more of, you
47 know, how do we do science or how does the science

1 do its work, and normally when we're starting a
2 new program or looking at a question, normally we
3 would look very broadly at other research that's
4 being done. Certainly I can assure you that in
5 the context of looking at work on aquaculture we
6 have scientists who know the international
7 situation, who are working particularly in the
8 European situation are very familiar with that
9 situation and would be familiar with the research
10 that's done in those other countries.

11 MS. SMITH: Thank you.

12 THE COMMISSIONER: Thank you very much.

13 MR. WALLACE: Mr. Lowes.

14 MR. LOWES: J.K. Lowes for the B.C. Wildlife Federation
15 and B.C. Federation of Drift Fishers.

16
17 CROSS-EXAMINATION BY MR. LOWES:

18
19 Q I really have only one question which may lead to
20 a little bit of follow-up for both Mr. Sprout and
21 Mr. Cass. Each one of you, as I understand it, in
22 -- from your own perspective talked about the
23 interface between your science people and the user
24 groups or the stakeholders; do you recall that?
25 Am I expressing that right? Mr. Cass, in
26 particular, in the PSARC context and Mr. Sprout
27 broadly. Now, I took it from the evidence of both
28 of you that not only does the department not
29 discourage, but you find that that kind of
30 interface and that kind of sensible input
31 necessary and important; is that correct?

32 MR. CASS: Absolutely.

33 Q And so would it be going too far to say that you
34 encourage ongoing debate about the live scientific
35 issues that are before the department?

36 MR. CASS: That is correct.

37 Q And the example that was put to you in the
38 questioning by others was, for example,
39 aquaculture and sea lice. Could I suggest that
40 the wild salmon policy, and by the wild salmon
41 policy, I mean basically the assumptions upon
42 which it is based, and its particular application
43 in fisheries management, is an apt subject for
44 that kind of debate with that kind of sensible
45 input by the stakeholders?

46 MR. CASS: Yes. And to the extent that that's
47 occurred, I would perhaps defer to others but yes.

1 Q Would you agree with that, Mr. Sprout?

2 MR. SPROUT: I would. I think that is a policy that
3 needs to be discussed, not just with commercial
4 fishing interests. But I don't think you were
5 limiting it to that.

6 Q No, I wasn't.

7 MR. SPROUT: But -- but yes, I would agree.

8 Q And could I go a little further and suggest that
9 anyone who read the Wild Salmon Policy as
10 embedding in stone a principle that conservation
11 of the stock always triumphs sustainable use would
12 be in error. It doesn't -- it doesn't embed that
13 principle in stone at all.

14 MR. CASS: Well, conservation is the pillar of that
15 document, that's correct.

16 Q Yes. And perhaps I can approach it this way.
17 Earlier this week or was it last week, we had a
18 panel of experts who were giving evidence around
19 the definition of conservation and the definition
20 of sustainable use and the essential question was,
21 I suppose, two, whether conservation included the
22 notion of use; or whether conservation and use
23 were two separate principles but both important
24 factors in dealing with the Wild Salmon Policy?

25 MR. CASS: Mr. Commissioner, they're both fundamental
26 in the Wild Salmon Policy, that's true.

27 Q Yes. And the relative balance, and if I can use
28 the word trade-offs, is an appropriate and would
29 be a helpful subject for debate with input by
30 stakeholders?

31 MR. CASS: Yes, exactly. Sustainable use of the
32 resource is, in fact, something that the
33 stakeholders have had a lot of input in.

34 Q And you would encourage that they continue to do
35 so?

36 MR. CASS: Absolutely.

37 Q And would you agree with that, Mr. Sprout?

38 MR. SPROUT: I do agree on the issue of having that
39 involvement. I would like to clarify something
40 though, just to make sure that we're talking the
41 same thing. The policy says that the genetic
42 diversity is described by conservation units and
43 -- but the policy is not prescriptive. It doesn't
44 go on to say every single conservation unit has to
45 be maintained at some sort of level.

46 What the policy envisions is that there
47 probably will be debate around some of these

1 conservation units as they fall into -- as they're
2 stressed or as issues arise, and we have to make
3 choices about what level of protection is required
4 versus the cost of use, because there's always
5 this trade-off back and forth. And so the policy
6 envisioned this kind of a debate and discussion to
7 occur and I think it really reinforces the
8 discussions we were having earlier with counsel on
9 the need for people to come together and have this
10 conversation.

11 Q Yes.

12 MR. SPROUT: So if that -- so this is my clarification
13 and if that's response to your point, then I think
14 the answer is yes.

15 MR. LOWES: Not only responsive but your answer was
16 clearer than my question. Thank you, Mr. Sprout.

17 THE COMMISSIONER: Thank you, Mr. Lowes.

18 MR. WALLACE: And we'll hear a lot more about the Wild
19 Salmon Policy in two weeks.

20 Mr. Commissioner, the next participant on the
21 list is the First Nations Coalition, Ms. Gaertner.

22 THE COMMISSIONER: She's been very patient, waiting.

23 MS. GAERTNER: I was just mistaken, I think. Mr.
24 Commissioner, I just want to open with a couple
25 comments to you and then I'm going to turn to the
26 panel. And I think it's a commitment that I've
27 made to you to try to bring in the knowledge that
28 I have been gifted with, I suppose, or -- over the
29 years and so I was reminded of this, this morning,
30 and I thought I'd pass it on, which is that you
31 will hear - and you already know this probably -
32 that one of the amazing things that aboriginal
33 people do is they pay attention quite a lot to the
34 world around them to see how that teaches them and
35 teaches them to be better people and they have,
36 over the years, been taught by many of the
37 different animals. And salmon, of course, is an
38 important one and I was reminded over the last
39 week by a couple of my teachers on two qualities
40 about salmon that I thought would be useful for
41 this room.

42 And the first one is that salmon, as you can
43 tell by their abilities to survive and how --
44 they're very committed and determined and so often
45 people use salmon to teach children and otherwise
46 to be committed and determined, and I think it's
47 fair to say that's a useful technique. And the

1 other one that I thought was even more useful is
2 one that I got told about ten years ago when I was
3 gifted by a drum from an artist and politician,
4 Grand Chief Soltari (phonetic) and he painted the
5 drum for me and what he did was because I work
6 with the Tsartlip for so long, he had developed
7 and has all of the different symbols of the
8 different villages in their territory and there
9 are 11 communities and that's on the drum.

10 But more importantly, and why I'm telling you
11 is that outside the drum is salmon, all the way
12 around the drum. And you'll find in much of the
13 art of aboriginal people that salmon is often used
14 in that bringing people and bringing things
15 together. And I think that's an important thing
16 to observe because I spoke about the importance in
17 this room of right relations and where we're going
18 with right relations, and I just want to encourage
19 you to encourage me and to encourage the others in
20 the room that it's quite clear the interests that
21 we're all here with and who we represent. And for
22 me, I don't find it particularly helpful to have
23 any one particular counsel suggest that their
24 clients are more at risk than others or that they
25 have more useful things to say to you. I hope we
26 all have useful things to say to you. I don't
27 want to have to stand up and constantly remind you
28 of the kinds of rights and importance that my
29 clients have. We'll make submissions on those and
30 you'll hear them. But I think it's useful for us
31 to take advantage of what the salmon might be
32 teaching us in this room and how important it is
33 going to be to get the results that we need to
34 really be able to work together on this.

35
36 CROSS-EXAMINATION BY MS. GAERTNER:

37
38 Q Now I have some questions for the panel and I'm
39 going to start perhaps because there's been so
40 many questions of Dr. Richards and Mr. Sprout, I'm
41 going to turn to you in a bit. You can just take
42 a little breather. I've just got two very brief
43 questions, first with Dr. Mithani. And Dr.
44 Mithani, I just wanted to turn to your resume, if
45 I may. I just -- I need some help. I see that
46 you're -- as you know -- as you mentioned, the new
47 person on the block or something with the

1 Department of Fisheries and Oceans and I just want
2 to -- if you could tell me, I looked up the
3 definition of pharmacology last night and I wanted
4 to get a little better sense and I understand it's
5 the study of interactions that occur between
6 living organisms and chemicals and biochemicals;
7 is that correct?

8 DR. MITHANI: Yes. Broadly, that is.

9 Q And is that something that you've spent your
10 career as a scientist doing?

11 DR. MITHANI: Yes, I have.

12 Q And so you provide some particular assistance to
13 the department at this point in time regarding the
14 influences that may be happening with respect to
15 chemicals and biochemicals in the natural
16 environment?

17 DR. MITHANI: In my current role, that is not -- that
18 is not what I do. This is what I've done in -- at
19 -- in the Department of Health. However, my role
20 right now is to really be the person that provides
21 leadership and direction in terms of science
22 priorities, science advice and how the processes
23 work. So my role is a little different. However,
24 what I bring from my previous position is an
25 understanding on risk management principles,
26 drawing the -- you know, being able to balance
27 that risk, the risk benefit ratios and really
28 dealing with scientists that I've done over 22
29 years whilst I was in Health Canada.

30 Q Thank you. And then I just had one more question
31 of you. You mentioned in your -- your evidence
32 yesterday about a meeting of the think tank, that
33 you had brought, I think it was 15 or so
34 biologists together to begin to talk about some of
35 the current issues that were facing you. You
36 spoke that one of the topics was cumulative
37 impacts.

38 DR. MITHANI: Yes, that's right.

39 Q Could you say a little bit more about your
40 concerns with respect to that and where that has
41 -- took that group of think tankers?

42 DR. MITHANI: I was actually just an observer while I
43 was at this meeting, 'cause clearly what I was
44 wanting from that meeting was really an
45 opportunity for the scientists, Mr. Commissioner,
46 to have that conversation that was really
47 unrestricted. So for me it was really important

1 to bring a few scientists together so that they
2 would be able to have that conversation. And what
3 I was articulating yesterday was what had struck
4 me of the many things that came to the forefront
5 and things that are currently being deliberated on
6 with respect to what are going to be priorities
7 that they want to bring forward versus the ones
8 that would be lower priorities. So that's the
9 kind of exercise the scientists are going through
10 right now.

11 But what struck me most was an understanding
12 and an awareness within the scientific community,
13 within the scientists that I had brought forward,
14 that for them the whole concept, issue, notion of
15 how do we factor in cumulative effects was very
16 important and that they recognized that there was
17 some work that really needs to be done within DFO
18 to really, you know, get a handle on how we would
19 determine, how we would ascertain, how we would
20 factor in cumulative effects. And they talked
21 about a lot of things like scenario modelling,
22 trade-offs, management frameworks, risk management
23 frameworks, which is something, you know, where
24 you talk about various levels of risk and talk --
25 they also talked a little bit about risk
26 thresholds and that the advice that science would
27 be giving would be to say, you know, if this is --
28 this is the science, there is uncertainty, and
29 these are the levels of risks and it's up to, you
30 know, management consultation or whatever to kind
31 of decide where the risk threshold is. So there
32 was a bit of discussion on that that I was really
33 struck by, which is why I brought this to the --
34 here, you know, to you folks yesterday.

35 Q And I guess I just -- follow-up to that, were any
36 specific steps taken as a result of that meeting
37 and follow-through on the areas of cumulative
38 impacts and what DFO might be doing with respect
39 to that?

40 DR. MITHANI: Mr. Commissioner, at this point in time,
41 as I mentioned yesterday, the scientists are still
42 deliberating on actually the full number of
43 priorities in the three areas of science, so...
44 But there is a process and there are next steps
45 and what the next steps are going to be is as I
46 mentioned yesterday, this will be taken to the
47 National Science Director Committee. It'll then

1 be taken to the Department Management Committee,
2 so there is going to be a process.

3 And not to say that this is work that is not
4 currently being done; there are lots of areas
5 where there is work being done. I am not able to
6 speak exactly what is being done around the whole
7 area of cumulative effects, but I believe that
8 there is certainly some work that is currently
9 ongoing.

10 Q Thank you. Dr. Cass, I just have a couple of
11 questions of you before I turn to the others on
12 the panel. And it's particularly on the peer
13 review process that you've mentioned in the PSARC
14 proposal -- or the process, sorry. If I heard
15 your evidence right and if my understanding is
16 right, that's one of the processes that's being
17 used and is continuing to be used to allow for
18 bridge building amongst the different interest
19 groups, in particular to try to get the best
20 information going forward; is that correct?

21 MR. CASS: Yes. I would say that's correct, Mr.
22 Commissioner. As well, it's a necessary component
23 of the process, so I would say over the years that
24 I've been involved, there's been a really growing
25 maturity in how that process works and in
26 understanding that that particular process is a
27 place where the focus is on science and so it's
28 not about representing your constituents, if
29 that's your interest. So the answer is yes.

30 Q But you are trying to encourage those of the
31 different constituents to participate in the peer
32 review; is that correct?

33 MR. CASS: Yes. One of the tricks, if you like, of the
34 process is to get the balance right in the room
35 and so, yes, we're trying to encourage all those
36 who have an interest to participate.

37 Q And then just a corollary question. I did listen
38 carefully yesterday and I've tried to do my best,
39 but I'm still not clear when it is or how it is
40 that it's determined what will be peer reviewed
41 and what types of questions or what types of
42 issues might be peer reviewed. And I just wonder
43 if it's some of the more controversial or hard or
44 complex issues in which there is some difficulties
45 in ensuring that the conclusions reached by any
46 one scientist are reliable.

47 MR. CASS: If I understand your question correctly,

1 you're talking about how advice at a meeting is
2 formulated, how to arrive at the actual
3 conclusions or...?

4 Q No. What I meant is what is used, how is it
5 determined when something will be peer reviewed?

6 MR. CASS: Oh, okay. So, yes, we did discuss that
7 yesterday and in the last -- well, certainly on a
8 -- at a national scale, but regionally probably
9 ahead by about a year in, say, 2007, 2009, in that
10 range, there was a lot of focus on developing a
11 risk-based way to manage the growing list of
12 requests that are received for science advice. So
13 we do have a process that essentially looks at two
14 components. One is the importance of the issue
15 obviously, what's the risk of not doing a
16 particular assessment relative to others, and then
17 what's the -- what are the resources, the capacity
18 if you like, to get things done, say within a
19 current fiscal year or beyond?

20 Q So it might be fair to say that my hunch was
21 somewhat correct that some of the more
22 controversial and hard issues that are likely to
23 have differences of opinion are going to be those
24 that will be peer reviewed?

25 MR. CASS: Part of the priority process is to look at
26 -- where we have a framework that is well-
27 established that -- where there is agreement,
28 there is an approval within the peer review
29 process, that is an accepted methodology, if you
30 like, for carrying out assessments and typically,
31 those are the ones where there's not so much
32 controversy. It's the ones where the uncertainty
33 or the methodology is least well-known, least
34 understood or developed is where the controversy
35 may occur, just because of its newness to the
36 process and the gaps that may yet exist.

37 Q And is it fair to say that in order to actively
38 participate in that process it's extremely useful
39 to have the capacity to engage in dialogues around
40 science at a fairly higher level?

41 MR. CASS: Yes. A lot of the meetings, Mr.
42 Commissioner, are depending on the sophistication
43 and the techniques used in the assessments can be
44 fairly technical. But nonetheless, there is --
45 you know, there's -- apart from the quantitative
46 information that -- the hard data that's used,
47 there is -- the participants bring, although they

1 may not have the technical expertise of, say, at
2 the science level, they bring information on more
3 the qualitative context of an issue.

4 Q Thank you. I want to turn now to the issue of
5 First Nations engagement in the role of science
6 and management, but I guess I just want to finish
7 with you, Dr. Cass. In that type of peer review,
8 in order for First Nations to be involved and
9 engaged more directly, it's going to be
10 increasingly necessary that they have good,
11 strong, scientific advice sitting with them to
12 participate; would that be a fair observation?

13 MR. CASS: When you say they have good advice to
14 participate...

15 Q That they have scientific support and advice in
16 forming them in order to participate in the peer
17 review process.

18 MR. CASS: Yes. There -- as participants in the
19 process, they would have the same information
20 available to them for the meeting, if that's what
21 you're...

22 Q Well, they would also, in order to be able to
23 engage in the dialogue that's necessary at those
24 and to be able to ensure that their interests are
25 being considered in the scientific debate, they're
26 going to need scientific capacity?

27 MR. CASS: That is correct. It's to their advantage,
28 yes.

29 Q Thank you. All right. I'm going to turn my
30 questions now to Dr. Richards and Mr. Sprout
31 because I want to get very regional on some of the
32 questions. And really, you're going to, I think,
33 see that most of my questions are in the interplay
34 between science and management and the challenges
35 there and so I will leave it to one or other of
36 you to decide which one is the best to answer the
37 question.

38 Now, it seems to me clear from the
39 discussions and the comments that are made here
40 that increasingly science is the foundation of the
41 management of the fisheries and that is an
42 important component of DFO's gathering of
43 information when making management decisions. And
44 I must say, I find it useful and interesting that
45 Mr. Taylor is fond to emphasize that all of you
46 have a scientific backgrounds; is that fair to
47 say, that science continues to have and

1 increasingly will have an important role in the
2 management of the fisheries?

3 MR. BEVAN: Yes.

4 Q Thanks. It's just got to go on the record, so...
5 And that -- I'm also going to suggest that
6 increasingly, decisions that are made in the pre-
7 season and post-season and in-season management of
8 the fisheries is -- are getting very time-
9 sensitive. We often don't have all the data for
10 -- in order to do full reviews of it until the
11 season is almost upon us, if not upon us, and that
12 that data is often complex and difficult to
13 implement; would you agree with me?

14 DR. RICHARDS: Yes, Mr. Commissioner, our data are
15 usually complex.

16 Q And given the time sensitivities of the Fraser
17 River sockeye, they're often compiled, it takes a
18 long time to get them all compiled, assessed and
19 decisions are made shortly thereafter?

20 DR. RICHARDS: Yes, Mr. Commissioner. I think one of
21 the problems in particularly in doing pre-season
22 forecasts is we do need to actually finish
23 counting the number of fish that are returning to
24 the spawning grounds and that those data really
25 because of the lateness of some of the stocks
26 returning, you know, they don't finish until later
27 in the year than now, so it does -- and the staff
28 who are doing this are very busy, obviously, in
29 the field collecting those data and then inputting
30 them and verifying the data in the system, so it
31 is often very -- a struggle to get all the work
32 done in a timely basis.

33 Q Thank you. And I'd like to turn now to Exhibit
34 37, if I may, and page 5 of Exhibit 37, which is
35 some minutes of the Science Management Board that
36 occurred in October of 2005. And you'll see on
37 page 5 of those minutes a discussion around the
38 role of science in helping to serve as an -- I'm
39 going to use the words agent or mechanism for
40 engaging. Could you just both Mr. Sprout and Dr.
41 Richards, take a look at the paragraphs under
42 serving and engaging clients?

43 And do you both generally agree with the
44 comments that are there?

45 MR. SPROUT: I do.

46 Q And that one of the -- I don't know if it's a
47 correct word, it's goals or opportunities that the

1 Department of Fisheries and Oceans sees that
2 science can continue to help bridge the gaps
3 between or amongst the different interest groups
4 that are accessing the sockeye?

5 MR. SPROUT: I would characterize it as science can
6 help inform the gaps. I mean, and it may be that
7 it bridges it, okay, but it may not. Right?

8 Q Right.

9 MR. SPROUT: I mean, sea lice is a case in point. It
10 hasn't quite bridged the gap.

11 Q All right. Well, I want to actually, and this may
12 be usefully actually. Sea lice is a good example,
13 because I also want to now turn you to Exhibit 46
14 and 45, which are minutes of the Management Board
15 and in particular they're minutes, at page 4 of
16 those.

17 MR. LUNN: Which exhibit are you on?

18 MS. GAERTNER: Let's go to Exhibit 45 page 4.

19 Q And in particular, the issue of co-management and
20 the role of co-management and the role of science
21 in that. In particular I want to point to:

22
23 DFO performs science on behalf of Aboriginal
24 organisations and receives resources for its
25 efforts.

26
27 I wonder if you could explain that to me. I
28 wasn't clear what that meant.

29 MR. LUNN: Is there a place on the page I can enlarge
30 for the witnesses?

31 MS. GAERTNER: Right after the word "Direction".

32 MR. SPROUT: I think there's -- David, I'm not sure if
33 you were there or not. I wouldn't characterize it
34 like that. That's not my understanding.

35 Q Right. Could you --

36 MR. SPROUT: My understanding is is aboriginal
37 organizations receive resources for capacity
38 building and otherwise and that in many cases
39 they're out actually doing and collecting
40 information on stocks. They're also collecting
41 information on fisheries that they may be having
42 and providing that information to the department.
43 I mean, I would characterize this -- I would
44 reword this actually. I'm not sure it reflects my
45 understanding. I'd have to think about it some
46 more, but that would be an initial response. It
47 suffers a little bit from being unduly

1 abbreviated.

2 Q I guess where I'm going to go with this and
3 perhaps I'll just get out of the documents and ask
4 you more directly the issues that my clients face.
5 The challenge associated with an ever-increasing
6 complex science and the lack of capacity in First
7 Nations to engage in that is that science can be
8 seen as a mechanism to put information before them
9 but if there is a distrust that occurs -- that's
10 occurring between First Nations and science, it's
11 difficult for First Nations to rely on Department
12 of Fisheries and Oceans science. Would you agree
13 with me that that's something that a Department of
14 Fisheries and Oceans scientist experience in
15 meetings regarding science with First Nations?

16 DR. RICHARDS: I'm not sure that I have personal
17 experience of that, Mr. Commissioner, but I
18 understand that that can be the situation.

19 Q And that growingly the challenge associated with
20 understanding a lot of the science that's placed
21 before First Nations in very time-sensitive
22 matters is that it is difficult and, in fact, very
23 challenging for them to engage substantively on
24 the matters that are before them? Is that
25 something that you're familiar with?

26 MR. SPROUT: I want to go back to your previous
27 question and then answer the second. It has been
28 my experience that in some situations DFO science
29 is not acceptable to First Nations for the reasons
30 that they may not have participated in it, they
31 may not have the capacity to comfortably feel that
32 they're following the issue, and finally the
33 department itself may not be as open as it could
34 or should be to the knowledge that they might --
35 First Nations might have on a particular subject
36 and is trying or struggling to incorporate that
37 into its decision process.

38 And I think if you could repeat the second
39 question so that I could just maybe nuance it
40 slightly -- nuance my response a little bit with
41 -- given what I've just said in the first case.

42 Q The second issue that First Nations often
43 experience with the ever-increasing technical
44 component of science or management is that they're
45 being given a lot of information in very short
46 time periods in order to try to take that in,
47 integrate it and respond, and so that lack of

1 capacity is challenging and it's often experienced
2 as a way of undermining their role and their
3 abilities to participate, so they're provided a
4 lot of technical information in a very short
5 period of time, asked to respond to it. If they
6 can't respond to it, or are unable to respond to
7 it, are being basically told they don't have much
8 to contribute.

9 MR. SPROUT: I think there are situations like that
10 where they do -- where First Nations are provided
11 information. They may not have the capacity to
12 respond from their perspective adequately and that
13 then creates this dynamic that you've described.
14 I wouldn't be prepared, based on my experience, to
15 say that that's always the case, but if what
16 you're saying is there are examples of that, I
17 would concur.

18 Q Thank you. I don't think -- I would also agree
19 that there are other situations where things are
20 improving and we're going to talk about that more.
21 I just want to go to --

22 MR. WALLACE: Is this the wrong time? If it's --

23 MS. GAERTNER: If I could --

24 MR. WALLACE: I was going to suggest a break, but if
25 you're still --

26 MS. GAERTNER: If I could finish two more questions on
27 the issue of capacity and then we could take a
28 break, if that's all right, Mr. Commissioner?

29 THE COMMISSIONER: If I could just ask you, just
30 generally how much longer you think you might be,
31 Ms. Gaertner?

32 MS. GAERTNER: When did I start? I gave Commissioner
33 counsel the estimate that I would be an hour and
34 I'm thinking I will be less than that, but I'm
35 likely to be at least another 40 -- 20 minutes.

36 THE COMMISSIONER: I'm okay with that. I'm just
37 concerned. We're going to adjourn at 4:00 and I
38 didn't want to leave out of the equation others
39 who might have questions as well, so I don't know
40 who else is going to be wanting time and how much
41 time they're going to want, Ms. Gaertner. I just
42 wanted to try and understand that.

43 MR. WALLACE: Mr. Commissioner, by my count we're close
44 to the -- very close to the time. I'll do a
45 canvass on the break.

46 THE COMMISSIONER: All right.

47 MS. GAERTNER: Maybe if I could just ask the --

1 THE COMMISSIONER: Oh, absolutely. I'm sorry.

2 MS. GAERTNER: -- next couple --

3 THE COMMISSIONER: Yes. Yes.

4 MS. GAERTNER: -- questions on capacity --

5 THE COMMISSIONER: Yes.

6 MS. GAERTNER: -- and then we'll give everyone a break.

7 Q The other -- I guess -- I'm going to go to the
8 next place with respect to the challenges
9 associated with building capacity. I think we
10 have an acknowledgement. Mr. Sprout, you made a
11 comment earlier today about the challenges
12 associated with First Nations capacity in the
13 areas of fisheries management and science. I'm
14 going to ask you whether or not you would think
15 it's, you know, one of the challenges associated
16 with developing scientific capacity within First
17 Nations is the approach that the Department of
18 Fisheries and Oceans has needed to use with
19 respect to funding and in particular, that those
20 funding arrangements are often annual in nature.

21 MR. SPROUT: I commented briefly on this the other day,
22 and I do think the department needs to, where it
23 enters into agreements with First Nations,
24 particularly year-over-year, where those are
25 annually renewed, and there are resources
26 committed, that the department needs to look at
27 opportunities to make those multi-year so that
28 there's some stability. Currently many of the
29 arrangements are renewed each year and I think
30 that disadvantages the First Nations in terms of
31 hiring and engaging people and making long-term
32 commitments and so I think there's an argument for
33 moving those annual arrangements into multiple
34 year arrangements, particularly where the
35 resources are already being provided on a year-by-
36 year basis.

37 So I've expanded somewhat in my remarks
38 yesterday, but that was what I meant.

39 Q Thank you, Mr. Sprout. I just wanted to point
40 out, and I guess you're going to agree with this,
41 that it's often difficult to keep scientific staff
42 on -- scientific people on staff if you've only
43 got a year's worth of funding.

44 MR. SPROUT: Yes, I understand that.

45 MS. GAERTNER: Those are my questions on capacity.

46 This would be a convenient time to break.

47 THE REGISTRAR: The hearing will now recess for ten

1 minutes.

2

3

(PROCEEDINGS ADJOURNED FOR AFTERNOON BREAK)

4

(PROCEEDINGS RECONVENED)

5

6

THE REGISTRAR: The hearing is now resumed.

7

Commissioner Cohen is presiding.

8

MR. WALLACE: Mr. Commissioner, I have done a canvass.

9

I'm aware of time estimates totalling 45 minutes,

10

and it's now 3:15.

11

THE COMMISSIONER: Thank you very much.

12

CROSS-EXAMINATION BY MS. GAERTNER, Continuing:

13

14

Q Dr. Richards, I have a couple questions around the efforts that are being made at a regional level, now, to bring ecosystem science onto the ground and maybe follow up on some of the priorities that have been set at the national level.

15

16

17

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First of all, I just wanted to confirm that those priorities were set primarily at the national level, or at the top level of science within the Department of Fisheries and Oceans; is that correct?

21

22

23

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DR. RICHARDS: So, Mr. Commissioner, I think you're referring to the DFO science agenda?

25

26

27

Q That's correct.

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DR. RICHARDS: Okay. As Dr. Watson-Wright said earlier today, that the -- there was both a bottom up and a bit of a top down exercise, so there was quite a lot of engagement of the scientific staff in developing probably some of the fine wording. Certainly the overall higher-level priorities had a lot of senior input into that. So it was a bit of a both top down, bottom up exercise.

36

37

38

Q But it's clear that it was within the Department of Fisheries and Oceans that those priorities were being set?

39

DR. RICHARDS: Yes, that's correct.

40

41

42

43

44

Q And it's also clear, at this point in time, that when doing that type of work there isn't any systematic or transparent way in which the external clients that you will have will participate in that type of process?

45

46

DR. RICHARDS: No. This was intended as an internal process.

47

Q And at best, Mr. Sprout, if I understood your

- 1 evidence, and I don't mean this as a criticism,
2 just as an observation at best, in order for
3 external clients to have an influence, it's
4 slightly *ad hoc*, it's having a political or
5 otherwise influence within the Department of
6 Fisheries, for example, with the RDG, who would
7 then inform higher headquarters; is that correct?
- 8 MR. SPROUT: I think it depends on the policy, that's
9 the way I would describe it. For example, if you
10 take the Wild Salmon Policy, you would be very
11 familiar with the facilitated, transparent, public
12 process that had extraordinary input by First
13 Nations --
- 14 Q Absolutely.
- 15 MR. SPROUT: -- and non Natives.
- 16 Q Absolutely.
- 17 MR. SPROUT: But if you're referring to the Science
18 Framework Agenda and so forth, it would be more of
19 someone like Laura or myself, depending on the
20 level, informing our perspective from clients in
21 the internal process. So it depends on the
22 policy.
- 23 Q All right. Thank you.
- 24 MR. SPROUT: Thank you.
- 25 Q And this policy, the ecosystem -- ecosystem
26 science policy and the framework and the
27 priorities, falls into that second category, the
28 category where it was primarily you, as the RDG,
29 inform -- or Laura informing headquarters in terms
30 of the information you carry?
- 31 DR. RICHARDS: Well, for the science-specific policies,
32 it would have been -- I would have, perhaps, had
33 an opportunity -- I don't really recall in a
34 specific case -- but to discuss it certainly with
35 my regional colleagues and counterparts and get
36 input into that. You know, certainly, when we've
37 come up with our science priorities, it's an
38 internal process, but that would be internal
39 within the department. We would have been --
40 certainly I'm aware of what questions are being
41 posed by my counterparts within the region, and
42 they are also certainly receiving questions and
43 being fed by their consultations, by their various
44 processes.
- 45 Q And do either of you think it would be useful -- I
46 appreciate with the Wild Salmon Policy there was a
47 lot of work, it was quite a controversial and

1 important policy and change for many, many of the
2 different sectors, but do you think in the case of
3 setting priorities for something as new as the
4 ecosystem framework and those priorities, that on
5 a go-forward basis, anyways, it may be useful to
6 have a more transparent process where you can
7 engage the external clients in setting those
8 priorities?

9 I particularly ask that question because this
10 new research and the work that we're going forward
11 is trying to make a cultural and philosophical
12 shift, and is trying to be inclusive in nature,
13 and I think in some ways it might be useful to Mr.
14 Commissioner to hear from you as to whether that
15 type of transparent process and engagement would
16 be useful on a go-forward basis.

17 DR. RICHARDS: Well, Mr. Commissioner, I think
18 science's role is really to try to address the
19 questions which are being posed to it by others in
20 the department. So, you know, it's really that we
21 are there to do the work that is deemed by the
22 managers within the department to do, and so
23 really we depend on those managers to be engaged
24 in doing that consultation. You know, I think,
25 frankly, all of these things, you know, we try to
26 do the best we can, but science, we realize, is
27 ongoing, as I've mentioned, and we also have to be
28 very careful that there are lots of possible
29 questions that are put on the table, but this is
30 really about prioritization and science would get
31 its priorities from the government or from other
32 senior people, really, within the department.

33 Q Mr. Sprout, would you like to add to that before I
34 ask my supplemental question?

35 MR. SPROUT: Well, I would generalize it. I would say
36 that in going forward with any of our policies,
37 particularly when you start dropping into the
38 operational area, when you go from the, you know,
39 the 80,000 to the 40,000, whatever metaphor --
40 example you use, down to closer to the ground, you
41 operationalize that and you need to do that with
42 not just First Nations but non Natives. So I do
43 take your point that you would want to have those
44 conversations and inform those operational
45 strategies as a consequence of that.

46 Q I am going to ask you both a follow-up question on
47 that. For me, as I understand ecosystem science,

1 it's very much based in the ecosystem and based in
2 the local and community experience in that
3 ecosystem and understanding that, and so it would
4 seem to me, then, when setting priorities with
5 respect to ecosystem science, in order for us to
6 walk that talk it would be extremely important to
7 engage communities and local people in the setting
8 of priorities for the research around those
9 ecosystem.

10 DR. RICHARDS: Well, Mr. Commissioner, I think this --
11 would have to look at it on a case by case basis,
12 and I can't -- for example, one of the ways that
13 we have followed through in the plan, not the
14 agenda, is talking about the ecosystem research
15 initiatives. And the one in this area was based
16 on the Strait of Georgia. Now, in order to get
17 that one up and running, we did actually go around
18 and do some community consultations to talk about
19 the issues in the Strait of Georgia to get some
20 input more directly into the science questions in
21 that particular case.

22 Q And in that particular case, you had already
23 decided that the priority was the Strait of
24 Georgia?

25 DR. RICHARDS: Yes, in that case we had already decided
26 that the priority was the Strait of Georgia, but
27 the reason that we decided the priority was the
28 Strait of Georgia was really because we knew,
29 first of all, that there was not going to be a
30 large amount of money for this particular
31 initiative. It was cheaper for us to work in the
32 Strait of Georgia, and we also had a good base of
33 data there. We also were expecting and
34 anticipating that we were going to be, five years
35 down the road, we're going to be posed some
36 questions about the Strait of Georgia, perhaps
37 more so than some other areas.

38 We also were looking at it as an opportunity
39 to develop a set of tools that we could then take
40 and transport to other areas that are more
41 difficult and challenging to work in. So that's
42 the reason that we chose to work in the Strait of
43 Georgia.

44 Q Thank you, Doctor. Is there any scientific
45 processes in the region that are presently
46 underway regarding the impacts of other fisheries
47 on sockeye, like pelagic fisheries or any of those

1 other fisheries?

2 MR. SPROUT: Well, maybe Laura would like to speak to
3 sort of the broad science that might be a factor
4 in sockeye, so, for example, there's oceanography
5 being -- taking place, salinity surveys,
6 temperature surveys. There are factors looking at
7 issues around predation, algal bloom, like all of
8 these components are done, in many instances, by
9 separate individuals or groups, but all would knit
10 together and potentially inform, for example,
11 Fraser sockeye. She may wish to expand on that.

12 DR. RICHARDS: Yes, I think I was just having a little
13 trouble trying to understand the context of your
14 question and exactly where you were going, in term
15 of -- but there -- you know, we are involved in
16 certainly a suite of other science activities, as
17 Mr. Sprout mentioned, that impinge directly on
18 Fraser sockeye, including work that we're doing
19 certainly in the open ocean from the oceanography
20 down to work that we're doing in lakes and streams
21 and on the spawning grounds.

22 So I'm sorry, but I just don't quite
23 understand where you're going, to answer.

24 Q Well, I'm just trying, again, I went from the
25 issues of setting priorities and how priorities
26 were set. I understood, from you, how those
27 priorities were set, both in terms of how did the
28 Department of Fisheries set those priorities and
29 some of the budget issues that influenced those
30 priorities, and then I wanted to go a next step
31 and give a couple examples. My clients'
32 understanding is that there is not much science
33 being done with respect to the interplay between
34 the different fisheries on science, and so I
35 wanted to make sure that was something that was
36 correct or not.

37 DR. RICHARDS: I think I need to -- I'm still having a
38 little trouble understanding your question.

39 Q So if the fisheries, the pelagic fisheries are
40 being overfished, what influence would that have
41 on Fraser River sockeye?

42 DR. RICHARDS: Okay, okay, so you're really -- then
43 your question is really more from the focus of,
44 just if I can paraphrase, what you're asking is:
45 Are we concerned about the fisheries that could be
46 impacting the food that the salmon are eating?

47 Q Yes.

1 DR. RICHARDS: Well, certainly we have been doing --
2 certainly studying on some of those other
3 fisheries. For example, we do have the big
4 program that's working on the herring fisheries,
5 and on some of those pelagic fisheries. We have
6 certainly been looking at, and doing some work, as
7 you will probably hear later, on marine mammals.
8 We're looking at other species, such as we were
9 doing some work -- some extra work on Humboldt
10 squid, which we were wondering about as a
11 predator. So yes, there has been some other work
12 that's been done on some of those other species.

13 There's also some work that's been done more
14 generally, in terms of what's going on in the
15 broader ocean ecosystem; for example, looking at
16 the properties and the oceanography of the Strait
17 of Georgia, as well as the open Pacific Ocean.

18 Q Thank you. I just have one additional question
19 with respect to the challenges associated with
20 implementing ecosystem science, and in particular,
21 we heard from Dr. Watson-Wright this morning, but
22 she wasn't very familiar with any of the specific
23 efforts yet being made to -- or protocols or codes
24 as to how we can include traditional ecological
25 knowledge into that, and I was wondering, Dr.
26 Richards, whether or not you are and what steps
27 are being taken within science to try to
28 incorporate proper steps to ensure that knowledge
29 is engaged, not in a -- engaged in an ongoing way
30 basis.

31 DR. RICHARDS: Yes, thank you. I think that there are
32 a number of things that are certainly being done.
33 Certainly, where possible, we will sort of try to
34 work with partners, as First Nations, and in
35 particular, some of the programs and some of the
36 enumeration on some stocks is actually being done
37 by the First Nations rather than by Fisheries and
38 Oceans. So certainly we will try to work in
39 partnership with First Nations where possible, and
40 we certainly appreciate their input on that.

41 And I think, as Mr. Cass mentioned, in some
42 of our processes, like the PSARC peer review
43 process, we will have invitations to First Nations
44 to have them participate in those peer review
45 meetings. But I don't think, at this point, we've
46 been able to really, you know, formalize any
47 specific processes around traditional ecological

1 knowledge. I think we're sort of, you know, aware
2 of this, but it's been, I think, quite challenging
3 for us, frankly, to try to figure out how to move
4 forward on some of these pieces.

5 Q Thank you. So you would agree with me that it's
6 at the infancy stage in terms of how to do that,
7 and the necessity for protocols around that?

8 DR. RICHARDS: Well, I believe and I understand that
9 there are some developing protocols, but I think
10 that there are -- certainly are challenges with
11 that. And also, I agree that there are
12 challenges. There are also some issues around,
13 often, timeliness of data, which means that we
14 need to be -- often are under time restraints as
15 well, which make it even more challenging.

16 MR. SPROUT: So just to be clear there, I'm not aware
17 of extensive formal arrangements that identify
18 protocols for factoring in, explicitly,
19 traditional knowledge, but I am aware of many
20 practical examples where, in fact, that is
21 happening, and I want to give a couple, just so
22 that there is -- this is appreciated.

23 I've spoken of this several times over the
24 course of the week, but we have advisory processes
25 where First Nations are part of those advisory
26 processes and First Nation fishermen, and other
27 interest First Nations, come to those advisory
28 processes, and I'm talking about both bilateral,
29 just government and First Nations, also government
30 and organizational, and also integrated
31 government, First Nations and non Natives, and the
32 individual fishing interests around those tables,
33 First Nations will provide their perspective on
34 the status of the population, the stock of
35 concern, the particular fishery, and those then
36 get factored into the thinking and decision-making
37 processes that have been already described.

38 I know in other fisheries, that I am
39 personally familiar with, when I - I was a herring
40 biologist, at one point in time - and one of the
41 things that we did is we worked -- we chartered
42 fishermen and we chartered Native and non Native
43 fishermen, and I would go out on Native vessels to
44 collect herring samples, and I would ask the First
45 Nations' skipper what his opinion was on the
46 status of the population. And the reason I did
47 that is that the individuals I worked with at the

1 time had fished in this area for 50, 60 years or
2 more, and that information then I used as a factor
3 in calculating the abundance of herring and
4 ultimately informing fishery managers, at the
5 time, on decision-making.

6 So there are a lot of practical examples of
7 that, notwithstanding the fact that, as I think
8 Laura has indicated, we're in the early stages of
9 developing more formal protocols.

10 Q Thank you. And perhaps, Mr. Sprout, just from
11 that experience, which I always think is often the
12 most useful when it comes to these types of
13 things, you understand that many of the -- in
14 fact, any of the longstanding Aboriginal fishermen
15 and fishing communities have quite a lot of useful
16 information with respect to the specific
17 ecosystems in which their communities rest, and
18 that information could be extremely useful for
19 science when developing models and other
20 approaches to ecosystem science?

21 MR. SPROUT: I do think that. And I think we can
22 actually go further on this, because I think there
23 are opportunities for the department to reflect on
24 collecting information in some of these locations
25 that First Nations live in, things like salinity
26 information --

27 Q Exactly.

28 MR. SPROUT: -- temperature information, and so forth,
29 that if it could be done in a low cost way, and
30 might be very helpful in better describing some of
31 the ocean conditions and possibly explaining the
32 vexing issues that we've been talking about over
33 the last couple of days.

34 Q Thank you. And one of the other ways that I've
35 often thought it would be useful is when deciding,
36 particularly in-river, where you're going to do
37 tests and how you're going to do tests, both with
38 respect to temperature or water movement, that
39 they, again, will have a lot of that local
40 knowledge pretty well at their fingertips?

41 MR. SPROUT: They will, and I think we can work with
42 them in terms of potentially training, where that
43 may not be where we want to do a rigorous program,
44 but it would be important, I think, for the
45 department to say that we do have a number of
46 those examples in place right now.

47 Q That's hopeful and encouraging, and I'm glad for

1 that and I look forward to hearing more about
2 that. I just have one final area to ask questions
3 around, and that's with respect to the test
4 fisheries and, in particular, maybe I'll just
5 start with an observation and see whether or not
6 both of you will agree with me on it. It's my
7 observation that it's becoming ever increasingly
8 difficult for science to be used as a predictive
9 tool in fisheries management, and I think the 2009
10 and 2010 years, with respect of Fraser River
11 sockeye, are acute examples of that. Do you agree
12 with me?

13 DR. RICHARDS: I think on the issue of prediction,
14 science always has been challenged and probably
15 never has been very good on prediction. You know,
16 we sometimes like to think about prediction as
17 trying to deal with the stock market, and we know
18 what the problems are there. So I think
19 scientists, in general, are very fearful about
20 prediction and are generally quite uncomfortable
21 with it.

22 MR. SPROUT: Could I speak to this, briefly? All I
23 want to do is provide this perspective, or ask
24 this perspective be considered. I would argue
25 that in some areas science's ability to predict is
26 pretty good, and that's particularly when you're
27 dealing with multi-year fish that live in the
28 ocean for a long period of time, halibut being an
29 example. You know, the fish matures at a later
30 age, it lives for a long time, 20 or 30 or more
31 years, and you can follow the year class over a
32 long period of time. And science and various
33 international organizations tend to be pretty good
34 at predicting, year to year, what's going on.

35 At the other extreme are fish, I think, like
36 salmon, which are influenced by variables that are
37 more difficult to detect and more challenging, and
38 the confidence around the predictions is
39 influenced as a consequence of that. And so I
40 think it's important that we not be painted
41 broadly, but rather be looked at on a case by case
42 basis.

43 Q Absolutely. I was asking with respect to Fraser
44 River sockeye and the challenges associated with
45 being predictive there.

46 Secondly, I just wanted to pick up on the
47 comments around the -- and I read it in the

1 material of the Science Management Board and
2 otherwise, that there's an acknowledgment right
3 now within science that moving into an ecosystem
4 and even a weak stock management with respect to
5 Fraser River sockeye - and I have the exhibit
6 number - but is a philosophical and cultural shift
7 that's being done within the department, both at a
8 science and a management level; would you agree
9 with that?

10 DR. RICHARDS: I think within the science community
11 it's not as much of a cultural shift. I think
12 most scientists who were trained were trained to
13 understand that we do need to look at the broader
14 context or the broader ecosystem, so I think that
15 fundamentally people are very much aware and have
16 been aware of the ecosystem impacts. I mean, that
17 was what the study of ecology was all about,
18 really, to understand some of these questions.

19 I think the challenge has come down when
20 we're trying to deal with them in a management
21 context and with perhaps a limited amount of time
22 to really work on an issue about how far we can go
23 and try to deal with something, and at that point
24 often our science has gotten a bit narrower than
25 we would really like, and then perhaps we're
26 losing out on some of that information that would
27 be more appropriate taken in an ecosystem context.

28 I think we have taken some steps, going
29 forward. I think we have made some efforts, now,
30 to make sure that certain kinds of -- the way
31 certain kinds of questions are posed would
32 actually try to acknowledge some of that broader
33 context and try to bring in some of that extra
34 information.

35 We also are doing things like providing state
36 of the Pacific Ocean reporting and are now trying
37 to use that on a regular basis to inform our other
38 processes looking at the more specific advice on
39 certain stocks of fish, for example.

40 So we have taken some steps to be broader in
41 our thinking about this, as evidenced by our now
42 looking at perhaps some of the ocean factors.
43 Unfortunately, you know, those are not yet -- some
44 of that knowledge has not yet evolved to a state
45 where it's necessarily always that helpful or
46 useful, so we can consider that, but it's
47 difficult for us to take it, at this point, in

1 anything other than a qualitative kind of context.
2 Q So maybe I will turn you to Exhibit 39, then, and
3 on page 1. I just want to get this clear. I'm
4 hearing that science is having a little less
5 trouble making this shift. Are you suggesting,
6 therefore, it's the policy and the decision-makers
7 that are having more difficulty?

8 DR. RICHARDS: Well, I think, it's -- I mean, I think,
9 intuitively, science would like to do this, but it
10 is a question about how certain kinds of the
11 questions are framed. And perhaps the -- I would
12 say that now we've made a broader recognition of
13 this, and so it's been perhaps more regularly
14 taken into consideration.

15 Q Mr. Sprout?

16 MR. SPROUT: Well, I think in the Pacific Region, the
17 fisheries management side has been on this
18 trajectory of, frankly, being more conservative,
19 probably for about 15 years, at least.

20 Q So then maybe I could take you to the minutes of
21 the Science Management Board of October 4th in
22 2006, and I didn't think this was controversial,
23 but I'll just take you to end of the page there,
24 where there's an acknowledgment that:

25
26 ...implementing the Ecosystem Science
27 Framework requires a philosophical and
28 cultural shift and that the key objective of
29 the Plan is to provide better advice and
30 information for policy and decision-makers.
31

32 DR. RICHARDS: I mean, I think I would argue that that
33 was not really a fair statement about what we were
34 doing in the Pacific Region. It may help
35 elsewhere, but I'm not sure...

36 MR. BEVAN: I think that's a national statement and I
37 would echo what Dr. Richards just said, that there
38 was, already, changes happening in the Pacific. I
39 think that that -- that that philosophical change
40 had to take place in certain parts of the Atlantic
41 that are very important but that that whole
42 ecosystem-based approach was not a driver in some
43 of the decisions that preceded this change.

44 Q So has the work in the Pacific gotten to a stage
45 where you've got agreed indicators for all the
46 ecosystems in the Fraser River -- for the
47 migrating route of the Fraser River sockeye, which

1 is one of the first steps in ecosystem management,
2 have we got that far, then?

3 MR. SPROUT: Again, I'd like to put a perspective on
4 this. I mean, I think in answer to your question,
5 as has been stated earlier by Wendy Watson-Wright
6 and by Laura, moving to an ecosystem-based
7 approach, we're going to move incrementally.
8 We're going to move over time. But that is the
9 direction that we're going in. But I thought the
10 point you were raising is that moving to this is a
11 cultural change in the Pacific Region and we're
12 trying to embrace that right now. But the point
13 that I think the three of us here are arguing is I
14 think we've been going along that path for a
15 while.

16 I want to give you one example. In 1988, the
17 Pacific Region closed all fisheries on wild Coho
18 in the south because we were concerned about a
19 conservation unit in the interior of B.C., Coho,
20 that was threatened. That was a very significant
21 decision by the department and the minister of the
22 day. And I think that affirms or suggests that
23 the idea of putting the emphasis on conservation
24 and on the role of Coho in the ecosystem more
25 broadly, is something that the region was already
26 doing, and it predates, obviously, this particular
27 document. Maybe Laura could respond to your
28 question on indicators and what progress we've
29 been making on that, but I think all I was
30 indicating was that I think, for this region at
31 least, I believe we're on that trajectory.

32 Q And I am nothing more than encouraging that. What
33 I was actually trying to get with this is that
34 it's a -- it is a shift, shifts are difficult,
35 there are places and challenges that are
36 associated with that, and it is my client's
37 observation that we've spent a fair bit of time
38 talking about the policies of the shifts and
39 working through the policies of the shifts and
40 we're going to have a lot of discussions on the
41 Wild Salmon Policy, but implementing those
42 policies on the ground is still, at best, at the
43 infancy stage.

44 MR. SPROUT: See, I just wouldn't -- I just don't agree
45 with that. My view is that we have a ways to go,
46 that is true. It's a work in progress. That's
47 fair. But I wouldn't describe it at the infancy

1 level. I would describe it as we're making
2 progress.

3 Q All right.

4 MR. SPROUT: Now, we are running into some challenging
5 issues, and we'll talk about them in the WSP
6 session --

7 Q Right.

8 MR. SPROUT: -- but I think, for me, particularly
9 because I've worked across the department and on
10 the east coast, I really believe here we are
11 making substantial progress on these matters, but
12 I am not characterizing this as the job is done.

13 Q Great. And we are in agreement that there are
14 lots of challenges ahead of us?

15 MR. SPROUT: We are.

16 Q All right. I just have one challenge that I want
17 to raise with you before I sit down, that I'd just
18 like your comments on, and that is one of the
19 challenges in science and changing sciences, your
20 need for, your comfort with the time depth of
21 data, and that you mentioned it earlier when you
22 were talking about the *Georgia Strait*, that it was
23 one of the ways of implementing, is that you had a
24 lot of data there and you could move to that.
25 You'll agree with me that if we need new
26 perspectives and new approaches, we may need new
27 approaches to collecting data and that relying on
28 time depth of data could be a limiting factor?

29 DR. RICHARDS: Yes, Mr. Commissioner, a lot of the work
30 that we do does depend on having some time series
31 of data so that we can look at -- so we can put
32 what is happening today in the context of some
33 past history, and to look at trends. And if we're
34 -- when you come up with a new index or a new
35 measure, then you don't know what that would have
36 been yesterday or last year. So, yes, that does
37 pose challenges.

38 Q And particularly with respect to test fisheries,
39 the time data is generally the marine test
40 fisheries; is that correct?

41 DR. RICHARDS: That's a fishery management question,
42 really, so...

43 MR. SPROUT: I think that is correct. I mean, I think
44 there are other time data-related matters, you
45 know, collecting information in a repeated fashion
46 on a continuous basis, and test fisheries is one
47 of those. And I would concur with you that that

1 monitoring and that aspect is very important.

2 Q And so the next step in perhaps assisting and
3 making better assessments with respect to weak
4 stocks is going to be ensuring that some of the
5 test fisheries get into the river; would you agree
6 with me on that?

7 MR. SPROUT: Yeah, I'm not -- you might be mix -- it's
8 possible that there's two things happening here.

9 Q Absolutely.

10 MR. SPROUT: I would go back maybe to the earlier
11 comment I made about stock assessment in the
12 river. You want to be able to have some
13 estimates, reasonable estimates of the numbers of
14 fish that are spawning in the rivers, creeks, and
15 so forth, tributaries, and be able to assure
16 yourself that you can track the changes over time
17 and you can -- if there's a trend, you're
18 comfortable that there's a true trend, that it's
19 not an artefact of you not doing the information
20 correctly or doing it haphazardly or not doing it
21 regularly. So -- but is that what you're getting
22 at?

23 Q But those assessments, if I'm understanding you
24 right, Mr. Sprout, those assessments are after the
25 fish have generally moved into their natal streams
26 and are either being caught or have spawned,
27 generally?

28 MR. SPROUT: That's correct. Yes.

29 Q So they're not actually that useful, an in-season
30 assessment of the strength or weaknesses of any
31 particular stock that's moved into the river and
32 up to the natal streams?

33 MR. SPROUT: Okay, so you're talking about the test
34 fisheries in marine waters?

35 Q That's right. And what I'm trying to encourage in
36 the thinking is that if those test fisheries in
37 the marine waters were established over the years
38 to --

39 MR. WALLACE: Sorry, Mr. Commissioner, is this science
40 or is it stock assessment, which we'll have --
41 we'll hear much more about in harvest management?

42 MS. GAERTNER: I'm actually trying to just ask
43 questions around the shifts that need to happen in
44 order to move into an ecosystem and weak stock
45 management in science management and the
46 challenges associated with that, and I
47 particularly -- maybe I'll just get to my point,

- 1 if I was trying to ask it more generally, is:
2 Q It's been difficult for First Nations to establish
3 and obtain funding to get test fisheries,
4 including dip-net fishery -- test fisheries in the
5 river, and one of the challenges that they faced
6 when making those proposals is that it would
7 either take budgets away from other places or --
8 and if they did that, that you would be losing
9 your time depth of data.
- 10 MR. SPROUT: Okay, I'm glad you've come to the point.
11 Q Sorry. I'm sorry.
- 12 MR. SPROUT: Okay, so just so the Commissioner knows,
13 we do actually engage First Nations doing various
14 kinds of assessment on the Fraser River, that
15 include providing that information back to the
16 department, which we use as a basis for examining
17 what's happening to Fraser returns. If the
18 question is, "Is there room for expanded surveys
19 and more work in this area?" that's a fair
20 question, and we're doing what we can do with
21 resources we are able to provide to First Nations.
22 And if the question is, "Could more work be done
23 along these lines?" I would say that the answer
24 probably is, "Yes," but it would require more
25 resources.
- 26 Q And that if we are going to continue with that
27 cultural shift that needs to happen in order to
28 move, we're going to need to take those steps?
- 29 MR. SPROUT: Well, I think ideally, any arrange --
30 future arrangements that involve First Nations
31 where they're comfortable with the information
32 that's being collected because they're part of it
33 and part of the process in terms of the fisheries
34 decisions, that that, ideally, is preferable to
35 them not being involved, not collecting
36 information, not part of the process.
- 37 I think the issue will obviously be what
38 resources can be put in to realize those two
39 goals.
- 40 MS. GAERTNER: Thank you, Mr. Sprout. Those are my
41 questions, Mr. Commissioner.
- 42 MR. WALLACE: Thank you. Mr. Commissioner, I now have
43 -- next have Mr. Dickson.
- 44 THE COMMISSIONER: Mr. Dickson, I always have to
45 apologize to you. We're almost at the adjournment
46 time, so...
- 47 MR. DICKSON: I understand, Mr. Commissioner. It's Tim

1 Dickson.

2 MR. WALLACE: Excuse me a moment, Mr. Commissioner. We
3 also deferred Mr. Blair to end of list.

4 THE COMMISSIONER: I'm afraid, Mr. Blair, we're going
5 to run out of time very quickly here.

6 MR. BLAIR: Yes, I appreciate that.

7 MR. DICKSON: I promise, Mr. Commissioner, to be as
8 quick as I can here.

9

10 CROSS-EXAMINATION BY DICKSON:

11

12 Q Mr. Cass, I represent the Sto:lo Tribal Council
13 and Cheam Indian Band. Mr. Cass, I just want to
14 ask a few questions following up on some points
15 you made yesterday. Yesterday, you spoke of
16 efforts aimed at recovering Cultus Lake sockeye,
17 and they include, I believe, removal of
18 pikeminnows and Eurasian milfoil. Will you agree
19 that efforts, those kinds of efforts have been
20 made by groups beyond DFO?

21 MR. CASS: Certainly, Mr. Commissioner, there has been
22 collaboration with fishing groups as part of the
23 in-lake predator control research program that's
24 been going on.

25 Q Yes, and there's been significant work done by
26 Soowahlie First Nation and Sto:lo First Nations
27 more broadly than that, would you agree?

28 MR. CASS: Yes, I'm not familiar enough with that
29 program to know the details about how the
30 arrangements are with partners in those programs.

31 Q Just to be quick on this, Mr. Sprout you're
32 familiar with the Salmon (sic) River Table
33 Society?

34 MR. SPROUT: I am.

35 Q And that is a non DFO body that has undertaken
36 efforts to -- aimed at recovering Cultus sockeye?

37 MR. SPROUT: I can't speak to the Cultus sockeye. I'm
38 more familiar with it -- that body coming together
39 and considering issues around exploitation rate on
40 Cultus.

41 Q Yes. And broadly speaking, that body is a
42 partnership between the Commercial Salmon Advisory
43 Board and Sto:lo First Nations?

44 MR. SPROUT: I'm not sure that it's the Commercial
45 Salmon Advisory Board. There are members of the
46 Commercial Salmon Advisory Board that participate
47 in that group, as well as recreational interests,

1 but I can't speak to whether it's broader than
2 some interest on the Commercial Salmon Advisory
3 Board.

4 Q And do you recall that funds were raised by the
5 Fraser River Salmon Table in order to remove
6 pikeminnows and Eurasian milfoil by selling
7 100,000 Cultus sockeye?

8 MR. SPROUT: I do recall that there had been fish set
9 aside for the purposes of being redirected to that
10 purpose. I was also aware that there was some
11 dispute about the use of that fish and the set
12 aside, and I can't speak to how that got resolved.

13 Q I have one more question just on Cultus sockeye.
14 The exploitation rate for Cultus sockeye was set
15 at 30 percent, but this past year it appears that
16 the exploitation rate was actually around 50
17 percent. Is anyone on the panel familiar with
18 that?

19 MR. BEVAN: I am aware that we are bumping up against
20 the limits of the 30 percent and that we went back
21 to the minister to seek approval for increasing it
22 based on the information that we would be meeting
23 escapement targets. That's all I'm able to speak
24 to. I can't speak to what was the outcome.

25 Q And just one science-based question, Mr. Wallace.
26 In terms of the escapement -- the escaped
27 fish, there are enhancement activities on Cultus
28 sockeye, and is there any effort to determine how
29 many of the returning spawners are enhanced and
30 how many are fully wild?

31 MR. CASS: Mr. Commissioner, there are programs in
32 place, as part of the research and monitoring that
33 goes on in Cultus Lake, to evaluate that, and
34 there have been -- there is, most recently, a
35 review at PSARC in, I believe, May, but this year,
36 on the status and the recovery of Cultus. But I'm
37 just referring you to that document, because I'm
38 not aware -- I don't know the numbers, myself.

39 Q Thank you, Mr. Cass. Those are my questions.

40 THE COMMISSIONER: Thank you, Mr. Dickson.

41 MR. WALLACE: The last, Mr. Blair.

42 MR. BLAIR: Thank you, counsel. Perhaps when I gave up
43 my time yesterday, I hadn't factored on five to
44 4:00 the following day, but really, I hadn't
45 factored into the time that we'd need to have Mr.
46 Giles properly attired this morning. One more
47 time...

1 I have some very brief questions around two
2 or three documents, Mr. Lunn, number 4 on our
3 list.
4

5 CROSS-EXAMINATION BY MR. BLAIR:
6

7 Q Members of the panel -- if Mr. Lunn could put up
8 this document. Now, this is a document entitled,
9 "Facts About Sea Lice". It's a November 3rd,
10 2009, document. It's certainly a very brief
11 document. I'm sure you're familiar with it. It
12 doesn't purport to be a scientific treaty on the
13 subject, for sure. But in your discussions
14 earlier today and yesterday, I think I heard from
15 the panel, say that science management by DFO
16 included involving the various clients or
17 constituents, that included the public, and this
18 would be a representative of a document where DFO
19 was attempting to communicate its knowledge of
20 science, albeit in an abbreviated way, to the
21 greater constituents of the public, generally,
22 those for and against salmon farming.

23 Firstly, do you agree that a document like
24 this serves that purpose for DFO? Who'd like to
25 take that on?

26 MR. BEVAN: I think that's a fair statement, that it
27 does.

28 Q And Mr. Bevan, I'll stick with you, then. This is
29 a very general document, but it does -- it's
30 consistent with DFO's state of knowledge on this
31 fact, at this point in time; would you agree?

32 MR. BEVAN: Yes, I would.

33 MR. BLAIR: Could we mark that as an exhibit, please?

34 THE REGISTRAR: Number 61.
35

36 EXHIBIT 61: Facts About Sea Lice, dated
37 November 3, 2009
38

39 MR. BLAIR: Thank you. Mr. Lunn, number 5.

40 Q This is a July 19th, 2007, document. The title
41 is self-explanatory. And Mr. Bevan, I'll stick
42 with you. The same question, really: Not a
43 treaty, not a scientific document, but a summary
44 for the same purpose of distributing to the
45 constituents, including members of the public,
46 DFO's state of knowledge in a general way on this
47 issue?

1 MR. BEVAN: That's correct.

2 MR. BLAIR: Might that be the next exhibit, please?

3 THE REGISTRAR: 62.

4

5 EXHIBIT 62: Department of Fisheries and
6 Oceans, Myths and Realities About Salmon
7 Farming, dated June 2005

8

9 MR. BLAIR: Thank you. Document number 1, Mr. Lunn.

10 Q On October 28th, 2008, two documents were produced
11 by DFO. The one that I'm asking to be called up,
12 now, is the DFO Aquaculture Action Plan, and in a
13 moment we'll be referring to the Aquaculture
14 Policy Framework. And we have the action plan up,
15 now. As I've indicated, the date is late 2008.

16 This is DFO's action plan as it relates to
17 managing the aquaculture industry; is that fair,
18 Mr. Bevan?

19 MR. BEVAN: Yes, I'm a little -- I'd really prefer to
20 have a better look at his, because this is -- I
21 know about myths and realities kinds of things,
22 but this one I'd -- is a bit - I would prefer to
23 take a look at it in more detail.

24 MR. WALLACE: Mr. Commissioner, this looks to me not to
25 be so much science as management plan, and perhaps
26 aquaculture would be the time to see it.

27 MR. BLAIR: Well, there's some discussion about
28 resourcing, Mr. Commissioner, in terms of working
29 collaboratively with the various clients, and this
30 is produced briefly to show that one of those
31 clients is the aquaculture industry and that DFO
32 manages that specifically by way of an action plan
33 in a framework under the general heading of
34 "science and research dollars", which DFO has put
35 into science as it relates to this client, and
36 that's really what I wish to try to establish with
37 this panel. So it's the science related to a
38 client.

39 MR. BEVAN: We, Mr. Commissioner, do have a program
40 that supports research within the aquaculture
41 industry for sustainable aquaculture, and that's
42 referenced in this document.

43 Q You may, by reference to page 2 of the document,
44 be refreshed that between 2000 and 2005 the number
45 of 12.5 million was approved for DFO to work with
46 the industry to assess and mitigate any potential
47 impacts on the aquaculture industry. Does that

1 number ring a bell?

2 MR. BEVAN: Yes, it does.

3 Q And further, 22.5 million in the same time period
4 so DFO could enhance applicable legislation,
5 regulations and policy governing aquaculture; do
6 you agree?

7 MR. BEVAN: That, I don't believe, was related to
8 science.

9 Q All right, legislation -- I'm sorry, you are
10 correct, legislation and policies.

11 One very brief stroke of 4:00 question for
12 Dr. Richards. Dr. Richards, early in some of the
13 cross-examination that we heard, there was a
14 reference to pink salmon and the Broughton
15 archipelago, and you gave an answer, and in the
16 time we have I'm sure it will be a brief answer,
17 again, to my question, but you were pivotally
18 involved in DFO's work relating to studying pink
19 salmon and any relationship regarding sea lice and
20 the aquaculture industry?

21 DR. RICHARDS: Yes. Mr. Commissioner, I was in my
22 current position when we established that program,
23 and I was certainly in a leadership position that
24 helped put that program in place.

25 Q And the science that DFO embarked upon following,
26 effectively listening to members of the public,
27 notably a report from a Martin Krkosek, drew DFO's
28 attention to the fact that perhaps they ought to
29 study the issue of --

30 DR. RICHARDS: Well, I think that program had actually
31 - I can't remember exactly the time sequence here
32 - but I think the report from Krkosek came later,
33 that we were already doing some of that work, as I
34 recall.

35 Q All right. You're familiar with the report, the
36 Marty Krkosek report?

37 DR. RICHARDS: Well, he has written a large number of
38 papers, and so I am familiar, in general, with his
39 work.

40 Q I guess the reason -- the question that I have for
41 you, then, Dr. Richards, is in terms of DFO's
42 scientific response to the community at large, no
43 matter what that community may be, whether it
44 represents Aboriginal fishers, commercial
45 fishers, recreational fishers, environmental
46 interest groups, the response, in this case, the
47 Broughton archipelago, was to embark upon and

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PANEL NO. 4

Cross-exam by Mr. Blair (BCSFA)

Cross-exam by Mr. Taylor (CAN) (cont'd)

1 continue to study the issues specifically from a
2 scientific perspective, to allay fears or learn as
3 much as one could learn?

4 DR. RICHARDS: Yeah, I think, Mr. Commissioner, you
5 know, we are interested in objectively trying to
6 understand what the situation was, and certainly
7 working with others and working with partners and
8 some of that work got then picked up by the
9 Pacific Salmon Forum to bring it forward, so...

10 MR. BLAIR: Thank you. In another forum we'll get into
11 those studies in greater detail. Thank you, Mr.
12 Commissioner. Thank you, members of the panel.

13 THE COMMISSIONER: Thank you, Mr. Blair.

14 MR. WALLACE: I think this document should be marked as
15 well.

16 THE REGISTRAR: Exhibit number 63.

17
18 EXHIBIT 63: Department of Fisheries and
19 Oceans Aquaculture Action Plan, dated October
20 28, 2008
21

22 MR. WALLACE: Mr. Commissioner, I have been asked by
23 Mr. Taylor for the ability to ask one question in
24 re-exam. And if it's any comfort, I have no
25 questions in re-exam.

26 THE COMMISSIONER: Mr. Taylor?

27 MR. TAYLOR: This doesn't count as my question: What
28 did we just mark as Exhibit 63?

29 THE COMMISSIONER: The last document --

30 MR. TAYLOR: The Aquaculture Action Plan?

31 THE COMMISSIONER: Yes.

32 MR. TAYLOR: Thank you.
33

34 CROSS-EXAMINATION BY MR. TAYLOR, continuing:
35

36 Q My question has some elements or subsets to it,
37 and it comes out of Ms. Gaertner's questions of
38 the panel, where Ms. Gaertner presented, as I
39 understood her, the shift to the ecosystem
40 approach as something new in its infancy. And I
41 think both Mr. Sprout and Dr. Richards said that
42 it's well underway and had been for some while,
43 and 15 years was mentioned. And this is a
44 question of anyone on the panel that wants to
45 answer it, and it's in relation to the Pacific
46 Region.

47 Is there one or more watershed events or

1 decisions that you see as marking the move towards
2 an ecosystem-based approach to Science and
3 Fisheries Management in the role of Science and
4 Fisheries Management?

5 MR. SPROUT: I'd like to clarify my remarks to the
6 earlier -- on this earlier question. What I said
7 is that I felt that the Pacific Region was
8 applying a conservative approach to fisheries
9 management decisions that was increasingly more
10 focused on stocks of concern, and even if that
11 implied that we would be foregoing the harvest of
12 larger populations that were mixed, and I gave the
13 specific example of Coho off the -- in Southern
14 B.C., so I just wanted to be clear about that.

15 But I can also add, in terms of the
16 ecosystem-based approach to management, it has a
17 number of implications, but one of those
18 implications is to take into consideration a
19 multiple species when harvesting resources. And
20 in the case of Pacific salmon, one of the things
21 that I think this region's been doing for a very
22 long period of time is factoring in the bycatch of
23 the species other than the target species. So in
24 harvesting things like sockeye, which might be the
25 target, we're also trying to factor in, and we are
26 factoring in, the incidental harvest of Coho,
27 Chinook, and other species, and are regulating
28 and, in fact, limiting the sockeye fisheries based
29 on the bycatch of other fisheries -- of other
30 species. And I think, arguably, that's part of
31 the broader -- a broader approach that would be
32 implied in an ecosystem-based approach. And I
33 might offer that as an example of, I think,
34 something the region has been practicing for some
35 time.

36 I still conclude, though, that we have a ways
37 to go. I don't otherwise want to -- we have more
38 work to do.

39 Q Would you consider the events surrounding the Coho
40 that you've been referring to, as one of the
41 points in time when there was a marked shift
42 towards ecosystem-based approach, and taking
43 account all of the various species and bycatch and
44 so forth?

45 MR. SPROUT: I think the Coho decision in 1998 was a
46 very significant decision for the Department of
47 Fisheries and Oceans, particularly for this

1 region. How to characterize that as whether it's
2 an ecosystem-based approach or an approach in
3 terms of putting conservation and weak stocks as a
4 priority, perhaps we could debate that, but it was
5 a very important event.

6 Q Can you very briefly put some flesh on what the
7 decision pertaining to Coho was? I don't know
8 that the Commissioner will necessarily have a full
9 - and we don't need a full, but a brief -
10 understanding of what it was or what it was about
11 and what the context was?

12 MR. SPROUT: Briefly, Mr. Commissioner, Coho in the
13 interior of B.C., there's a series of small Coho
14 populations, approximately 20, that spawn in the
15 interior of B.C. Those fish migrate out into the
16 ocean, mature, and then they come back and are
17 harvested in fisheries. Those fish are
18 principally harvested in -- incidentally in
19 fisheries, so they aren't the target, but they're
20 caught as a bycatch.

21 In 1998, the Department of Fisheries and
22 Oceans made the decision to reduce the
23 exploitation on this to zero, initially, and then
24 subsequently three percent, so in other words,
25 only three out of 100 Coho that came back could be
26 incidentally harvested. So there was no targeted
27 fishery; those were all eliminated. And Fisheries
28 that would be targeted at sockeye or other species
29 that might have an incidental impact, in other
30 words in the process of catching a sockeye you
31 incidentally harvested a Coho, then there would be
32 a tolerance of up to a three percent mortality on
33 those Coho. And if that tolerance was exceeded,
34 the fishery was closed. So in 1998 --

35 Q So this is a fishery other than Coho?

36 MR. SPROUT: Other than Coho. So in 1998, significant
37 areas of the bottom part of Southern B.C. were
38 closed to fisheries, or significantly curtailed,
39 in order to achieve that objective.

40 MR. TAYLOR: All right, thank you.

41 THE COMMISSIONER: Thank you, Mr. Taylor. I gather
42 that, Mr. Wallace, that ends the examination?

43 MR. WALLACE: Thank you, Mr. Commissioner. That does
44 end the examination of this panel, thank you very
45 much.

46 THE COMMISSIONER: Before we adjourn, I want to thank
47 this panel very much for their cooperation and

1 making themselves available. I particularly want
2 to thank, I think it is, Mr. Bevan, at least, and
3 Mr. Sprout, who have been here for most of the
4 week, so thank you very much for making yourselves
5 available for more than just the past two days.
6 And to counsel, again, who I repeat myself, but I
7 do appreciate your cooperation, one amongst the
8 others. On time estimates you've been very good
9 about that, and I'm very grateful to all of you
10 for your co-operation in that regard, and I wish
11 you a pleasant weekend, and we're back on deck at
12 10:00 a.m. on Monday morning; is that correct, Mr.
13 Wallace?

14 MR. WALLACE: That's correct. Pacific Salmon
15 Commission.

16 THE COMMISSIONER: Thank you all very much.

17 THE REGISTRAR: The hearing is now adjourned until
18 10:00 a.m. Monday morning.

19
20 (PROCEEDINGS ADJOURNED TO NOVEMBER 8, 2010,
21 AT 10:00 A.M.)
22
23

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25 and accurate transcript of the evidence
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27 transcribed to the best of my skill and
28 ability, and in accordance with applicable
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40 ability, and in accordance with applicable
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