

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

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

le mercredi 1 juin 2011

APPEARANCES / COMPARUTIONS

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Tim Timberg Geneva Grande-McNeill	Government of Canada ("CAN")
Boris Tyzuk, Q.C. Clifton Prowse, Q.C.	Province of British Columbia ("BCPROV")
No appearance	Pacific Salmon Commission ("PSC")
No appearance	B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("BCPSAC")
No appearance	Rio Tinto Alcan Inc. ("RTAI")
Shane Hopkins-Utter	B.C. Salmon Farmers Association ("BCSFA")
No appearance	Seafood Producers Association of B.C. ("SPABC")
No appearance	Aquaculture Coalition: Alexandra Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society ("AQUA")
Tim Leadem, Q.C.	Conservation Coalition: Coastal Alliance for Aquaculture Reform Fraser Riverkeeper Society; Georgia Strait Alliance; Raincoast Conservation Foundation; Watershed Watch Salmon Society; Mr. Otto Langer; David Suzuki Foundation ("CONSERV")
Don Rosenbloom	Area D Salmon Gillnet Association; Area B Harvest Committee (Seine) ("GILLFSC")

APPEARANCES / COMPARUTIONS, cont'd.

Phil Eidsvik	Southern Area E Gillnetters Assn. B.C. Fisheries Survival Coalition ("SGAHC")
Christopher Harvey, Q.C.	West Coast Trollers Area G Association; United Fishermen and Allied Workers' Union ("TWCTUFA")
Keith Lowes	B.C. Wildlife Federation; B.C. Federation of Drift Fishers ("WFFDF")
No appearance	Maa-nulth Treaty Society; Tsawwassen First Nation; Musqueam First Nation ("MTM")
No appearance	Western Central Coast Salish First Nations: Cowichan Tribes and Chemainus First Nation Hwlitsum First Nation and Penelakut Tribe Te'mexw Treaty Association ("WCCSFN")
Brenda Gaertner 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; Council of Haida Nation ("FNC")
No appearance	Métis Nation British Columbia ("MNBC")

APPEARANCES / COMPARUTIONS, cont'd.

No appearance	Sto:lo Tribal Council Cheam Indian Band ("STCCIB")
No appearance	Laich-kwil-tach Treaty Society Chief Harold Sewid, Aboriginal Aquaculture Association ("LJHAH")
No appearance	Musgamagw Tsawataineuk Tribal Council ("MTTC")
No appearance	Heiltsuk Tribal Council ("HTC")

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1 Vancouver, B.C./Vancouver
2 (C.-B.)
3 June 1, 2011/le 1 juin 2011
4

5 THE REGISTRAR: Order. The hearing is now resumed.
6

7 NEIL SCHUBERT, recalled.
8

9 MIKE BRADFORD, recalled.
10

11 MS. TESSARO: Good morning, Mr. Commissioner, it's
12 Lara Tessaro. I'm just going to give you a bit of
13 an overview of what the game plan is for this
14 morning. We're continuing, as you know, with the
15 evidence of Dr. Bradford and Mr. Schubert, and we
16 have a number of participants in the line-up this
17 morning. First we have Mr. Leadem for the
18 Conservation Coalition, whose estimate is 45
19 minutes. We have Don Rosenbloom for Area B and D,
20 following Mr. Leadem, whose estimate is 40
21 minutes. And then we have an order shift in
22 counsel, and we'll have Mr. Harvey on behalf of
23 Area G going third, with a time estimate of 20
24 minutes. And he is going to be followed by Mr.
25 Eidsvik for Area E and the B.C. Fisheries Survival
26 Coalition. And Mr. Harvey and Mr. Eidsvik will
27 collaborate amongst themselves to make use of the
28 time that they have together.

29 MR. LEADEM: Thank you, Mr. Commissioner. For the
30 record, Leadem, initial T., appearing as counsel
31 for the Conservation Coalition.
32

33 CROSS-EXAMINATION BY MR. LEADEM:
34

35 Q I want to begin by telling you where I'm going to
36 go with you in the time that I have. I would like
37 to go back and see what kinds of lessons we could
38 take from the process that unfolded in terms of
39 the events of 2004/2005, and the work of the
40 Cultus Sockeye Recovery Team, and to see what
41 lessons we can learn in terms of **SARA** listing
42 generally, but more specifically for the sockeye,
43 because they will, as I understand it, come up
44 again in 2014; is that right? I think it's a ten-
45 year, they have to be reviewed again in ten years.

46 MR. SCHUBERT: For the COSEWIC process.

47 Q Yes.

1 MR. SCHUBERT: I'm not sure what the period is.

2 DR. BRADFORD: I believe it is ten years, yes.

3 Q All right. And then I'd like to, if you had a
4 chance to review some of the articles that the
5 Conservation Coalition put into a binder, some of
6 the articles of Jeffrey Hutchings and the articles
7 of Arne Mooers, I'd like to review those with you
8 and to see if you have any reaction to some of the
9 suggestions they have about the disassociation of
10 science and the **SARA** process so that there's more
11 independence and transparency.

12 But I'd like to begin by examining what
13 happened back in -- with the Cultus Lake Sockeye
14 Recovery Team. And, Mr. Schubert, I found your
15 chronology, which is Exhibit 916, to be very
16 informative, and I thank you for that. And I'm
17 going to take you there, and I'm going to flesh
18 out a couple of the things that you have here in
19 point form.

20 And the first one is on page 1, under the
21 item "27-May-03". I see these words:

22
23 The RDG approved the formation of the Salmon
24 Recovery Steering Committee, beginning the
25 pre-**SARA** recovery planning processes for
26 Cultus, Sakinaw and Interior Fraser Coho.
27

28 So the RDG obviously is the Regional Director
29 General; is that correct?

30 MR. SCHUBERT: That's correct.

31 Q And it seems as though:

32
33 The steering committee was authorized to form
34 recovery teams for each of the 3 COSEWIC-
35 listed salmon species:...

36
37 So those would have been the Interior coho, the
38 Cultus Lake sockeye and the Sakinaw sockeye; is
39 that correct?

40 MR. SCHUBERT: Yes.

41 Q This committee, the Recovery Committee, was also
42 to:

43
44 ...conduct stakeholder reviews of the draft
45 strategies; and develop consultation plans
46 and peer reviews for each strategy.
47

1 So at that stage that was what the task was for
2 the Recovery Team; is that fair to say?

3 MR. SCHUBERT: Yes, that's correct.

4 Q And then as we follow through, the Recovery Team,
5 the composition of the Recovery Team was multi-
6 sectorial in the sense that you had members from
7 the commercial salmon industry, you had members
8 fro First Nations, you had members from the ENGO
9 community, you had DFO representatives, you had
10 provincial representatives, some local government
11 representations; is that fair?

12 MR. SCHUBERT: Yes.

13 Q And you were the chair of that committee.

14 MR. SCHUBERT: That's correct.

15 Q And you worked hard at that committee to pull
16 everybody together and attempt to build some
17 consensus in arriving at consensus decision-making
18 as part of the structure of that committee; is
19 that fair to say?

20 MR. SCHUBERT: Yes, certainly.

21 Q So then we, after 13 meetings, and trying to come
22 up with the objectives that you went through with
23 your counsel as well as Commission counsel, in
24 October of 2004, the DFO members of the -- of the
25 Cultus Sockeye Recovery Team, as well as the
26 Sockeye - I'm going down to "07-Oct-04" - I'm
27 going to ask you to describe the acronym there for
28 me. It says:

29
30 DFO members of the SAFM Work Group...

31
32 What is that?

33 MR. SCHUBERT: The Stock Assessment Fisheries
34 Management Work Group.

35 Q Okay. So they:

36
37 ...met to discuss the socio-economic analysis
38 and to write a review document. They
39 identified concerns related to: assumptions
40 that listing equated to complete fishery
41 closures; the failure to consider cycle-
42 specific issues; the linking of the impacts
43 from a Sakinaw listing with a Cultus listing;
44 the failure to consider benefits beyond a 4-
45 year time period; and the failure to consider
46 non-traditional fishing options.
47

1 So that basically was done in the absence of the
2 Cultus Sockeye Recovery Team; is that correct?
3 MR. SCHUBERT: Yes, it is.
4 Q All right. And at the same time I think there was
5 a preliminary, the Gislason Report was in evidence
6 at that time, correct?
7 MR. SCHUBERT: Yes.
8 Q And the members of the DFO advisory team were told
9 to keep this report confidential and not share it
10 with members of the Cultus Sockeye Recovery Team.
11 Do I have that right?
12 MR. SCHUBERT: Yes, you do.
13 Q So I'm going to stop there, and I'm going to ask
14 you that if in the interests of transparency it
15 would have been preferable that that report had
16 been shared with members of the Sockeye Recovery
17 Team right from the inception when it was
18 prepared. Do I have your agreement on that?
19 MR. SCHUBERT: Yeah, you do absolutely. Yes.
20 Q And in fact was there any other reason given by
21 DFO, by your managers for why you had to keep this
22 confidential and not share it?
23 MR. SCHUBERT: Not that I recall.
24 Q So then members of the SAFM Work Group met on
25 October the 8th, and before I go there, I want to
26 examine what I found to be a very informative
27 email from you, Dr. Bradford. And if I could have
28 Commission counsel's document Tab 7. And there's
29 an email exchange, I think that once we see it
30 here -- do you need the CAN number?
31 MR. LUNN: No, it looks like it's already been filed,
32 so I'm just pulling up the...
33 MR. LEADEM: I don't know whether this has been
34 exhibited yet.
35 MR. LUNN: I think it's 891.
36 MR. LEADEM: No, sorry. What I'm looking for is, I
37 thought, was Commission counsel's Tab 7. I might
38 have the tab number wrong. It's an email exchange
39 between Dr. Bradford and Mr. Schubert.
40 MR. LUNN: Thank you, I have it now.
41 MR. LEADEM; Okay, thank you.
42 Q So this would have been concomitant with the time
43 that the SAFM Work Group was meeting, and is this
44 a discussion that emanated from the SAFM group,
45 Dr. Bradford?
46 DR. BRADFORD: Well, it may have been just my reading
47 of the materials that Neil had provided to us, and

1 comments back to Neil and the rest of the group at
2 that time.

3 Q And it would appear that at that time you had the
4 Gislason Report in front of you; is that fair to
5 say?

6 DR. BRADFORD: Yes, plus there was a PowerPoint
7 presentation, I believe, that the Department had
8 given to the provincial government, that was based
9 on the document that's titled the "Financial
10 Analysis".

11 Q Right.

12 DR. BRADFORD: That we didn't have the Financial
13 Analysis itself, but only the PowerPoint
14 presentation.

15 Q And so your email, Dr. Bradford, back to Mr.
16 Schubert, contains some points, seven points that
17 are itemized here, and I just want to focus on two
18 of them right now because I think that they're
19 really instructive. You took the view at that
20 time in point number 1 that the:

21
22 Simplistic view of the implications of **SARA**
23 listing...

24
25 By that you meant that the information that you
26 had seen basically suggested that if a species
27 were listed under **SARA**, and if it were a
28 commercial species such as the Cultus Lake
29 sockeye, that inevitably would mean that there
30 would be no fishing; is that right?

31 DR. BRADFORD: That was the assumption that was made in
32 the materials that we had that the exploitation
33 would be less than five percent.

34 Q Right. And you took umbrage with that. You
35 suggested that that's not necessarily the case; is
36 that fair to say?

37 DR. BRADFORD: And I'm obviously not a lawyer, but as I
38 had read **SARA**, there was a provision for
39 discretion that appeared under the permitting
40 process.

41 Q Right.

42 DR. BRADFORD: And I may be incorrect in that
43 assumption, but that's how I interpret it.

44 Q I'm not going to be asking you for a legal
45 interpretation at all.

46 DR. BRADFORD: Thank you.

47 Q I think that's better left for the Federal Court

1 to deal with, as they have done on numerous
2 occasions. But at the same time I found it
3 interesting that at least from your perspective,
4 and maybe other perspectives within the Department
5 of Fisheries and Oceans, a listing under **SARA** did
6 not necessarily equate with no fishing, no
7 commercial fishing; is that fair to say?

8 DR. BRADFORD: That was how I interpreted the reading,
9 my reading of the sections of the **Act**.

10 Q Right.

11 DR. BRADFORD: For what it's worth.

12 Q And were you alone in that view, based upon your
13 discussions with other scientists and other
14 personnel within the Department of Fisheries and
15 Oceans?

16 DR. BRADFORD: I can't comment on that. I don't
17 recall.

18 Q Okay. Mr. Schubert, did you have similar views to
19 Dr. Bradford in that respect?

20 MR. SCHUBERT: Yes. Dr. Bradford's argument seemed
21 reasonable to me.

22 Q All right. And then going down to item 2, I found
23 this to be rather instructive, as well. You say,
24 Dr. Bradford, there:

25
26 Additional benefits of reduced fishing rates
27 in the short term. The analysis does not
28 account for the potential for rebuilding runs
29 that will occur if restrictions are imposed,
30 which could lead to larger catches in the
31 future.

32
33 So by that I take it - and I don't want to put
34 words in your mouth, because they're your words -
35 but I want some interpretation of this. But by
36 that, Dr. Bradford, I take it that if you're going
37 to have restrictions on fishing, that might be
38 really good on all of the commercial fishing,
39 because if you're doing weak stock management,
40 you're going to have greater escapes, and more
41 stock recruitment. Is that what you're basically
42 saying there?

43 DR. BRADFORD: That's right, and it would depend on
44 what the status of each stock was relative to its
45 sort of optimal escapement, if you like, that
46 maximize production. But, you know, we were in a
47 period of declining productivity in the Fraser

1 sockeye, and the analysis that was presented did
2 not consider the potential for greater yields down
3 the road if we have more spawners return to the
4 grounds.

5 Q Right. And that would have resulted, presumably,
6 in a greater effect to commercial fishing, because
7 they would have been able to fish more with
8 greater returns down the road.

9 DR. BRADFORD: I think -- yes.

10 MR. LEADEM: All right. Could this be marked as the
11 next exhibit in these proceedings, please.

12 THE REGISTRAR: Exhibit 932.

13

14 EXHIBIT 932: Email thread between Mike
15 Bradford and N. Schubert et al re Cultus
16 Socio-Economic Analysis, ending October 7,
17 2004

18

19 MR. LEADEM:

20 Q Now, going back now to the chronology, the next
21 event that I wanted to focus upon is the meeting
22 of the Cultus Sockeye Recovery Team in 15th of
23 November of '04. And so if I can Mr. Lunn -
24 sorry, Mr. Lunn - to pull back Exhibit 916. So
25 the second page, "15-Nov-04". There it is. So I
26 find this notation that you've written there, Mr.
27 Schubert:

28

29 The CSRT met to discuss the listing proposal.

30

31 And then:

32

33 Dr. John Davis addressed the team, and the
34 team reviewed a critique of the socio-
35 economic analysis that formed the basis of
36 the Minister's recommendation to not list the
37 population.

38

39 So the first question I have based on that, was
40 that the first time that members of the CSRT team
41 had actually had an opportunity to review the
42 socioeconomic study?

43 MR. SCHUBERT: Yes, it was something like a week prior
44 to that meeting that I was given permission to
45 provide the team with the information, which I did
46 in an announcement to the meeting, and also
47 provided a brief summary of what the Stock

1 Assessment Fisheries Management Work Group had
2 concluded.

3 Q So sometime before then, presumably you were given
4 authority to disclose the Gislason Report and all
5 the other background material to your fellow
6 members from the Cultus Sockeye Recovery Team; is
7 that right?

8 MR. SCHUBERT: That's right.

9 Q And once again was there ever any explanation from
10 any of your superiors as to why this report had to
11 be kept confidential and to that point in time?
12 Was it ever disclosed to you the purpose, was
13 there -- I'm trying to find out if there was a
14 legitimate purpose of why this report was kept
15 secret.

16 MR. SCHUBERT: No, I was never informed of that, and
17 that was one of the concerns that the work group
18 had expressed regarding the transparency of the
19 process that we were going through with the
20 biological modelling and its results versus the, I
21 guess, the cloaked, secret nature of the
22 socioeconomic analysis.

23 Q All right. And if I could ask you now to -- I'm
24 going to go to the minutes of that meeting of
25 November the 15th of 2004, and I found them
26 appended to Exhibit 918, Mr. Lunn, as "Attachment
27 #1". I think "Attachment #1" -- there it is.

28 So, Mr. Schubert, or Dr. Bradford, do you
29 recognize these as being the meeting notes from
30 the Cultus Sockeye Recovery Team?

31 MR. SCHUBERT: Yes, they are.

32 Q For that date?

33 MR. SCHUBERT: Yes, they are.

34 Q And I take it that the Recovery Team had a process
35 for keeping minutes of what was discussed and then
36 approving the minutes at subsequent meetings; is
37 that fair to say?

38 MR. SCHUBERT: The process was that I as chair kept the
39 minutes and sent them out in draft form, and if
40 there were no comments, they became the final
41 minutes.

42 Q Now, part of the discussion at that meeting was
43 what was entitled at that time a "Legal Listing
44 Presentation", and if you can look to page 2 of
45 the meeting notes, about halfway down there's a
46 heading, "Legal Listing Presentation", and refers
47 to a presentation by Dr. John Davis. And I want

1 to just focus on the last comment on that page:
2

3 *Consideration of Recovery Team advice:* Some
4 members expressed disappointment that the
5 Team wasn't provided an opportunity to
6 comment on the socio-economic evaluation of
7 the impact of legally listing the population.
8

9 It goes on to say that:
10

11 Dr. Davis assured us that the review
12 completed by Departmental members of the
13 Stock Assessment and Fisheries Management
14 Work would be considered by the ADM
15 Committee.
16

17 Then it goes on to say:
18

19 Opinions were expressed that Cultus was
20 trivialized in the press (the contention that
21 it represents less than 1% of sockeye greatly
22 understates its importance to biodiversity)
23 and that the Work Group views were
24 trivialized in the *Question and Answer*
25 package that accompanied the release of the
26 proposed decision.
27

28 So I take it that there were some members
29 certainly who expressed this disappointment at
30 being left out in the cold and not having access
31 to this information until the 15th of November,
32 correct?

33 MR. SCHUBERT: Yes.

34 Q And by that time the Minister of the Environment,
35 the Honourable Stéphane Dion had announced his
36 recommendations to Cabinet, namely that he was
37 going to recommend that the Cultus Lake sockeye
38 not be designated and listed; is that correct?

39 MR. SCHUBERT: I believe so, yes.

40 Q So this was after that period of time.

41 MR. SCHUBERT: Yes.

42 Q So in hindsight, then, if we want to approve a
43 process, it would be preferable that if you're
44 going to have a recovery team that is actually
45 composed of all of these different stakeholders,
46 that they have all the information available to
47 that, that they have an opportunity to comment on

1 the information, and that they also have an
2 opportunity to provide advice, even in a summary
3 fashion to the Minister before the decision is
4 made. Would you agree with all those suggestions?

5 MR. SCHUBERT: I believe the view of the team and the
6 work group was that the chronological order in
7 this process was flawed, that the need for a
8 socioeconomic analysis to be provided to the
9 Minister at that point in time prior to a listing
10 decision was not the correct point, because a
11 socioeconomic analysis needs to be informed by a
12 Recovery Plan that develops various options for
13 recovery, and that occurs in the **SARA** process, at
14 least, not at the Recovery Team, but at the
15 Recovery Implementation Group when the plan is
16 developed. So any socioeconomic analysis at this
17 point I don't think would be fully informed by all
18 the ranges and options available for recovery.

19 Q Right. You need time to discuss it more fully; is
20 that fair?

21 MR. SCHUBERT: It has to occur at a later point in the
22 process where the options have been evaluated in
23 detail and evaluated by a multi-stakeholder
24 process.

25 Q And then going down to the next page in the
26 minutes of that same meeting, under the heading
27 "*Habitat protection*", I just want to focus on this
28 issue:

29
30 Concerns were expressed that the tools we now
31 have are not up to the task of protecting and
32 recovering the population. The **Fisheries Act**
33 is not a good tool to protect habitat,
34 including critical habitat, because it first
35 has to be destroyed before action can be
36 taken.

37
38 Those were views of some of the team members
39 expressed at that meeting?

40 MR. SCHUBERT: That's correct.

41 Q And I just want to focus upon that discrepancy
42 between **SARA** and the **Fisheries Act**, and I'm not
43 going to go there in any legal sense, because
44 there's been some court cases which have also
45 focused upon the **Fisheries Act**, and are you
46 familiar, for example, with the recent "Orca"
47 decision?

1 MR. SCHUBERT: No, not in any detail at all.

2 Q All right. But it's essentially the **Fisheries Act**
3 being not a good tool to protect habitat including
4 critical habitat. As I understand it, and I don't
5 -- I'm not going to quote you chapter and verse
6 from the **Fisheries Act**, but there is a distinction
7 between critical habitat and the HADD provisions
8 in the **Fisheries Act** under s. 35. Are you
9 familiar with that?

10 MR. SCHUBERT: No, I'm not.

11 Q All right. I'll just leave it, then.

12 Then finally under the heading "Discussion of
13 Legal Listing Proposal" at the bottom of the page
14 I find these words:

15
16 After considerable discussion, a consensus
17 decision was reached that the Team should
18 provide a formal written response to the
19 proposed decision. The response would: a)
20 summarize the process flaws; b) identify
21 concerns with biological modelling (is it
22 consistent with recovery objectives and the
23 Team's knowledge as species experts); and c)
24 recommend re-evaluation of the biological
25 impacts and process improvements.

26
27 So obviously if you reached consensus, then all of
28 the members who attended were united on that front
29 at the end of the day.

30 MR. SCHUBERT: That's correct.

31 Q Is that fair to say?

32 MR. SCHUBERT: That's correct, yes.

33 Q And the second bullet down, right at the very
34 bottom of the page:

35
36 • The advice that went into the analysis did
37 not reflect the appropriate expertise. The
38 experts who should have been consulted were
39 not, including the Team.

40
41 So in addition to the team not being consulted,
42 were there other experts that ought to have been
43 consulted before that decision was made by the
44 Minister?

45 MR. SCHUBERT: That's clearly the implication of what
46 some of the team felt. I'm sure there are other
47 experts in biological modelling, for example, at

1 the Pacific Biological Station that could have
2 contributed.

3 Q So I sense there was a lot of frustration, then,
4 at the end of the day with this process. Here we
5 have a team, the Cultus Sockeye Recovery Team,
6 that's spent a lot of time and a lot of effort,
7 many meetings, to try to arrive at a process and
8 to arrive at a place where they can provide cogent
9 advice, and provide advice in a meaningful way,
10 and then they're left outside looking in. Is that
11 fair to say?

12 MR. SCHUBERT: Yeah, that's a fair statement.

13 Q So if we're to learn from that process, obviously
14 then you would have to have a more transparent
15 process, it would have to involve decision-makers
16 being informed through that process at various
17 stages, is that fair to say, as well, if you want
18 to improve upon this particular happenstance?

19 MR. SCHUBERT: Certainly.

20 Q Now, as it happened, that was the very last
21 meeting of the Cultus Sockeye Recovery Team, was
22 it not?

23 MR. SCHUBERT: That was the last in-person meeting. We
24 subsequently met twice by conference call to
25 prepare the --

26 Q Yes.

27 MR. SCHUBERT: -- letter to the Regional Director
28 General.

29 Q And then it was later disbanded, as I understand
30 it, in April of 2005; is that right?

31 MR. SCHUBERT: The letter was dated January 25th, I
32 believe, but I don't believe we received it until
33 April.

34 Q Right. And so just so that we have it clear when
35 you say the "letter", could we have Exhibit 919
36 very quickly, please, Mr. Lunn.

37 This was a letter which appears to be date-
38 stamped at the top "JAN 25 2005", addressed to
39 you, and it appears in the first paragraph, the
40 author of this, who is Don Radford, the Acting
41 Regional Director of Fisheries Management at the
42 time, writes to you and says:

43
44 I am writing in response to your letter of
45 November 19, 2004 sent on behalf of the
46 Cultus Sockeye Recovery Team (CSRT) and to
47 concerns the team raised at a meeting with

1 Dr. John Davis on November 15, 2004. I
2 apologize for the delay in my response.

3
4 So that's the letter that you actually did not
5 receive until sometime in April of 2005; is that
6 right?

7 MR. SCHUBERT: That's right.

8 Q And certainly one of the recommendations you would
9 make would be that if you're going to have
10 correspondence and communication, it should be
11 timely and not held up?

12 MR. SCHUBERT: Well, certainly it should be timely.
13 But also I think it's not really appropriate to be
14 discussing these type of issues by letter. I
15 think personal meetings would certainly facilitate
16 the process.

17 Q Right. And it would have been helpful had Mr.
18 Radford or the RDG actually taken the time to meet
19 with the members of the Cultus Sockeye Recovery
20 Team and to explain what had happened and had gone
21 on. That would have been a fair process, would it
22 not?

23 MR. SCHUBERT: Yes, it would.

24 Q Now, I want to -- I don't have much time left with
25 you, and I want to change topics, and I want to
26 actually see if I can get your views on some of
27 the material that I submitted to Dr. Davis
28 yesterday, or the day before yesterday, some of
29 the papers that were presented by me and are now
30 exhibited in evidence.

31 And I want to start by examining Exhibit 904.
32 This is a paper entitled "Science, Policy, and
33 Species at Risk in Canada". I'm just going to
34 focus on the abstract. Have either of you
35 gentlemen had the opportunity to review this or
36 are aware of this paper and publication before?

37 DR. BRADFORD: I have, yes.

38 Q Okay, thank you, Doctor. And I think I'll
39 primarily be asking questions of you, then, Dr.
40 Bradford. If I can just get the abstract
41 highlighted, it says here:

42
43 The meaningful incorporation of independent
44 scientific advice into effective public
45 policy is a hurdle for any conservation
46 legislation.

47

1 It goes on to say:
2

3 Canada's **Species at Risk Act (SARA; 2002)** was
4 designed to separate the science-based
5 determination of a species' risk status from
6 the decision to award it legal protection.
7 However, thereafter, the input of independent
8 science into policy has not been clearly
9 identifiable.

10
11 And I'm going to just stop there. We could go
12 through it chapter and verse. Has it been your
13 experience that that in fact is the case that
14 there seems to be a disassociation between the
15 scientific advice and the actual governmental
16 decision that comes about as a result of whether
17 to list or not?

18 DR. BRADFORD: I'm not sure I would say that. I think
19 the important thing is that scientists provide the
20 information, the so-called science, and as a form
21 of advice, and in a sense there's many other
22 factors that go into making these difficult
23 decisions. And science doesn't inform those
24 facts, those components of that decision. And so
25 when we're speaking of science here, of course,
26 we're speaking of natural science and biological
27 sciences. And you know that the scientific input
28 comes initially through the COSEWIC process. Now
29 there are, of course, social science and economic
30 sciences that inputs that need to be provided in a
31 transparent manner, as well, and as we've just
32 discussed, in this case there was some
33 deficiencies in that side of the equation.

34 Q So would you suggest, for example, that if you're
35 going to have a socioeconomic study that is going
36 to be presented as part of the deliberations into
37 whether or not a species get listed under **SARA**,
38 such as the Cultus sockeye, that that economic
39 study, or that it should be peer-reviewed. I
40 mean, you should have an opportunity for it to be
41 vetted by someone other than government
42 bureaucrats; is that fair to say?

43 DR. BRADFORD: I would think so, and although of course
44 we've heard about the timelines and the ticking
45 clock and whatnot, that make all these kinds of
46 things difficult.

47 Q Yes. But if we could just, you know, not be -- I

1 wish I were in this position of not having to
2 worry about the clock, but if we could just not
3 concern ourselves so much with the clock, but take
4 a look at a process that's fair and transparent
5 and results in something meaningful, you would
6 agree with me that the input, even the scientific
7 input from socioeconomic studies, and so forth,
8 ought to be peer-reviewed?

9 DR. BRADFORD: Yeah, it's no different than natural
10 sciences, the social sciences in that matter.

11 Q Right. And so if I can just ask you to take a
12 look at the second page, or the third page, I
13 think, there's a diagram that I put to Dr. Davis,
14 so I'm looking for that again. I don't know
15 whether you've had a chance to take a look at this
16 diagram, Dr. Bradford, or are in any position to
17 comment on it. Have you examined this before?

18 DR. BRADFORD: I got to the same point Dr. Davis was
19 in, being a little bit confused by it, and now I
20 especially...

21 Q Now in the harsh light of examination. Well,
22 perhaps what I can do, you know, given your
23 discomfiture, I won't press you on that, and I'll
24 leave that perhaps for argument at the end of the
25 day, Mr. Commissioner.

26 I think I want to come back, though, to the
27 general point I'm attempting to make, and it's
28 this, and then I can see if I can get both of you
29 gentlemen to agree with me: that if you're going
30 to have a process where you invite members of the
31 public, particularly to engage in that process,
32 whether through a recovery team or through
33 consultations, that it's really important that
34 that process be fair and open and transparent, and
35 that otherwise you're going to, as a government,
36 or as a decision-maker, you're going to be open to
37 criticism after the fact; is that fair?

38 MR. SCHUBERT: Yes, I find that a fair comment.

39 Q And, Dr. Bradford?

40 DR. BRADFORD: I would agree with that.

41 MR. LEADEM: All right, thank you. Those are my
42 questions.

43 MR. ROSENBLOOM: Thank you very much. My name is Don
44 Rosenbloom and I appear on behalf of Area D
45 Gillnet, Area B Seiner.
46
47

1 CROSS-EXAMINATION BY MR. ROSENBLOOM:

2
3 Q I want to elicit your perspective of the
4 importance of this Cultus Lake case study. We
5 have spent a great deal of time in this
6 Commission, and particularly the last few days,
7 focused on Cultus Lake. And would you agree with
8 me that the importance of this Commission studying
9 the Cultus Lake experience is partly because this
10 case study is a precursor for how DFO may well be
11 handling habitat and stock abundance issues in
12 other threatened CUs, and we spoke of seven of
13 them yesterday. Do you agree with me about that?

14 MR. SCHUBERT: I'm not convinced that this is a model
15 that's going to be followed for subsequent red
16 zone species. This is the first time that the
17 Department had dealt with the **SARA** issue and
18 responding through a **SARA** process, and it's
19 probably a much more in-depth and detailed
20 approach than is likely to occur with subsequent
21 listings or red zone situations.

22 Q Right. And not necessarily that this will be a
23 model, but rather there are a lot of lessons that
24 hopefully can be learned from this experience in
25 prognosticating in respect to how things may be
26 handled in the future in terms of threatened CUs.

27 MR. SCHUBERT: I agree that there are a number of
28 lessons that should be learned from this process
29 that would be applicable to Wild Salmon Policy
30 implementation.

31 Q All right. And would you further agree with me
32 that if there was ever a CU within the watershed
33 that is suitable, or, more to the point, that was
34 amenable to a DFO intervention in respect to
35 threatened specie, it would be Cultus Lake. And
36 let me go over the list of why I'm going to
37 suggest to you that it's as ideal as we will ever
38 likely get.

39 Firstly, that it is the longest and most
40 comprehensively studied in terms of sockeye for
41 probably all of British Columbia, and I think one
42 of you have already said that, haven't you?

43 MR. SCHUBERT: That's correct.

44 Q And that obviously is at least a favourable factor
45 in terms of handling specie at risk issues?

46 MR. SCHUBERT: Yes.

47 Q Obviously. Secondly, you'd agree with me that the

1 Cultus Lake area is a relatively confined area for
2 study?

3 MR. SCHUBERT: Yes, it's a relatively small lake.

4 Q Yes. And incidentally, Dr. Bradford, at any point
5 if you want to jump in, feel free to do so.

6 Thirdly, Cultus Lake is a water system where
7 there had been a lot of identified potential
8 threats, more so than, for example, these other
9 seven CUs or six CUs that we've been talking about
10 generally.

11 MR. SCHUBERT: Well, certainly it's a very developed
12 area with a lot of recreational use.

13 Q Accepting these facts, would you agree with me
14 that if we can't pull off a suitable outcome out
15 of the Cultus Lake situation, that it doesn't bode
16 well for us in terms of the implementation of WSP
17 in respect to other CUs where we've hit the red
18 zone?

19 MR. SCHUBERT: I'm not certain you can draw that
20 conclusion. Certainly most of the CUs are data-
21 poor. Whether or not that's going to affect our
22 ability to protect them and recover them, I think
23 is in question.

24 Q But don't we have everything going for us in
25 respect to Cultus Lake as opposed to these other
26 threatened areas, seven CUs?

27 MR. SCHUBERT: I think with Cultus there is a lot less
28 uncertainty as to causes of decline and methods to
29 recovery, because we had sufficient data that we
30 could, if there were questions raised, there were
31 in many cases ways to analyze the data to come to
32 the conclusion regarding whether an issue raised
33 was a true issue or just nothing to worry about.

34 Q Mr. Schubert, what I'm really suggesting to you is
35 we have less excuses in terms of being
36 unsuccessful at Cultus Lake than we might in other
37 regions of the watershed. Do you not agree?

38 MR. SCHUBERT: Sure.

39 Q You do agree. Now, accepting those facts, I want
40 to discuss the track record. What has in fact
41 been accomplished? Cultus Lake, as we have
42 learned in this Commission from day one has been
43 on the radar screen of DFO long before COSEWIC,
44 and has been studied back into the '30s, with Dr.
45 Ricker and others; do you agree?

46 MR. SCHUBERT: Yes.

47 Q Yes. And so this is not a Johnny-come-lately

- 1 situation for DFO. In fact, it has been a focus
2 of DFO for, what, approximately 80 years or
3 longer.
- 4 MR. SCHUBERT: Yeah, probably over 90.
- 5 Q Yes. Now, would you agree with me in reviewing
6 the track record, and I want to go through it
7 step-by-step. Firstly, you, as you have testified
8 yesterday - at least one of you did - there's
9 never been a prioritization of any CUs within the
10 watershed in terms of habitat and stock abundance
11 issues; is that not correct? Did I understand
12 that from you?
- 13 MR. SCHUBERT: The identification of priority CUS.
- 14 Q Yes.
- 15 MR. SCHUBERT: As far as I know, there are none
16 identified today.
- 17 Q Yes. Can you explain to me why that could
18 conceivably be the situation, when in fact, for
19 example, with the Cultus Lake CU it has been a
20 matter of concern and on the radar of DFO for 80
21 or 90 years?
- 22 MR. SCHUBERT: I can't personally explain that, no.
- 23 Q Can you explain to me why you can't explain that?
24 Forgive me, and I'm not being critical of you,
25 believe me, Mr. Schubert, but how could DFO
26 possibly get to this point in time with an issue
27 that's obviously a crisis issue, if COSEWIC felt
28 it to be, and yet the Department fails to ever
29 state it as a priority issue?
- 30 MR. SCHUBERT: The implementation of the Wild Salmon
31 Policy is a broad and complicated process, and the
32 Department has been proceeding step by step
33 through the process. My assumption is that that
34 issue will be addressed when it comes up on the
35 order paper, so to speak.
- 36 Q When you say "will be addressed" but we are
37 looking here at a situation where COSEWIC makes
38 its listing back in 2005, what, six, six-and-a-
39 half years ago, why during those six years has the
40 Department not taken the action that one would
41 have anticipated in terms of the priority listing?
- 42 MR. SCHUBERT: You would have to address your question
43 to people other than myself. I don't know.
- 44 Q And can you guide me as to who that question
45 should be put to, other than the Regional
46 Director?
- 47 MR. SCHUBERT: That would be a start.

1 Q Pardon me?

2 MR. SCHUBERT: That would be a start, the Regional
3 Director.

4 Q Yes. Carrying on with what I'll call the track
5 record up to this point in time, with this
6 particular CU or the Cultus Lake area, would you
7 agree with me, and I think you've already
8 testified to this, there has never been a Habitat
9 Status Report carried out by DFO in respect to
10 Cultus Lake, and I believe the witness Stalberg
11 testified to this in the early days of this
12 inquiry, and I believe one of you said this a day
13 or two ago; is that correct?

14 MR. SCHUBERT: There's never been a Habitat Status
15 Report under the Wild Salmon Policy. It's my
16 understanding that there are only three or four
17 have been completed so far in the region as a
18 whole.

19 Q Now, for the life of me, can you explain why DFO
20 has not done a Habitat Status Report in respect to
21 a region, where for 90 years DFO has been focused
22 with concern about the abundance of that stock.

23 MR. SCHUBERT: I haven't been privy to the discussions
24 of how OHEB has prioritized its approach to
25 developing Habitat Status Reports. I would think
26 that Cultus would be a relatively simple one,
27 because, as we said, it is quite a constrained
28 geographic area and probably could be completed
29 relatively easily.

30 Q Yes. Well, Mr. Schubert, forgive me, and again I
31 don't wish my questions in any way to be critical
32 of your role in this, but surely you or others who
33 have been working within Cultus Lake, have you not
34 been asking senior people why a Habitat Status
35 Report has never been conducted in respect to this
36 water system?

37 MR. SCHUBERT: No, we haven't. As a team, we focused
38 on what we feel our role is, and I've certainly
39 had it in the back of my mind to start approaching
40 the implementation of Wild Salmon Policy, Strategy
41 2, but the effect of looking at potential
42 indicators and benchmarks, which I believe we have
43 enough information that we could probably
44 effectively implement that sort of system for
45 Cultus now. But the team has a limited capacity,
46 and we currently don't have a habitat
47 representative on the team, so that has been a

1 slow process to get moving.

2 Q And I believe you testified yesterday, and please
3 correct me if I in any way misstate your evidence,
4 that financial resources may have had something to
5 -- that played into the fact that a Habitat Status
6 Report was never done? Did I have your evidence
7 correctly?

8 MR. SCHUBERT: Well, certainly I know OHEB has a
9 limited budget to complete status reports. The
10 team doesn't have any budget at all, so the
11 completion of a status report by ourselves would
12 be quite problematic.

13 Q Wouldn't it be in the public interest that indeed
14 a Habitat Status Report have been prepared for
15 purposes in part of ministerial consideration when
16 deciding on **SARA**?

17 MR. SCHUBERT: I think a Habitat Status Report would be
18 a useful process in general. Certainly there have
19 been criticisms that perhaps habitat has played a
20 greater role in the decline of the population, for
21 example, that might have facilitated the rebuttal
22 of that sort of contention.

23 Q And when having to weigh a lot of critical issues
24 in terms of exploitation rate of catch with other
25 issues, surely part of that consideration is to
26 what extent there are habitat issues, and to what
27 extent remedial steps can be taken concerning
28 those habitat issues that might enhance the health
29 of that stock.

30 MR. SCHUBERT: First of all, you shouldn't feel that
31 because there's no Habitat Status Report that
32 we've ignored habitat. The Recovery Team and
33 subsequent ad hoc efforts and the Conservation
34 Team now have done a lot of investigations into
35 habitat that Dr. Bradford could probably summarize
36 better than I.

37 Q Yes.

38 MR. SCHUBERT: But certainly we found -- our findings
39 to date have been consistent with our initial
40 assumption that habitat did not play any
41 significant role in the collapse of the
42 population.

43 Q I'll come back to that in a moment. So in talking
44 in terms of the track record, subsequent to, for
45 example, 2005, we talked about the priority status
46 or lack thereof of this water system. We talked
47 about Habitat Status Report. In terms of predator

1 removal, you do agree that a substantial funding
2 of that program was paid for by the commercial
3 side, or by industry?
4 MR. SCHUBERT: I believe Dr. Bradford testified
5 yesterday that the initial three years were funded
6 through the Southern Endowment Fund of the PSC and
7 the funding was provided to either the SFAB or
8 Area E gillnetters, I'm not sure which were the
9 actual recipients. Following the loss of that
10 funding, I believe the SFAB funded the project
11 themselves.
12 Q In terms of the last four or five years, you would
13 agree with me the majority of the monies allocated
14 or expended for this program came out of industry?
15 MR. SCHUBERT: Yeah, either through the grants that
16 they received or through their own funds,
17 certainly.
18 Q Yes. I believe you testified yesterday this
19 program has been successful?
20 MR. SCHUBERT: That would be Dr. Bradford.
21 Q Dr. Bradford?
22 DR. BRADFORD: Yes. From our analysis of the
23 production of smolts, it would appear that there's
24 been an increase in survival as a consequence to
25 the predator control.
26 Q So we should be comforted to hear that such a
27 remedial step of predator removal is in fact
28 enhancing the viability of that stock. Do I read
29 that from your testimony?
30 DR. BRADFORD: We should be comforted, is that...?
31 Q Yeah, comforted in the sense that we have found an
32 initiative which is in fact effectively dealing in
33 part with the health of that stock.
34 DR. BRADFORD: In part, yes.
35 Q In part. And are you testifying that that
36 predator removal program has carried on in a
37 robust way since, for example, 2009, 2010, into
38 this year?
39 DR. BRADFORD: Yes, in fact we -- the decision was made
40 to change the type of fishing equipment being used
41 because they're having difficulty catching
42 pikeminnow, and so they've innovated, I suppose,
43 developed some new fishing techniques to continue
44 to remove pikeminnow, but I think we're at the
45 stage where they're getting harder to catch
46 because of the success of the removals.
47 Q So you're saying that the pikeminnow eradication

1 program is being carried on as effectively as one
2 should expect at this point in time?

3 DR. BRADFORD: Yes, that's fair.

4 Q Carrying on what I call the track record, milfoil.
5 You testified yesterday that in respect to
6 milfoil, I believe you have abandoned that
7 particular remedial intervention; is that fair to
8 say?

9 DR. BRADFORD: Yes.

10 Q And I take it from your testimony you indicated
11 that it was not an effective initiative?

12 DR. BRADFORD: There are two things. One of them is we
13 have not established that there's a link between
14 salmon survival and milfoil presence in the lake,
15 and part of that was the finding that the sockeye
16 spawning is much deeper than where milfoil occurs,
17 and so where it's not -- it's not a situation
18 where milfoil is choking out the spawning beds, as
19 some might have previously thought.

20 Q Do you know -- I'm sorry, go ahead.

21 DR. BRADFORD: So we're not sure about whether or not
22 salmon are being affected by milfoil. And
23 secondly, no one has found an effective measure to
24 get rid of milfoil completely. And there are some
25 other options out there, including the use of
26 herbicides, which I don't think would be
27 particularly palatable in Cultus Lake.

28 Q Milfoil is often considered a detriment to the
29 health of sockeye salmon, is it not? Generally,
30 not necessarily -- no?

31 DR. BRADFORD: No. I think there's concerns in places
32 where there is milfoil growing on beach spawning
33 beds, such as occurs I believe in some locations
34 in Shuswap Lake, but with the size of the salmon
35 population now in Cultus Lake and the depths at
36 which they spawn, they do not appear to be limited
37 by the presence of milfoil.

38 Q So you're saying if DFO was more financially
39 endowed, you don't -- you would not be
40 recommending that there be a new milfoil
41 eradication program at Cultus Lake; is that your
42 testimony?

43 DR. BRADFORD: Not for the purposes of enhancing the
44 sockeye.

45 Q Yes. Then carrying on with the track record,
46 recreational activity, human-induced threats to
47 the stock. I'm going to suggest to you that very,

1 very little has been done in terms of restricting
2 recreational activity on the lake in terms of
3 obviously boating, in terms of beach use, and all
4 the other concomitants that go with recreational
5 activity. Mr. Schubert, would you agree that very
6 little, if anything has been done in terms of
7 restricting or trying to minimize or mitigate that
8 area of activity?

9 MR. SCHUBERT: One of the potential impacts of, as you
10 mentioned, boating, was the possibility that
11 contaminants would enter the lake. That's
12 something the team was concerned about and we
13 commissioned a contaminant study that Dr.
14 Bradford, I believe, summarized yesterday.

15 In terms of directly restricting people from
16 going to the lake? No, that's something that has
17 not occurred.

18 Q Can you give examples of where you have actually
19 acted upon your concerns on the recreational side,
20 if you -- if there are any examples?

21 MR. SCHUBERT: I don't think we've identified concerns
22 on the recreational side.

23 Q And if there had been a Habitat Status Report,
24 might that have assisted you in analyzing whether
25 indeed there might be issues there?

26 MR. SCHUBERT: Actually, I have never seen a Habitat
27 Status Report, so I'm not sure what sort of
28 information is contained in it and how it could
29 inform the team.

30 Q I see. Dr. Bradford, yesterday, you were asked by
31 one of my colleagues whether the recovery
32 strategies are working since the ministerial
33 decision not to list. But I don't think Mr.
34 Schubert was in fact asked that question.

35 Mr. Shubert, if we can go up to 30,000 feet
36 elevation, you've spoken about the history of the
37 COSEWIC listing, you've spoken of the ministerial
38 decision that was made. At the point where the
39 Minister made that decision not to list **SARA**, you
40 presumably had expectations of how the recovery
41 strategies would be implemented to obviously
42 protect the stock; fair to say?

43 MR. SCHUBERT: Yes.

44 Q Yes. And so I want to pose to you the same
45 question that was asked to Dr. Bradford yesterday:
46 are you satisfied with the recovery -- that the
47 recovery strategies have been working at Cultus

1 Lake since 2005 to the present?

2 MR. SCHUBERT: In terms of the listing decision, I have
3 had some thoughts on what would have changed had
4 they been listed, versus not being listed.

5 Q I'm sorry, I didn't hear you. Had they been...?

6 MR. SCHUBERT: Had the population been listed versus
7 not being listed, as actually occurred, and I
8 think in terms of recovery actions there would be
9 very little difference under a listing decision
10 versus what has occurred in the last five or six
11 years. We have retained full funding for the --
12 by and large for our recovery activities, so the
13 actual on-the-ground work that has been done, I
14 don't think was inhibited.

15 There might have been some changes in
16 exploitation rate as we noted yesterday. The team
17 felt that harvest was possible through recovery,
18 provided we could maintain the minimum population
19 size and have generation over generation growth.
20 So whether exploitation rates would have been
21 exactly the same as the last five years, or would
22 have been somewhat over, I don't think there would
23 have been a huge difference there.

24 What I think the decision not to list, its
25 greatest impact was its effect, it removed what
26 was in effect a process in terms of having experts
27 together and forwarding an agenda to recover the
28 population. The fact that the team was not
29 replaced for, what was it, four years, I think had
30 inhibited the work that should have been going on,
31 the continuous progress being made on the
32 evaluation of recovery, setting targets,
33 developing timeframes for recovery, engaging
34 stakeholders in the process, that sort of thing.

35 Q Yes. Your response is edifying to us, but it
36 wasn't quite answering the question that I'm
37 asking. I'm not so much asking as for an analysis
38 of where we would have been today under **SARA** as
39 opposed to where we are today with a non-**SARA**
40 listing. My question is once the Minister made
41 his decision, you were pivotal to the strategies
42 to set up the recovery program. My question is
43 you had anticipations or expectations, I should
44 say, in 2005 about how things would unfold from
45 2005 to the present. The question is are the
46 recovery strategies that you imagined in 2005 been
47 working? In other words, do you -- to do an

1 inventory of what were your expectations 2005, do
2 you believe that DFO has been successful with
3 those strategies up to this point in time?

4 MR. SCHUBERT: I'm not certain what you mean by
5 strategies.

6 Q Well, strategies meaning the various initiatives
7 from predator removal, milfoil, recreational
8 issues, all of the components that make up the
9 possible threats to the stock.

10 MR. SCHUBERT: Yes, I think we have been successful in
11 implementing those recovery actions.

12 Q You mentioned in your response to my last question
13 about funding, as I understand the testimony, the
14 **SARA** monies, what I'll call the **SARA** monies, were
15 cut off in 2009; is that correct?

16 MR. SCHUBERT: Yes, that is.

17 Q And do I also understand that from 2009 till now
18 you have been dependent upon what I'll call
19 departmental funding?

20 MR. SCHUBERT: That's correct, regional funding.

21 Q And might that not give us some concern in that we
22 have heard testimony throughout this inquiry of
23 how financially challenged DFO has been over the
24 last few years with Treasury Board cutbacks to
25 your Department's financing? Are you comfortable
26 as you sit here today that the programs we're
27 talking about here are now dependent upon the
28 Department's finances?

29 MR. SCHUBERT: I think the most secure funding, you're
30 correct, is a dedicated pot such as what came from
31 SARACEP. Because now we're relying on several
32 individual sectors prioritizing Cultus high on
33 their funding allocation decisions. There is, I
34 think, a greater possibility that we could begin
35 losing capacity, but that all depends on how each
36 sector views the Cultus issue in terms of their
37 overall priorities.

38 Q You know how tight money is with the Department, I
39 assume, being with the Department for many years?

40 MR. SCHUBERT: Yes, it's getting tighter and tighter.

41 Q And that must give you a lot of unease when it
42 comes to what has to be done out at Cultus Lake?

43 MR. SCHUBERT: One advantage I think right now is that
44 we're starting to scale back our enhancement
45 program, and that was by far the largest budget
46 allocation item, up around \$200,000. So by
47 dropping the captive breeding, it's, I think,

1 relieved some of the pressure. I suspect
2 supplementation can continue without too much
3 threat.

4 The other side, our assessment projects, the
5 adult fence and the smolt fence, because stock
6 assessment continues to get fairly dramatic
7 funding cuts. Yes, it's always a concern that one
8 of those two pieces might be lost.

9 Q But you do have an unease for the future, don't
10 you.

11 MR. SCHUBERT: Certainly.

12 MR. ROSENBLOOM: I have no further questions, thank
13 you.

14 MR. HARVEY: It's Chris Harvey, representing the Area G
15 Trollers and the United Fishermen and Allied
16 Workers' Union.

17

18 CROSS-EXAMINATION BY MR. HARVEY:

19

20 Q Gentlemen, I mostly won't be directing my question
21 to either of you specifically, so please answer it
22 according to who is best equipped to answer it.
23 My general approach is that I'm going to suggest
24 that you're not actually giving yourself enough
25 credit for your Cultus recovery efforts and what
26 has been learned from all the research that's been
27 done. That the facts, as I understand them, are
28 that in 2010 about 10,000 spawning adults returned
29 to the Cultus; is that right?

30 DR. BRADFORD: Yes, that's correct.

31 Q And in terms of your objective of a 1,000 return
32 average over four years, that's pretty good, would
33 you not say?

34 DR. BRADFORD: Well, the objective was to have an
35 average of 1,000 fish over four years with no
36 single year less than 500.

37 Q Yes.

38 DR. BRADFORD: And in the past four years we had two
39 years less than 500, but the average has now
40 exceeded 1,000 fish, so we're part way there.

41 Q Yes.

42 DR. BRADFORD: And I should say that that is one of the
43 interim objectives, a goalpost, if you like.

44 Q And Objective 2 was growth, and I think you've
45 said you've now seeing some growth.

46 DR. BRADFORD: Yes.

47 Q So if this were a **SARA**-listed stock, you'd now be

1 working towards Objective 3, namely delisting and
2 elimination of threats, correct?

3 DR. BRADFORD: That's true, and I think it's also where
4 we'd be heading under Wild Salmon Policy.

5 Q Yes, all right. And in terms of the knowledge of
6 fish dynamics that has been accumulated, you said
7 a number of times this lake has been studied since
8 the 1930s more intensively than any other Fraser
9 sockeye stock. So that would seem to be a pretty
10 good record.

11 I want to ask you now about three different
12 programs, just to be sure that we've got the right
13 understanding of them, two enhancement programs
14 and one predator removal. First the captive brood
15 stock program, that involved fish being kept in
16 freshwater for their whole lifecycle; is that
17 correct?

18 DR. BRADFORD: Fish being kept in captivity to
19 maturity, yes.

20 Q Yes. To maturity. For their whole lifecycle, of
21 course.

22 DR. BRADFORD: That's correct, yes.

23 Q And that's -- and the basic purpose of that was it
24 formed a kind of a living gene bank to be used in
25 case the stock collapsed?

26 DR. BRADFORD: Yes, it was initiated at the time when
27 there were these large disease outbreaks in the
28 wild population.

29 Q Yes. And that's now being discontinued and one of
30 the reasons is it's been viewed as being no longer
31 necessary; is that correct?

32 DR. BRADFORD: It's been over a decade since we saw
33 that type of disease outbreak.

34 Q Yes.

35 DR. BRADFORD: And as I mentioned, there were risks
36 associated with the program that we acknowledged
37 from the beginning, and so it was never intended
38 to go as long as it has even now.

39 Q Yes, all right.

40 MR. SCHUBERT: The captive breeding program was
41 intended to very quickly move the population away
42 from the extremely low levels of abundance where
43 extinction was probable, and we've had it in place
44 for eight years now, we're starting to see major
45 returns to the spawning grounds as a result of the
46 captive breeding program. So we have achieved
47 that objective, and that's why we decided to drop

1 it.

2 Q All right, thank you. The second program,
3 supplementary release program, do I understand
4 that to be a program where returning wild spawners
5 are taken into the hatchery for spawning and then
6 the fry are released into the lake, and in some
7 cases the smolts are -- they're released as
8 smolts, but it's been found that fry release works
9 better; is that correct?

10 DR. BRADFORD: That's correct. The captive breeding
11 program only requires a few eggs from each female
12 that's taken, and so the remainder can be used for
13 supplementation.

14 Q Yes. And in terms of the quantity of the fry
15 released through that program, the quantity has
16 been equivalent to what would be produced by about
17 10,000 adult sockeye spawners; is that correct?

18 DR. BRADFORD: The quantity of fry released?

19 Q I'm talking about wild spawners. In this, the fry
20 that you release after the spawning takes place in
21 a hatchery condition are equivalent in numbers and
22 quantities to the fry that would exist in the
23 succeeding year to the spawning, as would exist
24 from about 10,000 wild spawning sockeye?

25 DR. BRADFORD: Perhaps at the coffee break I could do a
26 quick calculation. It sounds a little high, your
27 number.

28 Q Yes, all right.

29 DR. BRADFORD: But I would have to think about that.

30 Q All right. Well, if you would do that
31 calculation, certainly it would be useful if it
32 can be done that quickly.

33 Now, in that program, the eggs from each
34 female spawner are separated into lots of about
35 500 each, is that correct, to be fertilized by
36 different males?

37 DR. BRADFORD: For the captive breeding part, they're
38 in lots of, I believe, five eggs.

39 Q All right.

40 DR. BRADFORD: And so an individual -- an individual's
41 egg complement is divided into many smaller
42 families and mated with a number of males.

43 Q oh, I see. All right. So the progeny of the one
44 female spawner have one mother and multiple
45 different fathers?

46 DR. BRADFORD: That's correct.

47 Q It sounds somewhat promiscuous.

- 1 DR. BRADFORD: It's a different world out there.
2 Q But it's good for the --
3 DR. BRADFORD: I hope.
4 Q It's good for the gene pool and that's why it's
5 done; is that correct?
6 DR. BRADFORD: Early hatchery programs took the eggs
7 and the milt and poured it all into a large bucket
8 and swirled around with a wooden stick. And what
9 was discovered was that some males had sperm that
10 were more effective in that kind of environment,
11 and so you ended up with not a very good
12 distribution of genes, if you like. And so this
13 is a -- this involves an awful lot of Styrofoam
14 cups, but the idea is to create as many families
15 with as many genes as possible, different genes.
16 Q Yes. And the results, the survival results of
17 those fry have been good, have they not?
18 DR. BRADFORD: We've got part of the story well-
19 established, I believe. The fry are released into
20 the lake, and many of them, well, over 80 percent
21 of them perish in the first six months in the
22 lake, but that's normal. And they produce smolts
23 that go to sea, and the smolts that go to sea have
24 about the same survival as wild smolts. So that's
25 an encouraging sign.
26 Q Yes.
27 DR. BRADFORD: But what we haven't established is when
28 those adults come back to the lake and reproduce,
29 these hatchery-produced fish, how successful they
30 are at reproducing in the lake.
31 Q Yes. Yes, well, you haven't determined that yet
32 because enough time hasn't gone by.
33 DR. BRADFORD: Basically, yes, and it is -- it involves
34 DNA fingerprinting and it's a fairly complex
35 activity.
36 Q But most of the returning adults in the last few
37 years have been from this fry release program?
38 DR. BRADFORD: That's correct.
39 Q Now, turning next -- well, finally, so obviously
40 that's a good program, should continue, and should
41 continue to be studied, as you've indicated. Do
42 you agree with that?
43 DR. BRADFORD: We are -- yes, we are attempting to look
44 at the success of the program, but as Neil and I
45 have mentioned, the captive breeding part of the
46 program is being wound down at the moment.
47 Q Yes. But the supplementary release part is

1 expected to continue?

2 DR. BRADFORD: Well, the captive breeding program has
3 fish in captivity of different ages and they will
4 continue to produce fry. So for the next few
5 years there will be fry releases, and then we will
6 make a decision in a couple of years about the
7 magnitude of the supplementation program going
8 forward.

9 Q Yes. All right. Now, turning now in the
10 interests of time to the northern pikeminnow
11 removal program, the old records, that's been done
12 three times, I think, over the course of history;
13 is that correct?

14 DR. BRADFORD: That's correct.

15 Q The old records refer to northern pikeminnow as
16 squawfish, is that correct?

17 DR. BRADFORD: That's correct, and I should say that
18 the old program was -- it removed all sorts of
19 predators and not just pikeminnow.

20 Q Yes, all right. Now, Wikipedia has this entry,
21 and just tell me if you agree with this, relating
22 to northern pikeminnow:

23
24 They can live longer than 15 years,
25 reaching --
26

27 MS. TESSARO: Excuse me, I'm sorry to interrupt. Mr.
28 Commissioner, if Mr. Harvey is reading from a
29 document, that document hasn't been provided to --

30 MR. HARVEY: Well --

31 MS. TESSARO: -- any of the other counsel. So perhaps
32 he could just ask the question in a way that
33 doesn't refer to --

34 MR. HARVEY: All right. All right.

35 MS. TESSARO: -- a document that hasn't been provided.

36 MR. HARVEY: All right.

37 Q Well, let's assume that somebody knowing nothing
38 about this goes on the Internet, as everyone seems
39 to do these days. Northern pikeminnow can live
40 longer than 15 years, reaching over 24 inches and
41 eight pounds; current record weight for the
42 squawfish, 13-and-a-half pounds; mature female can
43 lay 30,000 eggs annually. Pikeminnows are
44 voracious predators. Does that sound about right?

45 DR. BRADFORD: The size varies a lot between lakes,
46 but, yes, those are mainly the attributes.

47 Q All right. Are you aware that in the U.S. in the

1 Columbia system there's a pikeminnow sport reward
2 fishery program whereby anglers are paid by the
3 Bonneville Power Administration rewards ranging
4 from \$4 to \$8 per fish?
5 DR. BRADFORD: Yes.
6 Q All right. So the pikeminnow had been perceived
7 as problems for sockeye survival in other systems
8 as well as the Cultus?
9 DR. BRADFORD: Well, first of all, I'd like to
10 emphasize that pikeminnow are a native fish of
11 British Columbia and have been here as long as the
12 salmon. The Columbia River is a highly altered
13 environment, and so you have fish spinning out
14 through turbines and spillways.
15 Q Yes.
16 DR. BRADFORD: And the pikeminnow have learned to wait
17 below those dams. And so these programs are an
18 attempt to remove those predators from that
19 manmade environment.
20 Q I see. The northern pikeminnow feed -- in the
21 middle size range, feed on the plankton that the
22 sockeye fry also feed on, and in the larger size
23 range they feed on the sockeye fry themselves.
24 DR. BRADFORD: Small pikeminnow live close to shore and
25 so they don't tend to compete with salmon, sockeye
26 salmon that live in the middle of the lake.
27 Q But they feed on -- they of course, the progeny of
28 these 30,000 eggs per spawner feed on the same
29 food web generally in the Cultus that the sockeye
30 feed on?
31 DR. BRADFORD: No. They feed -- the food web along the
32 shorelines is different than the one in the centre
33 of the lake.
34 Q All right. But there must be some mixing going
35 on, surely.
36 DR. BRADFORD: I'm sure there is.
37 Q Yes. Let me turn to the phenomenon of depensatory
38 effects. Every sockeye lake system has a point at
39 which depensatory effects begin to be experienced,
40 is that...
41 DR. BRADFORD: No. The evidence for depensatory
42 mortality has been difficult to find.
43 Q All right.
44 DR. BRADFORD: And the Cultus Lake, the information
45 that we have, is one of the few, if not the only.
46 Q Well, it's -- all right. Well, whether that's a
47 result of it being the most studied, or whatever,

- 1 you have observed depensatory effects in the
2 Cultus over the period of time?
- 3 DR. BRADFORD: That's correct.
- 4 Q And is that phenomenon, the phenomenon where as
5 fry abundance increases, there are impacts on the
6 other parts of the ecosystem that result in a
7 reduction in the fry to smolt survival rate.
- 8 DR. BRADFORD: It's a phenomenon where for very small
9 spawning populations, small runs of sockeye in the
10 lake, their survival appears to be lower than
11 larger runs. So it suggests that small runs are
12 more impacted by predation, for example, than the
13 larger runs.
- 14 Q All right. So that, and the point in the Cultus
15 is about 6,000 to 7,000 spawners?
- 16 DR. BRADFORD: That's right. Looking at the long-time
17 series of data we have, when the sockeye run, the
18 number of spawners is below 6,000, let's say, the
19 production of smolts appears to be lower than when
20 the run is greater than 6,000. And so what we
21 think the predator control program has done is
22 alleviated some of that depensatory effect.
- 23 Q Oh, yes. I see. And then there's also a
24 depensatory effect at the other end when the
25 number of spawners and fry get to be at such a
26 level that they've more or less surpassed the food
27 web carrying capacity?
- 28 DR. BRADFORD: That's usually called a compensatory
29 effect.
- 30 Q Compensatory. I see. Thank you. And that hasn't
31 yet occurred in the Cultus because the carrying
32 capacity is greater than the present level, is
33 that...
- 34 DR. BRADFORD: There are runs in the past of up to
35 80,000 spawners that we do see reduced survival as
36 a result of the very large populations.
- 37 Q All right. Those effects, both depensatory and
38 compensatory, can be changed either by fertilizing
39 such that the food web is increased, or removing
40 predators, correct?
- 41 DR. BRADFORD: The effects of removing predators is
42 probably -- appears to be greatest in terms of
43 alleviating depensatory mortality.
- 44 Q Yes.
- 45 DR. BRADFORD: And I'm only familiar intimately with
46 the fertilization of Chilko Lake.
- 47 Q Yes.

1 DR. BRADFORD: And in that case the major effect was
2 increasing the size the of the smolts, not the
3 numbers of smolts. So it didn't affect survival,
4 but it affected their growth.

5 Q All right. But in the Cultus, since 2005, the
6 fry-to-smolt survival, that is from fall fry to
7 spring or summer smolt survival, has increased
8 from about 22 percent to about 55 percent; is that
9 right?

10 DR. BRADFORD: Yes, and it's gone down in the last
11 couple of years, but we believe that that survival
12 during the fall through the winter is a result of
13 the predator removal.

14 Q Yes. And with that increase in freshwater
15 survival, you've also observed an increase in
16 survival in the smolt-to-adult stage; is that
17 correct?

18 DR. BRADFORD: Just this past year only. It was
19 declining previous to the past years returns.

20 Q So it's taken until this year to show a carryover
21 into the marine phase?

22 DR. BRADFORD: I'm not sure that it's a carryover of
23 anything in freshwater, but we've seen that in for
24 the 2010 return of salmon, there was a large
25 increase in returns for many stocks, it appears to
26 be due to some -- a change in the factor of
27 downstream from the lakes.

28 Q Yes. Are the smolts -- the smolts that survive
29 better as a result of the pikeminnow removal, are
30 they better able to cope with the challenges in
31 the saltwater system, or do you know?

32 DR. BRADFORD: We don't know.

33 Q At any rate, you've learned a fair amount about
34 the dynamics of sockeye survival here. Has that
35 knowledge worked its way into the determination of
36 escapement levels and other matters in the Wild
37 Salmon Policy, do you know?

38 DR. BRADFORD: Well, there is a procedure that's been
39 developed, I think the Commission has heard about
40 it, the work of Sue Grant and Carrie Holt, as far
41 as determining the benchmarks.

42 Q Yes.

43 DR. BRADFORD: And so they do take advantage of the
44 information collected at Cultus Lake.

45 Q And part of that information is that if you want
46 to raise survival rates in a system such as the
47 Cultus, it's important to remove the predators.

1 DR. BRADFORD: I'm sorry, could you repeat that?
2 Q One of the lessons that you've learned, surely, is
3 that in order to raise the survival rate of, at
4 any rate, in smaller stocks, it may well be
5 important, depending on the system, but in the
6 Cultus it is important to remove pikeminnow
7 predation.

8 DR. BRADFORD: Well, we are manipulating an environment
9 to essentially increase survival to help offset
10 some of the events of the past, effectively.

11 Q Yes.

12 DR. BRADFORD: And I'm not sure that, generally
13 speaking, when people manipulate predator/prey
14 relationships, things go astray, as they often
15 have in, for example, situations in the Great
16 Lakes and other places. So I'm not sure that I
17 would advocate that we need predator control to
18 increase salmon survival. We can do it at Cultus
19 Lake and we have done it, but it does carry
20 inherent risks.

21 Q Well, you can do it, you have done it, and so far
22 it's proved to be beneficial.

23 DR. BRADFORD: Yes.

24 MR. HARVEY: Thank you. Those are my questions.

25 MS. TESSARO: Mr. Commissioner, if it's a convenient
26 time for the break.

27 THE REGISTRAR: The hearing will now recess for 15
28 minutes.

29

30 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)

31 (PROCEEDINGS RECONVENED)

32

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

34 MS. TESSARO: Mr. Commissioner, Mr. Harvey has
35 requested leave to ask a couple more questions
36 arising from...

37 MR. HARVEY: Yes, thank you.

38

39 CROSS-EXAMINATION BY MR. HARVEY, continuing:

40

41 Q Dr. Bradford, were you able to do that calculation
42 over the break?

43 DR. BRADFORD: Yeah, and I haven't done long division
44 in quite a while, but you weren't far off. I
45 think the contributions are roughly equivalent to
46 five to 10,000 spawners, I would say.

47 Q Yes, thank you. And that, of course, is in

1 addition to the spawners that spawn in the lake?

2 DR. BRADFORD: Yes.

3 Q Yes. And also on that subject, you said that --
4 you mentioned the 500 limit a number of times. If
5 you count both the spawners that are -- well, the
6 500 limit is meant to include all the returning
7 spawners to the Cultus, is it not?

8 DR. BRADFORD: This is for Objective 1, the minimum of
9 500 spawners?

10 Q Yes.

11 DR. BRADFORD: In the plan it's written as "successful
12 spawners in the lake".

13 Q Yes. So you haven't been including the 350 or so
14 spawners that you remove to the hatchery for
15 spawning?

16 DR. BRADFORD: No, the calculations are based on which
17 fish actually go into the lake and spawn
18 successfully. So those have to be deducted from
19 -- from the fish that arrive at the fence, those
20 fish used for the hatchery program are deducted,
21 essentially.

22 Q Because if you were to include all the fish, you'd
23 be over 500 every year, would you not?

24 DR. BRADFORD: No. Oh, in the last four years?

25 Q Or in the last four years.

26 DR. BRADFORD: Probably close, I would say.

27 MR. HARVEY: Yes, in the last four years. Thank you.

28 MR. EIDSVIK: Good morning, Mr. Commissioner. Good
29 morning, Mr. Schubert, Mr. (sic) Bradford. My
30 name is Philip Eidsvik. I'm here on behalf of the
31 Area E Gillnetters and the B.C. Fisheries
32 Coalition.

33

34 CROSS-EXAMINATION BY MR. EIDSVIK:

35

36 Q And one of the things that I was interested in,
37 yesterday, there seemed to be some suggestion that
38 Cultus was fixed and in a sense that we'd achieved
39 some objectives, and I guess we've achieved
40 Objective 1, if you include the spawners that are
41 used for the brood stock program. Could you
42 comment on whether Cultus is fixed or not? I'm
43 kind of interested in that.

44 DR. BRADFORD: Cultus is...?

45 Q Fixed.

46 DR. BRADFORD: I don't know what that means.

47 Q Do we have a sufficient abundance of Cultus

1 sockeye, now, to allow us to prosecute fisheries
2 on co-migrating stocks at the level that can be
3 supported and justified by the abundance of co-
4 migrating stock? And I guess maybe I should go
5 back one step. Would different people have a
6 different idea of what's fixed in terms of --

7 DR. BRADFORD: Okay, so I think you mean that the
8 problem is corrected? Is that what you mean by
9 "fixed"?

10 Q Yes, the problem is corrected.

11 DR. BRADFORD: Okay. As opposed to fixed in alcohol
12 or...I'm not sure... Well, no, because both the
13 Wild Salmon Policy, but certainly the conservation
14 plan had -- the goal was to have Cultus as a self-
15 sustaining population that was not at risk of
16 extinction and would contribute to the ecosystem
17 and potentially provide benefits. And, you know,
18 we set up those four objectives hierarchically,
19 and the first one is really to -- is to get the
20 population off of, you know, life support, as it
21 were, and we're getting close to meeting that
22 first objective, but I think that's a long way
23 from what we intended.

24 Q Okay. That's what I wanted to know. I didn't
25 want to leave any misconception the problem had
26 been solved or resolved.

27 I want to talk about societies and DFO's
28 choices, for a minute, because we know that Cultus
29 has been a problem for a number of decades, and
30 society makes choices to do things, and then I
31 guess one of the things that we talked a bit about
32 is building docks on spawning beaches that push
33 sockeye into deeper areas where they may or may
34 not be as productive choice of society to build
35 those docks over keeping the perfect area for
36 spawning for the sockeye; is that correct?

37 DR. BRADFORD: Those docks have been there, I believe,
38 quite a long time, because if we have early
39 observations from biologists who dangled off the
40 docks and watched the salmon, so I'm not sure that
41 the docks caused the fish to not be at Lindell
42 Beach.

43 The one possibility is that they are at
44 Lindell Beach because when the spawning
45 populations were large they pushed into the
46 shallow waters, and now that the spawning
47 populations are small, they are now using the

1 deeper areas that they always did use, but we
2 didn't know about it until we got the underwater
3 camera involved. So we're not sure why that
4 change has occurred at Lindell Beach.
5 Q Putting copper sulphate in the lake to cure
6 swimmer's itch, that would be a preference to cure
7 swimmer's itch over fish?
8 DR. BRADFORD: If the copper sulphate was toxic to the
9 fish.
10 Q Copper sulphate is pretty highly poisonous, isn't
11 it?
12 DR. BRADFORD: Well, like everything, it's a question
13 of quantity.
14 Q So letting millions of visitors into the lake in
15 some way is a preference, again, with real estate
16 developments, sewage plants, putting sand on
17 beaches; again, a choice of society?
18 DR. BRADFORD: I suppose you can see it evidenced
19 everywhere you go.
20 MR. EIDSVIK: Perhaps I could go to Exhibit 772, Mr.
21 Lunn, and I'd like to start off at page 4.
22 MS. TESSARO: Mr. Commissioner, perhaps we could just
23 have Mr. Eidsvik confirm whether or not this
24 exhibit, whether notice was provided that this
25 exhibit would be put to these witnesses?
26 MR. EIDSVIK: I didn't provide notice. I believe a
27 copy of it was provided and was included in
28 documents.
29 THE COMMISSIONER: I don't know what the exhibit is,
30 yet.
31 MR. EIDSVIK: It's the National Conservation Strategy
32 for Cultus Sockeye Salmon.
33 Q You've obviously read this document a hundred
34 times?
35 DR. BRADFORD: Yeah.
36 Q At page 4, and we're talking by the -- just down
37 in the first paragraph there:
38
39 By the mid 1960s, Cultus sockeye appeared to
40 have reduced their spawning activity from the
41 six main sites where they had been observed
42 for decades to a single beach,
43
44 And they refer to Lindell Beach. So that's an
45 indication that we're seeing movement off the
46 beaches where sockeye had been for decades into
47 different areas, and now we're down to one beach

1 by the 1960s. That's how I read that. Am I
2 reading it wrong?

3 DR. BRADFORD: I don't know the details, but I would
4 suggest that there are probably spawning areas
5 that are not visible from the surface that would
6 not have been known about at that time, so it may
7 not be entirely correct, but that would be
8 possibly the single location where fish could be
9 observed from the surface.

10 Q Okay. Perhaps we can go to page 13 in that same
11 document, Mr. Lunn. And it's the right column at
12 the top, and the paragraph -- here again we go
13 back to Lindell Beach:

14
15 Until recently, Lindell Beach was a heavily
16 utilized sockeye spawning area. The movement
17 of spawners away from Lindell Beach may
18 reflect changes in the groundwater hydrology
19 resulting from activities such as
20 concentrated residential development, creek
21 diversions, dyking, the construction of piers
22 on the spawning grounds...

23
24 So we're down to a bunch of beaches, then we're
25 down to Lindell Beach, and now we see the sockeye
26 moved into the deep water out of Lindell Beach.

27 So it's fair to say we've seen a --
28 regardless of the reasons, we've seen a fairly big
29 change in trend of where sockeye are spawning, and
30 that we've cleared out the beach areas and we're
31 now into deeper water?

32 DR. BRADFORD: I think that's true, yes.

33 Q Okay. And at the bottom of that page, of course,
34 on the same column, we see the docks at Lindell
35 Beach as a demonstration picture.

36 And I want to ask you about predator removal
37 a little bit, because you've given evidence, and
38 we've had long time evidence predator removal is
39 very effective. Were you aware, either one of
40 you, of the seine -- the program run in the late
41 1980s, early '90s, by the seine fleet, the Fishing
42 Vessel Owners Association?

43 DR. BRADFORD: Yes.

44 Q Do you remember what years that ran?

45 DR. BRADFORD: Somewhere between '88 and '90, perhaps.
46 I can't remember exactly.

47 Q Yeah, they have '89 to '92 listed here. And do

1 you remember who paid for that?

2 DR. BRADFORD: I wasn't an employee of the Department
3 at the time. I only read reports of that.

4 Q Okay. Do you know why that program was
5 discontinued?

6 DR. BRADFORD: No, I don't.

7 Q Do you, Mr. Schubert?

8 MR. SCHUBERT: No, I don't.

9 Q Sometimes the institutional memory in the
10 aboriginal sector or commercial or recreational
11 can sometimes overcome actually the institutional
12 memory of DFO, I guess?

13 DR. BRADFORD: Well, the memory of this individual.

14 Q Yes. But we do know that the program was
15 discontinued in 1992, at least around that time.
16 And then we see, according to the chronology
17 prepared by Mr. Schubert, in 1991 we see the
18 conservation issue being identified - I'm not
19 going to bring you to the document, 1999 to 2001 -
20 and we see the public meetings sponsored by DFO
21 and the Soowahlie in November 2001.

22 Now, I'm interested, because the program
23 to remove predators didn't start until 2006; have
24 I got that correct?

25 DR. BRADFORD: DFO, itself, did some work in 2004 and
26 2005.

27 Q On predator removal?

28 DR. BRADFORD: Yes.

29 Q Can you explain how effective that was and what
30 they did?

31 DR. BRADFORD: Well, initially, we were experimenting
32 with different fishing gears, reviewing the past
33 information, and the intention of that program was
34 to, first, figure out how many pikeminnow were in
35 the lake, so that we'd have some idea, if we were
36 removing them, what kind of impact we were having.

37 And I think in 2005, I believe the total
38 removal was about 5,000 fish.

39 Q Were you aware how the 2006 program got instituted
40 that involved Area E Gillnetters' Association
41 being the promoter of that.

42 DR. BRADFORD: My understanding, it was discussions
43 between Area E individuals and the folks at the
44 Cultus Lake Lab, yes.

45 Q And following the implementation of that program,
46 do you remember how many pikeminnows they removed
47 that first year?

1 DR. BRADFORD: There's a figure in my report. It's
2 more than we removed, I know that. I can't
3 remember the exact figure; 10,000 to 12,000, I
4 think it was something like that.

5 Q And we've heard testimony that Area E paid for it
6 through the Pacific Salmon Commission Southern
7 Endowment Fund.

8 DR. BRADFORD: Well, I think, to be fair, DFO staff at
9 the lab assisted Area E in preparing their
10 proposal that was sent to the Southern Endowment
11 Fund, which was approved, and funds came from the
12 Southern Endowment Fund to pay for the program.

13 Q Okay. I guess the -- and then the CSAB funded it
14 through their million dollars of sockeye that were
15 taken out of their allocation in subsequent years?

16 DR. BRADFORD: In the last couple of years, and I can't
17 remember exactly which year that switched over.

18 Q So the point I'm trying to make is we -- no real
19 major predator removal program for a number of
20 years, and then funded by industry or the Pacific
21 Salmon Commission, through the Southern Endowment
22 Fund, but no DFO involvement on the most effective
23 program we've had to boost it up, and that that --

24 DR. BRADFORD: We recognize that having professionals
25 in to catch fish would be a much better move than
26 have us do it, and they, you know, they had the
27 boat and the materials and the expertise, and we
28 assisted in getting the funding for them, so I
29 think we were heavily involved. And we looked at
30 -- helped with the data collection and the
31 analysis and data from the catch. So I think it
32 was a good partnership in which the strengths of
33 each group are brought to bear on the issue.

34 Q So my last question on predator removal: Can you
35 explain the absence of predator removal from '92
36 to 2006, really, before we got going again, given
37 that we -- history had shown that it was
38 successful? And I'm not being -- I don't mean --
39 if you think I'm being critical, I'm not; I'm just
40 trying to understand, we knew Cultus was in
41 trouble and one of the programs that we could have
42 done to assist it all through the '90s was run
43 that predator removal program. Perhaps you
44 weren't there again?

45 DR. BRADFORD: No, I can't explain why it wasn't done.
46 Again, I'm not an advocate of this kind of
47 ecosystem manipulation on the whole, but this is a

1 unique circumstance where it could be implemented
2 to boost sockeye salmon for at least some years.
3 MR. SCHUBERT: But certainly during that era Cultus was
4 not prominent in any fisheries management planning
5 process as a potential constraint or conservation
6 concern. I was involved, in my substantive
7 position as head of the sockeye and pink program,
8 in that period, and if you look at any of the
9 reports to the Salmon Commission and the Fraser
10 Panel, sure it's identified that, you know, we
11 have a decline in this group, but it's just
12 information only and there were no real proactive
13 moves to address the issue.
14 Q But prominent enough for the seine fleet to start
15 a program in 1989/90/91, roughly? So somebody
16 knew there was something going on.
17 MR. SCHUBERT: I don't know the background of --
18 Q The reason why I ask is the fishermen that I know
19 told me that they ran that program for a couple
20 years and paid all costs, and then they asked DFO,
21 said, "Look, you pay for the crew members,"
22 because it's taking a lot, "and we'll continue to
23 provide the boat and pay the fuel," but DFO
24 wouldn't come up with 7,500 bucks for the crew
25 members. I guess that's past and you probably
26 can't answer that question fairly?
27 MR. SCHUBERT: No, I wasn't involved in that program at
28 all.
29 Q Thanks. And the last thing, I've got a few
30 minutes, I want to talk about process. In every
31 decision there's people that benefit and people
32 that don't benefit, and in this particular
33 decision to deal with Cultus by lowering the
34 exploitation rates you may have increased fishing
35 opportunities for groups that fish above the
36 entrance to the appropriate -- to the Chilliwack
37 River, for example. If there was a surplus
38 available, people who fish commercially above that
39 point could have caught that surplus in some
40 circumstances, because Cultus wouldn't be an
41 issue; is that correct?
42 MR. SCHUBERT: Certainly in the work group's review of
43 the socioeconomic analysis we did identify that
44 non traditional fishing opportunities were not
45 pursued, and that was one of the options that we
46 identified; it was possible to harvest surplus
47 sockeye in isolation of Cultus by fishing

1 upstream.

2 Q Indeed, the two in your chronology you note that
3 the letter that went into COSEWIC to say --
4 requesting an emergency listing, was a request by
5 groups that do fish above that confluence; is that
6 fair?

7 MR. SCHUBERT: If you say so. I don't recall.

8 MS. TESSARO: That chronology, Mr. Commissioner, is
9 Exhibit 916, if it would provide the witness with
10 some assistance.

11 MR. EIDSVIK:

12 Q So the last thing I want to talk about is process
13 issues, and I've listened to both your
14 testimonies. How am I doing --

15 MS. TESSARO: I'm sorry, I don't want to belabour that,
16 but the witness was asked a question about his
17 chronology, which is Exhibit 916. The witness
18 said that he didn't know, and if you're
19 withdrawing the question, we can withdraw the
20 question, but if the witness cared -- if you
21 wished the answer not to be "I don't know. I
22 don't have the chronology" in front of him, then
23 we can just raise that.

24 MR. EIDSVIK: I didn't want to use my time to go to the
25 chronology, because it's a small point. Thank
26 you.

27 Q On process, if we look at Exhibit 772, and I don't
28 think I'll bring you there, but the last two pages
29 it refers to, I mean, a number of community
30 meetings that we went -- the committee went to
31 Prince Rupert and Port Hardy. You had just an
32 amazing amount of meetings with the Cultus
33 Recovery Team. I think it was 20 -- close to 20
34 people strong?

35 MR. SCHUBERT: Yes.

36 Q Lots and lots of process, lots of meetings. I
37 think there's an alternative process that I want
38 to ask you about. Both of you are very familiar
39 -- if Mr. Schubert, for example, if you had said,
40 "Here's a million dollar budget, develop a
41 recovery plan, institute it, don't go through all
42 these consultations, get the work done, get it
43 finished," you probably would have had a recovery
44 plan in a long time before we did, and you
45 probably would have had predator removal at a
46 large scale; is that fair to say?

47 MR. SCHUBERT: I hesitate to speculate what might have

1 been. Certainly the process that we took it
2 embraced all stakeholders, and I suspect the
3 product that would be produced by a strictly in-
4 house group would have been different. But I
5 agree that predator removal would have been
6 considered and probably would have been promoted
7 heavily.

8 Q The last point I want to make, and I guess it
9 comes down to -- we see it in a lot of DFO
10 processes where we have very heavy consultation
11 and sometimes the consultation, the need to obtain
12 consensus, actually gets in the way of doing the
13 work. I guess that's the point I'm trying to
14 make. Do you agree with that?

15 MR. SCHUBERT: In the process that I managed, I think
16 consensus was a very positive driver. The need to
17 obtain consensus, I think, made our work products
18 far more valuable than otherwise.

19 Q What exactly did consensus deliver in terms of on-
20 the-ground results? How many predators did
21 consensus take out of the lake?

22 MR. SCHUBERT: Well, the recovery strategy didn't take
23 any predators out of the lake. It's a strategy.
24 It's the implementation plan of that strategy that
25 actually accomplishes the work. I think the
26 consensus that the team arrived at for the
27 recovery strategy was important, because everyone
28 had bought into the conclusions and the
29 recommendations as to what the process -- or what
30 the components of the recovery process would be.

31 Q Yeah. I guess, in my view, it took a seine boat
32 and four crew members and one guy to say, "Go do
33 it," and it took two years of discussions to get
34 to a point where we actually had a seine boat go
35 in and do it, and I'm just trying to understand
36 the lapse, why it takes so long to do some things
37 in the Department?

38 MR. SCHUBERT: I think that's a simplistic summary of
39 the events. The approach we took was to define
40 the problem, to look at alternate approaches to
41 remove predators and to come up with an estimate
42 of the population so that we could have a
43 structured approach and understand exactly, after
44 the fact, what we did and what impact it had on
45 the, I guess, structure of that population and its
46 inter-linkages with the environment.

47 So we wanted to -- we didn't want to just

1 "do" things, we wanted to understand what we were
2 doing, with the hopes of having what we learned be
3 applicable to other situations as well.

4 Q And I'll just leave that with one last question.
5 History had shown previous predator removal
6 programs, that they were quite effective; is that
7 correct?

8 MR. SCHUBERT: Well, certainly, the one that occurred
9 in the '30s was effective; however, it was much
10 different than the program that we have today,
11 because it's only pikeminnows that we focus on,
12 now.

13 Q Okay. That's pretty helpful. The last question I
14 want to ask, again, Mr. Lunn, 772 on page 11. And
15 it's about Eurasian milfoil. And is Eurasian
16 milfoil, while we're bringing that up, is it a
17 native species to Cultus Lake?

18 DR. BRADFORD: No, it's an invasive species.

19 Q So in terms of dealing with -- I know you're
20 sensitive to take an action link that's not
21 natural, and here we have an invasive species that
22 is not natural; is that correct?

23 DR. BRADFORD: That's correct. There are records of
24 aquatic plants in Cultus Lake prior to the
25 invasion of invasive milfoil.

26 Q So at page 11, and I think I'll just -- where you
27 see Eurasian milfoil and it talks about -- refers
28 to it at Cultus Lake.

29
30 By 1991, it covered nearly half the lake's
31 total littoral (near-shore) area. The lake
32 is now heavily infested with the plant, which
33 colonizes the bottom to the depth of light
34 penetration.

35
36 And then in the next paragraph, the little
37 heading, Spawning habitat encroachment:

38
39 Dive surveys in 1982 found dense patches of
40 Eurasian watermilfoil had displaced sockeye
41 from areas previously utilized for spawning.

42
43 So milfoil, according to this, milfoil is a
44 serious issue?

45 DR. BRADFORD: Well, it continues:

46
47 For example, remote surveys did not indicate

1 spawning was actually disrupted by the
2 watermilfoil colonization.
3

4 So it's there. It's probably affected where fish
5 spawn, but it hasn't prevented fish from spawning,
6 we don't think so.

7 MR. SCHUBERT: I believe the recovery team, in its
8 deliberations, or perhaps it was the conservation
9 team, when we last discussed milfoil, the
10 conclusion was that it's unlikely to be inhibiting
11 recovery at the present time. However, when
12 spawner populations increase to probably the top
13 of the red zone limit, abundances might be
14 sufficient where milfoil encroachment on spawning
15 areas would have an impact and we need to revisit
16 the issue at that time.

17 Q So again we go back to this issue of whether the
18 movement of the sockeye from the beaches into the
19 deep water areas was an abundance issue, or
20 whether it was actually because they were pushed
21 out of there by milfoil and water skiing and that
22 sort of activity?

23 DR. BRADFORD: That's a good question.

24 Q If you were going to be precautionary and really
25 wanted to put the pedal to the metal, would you
26 take the milfoil out?

27 DR. BRADFORD: As I mentioned, we have not found a way
28 to take the milfoil out that's --

29 Q Okay. My last document, if we could go to, Mr.
30 Lunn, to Tab 8 of the Area B Seine documents?

31 MS. TESSARO: Mr. Commissioner, I'm sorry to continue
32 getting on my feet, but I don't believe that Dr.
33 Bradford had actually finished his answer --

34 MR. EIDSVIK: Oh, I'm sorry.

35 MS. TESSARO: -- to that question, and I think that's
36 happened a couple of times, now.

37 MR. EIDSVIK: Feel free.

38 DR. BRADFORD: No, I was -- to mention we haven't found
39 an effective means of removing milfoil and, as I
40 mentioned earlier yesterday, in some of the trials
41 we did, it grew back within months. So it's just
42 something that's not easy to do.

43 Q I guess there's been discussion in the States of
44 using weevils?

45 DR. BRADFORD: Yes, there's been some discussion of
46 that, but I'm not sure where that's gone, yet.

47 Q Have you investigated the use of weevils at Cultus

1 Lake, yet?

2 DR. BRADFORD: My understanding is that, because that
3 is another invasive species, that the first task
4 was to determine whether weevils existed naturally
5 in the lake.

6 Q Okay. Tab 8, and that's my last couple of
7 questions. Do you recognize this document?

8 DR. BRADFORD: I don't recall it from the time, but I
9 did read it last week.

10 MR. EIDSVIK: Okay. I'd like to have it entered as an
11 exhibit, please.

12 THE REGISTRAR: Exhibit 933.

13
14 EXHIBIT 933: Memorandum to Harvesters
15 Association, from Bill Gazey, Subject:
16 Comments on Cultus Lake Sockeye, dated May 4,
17 2004
18

19 MR. EIDSVIK:

20 Q Now, if we go to paragraph 7 in the document, this
21 is an opinion by a biologist who was on the
22 recovery team at one time, Mr Gazey?

23 DR. BRADFORD: That's correct.

24 Q And he talked about, in his opinion, the recovery
25 of Cultus will be enhancing freshwater survival
26 through milfoil, northern pike removal, but I
27 thought what I was getting at was the -- about
28 midway down he says:

29
30 For the program to work in future, it will be
31 necessary to "go big or go home".
32

33 Is that a fair concern that some people in the
34 commercial sector, and I think it dealt with even
35 a **SARA** listing, that the species might be listed,
36 DFO might not put the money into it or make the
37 effort that's necessary, and it would be listed
38 for a long, long time, with really severe impacts
39 on them. Do you agree that there was concerns
40 expressed in the commercial sector about that?

41 DR. BRADFORD: Well, I can only agree with what I read
42 here from Dr. Gazey.

43 Q Yeah, and that was certainly Dr. Gazey's opinion?

44 DR. BRADFORD: He wrote it down, apparently.

45 MR. EIDSVIK: Okay, thank you. Those are my questions,
46 Mr. Commissioner. Thank you for answering my
47 questions.

1 MS. GAERTNER: I guess it's afternoon. Good afternoon,
2 Mr. Commissioner, it's Brenda Gaertner for the
3 First Nations Coalition. Good afternoon, Dr.
4 Bradford and Mr. Schubert. My time estimate for
5 today is 45 minutes, and so it does not appear
6 that I will be able to finish before lunch, and so
7 I'm going to do my best to cover my material.
8

9 CROSS-EXAMINATION BY MS. GAERTNER:
10

11 Q I'm grateful that you were in the audience, and I
12 understood you heard my examination of Dr. Davis,
13 and so you have that as a background, yes, both of
14 you? One of the tricky things is I'm going to
15 have to -- when you nod your head I'm going to
16 have to have you say "yes" for the record.

17 DR. BRADFORD: Yes.

18 Q Thanks. So I've got about seven areas, and the
19 first couple that we're going to be able to do
20 before lunch are, I want to talk about the
21 challenges around recovery options and listings
22 and mixed stock fisheries and what we learnt in
23 Cultus Lake as it relates to some of the mixed
24 stock fisheries items. And then, despite the fact
25 that we've done this a couple of times, already,
26 I've got a few other unique questions around the
27 socioeconomic analysis. So maybe we'll try to
28 cover both of those before lunch, and perhaps even
29 get into some of my questions on consultation
30 around the recovery plan.

31 And I want to just remind - you may know this
32 already - but I want to remind you that within the
33 coalition that I represent, I represent the
34 Sepwepemc Fisheries Commission, Fraser River
35 Aboriginal Fisheries Secretariat, and the Upper
36 Fraser Fisheries Coalition, all of which are
37 groups you are familiar with, I understand, both
38 of you?

39 MR. SCHUBERT: I haven't been involved in that side of
40 the Department for quite some time, so no, I'm not
41 up to date.

42 Q All right. But you are, Dr. Schubert --

43 DR. BRADFORD: Bradford.

44 Q Or Dr. Bradford. Sorry.

45 DR. BRADFORD: I know the territories you're dealing
46 with, at least, yes.

47 Q Okay. Great. All right. Are you familiar with

1 the expressions of concern that groups like the
2 Sepwepemc Fisheries Commission have raised for the
3 Department for years, now, over concerns regarding
4 mixed stock fisheries and management based on
5 large aggregates and the concern that aggregates
6 will sometimes avoid taking care of weak stocks?

7 MR. SCHUBERT: I'm not specifically aware of that.

8 DR. BRADFORD: That's not my line of business either,
9 I'm afraid.

10 Q You're aware that was a concern that Soowahlie
11 had, as it related to Cultus?

12 MR. SCHUBERT: That exploitation was a factor in that,
13 in the decline, yes.

14 DR. BRADFORD: Yes.

15 Q All right. Now, could I take you to what is now
16 Exhibit 924, which is Commission document number 3
17 in their materials, which, as I understand it,
18 reflected the collective work of a very -- number
19 of teams, Mr. Schubert, that resulted in a status
20 report of Cultus Lake in 2002; is that correct?

21 MR. SCHUBERT: That's correct, yes.

22 Q Could I go to page 33 of that document? Ringtail
23 43. And I want to go to paragraph 7, in
24 particular. And this is the comments of the teams
25 that culminated in this report as it related to
26 mixed stock management, and I'm going to read it
27 to you:

28
29 Cultus sockeye are managed as part of a late
30 run group that includes much larger and more
31 productive stocks such as Adams and Weaver.
32 The Department's management policy
33 establishes fishery objectives and escapement
34 targets for the dominant stocks in the group
35 (either Weaver or Adams), resulting in sub-
36 optimal exploitation rates on other stocks
37 such as Cultus. The policy acknowledges that
38 the less productive stocks may not achieve
39 their productive capacity but assumes that
40 they will stabilize at lower levels. We
41 conclude that this assumption is likely
42 invalid for Cultus sockeye because
43 exploitation rates at the high end of the
44 historic range have caused sustained declines
45 in the size of population.

46
47 Do you still have that conclusion today?

1 MR. SCHUBERT: Yes.
2 Q And Dr. Bradford?
3 DR. BRADFORD: Yes.
4 Q And so my first question is: That assumption that
5 they will stabilize at lower levels is largely an
6 untested assumption; is that correct?
7 Scientifically?
8 DR. BRADFORD: Well, it's a kind of a conclusion that
9 arises from the mathematical analysis from the
10 stock and recruit data, and I suppose if we looked
11 at Fraser sockeye stocks, for example, in the
12 1960s and 1970s, we would find that the spawning
13 escapements were quite low because productivity
14 was high, exploitation rates are high, and you'd
15 end up at a -- they can be stabilized at a number
16 of different levels.
17 But I will say that when you have a small
18 population and you are attempting to stabilize it
19 at some lower level, it becomes very vulnerable to
20 chance events, such as a disease outbreak or
21 something that could quickly drive it down to very
22 low levels. So that is --
23 Q All right.
24 DR. BRADFORD: -- on of the risks --
25 Q And in a declining --
26 DR. BRADFORD: -- (indiscernible - overlapping
27 speakers).
28 Q I'm sorry, you didn't finish. And in a declining
29 situation, you referred to the earlier situations
30 where you've got a stable run or an inclining and
31 a declining run situation, that that assumption
32 could even be more difficult?
33 DR. BRADFORD: If there's a run of poor survival for
34 that population, yes.
35 Q Now, the group concluded that that was an
36 assumption that was inaccurate as it related to
37 Cultus. Would you also agree that that
38 assumption, as it relates to things like Bowron or
39 Taseko or the Early Stuarts may also be
40 inaccurate?
41 MR. SCHUBERT: That could very well be.
42 DR. BRADFORD: I think, in the case of the early
43 Stuart, in the last while, the exploitation has
44 not been so much of an issue as the continuing
45 difficulties of those fish reaching the spawning
46 grounds because of high temperatures in the river.
47 Q So as it relates to Bowron and Taseko?

1 DR. BRADFORD: I'm not sure.

2 Q All right. When is it, scientifically, that an
3 assumption that's been running its course and now
4 has proven to be inaccurate in Cultus will get
5 checked as it relates to other runs? Do we have
6 to wait until there's a precipitous low decline as
7 it was in Cultus before that gets checked?

8 DR. BRADFORD: I think that's the intent of the
9 classification system embedded in the Wild Salmon
10 Policy, is that stocks will be identified long
11 before they got to the state that they were in,
12 you know, at Cultus in 2000 and such, that
13 remedial actions could be put into play as
14 appropriate.

15 Q Would you agree that one of the lessons we've
16 learnt with respect to Cultus is that assumption
17 in fisheries management should be carefully looked
18 at as it relates to other weak stocks in the
19 Fraser River sockeye system?

20 DR. BRADFORD: Yes, I think that's fair.

21 Q Mr. Schubert, would you agree with that?

22 MR. SCHUBERT: I think there definitely should be an
23 annual post-season review process to determine
24 whether any Wild Salmon Policy issues are
25 emerging, yes.

26 Q And that the assumption that weak stocks will
27 stabilize at lower levels based on the overall
28 exploitation rate of the aggregate is an
29 assumption that should be carefully looked at?

30 MR. SCHUBERT: Absolutely.

31 Q All right. Now, I'd like to turn to the
32 socioeconomic analysis, and Mr. Leadem took you to
33 your e-mail, Mr. (sic) Bradford, so perhaps I'll
34 go to Exhibit 916. Mr. Schubert, this is your
35 chronology that you, thankfully - I totally
36 appreciated your work in preparing that, thank you
37 - did for us. And I'm going to take you to the
38 entry on October 7th, 2004. And this was your
39 summary of the concerns related to the
40 socioeconomic analysis. And I'm not going to take
41 you into why all of these were inaccurate as it
42 related to the analysis - I think we've had enough
43 evidence on that, Mr. Commissioner - but what I
44 wanted to take you to is, as soon as this small
45 group, who's been working hard on this
46 conservation unit, saw the analysis, they fairly
47 quickly identified these concerns; that's correct?

1 MR. SCHUBERT: Yes.

2 Q And so is it right to assume that you could also
3 see that the failure to consider, for example,
4 cyclic-specific issues meant that if they had
5 considered them we would have learnt something?

6 MR. SCHUBERT: It certainly should have impacted the
7 conclusions of the socioeconomic analysis, yes.

8 Q Could you tell me how it would have concluded it?
9 How it would have changed it?

10 MR. SCHUBERT: My belief is, and the Team's belief, was
11 that the costs would have declined

12 Q Can you get more specific? I think it will be
13 useful for the Commissioner to understand why it
14 is that those assumptions are problematic, and if
15 we look at it with a bigger lens we'll have less
16 difficulties.

17 MR. SCHUBERT: Okay, so as I think I mentioned
18 yesterday, there were a couple of issues that we
19 were considering. One, was the fact that we have
20 a four-year cycle and in two of those four years
21 the Adams and other late-run populations are
22 relatively weak and could be -- would be harvested
23 at lower levels. So that could allow some, I
24 guess, relief for Cultus just naturally as part of
25 the four-cycle planning process.

26 The other big issue that arose in 2004 was
27 the total collapse of the Summer run and possibly
28 the Late run - I don't recall - but the
29 implications of that would have been very, very
30 much reduced fishing in 2008 and 2012. So the
31 costs that were attributed in the socioeconomic
32 analysis to those two years would not have
33 occurred and should have been obvious in October
34 that that was the case.

35 Q Do you have anything to add to that, Dr. Bradford?

36 DR. BRADFORD: Well, it's part of, I think, you know,
37 as we've discussed, a shortcoming of this type of
38 analysis and, you know, obviously the authors are
39 constrained by time. But there's tremendous
40 uncertainty in making forward predictions about
41 biology, as we've indicated. And then essentially
42 the economic uncertainties are magnified, because
43 there's uncertainties about costs and revenues and
44 those kinds of things. And so the economic
45 analysis didn't consider uncertainties in its
46 analysis; it was just a -- came up with a single
47 number, if you like, for all of our biological

1 work that carried that uncertainty forward.
2 Q As you would have heard, I asked Dr. Davis about
3 why it was that Sakinaw was listed -- why Sakinaw
4 and Cultus were lumped together. It seems that
5 the group had a similar concern; is that right,
6 Mr. Schubert?
7 MR. SCHUBERT: Yes, we did.
8 Q And can you tell me why your group had a concern
9 around that?
10 MR. SCHUBERT: Because it would have increased the
11 potential impacts of a Cultus listing beyond what
12 would have been required for Cultus. I think the
13 situations with Sakinaw and Cultus were somewhat
14 different in that Sakinaw had declined to a
15 virtually extinct level already, and the decision
16 regarding Sakinaw might have been different than
17 the decision regarding Cultus which, at that
18 point, appeared to be imminently recoverable.
19 Q Anything to add to that, Dr. Bradford?
20 DR. BRADFORD: No.
21 Q The other concern, we've heard, generally, about
22 this notion that you need to look into the future
23 to consider benefits, but as I understand it, the
24 suggestion was that we at least look at 16 years
25 into the future; is that correct?
26 MR. SCHUBERT: I don't recall a timeframe being
27 identified.
28 Q Dr. Bradford, have you?
29 DR. BRADFORD: I don't know an exact number, but I
30 think we recommended that it's a bigger issue than
31 just a four-year one.
32 Q It's about four cycles, is that -- if I've got
33 my --
34 DR. BRADFORD: I suppose.
35 Q -- simple math correct; is that correct?
36 DR. BRADFORD: Those are four cycles, yes.
37 Q Thank you. And so the suggestion is that we at
38 least look into four cycles of projections,
39 appreciating, again, that we've got a lot of
40 variables and uncertainties. Why is it important
41 to look at at least that when trying to look at
42 the benefits of recovery?
43 DR. BRADFORD: Well, I don't know if I would agree with
44 -- four cycles is probably not a bad number. Just
45 like the weather, the further you try and forecast
46 the more unreliable it gets, but I think we are --
47 as history has played out, now, with the 20/20

1 hindsight that we do have, we had, you know, quite
2 variable returns from the salmon, and so the costs
3 and benefits were, you know, varied tremendously
4 from one year to the next as we've seen in the
5 last couple of years.

6 There was this issue of the potential for
7 restrictions, harvest restrictions, early in the
8 period, providing benefits down the road due to
9 increased escapements in some populations, and so
10 those are the kind of factors you want to keep
11 into account looking in the longer term.

12 MR. SCHUBERT: And I think the team felt that all the
13 costs, or the most serious costs would occur in
14 the first four years, whereas the benefits from
15 recovery actions that were being implemented
16 wouldn't start to accrue until the end of that
17 period. So doing things like removing predators
18 and substantially increasing enhancement, you're
19 not going to show any benefit from that until four
20 or five years in the future, and then building
21 rapidly beyond that.

22 Q That's very helpful. And I just want to ask one
23 more questions with respect to that. There was
24 also the failure to consider non traditional
25 fishing options, and I'm wondering if you could
26 expand on that?

27 MR. SCHUBERT: The fisheries management reps on our
28 work group, I think, identified at least a couple
29 of options that weren't considered. The one that
30 I recall is the simple concept of fishing harder
31 about the Vedder mouth. I think there were other
32 options identified in the marine environment, but
33 I don't recall the details on that and it's
34 outside my area of expertise.

35 Q Do you have any comment, or would you agree, that
36 the assumption that all of the FSC, or most of the
37 FSC in the marine fishery would have been shut
38 down as it related to listing Cultus is a very
39 dangerous assumption or an inaccurate assumption?

40 MR. SCHUBERT: My suspicion is it's an inaccurate
41 assumption, given the later timing of Cultus, that
42 could have allowed FSC fisheries earlier in the
43 season, for example. And even, you know, the
44 recovery team's view was that even in fisheries
45 where Cultus might be present, that there's some
46 level of allowable harm was likely if we satisfied
47 Objectives 1 and 2 of the Recovery Strategy.

1 Q And we've heard the evidence, already, about how
2 the culmination of the review of the committee
3 resulted in a letter that went to Mr. Sprout. I'd
4 like you to go to Commission document number 8, if
5 I've got my documents right, and this has not yet
6 been marked as an exhibit, if I've made the notes
7 correctly. And this is an e-mail exchange that
8 resulted after you submitted the letter.

9 Now, Mr. Schubert, you were writing that
10 letter on behalf of the team; is that correct?

11 MR. SCHUBERT: Yes, that's correct.

12 Q And if I've read the minutes correctly, and I
13 don't need to take them to you, but the team
14 directed and decided that you were going to send a
15 letter to the regional director, because that's
16 who had appointed the team; is that correct?

17 MR. SCHUBERT: Yes. It's not that I wrote the letter.
18 The letter was a product of teamwork.

19 Q Right. And that's an important component of the
20 unique role that you were playing on that team; is
21 that correct?

22 MR. SCHUBERT: What is?

23 Q That you were writing on behalf of the team, you
24 were not writing as a DFO person with a particular
25 chain of command in your day job, if --

26 MR. SCHUBERT: I was writing in my capacity as chair of
27 the recovery team, which reported, according to
28 our terms of reference, to the RDG.

29 Q Thank you. And it appears that Mr. Sprout must
30 have misunderstood that; is that correct? Is
31 that's what's reflected in this e-mail?

32 MR. SCHUBERT: Yes.

33 MS. GAERTNER: Could I have this e-mail marked as the
34 next exhibit?

35 MR. LUNN: There was an attached letter as well, did
36 you want that marked?

37 MS. GAERTNER: That attached letter has already been
38 marked as an exhibit. It's Exhibit 918. So I
39 think just the e-mail exchange is all we need.

40 THE REGISTRAR: Exhibit 934.

41

42 EXHIBIT 934: E-mail string between Neil
43 Schubert, Paul Sprout, John Davis, et al, re:
44 Cultus Sockeye Recovery Team: advice on
45 Socio-economic analysis, dated November 19
46 and 23, 2004

47

1 MS. GAERTNER:

2 Q And it's fair to say that that kind of
3 misunderstanding can create difficulties for you,
4 as an employee within the Department of Fisheries
5 and Oceans; is that correct?

6 MR. SCHUBERT: Yes, certainly.

7 Q But it was clear, from the committee's
8 perspective, that they weren't reporting to your
9 area director, they were reporting to at least the
10 regional director?

11 MR. SCHUBERT: That's correct, and it's quite
12 surprising that there was this level of
13 misunderstanding amongst so many members of our
14 executive.

15 Q Now, I got very concerned when, I suppose, my own
16 light bulb went off this morning as I heard that
17 after this exchange it was very soon after that,
18 that's when the team got disbanded, very soon
19 after this letter exchange between the Team and
20 the Department, as it related to their concerns
21 with the socioeconomic factors.

22 To what extent do you think that the
23 challenge the Team had suggested by challenging
24 the socioeconomic analysis that the Department
25 relied upon to decide not to delist influenced the
26 decision to disband the Team?

27 MR. SCHUBERT: I don't really have any specific
28 knowledge on that, but as I said yesterday, there
29 were certainly member of the Team that voiced that
30 view, that we were being disbanded as a team
31 because we had had the audacity to criticize the
32 socioeconomic analysis that was favoured so much
33 by fisheries management.

34 Q And now we're in a bifurcated situation, if I've
35 got that right; we've got an internal Department
36 of Fisheries and Oceans Team and we've got
37 something like the Salmon Team that's working out
38 there; is that a fair analysis?

39 MR. SCHUBERT: The Salmon Team?

40 Q The Salmon Table Team that's --

41 MR. SCHUBERT: Yes.

42 Q -- working on Cultus matters?

43 MR. SCHUBERT: Yes.

44 Q And do you think that's going to be as effective
45 when we're trying to implement collaboratively
46 work on the ground?

47 MR. SCHUBERT: When the decision was made to form the

1 conservation team consisting solely of DFO
2 employees, I had made an effort to link with the
3 Salmon Table to keep them involved in our
4 deliberations and what we were -- conclusions we
5 were coming to. That process hasn't worked all
6 that effectively, but that largely reflects the
7 fact that when the team was formed we were
8 envisioning it kind of as a recovery
9 implementation group equivalent for **SARA**, but
10 because, you know, funding was cut off, we've only
11 been able to discharge parts of the
12 responsibilities that we identified in the terms
13 of reference, and that intense level of
14 consultation with stakeholders is one of the
15 things we had to drop. It is more a coordination
16 and communication vehicle right now, rather than a
17 full scale recovery plan implementation group.

18 Q All right. So we've got that challenge. I
19 wonder, could you let us know whether or not any
20 forward-looking efforts are being made by DFO
21 managers or otherwise to develop models on how to
22 make this transition that may be necessary from
23 mixed stock fisheries into weak stock management?
24 Are we moving ahead and developing the models that
25 were not available at the time in which certain
26 Cultus decisions were made?

27 MR. SCHUBERT: I'm not the person to ask. You should
28 direct that question to one of the fishery
29 managers.

30 Q Are you aware of any scientific biological models
31 being developed on that perspective?

32 MR. SCHUBERT: I'm not.

33 Q Dr. Bradford, are you?

34 DR. BRADFORD: Not directly. I suppose -- are you
35 talking about a computer model or an
36 organizational model?

37 Q A modelling exercise --

38 DR. BRADFORD: Okay.

39 Q -- that would start looking at the options we
40 have, if we want to start moving in towards a weak
41 stock management. The options.

42 DR. BRADFORD: I'm sure that the FRSSI model has that
43 capability, if so desired, in the framework. But
44 I'm not involved in that, so I can't speak to it.

45 Q All right. We've heard lots of evidence on the
46 FRSSI model, so we'll start there. Do you agree
47 that those types of models are going to be useful

1 under both **SARA** implementation and the Wild Salmon
2 Policy implementation?

3 DR. BRADFORD: Of course, yes.

4 MS. GAERTNER: I'm going to turn to another subject,
5 Mr. Commissioner, so would this be an appropriate
6 time to take the break?

7 THE COMMISSIONER: Yes, thank you.

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

10

11 (PROCEEDINGS ADJOURNED FOR NOON RECESS)

12 (PROCEEDINGS RECONVENED)

13

14 THE REGISTRAR: The hearing is now resumed.

15 MS. GAERTNER: Thank you, Mr. Commissioner. Continuing
16 with my questions of you, Panel.

17

18 CROSS-EXAMINATION BY MS. GAERTNER, continuing:

19

20 Q I want to turn briefly to some of the consultation
21 lessons that we might have learnt through the work
22 of the recovery team, and if I could go to Exhibit
23 918, and I'd like to go to attachment 1 which is
24 the meeting notes of a meeting that was held in
25 November 15th, 2004.

26 If I understand it right, Mr. Schubert, you
27 would have been responsible for doing these
28 minutes; is that correct?

29 MR. SCHUBERT: That's correct.

30 Q Right. And I just want to draw your attention to
31 the first page of those minutes, meetings, in
32 which the team is assessing the consultation that
33 occurred in Prince Rupert and Port Hardy and
34 Campbell River and Nanaimo and Victoria, Vancouver
35 and Chilliwack on the listing; is that correct?
36 That's what was occurring at that meeting?

37 MR. SCHUBERT: That was part of the meeting, yes.

38 Q And Dr. Davis was there and hearing the assessment
39 of that consultation?

40 MR. SCHUBERT: Yes.

41 Q And if you could take a moment and -- I don't have
42 it on my screen, but I'm hoping you have it on
43 your screen, those minutes; is that correct?

44 MR. SCHUBERT: Yes.

45 Q And if you could review the bullet points under
46 the consultation feedback and confirm that these
47 are the kinds of concerns that were raised at that

1 meeting and brought to Mr. -- Dr. Davis'
2 attention?

3 MR. SCHUBERT: Yeah, what I have on the minutes is a
4 summary of team member -- of feedback from the
5 consultation sessions that they attended, and most
6 of the comments were negative.

7 Very few First Nations people attended the
8 sessions. Few participants had read the recovery
9 strategies, so a lot of the feedback that was
10 provided wasn't informed by the recovery strategy.
11 There were many unsubstantiated assumptions
12 regarding the Cultus process. There were concerns
13 expressed about the timing of the listing
14 announcement negatively impacted the utility of
15 the consultations 'cause people's minds were
16 focused on something else. Too many issues were
17 covered.

18 The consultations involved not only the three
19 salmon species, but a number of other marine fish
20 species. The impact on getting advice on the
21 three salmon species was diluted. Because the
22 attendance was so poor, there was a gross
23 overbalance between Departmental staff and the
24 public that wanted to attend.

25 Q Thank you. And these accurately reflect the view
26 of the team and the consensus of the team as to
27 the nature of the consultation that occurred?

28 MR. SCHUBERT: This reflected their experience, yes.

29 Q And is there anything else you'd like to add as it
30 relates to the challenges associated with the
31 consultation around Cultus and the listing of
32 Cultus?

33 MR. SCHUBERT: I think those consultations sessions
34 were necessary but, in my experience, the most
35 useful consultations we've had have been the four
36 public meetings that we've had at Cultus Lake
37 where it's very focused discussion on our
38 particular conservation issue.

39 Q And those were co-chaired with Soowahlie Indian
40 Band; is that correct?

41 MR. SCHUBERT: That's correct, Yes.

42 Q And would you agree with me that working at a very
43 local level, as you've just suggested, with the
44 communities that are directly affected by these
45 runs are a very effective way of doing
46 consultation and looking at recovery methods?

47 MR. SCHUBERT: Yes, indeed. The level of turnout was

1 pretty much directly related to how far away from
2 the lake we were.
3 Q Were there any follow-up steps or any ways in
4 which DFO was considering the nature of the
5 challenges associated with this and how to move
6 forward in a better way?
7 MR. SCHUBERT: You would have to talk to someone from
8 Communications. I'm not aware.
9 Q Now, yesterday, you spoke -- and I can't remember
10 which of you it was. It probably was a good
11 combination of the both of you. We spoke about,
12 you know, positive ways of moving forward and how
13 to improve this. You talked about what I'll call
14 a scale-based analysis within the Department of
15 Fisheries, i.e. you're looking at having a broader
16 team that overlooks, at a policy level or
17 otherwise, these issues and then might I suggest
18 more working groups teams that are looking at
19 specific issues, if I heard that evidence
20 correctly, as a way of somehow helping to deal
21 with the amount of tasks and the costs associated
22 with it when looking at multiple species. Is it a
23 good summary?
24 MR. SCHUBERT: That was a point that I raised, yes.
25 Q All right. Do you think DFO would benefit from a
26 more clearly laid out consultation plan with First
27 Nations directly as it relates to listing and
28 recovery plans that would fit into this type of
29 scale-based analysis?
30 MR. SCHUBERT: I'm not aware of what the consultation
31 plan currently is.
32 Q Are you aware that they have a consultation plan?
33 MR. SCHUBERT: For species at risk in general?
34 Q Yes. Did you have one with Cultus? Were you told
35 this is how you should consult with First Nations
36 and this is the process that you should use and
37 this is the schedule you should use, or any of
38 those types of things?
39 MR. SCHUBERT: The consultation schedule is established
40 by the Salmon Recovery Coordinating Committee, so
41 the over-arching body above a recovery team
42 process.
43 Q But they didn't tell you how to do it.
44 MR. SCHUBERT: No, they set it up for us.
45 Q All right. Dr. Bradford, are you aware of
46 anything akin to a consultation process for the
47 development of a recovery plan, or for the

1 consideration of a listing of a **SARA** species?
2 DR. BRADFORD: No.
3 Q Do you agree that such a plan would be useful for
4 you in considering the kinds of work and
5 considering the types of issues and how they may
6 impact First Nations?
7 DR. BRADFORD: Yes, I would.
8 Q And in a number of the documents - and I don't
9 want to necessarily take you to this - but I got
10 the sense that on occasion, either in the past or
11 in the future, there's a suggestion that somehow
12 we could use the Integrated Harvest Committee for
13 doing some of the consultation. Do you agree with
14 me that -- do you think consultation on recovery
15 plans and those types of things should become a
16 harvest management issue with the Harvest
17 Management Committee?
18 MR. SCHUBERT: I think that came from Don Radford's
19 directive to the team in April of 2005. No, I
20 don't particularly agree with that concept at all.
21 Q Dr. Bradford?
22 DR. BRADFORD: I noted it mentioned in the interim
23 protocol and strategy for the Wild Salmon Policy.
24 I think my reference may have been to what I read
25 in the Wild Salmon Policy.
26 Q As I understood your evidence yesterday, Mr.
27 Schubert, you didn't want to be reporting only to
28 management. You clearly wanted to be reporting to
29 Policy and Science; have I got that right?
30 MR. SCHUBERT: That was a condition for me to assume
31 chair of the conservation team, yes.
32 Q And so you'd agree that the development of
33 recovery plans and the consultation associated
34 with that shouldn't be lost somewhere in
35 Integrated Harvest Planning Committee process.
36 MR. SCHUBERT: That's correct.
37 DR. BRADFORD: I would concur.
38 Q Thank you. Just briefly, I'd like to go to our
39 document number 12, and I'm not sure if you would
40 have seen this. Have either of you seen this
41 document before or just as part of the preparation
42 for this hearing?
43 MR. SCHUBERT: Only in preparation for the hearing.
44 DR. BRADFORD: Similarly.
45 MS. GAERTNER: All right. Mr. Commissioner, this is a
46 document prepared by one of our clients as a
47 result of a meeting that occurred and a workshop

1 that occurred in 2003 on a Fish Habitat and
2 Species Recovery Workshop, and particularly I'd
3 like to take the witnesses to a couple of places
4 in this document, and then have it marked as an
5 exhibit. I think it will be useful.

6 Q Do you agree that traditional ecological knowledge
7 could play and did play a role in assessing and
8 designating populations whether or not they're at
9 risk or potentially at risk, and then an important
10 role in the directing the scope of recovery and
11 the options for recovery?

12 MR. SCHUBERT: I think, yes, traditional or aboriginal
13 traditional ecological knowledge can play an
14 important role. With the Cultus process, we
15 actually retained an anthropologist through the
16 Soowahlie First Nation at the start of the process
17 to try to pull together some of the traditional
18 ecological knowledge, both from the First Nations
19 community and from the general public in the area.
20 We have a report on that.

21 Q Dr. Bradford, would you also agree that that's a
22 useful way of looking at assessing populations and
23 developing recovery plans?

24 DR. BRADFORD: Yes, I would.

25 Q And I'd like to turn to page 11 of that document
26 if I might, and in it, there is that suggestion
27 that traditional ecological knowledge would be
28 useful, and then they also suggest there that it
29 would be -- that most successful recovery plans
30 are led by communities, and you would also agree
31 with that suggestion?

32 MR. SCHUBERT: I'm trying to think of a successful
33 recovery plan.

34 Q Well, let's --

35 DR. BRADFORD: May I comment?

36 Q Yeah, sure.

37 DR. BRADFORD: There is this scale issue, so if you
38 think of Cultus Lake, there are many issues at
39 Cultus Lake and there's an active community that
40 we've talked about. But, of course, there are
41 issues outside of the local community that are
42 relevant for Cultus Lake sockeye and they might be
43 less involved with or less affected by or less
44 influence by that, so I think that's where --
45 there are multiple scales, but certainly at the
46 core of this is the local community.

47 Q And so you might, then, be more inclined to the

1 later bullet which says [as read]:
2

3 Model for recovery planning should involve a
4 tiered process in order to accommodate TEK
5 for example outside of public forums...
6

7 And it's:
8

9 ... important to simplify scientific terms to
10 accommodate bridging of science and
11 stewardship.
12

13 Those types of approaches. So we've got the
14 tiered approach, as you've mentioned, you've got
15 broader perspectives or broader issues that will
16 come to bear, and also very local issues, at local
17 issues, the traditional ecological knowledge could
18 be extremely useful.

19 DR. BRADFORD: Certainly, yes.

20 MS. GAERTNER: Could I have this marked as the next
21 exhibit, please?

22 THE REGISTRAR: Exhibit 935.
23

24 EXHIBIT 935: Report on Fish Habitat &
25 Species Recovery Workshop, May 26-27, 2003
26

27 MS. GAERTNER:

28 Q From your own experiences, using traditional
29 ecological knowledge, would you agree that it
30 needs to be well planned and your example, for
31 example, was you used an anthropologist to try to
32 gather that information who had involvement with
33 the community; is that correct?

34 MR. SCHUBERT: Yes.

35 Q And it involves technical interviews and
36 interactions with interviews. It's not just a
37 fishing expedition where you go out and you might
38 ask a few elders a few questions; is that correct?

39 MR. SCHUBERT: No, I agree with that, yes.

40 Q And that those questions need to be well planned
41 and that there needs to be an iterative process
42 between the community and those who would rely on
43 that information.

44 MR. SCHUBERT: Yes.

45 Q Dr. Bradford, do you have anything to add to that?

46 DR. BRADFORD: In my experience, not so much with
47 Cultus, but in other locations is that it also

1 takes time, and time to build trust and, I guess
2 in a way, to gain access and to get information to
3 flow. Of course we've seen in this process that
4 time sometimes is their worst enemy.

5 Q And that information flow needs to be both ways.

6 DR. BRADFORD: Certainly, yeah.

7 Q All right. So I want to now turn to my second-to-
8 last -- or third-to-last matter that I want to
9 cover with you, and I'd like to go to Exhibit 804.
10 I want to go to page Roman numeral (vi) of the
11 abstract if my might.

12 Dr. Bradford, my question here is of you.

13 This is the 2010 assessment of Cultus Lake and I
14 want to take you to that abstract, and in it, I
15 read these words:

16
17 ...recovery of the Cultus Lake sockeye salmon
18 population is highly uncertain...
19

20 Would you agree with that assessment? That was
21 the assessment as of 2010.

22 DR. BRADFORD: That's correct.

23 Q All right. And if I've heard the evidence
24 correctly from all of the hard work that's been
25 going on, there's no smoking guns as it relates to
26 the various different habitat issues. You're
27 going to keep your eye on those, but you didn't
28 find any big smoking guns in the habitat; is that
29 correct?

30 DR. BRADFORD: Yes, that's fair. The habitats are at
31 risk because of the activities, but we haven't
32 identified that that was the cause of the --

33 Q All right. So you've got to keep your eye on
34 those and keep watching that, but it's not the
35 cause. And if I've got this right, there's a need
36 for biological reasons to phase out the captive
37 brood stock; is that right?

38 DR. BRADFORD: Yes.

39 Q So we've lost insurance policy number 1.

40 DR. BRADFORD: We'll retain this supplementation
41 program, so it'll provide some insurance, but not
42 to the level that we had.

43 Q All right. And then we've got the potential of
44 the hatchery closing within the next couple of
45 years, so insurance policy number 2 may be lost
46 again; is that correct?

47 DR. BRADFORD: Oh, hang on. The thinking is that the

1 supplementation program could continue
2 continuously till we've achieved recovery to a
3 sufficient level. But the captive breeding
4 program is the one that keeps the parallel
5 population in captivity, and that's the one that
6 we're winding down.

7 Q All right. I had actually heard that - I thought
8 from you, Mr. Schubert - that there is the
9 potential that the hatchery program will also be
10 phased out in the next few years, or possibly.

11 MR. SCHUBERT: Our ultimate goal is a wild population
12 that doesn't need to be supplemented by
13 enhancement or -- our tactic right now is to
14 review enhancement in 2013, which coincides with
15 the last year that we have captive breeding, fry
16 being released into the lake, and to determine
17 whether further supplementation through Inch Creek
18 would be necessary at that point.

19 Q And in two years, no one's anticipating a fully
20 successful able-to-be-exploited Cultus Lake run,
21 are we?

22 DR. BRADFORD: No, no.

23 Q All right. And if I understood your evidence
24 right, Dr. Bradford, when we turn to objective 1
25 of the recovery plan, it was only with the
26 surprise event of 2010 that we met that objective;
27 is that correct?

28 DR. BRADFORD: We actually haven't met the objective,
29 strictly speaking, because we still have years
30 where there's been less than 500 successful
31 spawners in the lake, 2007, 2008. But we're
32 getting much, much closer than we were.

33 Q Right. So the suggestion that was made by Mr.
34 Harvey earlier, that we could actually move -- if
35 it had been listed, we could move to delisting
36 because we had met objective 1 is incorrect.

37 DR. BRADFORD: I don't think anyone would suggest that
38 objective 1, the achievement of object 1 would be
39 anywhere close to a delisting level of abundance,
40 so it's just an intermediate step to get off life
41 support, if you like.

42 Q All right. And if we acknowledge that we're at a
43 time in which we'll have to use very precautionary
44 approaches to the access to Cultus Lake or any
45 stock that was in such dire need, is it fair to
46 say that we're going to -- if we don't have the
47 ability to rely on the captive brood stock, and we

1 may or may not have the hatchery back up, and we
2 don't have any smoking guns in the habitat, we're
3 going to have to be very careful about
4 exploitation rates in the marine environment.

5 DR. BRADFORD: There will need to be a planning process
6 for exploitation in all environments that Cultus
7 salmon would be -- or fisheries would occur in.

8 Q Fair enough. So we're talking marine and the
9 lower Fraser until we get to Vedder, then; is that
10 correct?

11 DR. BRADFORD: Sure, and in the Vedder River and the
12 Chilliwack River, so --

13 Q Right. So we're going to have to be very careful,
14 because that may be the only method that will be
15 able to ensure returns is to be very careful about
16 the human predator, the exploitation rate; is that
17 right?

18 DR. BRADFORD: Yeah, I think that careful planning is
19 going to be necessary, yes.

20 Q Now, I just want to ask two clean-up questions if
21 I may. I'm not sure I heard your evidence right,
22 Dr. Bradford, and so I want to make sure I did and
23 that we've got this correct. In your answers to
24 Commission counsel yesterday, I thought I heard
25 you say that it's really smolt returns, once we've
26 got them out in the marine, that you're worried
27 about, that we're worried about returns. By that,
28 I take it to mean that you're worried about adult
29 returns that are coming back to spawn. We can't
30 tell how much Cultus adult returns have occurred
31 in the marine at this point in time, can we? I
32 mean, other than through DNA, that's all we've
33 got, and Cultus is a very small stock. Have I go
34 that correct?

35 DR. BRADFORD: Yes. So we do very accurate counts at
36 this counting fence at the lake that you've heard
37 about, the number of spawners --

38 Q Yeah, but once they've been separated out, right?

39 DR. BRADFORD: Right. And then the Pacific Salmon
40 Commission tries to estimate the exploitation rate
41 on Cultus Lake using information from more
42 abundant stocks that migrated at the same time
43 hopefully, although there's some uncertainty in
44 that.

45 So we could then estimate the total number of
46 fish return to coastal waters based on the count
47 of fish at the spawning fence, plus an estimate of

1 how many fish were removed in the fishery.
2 Q You'll agree with me that we don't have an
3 accurate sense of the strength of the Cultus Lake
4 return when marine fisheries could be occurring.
5 DR. BRADFORD: No, in real time so to speak?
6 Q In absolutely real time, in-season time. That's
7 pretty well all we can rely on.
8 DR. BRADFORD: No, no.
9 Q We don't have that.
10 DR. BRADFORD: No.
11 Q So we're going to have to be careful about that
12 type of fishery, if we're going to try to protect
13 Cultus.
14 DR. BRADFORD: That's right. We're using other stocks
15 as proxies.
16 Q One more quick question on Cultus, and then I have
17 I think five more minutes of my time. What was
18 the role of the Cultus Lake recovery team in the
19 DFO action plan for MSC certification?
20 Specifically in respect of advising on the
21 conditions related to Cultus, was there any role?
22 MR. SCHUBERT: None whatsoever.
23 Q So you, yourself, were never consulted?
24 MR. SCHUBERT: No. I was only aware of the provisions
25 in the MSC plan by pulling it off the website
26 myself.
27 Q Maybe I'll just ask the question that I consider
28 to be brave. One of the observations that I have,
29 having listened to your evidence and the
30 challenges that are associated with the kinds of
31 work you were doing, and I applaud you for the
32 interest, multi-sectoral work and all of that, is
33 that there's a real disconnect between your work
34 and what's going on at any other level of DFO as
35 it relates to this particular run. Would you
36 agree with me on that?
37 MR. SCHUBERT: Yes, I would.
38 Q And what can we do to improve that? Like what's
39 going on?
40 MR. SCHUBERT: I think our current status is pretty
41 much an ad hoc team that's related to, I guess,
42 the ease with which our activities are ignored by
43 regional headquarters. Formalizing the process as
44 a recovery implementation team would address that,
45 or as a WSP response team if the Department
46 chooses to go that route.
47 Q So when you say formalizing the process, does that

1 include also making sure that you have more
2 decision-making authority?
3 MR. SCHUBERT: I don't know if we want decision-making
4 authority, but certainly it would be -- to have a
5 formal process where advice could be aired would
6 be useful.
7 Q And would it be useful for when that advice is not
8 going to be acted upon, you get the opportunity to
9 understand why before a decision is made?
10 MR. SCHUBERT: Certainly, yes.
11 Q In the few minutes I have left, I'm going to
12 direct my questions to Dr. Bradford. Dr.
13 Bradford, your counsel was so kind at Tab 16 of
14 their documents, of Canada's documents, to alert
15 me to the fact that you have some expertise as it
16 relates to yellow perch; is that correct?
17 DR. BRADFORD: Yes, I conducted some risk assessments
18 for these invasive species.
19 MS. GAERTNER: Mr. Commissioner, I know I'm not on
20 topic. You heard about yellow perch in the
21 context of the predator discussions we had further
22 -- but the witnesses there were unable to answer a
23 couple of questions we had, so I think it's an
24 opportune time to ask just a couple of questions
25 on this topic.
26 Q If I could go to page 7 of that report. You're
27 familiar with this report?
28 DR. BRADFORD: Yes, I am.
29 Q And I'm going to just briefly ask you to look at
30 the two paragraphs at the top of the page, if you
31 need to. It's on the section on Thompson Region,
32 the South Thompson River watershed. You'll see
33 that from the previous page. If you see at the
34 top of page 7, clearly yellow perch is an
35 unauthorized introduction into the Thompson
36 Region, correct?
37 DR. BRADFORD: Correct.
38 Q This report confirms that at least as it relates
39 to two sockeye salmon rearing lakes, they're
40 showing up in the Thompson Region; is that
41 correct?
42 DR. BRADFORD: I think -- are you reading "Exceptions
43 are provided by Hiuihill and Sinmax Creeks," that
44 sentence?
45 Q That's right. Have I go that right?
46 DR. BRADFORD: These are streams that drain into some
47 of the big lakes in the Shuswap Basin.

1 Q Maybe take a minute, if I may, to explain why
2 yellow perch can be a significant concern for
3 sockeye salmon?

4 DR. BRADFORD: It's a significant risk in the sense
5 that it's a species that's highly proactive --
6 proliferate, and in small lakes we've seen in
7 British Columbia, it's wiped out trout populations
8 through competition. It's difficult to predict
9 what effect it might have in large lakes, but
10 certainly in the Great Lakes, it acts as a
11 planktivore in the open waters and would compete
12 with sockeye salmon for food, as well as being a
13 predatory fish in the near-shore environment. So
14 it's an invasive species that has considerable
15 potential.

16 Q And, to the best of our knowledge, how does it get
17 introduced into these systems?

18 DR. BRADFORD: Something called the bucket brigade.

19 Q Which is...?

20 DR. BRADFORD: Which are perhaps well-meaning -
21 although I'm not sure - possibly anglers who bring
22 them in buckets and release them.

23 Q And what steps do we need to take with DFO or what
24 steps is DFO taking to make sure this doesn't
25 happen?

26 DR. BRADFORD: There's quite an extensive effort in the
27 Shuswap Basin involving the province, DFO, First
28 Nations and local community groups to, first of
29 all, monitor this. They've done quite a bit of
30 educational work on the dangers of these kinds of
31 introductions. They've used the salmon in the
32 classrooms to talk to, you know, school kids about
33 invasive species. There's a lot of education,
34 because it's very difficult to catch people doing
35 this, and we do rely on the eyes and ears in the
36 community to hopefully dissuade people from doing
37 this, or catching them.

38 There have been efforts to eradicate the fish
39 from some of the small lakes.

40 Q My understanding, and my clients' understanding,
41 is that some of that funding is also being
42 eradicated, i.e. reduced. Is that your
43 understanding?

44 DR. BRADFORD: Yeah, I'm not intimate, but it's been a
45 struggle on the funding side of things. The
46 Department has many invasive species issues to
47 deal with from one coast to the other.

1 Q Would you agree with me that given the
2 identification of these species in the sockeye
3 salmon streams, that we should be carefully
4 monitoring this and increasing funding, both from
5 an education perspective, and if we need to, for
6 an eradication perspective?

7 DR. BRADFORD: I think more can be done, yes.

8 MS. GAERTNER: Those are my questions, Mr.
9 Commissioner.

10 MS. TESSARO: I'm not sure, Mr. Commissioner, that the
11 document on the screen has been marked.

12 MS. GAERTNER: Thank you very much. Could I have this
13 marked as the next exhibit?

14 THE REGISTRAR: Exhibit 936.

15 MS. GAERTNER: Thank you very much, and those are my
16 questions.

17

18 EXHIBIT 936: Runciman and Leaf, A Review of
19 Yellow Perch, Smallmouth Bass, Largemouth
20 Bass, Pumpkinseed, Walleye and Northern Pike
21 Distributions in BC, 2009
22

23

MR. TIMBERG: I have two questions for re-examination.

24

25 CROSS-EXAMINATION BY MR. TIMBERG, continuing:
26

27

Q Dr. Bradford, earlier Mr. Harvey was asking you
28 about the supplemental release program and what
29 fish get counted and what fish do not get counted
30 in the returns. So my question is as follows:
31 For recovery objective number 1, why do you not
32 include spawners used in the hatchery program in
33 arriving at the 500 spawner minimum?

34

DR. BRADFORD: Well, the objective was designed to
35 maintain genetic diversity, genetic variability
36 within the population, so a minimum number of
37 spawners in that breeding population.

38

39 It's true that the hatchery fish are bred in
40 a separate environment, and so it could be
41 considered part of it. But I think we were
42 thinking, at the time, of just evaluating the
43 numbers of fish spawning in the lake on their own,
44 not as part of the hatchery program. So it's a
45 convenience, I guess, in a way, because we haven't
46 really thought about how to include the hatchery
47 fish in with the fish spawning in the lake.

Q

All right. And my other question is also for you,

1 Dr. Bradford. With respect to the yellow perch
2 that you've just spoken about, can you explain
3 your knowledge of the actual numbers and locations
4 of yellow perch?

5 DR. BRADFORD: That document that was just up I think
6 documented the occurrence of yellow perch mainly
7 in small lakes throughout the Shuswap. They're
8 also common in the Okanagan Basin and other
9 locations in southern B.C. where they've been
10 introduced, and so far only a handful have been
11 found in Adams Lake which is a major sockeye-
12 producing lake. So they haven't yet made it into
13 the large lakes yet.

14 Q All right. Thank you.

15 THE COMMISSIONER: I just have one question if I might,
16 Ms. Tessaro.

17 MS. TESSARO: Yes.

18
19 QUESTIONS BY THE COMMISSIONER:

20
21 Q I'm not going to go to the transcript, Doctor, I
22 think the point's very straightforward. You were
23 essentially asked what is an important recovery
24 measure, and your answer was for all sockeye, a
25 major driver is the survival of smolts as they
26 make their way out to sea.

27 In the discussions that you and Mr. Schubert
28 -- or the answers you've been giving the last two
29 days, you've been directed to specific elements of
30 what happens to the spawners and what's going on
31 in the lake. Can you explain to me how it's
32 possible to design a recovery plan unless you know
33 an awful lot about that two-year period that the
34 sockeye are spending in the marine environment?

35 DR. BRADFORD: That's a good point. I think it's true
36 that the trends on what's going on in the lake,
37 late (sic) river and marine environment really
38 dictate the large-scale trends in salmon
39 populations. We have limited ability to predict
40 that as we've seen in the last couple of years,
41 and so I think we've noted in my 2010 report and
42 other places, that populations will be very
43 difficult to recover if we're facing sustained
44 periods of poor survival in the ocean, and if we
45 have a run of good survival in the ocean, the
46 populations will recover on their own quite
47 easily. So we're definitely at the whims of the

1 ocean, I suppose, in that regard.

2 Q I've seen in the documents, and I think perhaps
3 you and Mr. Schubert have also used the term that
4 the Cultus Lake sockeye are unique. Does that
5 mean that their behaviour and the circumstances
6 under which they survive or don't survive in the
7 marine environment are unique as well? In other
8 words, that there are things happening to them or
9 that they're susceptible to perhaps contracting
10 things that other species of sockeye might not.

11 DR. BRADFORD: Unfortunately we don't have that kind of
12 level of information in the ocean. The only
13 indicator we have of the outcome, the survival
14 rate of the smolts and, as I mentioned, in the
15 last decade or so, it's been fairly similar to
16 that of the Chilko population, suggesting they
17 aren't unique in that regard. They are affected
18 by similar conditions.

19 THE COMMISSIONER: Thank you very much.

20 MS. TESSARO: Mr. Commissioner, if I may be permitted
21 to just ask one question in re-examination.

22
23 RE-EXAMINATION BY MS. TESSARO:

24
25 Q Dr. Bradford, you were asked by Mr. Timberg if the
26 recovery strategy is working, and you noted in
27 your answer that there's aspects of the recovery
28 strategy that are working, noting for example the
29 pikeminnow effort. Then you also said that
30 restrictions on harvest have likely helped. For
31 clarity of the record, what restrictions on
32 harvest were you referring to?

33 DR. BRADFORD: Well, we didn't take the time to figure
34 out, on a year-by-year basis, if harvest was
35 restricted for Cultus Lake relative to general
36 restrictions on harvest, but we did notice in the
37 report that harvests in the recent period have
38 been much lower than they were historically. So
39 by the nature of harvest, the reduction in harvest
40 should result in more fish coming back to the
41 lake.

42 Q So just to be clear, you did not consider in that
43 2010 report the exploitation targets that were set
44 annually in relation to --

45 DR. BRADFORD: No, we didn't analyze the behaviour of
46 the fishery or the regulations or the targets and
47 that sort of thing.

1 MS. TESSARO: Thank you.

2 MR. WALLACE: Mr. Commissioner, we'll be starting
3 another panel in a few minutes. I'm wondering if
4 before we do that, and before we perhaps take a
5 short break, there's a document, Exhibit 892F
6 which is marked "secret" but is no longer secret.
7 So we now have a version of it where it bears the
8 signature of Acting Director of Policy, Pacific
9 Region, to make it clear that it's not a secret
10 document. We have, as an exhibit, and I'd ask
11 that the document bearing Ms. Nener's signature of
12 declassification be put in to replace the one that
13 doesn't have it.

14 THE COMMISSIONER: Thank you, Mr. Wallace, that's fine.

15 MR. WALLACE: And if I may thank these two witnesses.

16 THE COMMISSIONER: Yes, I wanted to thank Dr. Bradford
17 and Mr. Schubert very much for attending here and
18 for answering the questions of counsel and
19 providing all of us with the benefit of your
20 knowledge. Thank you very much.

21 DR. BRADFORD: Thank you.

22 MR. SCHUBERT: Thank you, Mr. Commissioner.

23 MR. WALLACE: Would this be a convenient time to --

24 THE COMMISSIONER: Yes. Yes, thank you.

25 MR. WALLACE: -- take a 15-minute break?

26 THE REGISTRAR: The hearing will recess for five
27 minutes.

28
29 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS)
30 (PROCEEDINGS RECONVENED)
31

32 THE REGISTRAR: The hearing is resumed.

33 MR. WALLACE: Mr. Commissioner, Brian Wallace,
34 Commission counsel, and Lara Tessaro is with me.
35 For the balance of the afternoon and tomorrow
36 morning, you will be hearing from Jeffery Young
37 and Brian Riddell, both of whom have been here
38 before. Perhaps, Mr. Giles, you could remind them
39 of...

40 THE REGISTRAR: Yes, gentlemen, you've been in before,
41 and we will consider your oaths to still be in
42 effect. Thank you.

43
44 JEFFERY YOUNG, recalled.

45
46 BRIAN RIDDELL, recalled.
47

1 MR. WALLACE: The estimate of time here on this panel
2 will take us through to the noon break tomorrow,
3 Mr. Commissioner. I plan to be done in a little
4 less than an hour. The Conservation Coalition,
5 we've allotted 35 minutes, two more than anybody
6 else because Mr. Young is represented by the
7 Conservation Coalition. Canada has advised it has
8 no questions for this panel and we've allotted 20
9 minutes to each of the other five participants who
10 have indicated a desire to question, and that
11 should all work out.
12

13 EXAMINATION IN CHIEF BY MR. WALLACE:
14

15 Q Let me start, Mr. Young, with you. You are here
16 from the David Suzuki Foundation. Can you just
17 tell us a little bit about the role the David
18 Suzuki Foundation has had with respect to advocacy
19 relating to watershed planning, ecosystem
20 management and issues related to the Wild Salmon
21 Policy?

22 MR. YOUNG: Well, I've been with the David Suzuki
23 Foundation since 2005. We've been involved with
24 wild salmon conservation long before that,
25 actually, since our inception over 20 years ago.
26 We've been involved with a wide range of projects
27 related to marine use planning, freshwater
28 conservation, marine conservation, salmon,
29 throughout that period of time. I think it's
30 quite a long list, actually. I don't know if that
31 would be worth going through entirely.

32 With respect to the Wild Salmon Policy, we
33 were involved in working with other ENGOs before
34 the release of the policy in terms of providing
35 input and review of early drafts. We were engaged
36 with some conversations about finalization of the
37 Wild Salmon Policy, communicated about it when it
38 came out in 2005, and since that time, have
39 undertaken a range of projects actually related to
40 seeing the Wild Salmon Policy effectively
41 implemented.

42 We see it as a very useful policy,
43 essentially defining conservation, a critical
44 element given that conservation has been
45 identified as Fisheries and Oceans Canada's
46 overriding mandate. It's included producing a
47 number of reports evaluating means by which we

1 could see the policy effectively implemented as
2 well as having numerous meetings with Fisheries
3 and Oceans and other stakeholders around
4 implementation.

5 Q Thank you. One of those publications from the
6 Foundation is already an exhibit, Exhibit 715,
7 "The Will to Protect".

8 MR. WALLACE: Another of those publications is called
9 "Returning Salmon" which is in Tab 10, Mr. Lunn,
10 of the Commission's documents. This is called
11 "Returning Salmon, Integrated Planning of the Wild
12 Salmon Policy of B.C., 2009; Knowledge,
13 Integration in Salmon Conservation and Sustainable
14 Planning Towards Effective Implementation of the
15 Wild Salmon Policy, Strategy 4".

16 Well, we'll be dealing with Strategy 4. Oh,
17 I'm sorry, I've got the -- I failed to draw a
18 line. Sorry, "Returning Salmon, Integrated
19 Planning of the Wild Salmon Policy of B.C., 2009".
20 Can you just briefly tell the Commissioner what
21 that document covers? I don't think we need to go
22 in any detail.

23 MR. YOUNG: So that document was produced recognizing
24 the integral role of Strategy 4 under the Wild
25 Salmon Policy integrated planning, and figuring
26 out how to do that effectively we saw as probably
27 one of the key challenges and key opportunities in
28 seeing the Wild Salmon Policy forwarded. So we
29 commissioned some folk to help us figure out some
30 useful recommendations to pursue strategy 4, and
31 in particular, reviewed some central coast
32 planning efforts as kind of a case study.

33 So that report provides some recommendations
34 on methods by which we could undertake integrated
35 planning in a way that would help move the Wild
36 Salmon Policy forward.

37 MR. WALLACE: Thank you. We will, I think, come closer
38 to that document when we deal with Strategy 4, Mr.
39 Commissioner.

40 Could we mark that, please, as the next
41 exhibit?

42 THE REGISTRAR: Exhibit 937.

43
44 EXHIBIT 937: Document titled "Returning
45 Salmon, Integrated Planning and the Wild
46 Salmon Policy in BC" prepared for David
47 Suzuki Foundation

1 MR. WALLACE: Thank you.

2 Q Dr. Riddell, your c.v. is also before the
3 Commission in Exhibit 108, and just to remind
4 everyone, you're the CEO of the Pacific Salmon
5 Foundation. Can you just very briefly tell --
6 remind the Commissioner the mandate of the Pacific
7 Salmon Foundation?

8 DR. RIDDELL: Pacific Salmon Foundation is a charitable
9 non-profit organization. We're entering our 25th
10 year next year. The goal of it is to restore
11 salmon habitat in British Columbia and the Yukon
12 and to further our objective of conservation of
13 salmon throughout B.C.

14 Since joining, I think another agenda that we
15 have is to be much more vocal about the state of
16 salmon, and to try and promote more public
17 awareness of the need to -- and not take them for
18 granted and to promote their conservation. We
19 largely find money to fund community groups is the
20 role of the foundation.

21 Q And what are some of the processes you're engaged
22 in? B.C. Living Rivers program, what is that?

23 DR. RIDDELL: Well, B.C. Living Rivers is actually just
24 one of a number of funding programs. The
25 Foundation functions with basically four programs.
26 One, I call our core program, is community salmon
27 projects. This is the program that the Foundation
28 began with. It's actually funded by some money
29 from the salmon conservation stamps that
30 recreational anglers have to purchase, and then
31 the Foundation raises other funds to try and match
32 that money. Those funds are directed back to
33 volunteers and community groups to do work in the
34 stream habitat restoration, conservation programs,
35 governance activities.

36 In 2006 through 2011, just March of this
37 year, we did have, by far, our largest program
38 which is the Fraser Salmon Watershed Project, also
39 working with volunteer programs, but also because
40 it's much larger, we were able to pay some labour
41 costs. That's where the B.C. Living River's funds
42 were actually used. They were then matched by the
43 Department of Fisheries and Oceans, and so the
44 total income that we were working with is about
45 \$16.5 million that would be allocated out to
46 community groups and both of those programs have
47 sunsetted this year. So they basically are coming

1 to an end.

2 The other programs in the Foundation are
3 really for fundraising, communication and
4 education. Then we have basically an events
5 program to try and raise funds to put back to
6 communities.

7 Q Thank you, Dr. Riddell. You mentioned funding
8 from DFO. Can you just explain to the
9 Commissioner, please, what other connections there
10 are between the Pacific Salmon Foundation and the
11 Department of Fisheries.

12 DR. RIDDELL: Well, the only ongoing agreement is the
13 Salmon Conservation Stamp. That was just re-
14 signed this year, so for the next five years we
15 continue the agreement where approximately, right
16 now, one dollar out of every \$6.30 is directed
17 back to the Pacific Salmon Foundation, and those
18 funds are closely monitored through a joint
19 Department of Fisheries and Oceans and PSF group
20 that monitors the application of the money to
21 projects every year. The program I was referring
22 to, the Fraser Salmon Watershed Program, it has
23 sunsetted, so that will no longer be funds from
24 the federal government.

25 The only other tie there would be personally
26 I have an appointment with the Pacific Salmon
27 Commission as an alternate Canadian Commissioner,
28 but that's only for a very limited number of days
29 a year.

30 MR. WALLACE: Thank you. If I could just add, the
31 purpose of this panel, Mr. Commissioner, is to
32 hear from these experts on what they see the
33 rolling out of the - all of a sudden - the Wild
34 Salmon Policy over the years. We've heard before
35 from Dr. Riddell about its origins, and now we're
36 coming back to hear from him on how it looks from
37 the outside, and Mr. Young similarly, how it looks
38 from the outside.

39 Mr. Young, if you could very briefly just
40 tell us what are the merits of the Wild Salmon
41 Policy?

42 MR. YOUNG: As mentioned, it's been clearly identified
43 that conservation is the priority mandate for DFO,
44 and that's appropriate given that conservation is
45 central to ensuring there's fish available for
46 other uses.

47 It's my view that the Wild Salmon Policy

1 essentially defines conservation for wild salmon
2 in B.C. in a very practical way, a way that
3 acknowledges the role of biodiversity in
4 conserving salmon. It does a good job of
5 identifying what unit of diversity is appropriate,
6 or at least a process by which each unit of
7 diversity is appropriate to conserve, not just for
8 maintaining salmon, but also supplying benefits to
9 users.

10 It integrates habitat conservation and
11 ecosystem considerations, key elements of ensuring
12 conservation for salmon, so it's comprehensive in
13 that sense, and it identifies both the need for
14 involvement by participants at the watershed scale
15 in particular, but otherwise as well, in the
16 planning around the conservation of salmon and the
17 need for independent review of the success of the
18 policy. So all those are really important
19 elements, and essentially we see it as central to
20 moving forward with salmon management and actually
21 having effective salmon management for the benefit
22 of salmon, but also for users.

23 Q Dr. Riddell, how would you put it?

24 DR. RIDDELL: Well, I think Jeff has done a very nice
25 job on summarizing the strategies of it. I always
26 describe it as being a comprehensive management
27 framework that really looks forward as well as
28 looking at managing fisheries in the current
29 context. Because of the pressures that we do have
30 coming, such as climate change and the continuing
31 development in British Columbia, we are going to
32 have continued pressures on Pacific salmon.

33 The vision of the Wild Salmon Policy was that
34 the basis of the future is protecting biodiversity
35 in Pacific salmon, but you can't protect that
36 without protecting the habitat and considering
37 their ecosystems.

38 Well, I guess you'll start tomorrow talking
39 about Strategy 4 which I really see as the
40 difficult task. I mean, the others have taken us
41 more time than we would have liked I think in the
42 Department. The real challenge is making it
43 effective by dealing with the people that are
44 affected by decisions. So Strategy 4 really is
45 what I think we considered in the Department at
46 the time, and I still consider, the key
47 development in making this all effective for the

1 future.

2 Q Has the principles in the Wild Salmon Policy been
3 recognized in other work internationally or in
4 Canada? I recall you saying at one point that
5 there was a gold standard for...

6 DR. RIDDELL: Well, presuming you're talking to me
7 again, it's --

8 Q Yes, yes.

9 DR. RIDDELL: Yes, I've had people from the United
10 States and Japan describe it really as the sort of
11 standard to use for salmon conservation. I think
12 Jeff has already hit the highlights of it. I
13 mean, you really do need to be looking at what is
14 the basis of the resource when they're going to be
15 challenged by a changing environment. That comes
16 down to the biological or genetic diversity of the
17 salmon and their habitats.

18 So, yes, it has been described as a gold
19 standard for conservation.

20 Q Still with you, Dr. Riddell, in terms of your
21 concerns, you mentioned the slow pace of bringing
22 Strategies 1, 2 and 3 into place. What other
23 concerns do you have about the implementation of
24 the Wild Salmon Policy?

25 DR. RIDDELL: Well, limiting it to Strategies 1, 2, 3,
26 I think the slow pace is one that were both
27 technical and I think process the issues that have
28 limited the pace of it. I think that some of the
29 difficult new procedures developed - for example,
30 defining the conservation units, getting the basic
31 map data together so that the analyst could define
32 the conservation units. Doing the consultations
33 on the conservation units has actually been very
34 smooth. I think the method has been fairly widely
35 endorsed. The people that have been accepting
36 comments have been responsive, so even now, new
37 documents - we'll be talking about the
38 conservation units - have evolved since the first
39 draft.

40 The habitat work proceeded fairly quickly in
41 the first two years. Now some of the
42 implementation, in terms of monitoring, doesn't
43 seem to be proceeding as quickly. There
44 definitely has been a lagging in getting Strategy
45 3 out and I would freely admit that I was unable
46 to really get that out before I left, and I
47 haven't seen it in the two-and-a-half years since

1 I left. So I mean all we really want to do now is
2 get a white paper out there so people agree.

3 Implementing ecosystem values is a fairly
4 broad topic and so we need to take it down to a
5 more practical level. Some of the work that the
6 ENGOs have done, and particularly David Suzuki
7 Foundation, has provided useful talking documents.
8 But Strategy 3 clearly needs to have more effort
9 put to it.

10 Q Doctor, would you say that the policy has lost
11 momentum in its implementation? You I think
12 suggested that it started off fairly well and
13 nothing much has happened lately.

14 DR. RIDDELL: Well, I think that when you look at the
15 pace of change that it may seem to have lost
16 momentum in the last couple of years. I think it
17 may also simply be that you are now tackling some
18 of the tougher questions. I would say that your
19 discussion on Strategy 4 will demonstrate that in
20 the next day.

21 I think the issue on ecosystem-based
22 management people had expected the Department at
23 the time -- but others haven't really proceeded a
24 long way in proceeding with that either. So I
25 think we do need a bit of a rejuvenation in a
26 couple of the strategies to make it really go a
27 little quicker now.

28 Q Would you suggest a reinforcing of this as a
29 priority within DFO? Is that an issue?

30 DR. RIDDELL: Well, I guess I could only offer an
31 opinion in the sense that from just seeing at the
32 rate that we're proceeding and the number of
33 people that are doing work in it, it probably does
34 need a bit of a repriorization to move it forward
35 a little quicker.

36 I'm concerned, as having a lot invested in
37 this in the past as you all know here, the longer
38 this languishes, the less sort of enthusiasm
39 people have for change, and particularly, again, I
40 think Strategy 4 will demonstrate this. I think
41 it has the components that will be an effective
42 management framework for the future, but it really
43 needs to move forward at a pace that people can
44 really appreciate the value of it.

45 Q Thank you. Mr. Young, your concerns? You
46 mentioned the slow pace as well.

47 MR. YOUNG: Yeah, I agree with everything Brian said so

1 far, so I won't repeat those. I'll suggest around
2 Strategies 1 and 2 in particular, that having
3 conservation units defined, benchmarks defined for
4 them, assessment of status relative to those
5 benchmarks, and then having some indication of
6 where the state of habitat is at is quite central
7 to the policy and of great value to proceeding
8 with Strategy 4 planning and other elements. And
9 so it is troubling to see that we haven't quite
10 gotten to that point yet.

11 Firstly, I acknowledge that there has been
12 some excellent work done in terms of defining how
13 conservation units will be defined, proceeding to
14 define them. I think there is some good
15 background work in terms of identifying the method
16 to set benchmarks as well as to assess habitat, so
17 I acknowledge that work.

18 But we're still not at the point yet where we
19 can look, for example, at Fraser sockeye and say
20 these are CUs and this is their status relative to
21 benchmarks. We're obviously close in the Fraser,
22 given the Grant paper, but not quite there yet.

23 I do think there's clearly some resource
24 constraints that probably play into that. The
25 clearest one in my mind is probably around just
26 completing the assessment work, most clearly for
27 habitat, given that that generally requires a fair
28 amount of work to do.

29 I think that more broadly, a real concern or
30 challenge from my perspective is ensuring that
31 we're applying at least what we've completed so
32 far to the actual management responsibilities to
33 the Department, so ultimately given the central
34 importance of this policy as its written,
35 decisions around fisheries, integrating Wild
36 Salmon Policy information into the fisheries
37 management plans and ultimately decisions around
38 habitat made by the Department, ultimately should
39 be being informed by this Policy, and at this
40 point, I haven't really seen a lot of evidence of
41 that.

42 Q Do you see any lack of commitment within DFO on
43 this implementation, and particularly the
44 integration of these policies into management?

45 MR. YOUNG: I do think that the various elements of DFO
46 that we're involved with, habitat management being
47 one, and fisheries management, there are a lot of

1 examples of continuing to manage as they have
2 without necessarily a lot of consideration or
3 adequate consideration of what's been done so far
4 on the Wild Salmon Policy. So perhaps that could
5 be interpreted that way. Yeah, I'll leave it
6 there.

7 Q Are there issues as to sharing of information and
8 with respect to CU status, Mr. Young?

9 MR. YOUNG: I can't say exactly whether there's an
10 issue with sharing of information versus having
11 information. I think that there may very well be
12 cases where there has been efforts to look at CU
13 status, or at least list what we know about CUs
14 that has been difficult to get or hasn't been
15 fully shared. Although I think that's probably
16 because the people doing that work haven't -- it
17 hasn't been, well, maybe prioritized and then
18 completed to a point where it's gotten into a
19 report that could then be reviewed.

20 But overall, I think that the real challenge
21 on the point of information is that we haven't got
22 -- we haven't done it, we haven't in most places
23 developed benchmarks and assigned status relative
24 to benchmarks. So that information just hasn't
25 been -- that analysis hasn't been completed, and
26 therefore that information is not yet available.

27 Q With respect to one of the compromises that's in
28 the - perhaps compromise - that's in the policy
29 itself is the use of benchmarks and the lack of --
30 as opposed to reference points, and the fact that
31 nothing flows automatically from failure to meet
32 benchmarks. Are you satisfied with this
33 management choice?

34 MR. YOUNG: One of the early concerns we expressed
35 around the policy was the fact that it was fairly
36 actually vague, I guess, about what a benchmark
37 really was. It seemed to us they explicitly
38 avoided the term "reference point", and I think
39 they've explained that to be the case. Given that
40 that is an explicit definition in fisheries
41 management, a point at which -- generally a limit
42 reference point would be a point at which you'd
43 stop fishing and prioritizing conservation. So we
44 were concerned that there was a lot of opportunity
45 to not necessarily conserve as a priority, and
46 therefore that may not jive with our
47 interpretation of conservation as the first

1 priority.

2 But given that, the setting of benchmarks,
3 the setting of conservation units, and assigning
4 status to benchmarks is still a really valuable
5 exercise, and I think there is still some strong
6 impetus and language within the Policy suggesting
7 that, for example, a CU below a lower benchmark
8 should receive a priority of conservation, that
9 recovery plans are developed, and that that's
10 essentially the central strategy of the Wild
11 Salmon Policy. So we do gain some comfort from
12 that.

13 Q In your view, Mr. Young, is it fair to say that
14 DFO is managing the fishery today in a way that's
15 consistent with the objectives of the Wild Salmon
16 Policy?

17 MR. YOUNG: To answer the question plainly, no, I don't
18 think they are. I think there are efforts to
19 conserve certain stocks at certain times using
20 some sort of effort, whether that's timing or area
21 closures, those types of things. This is largely,
22 I'd say, consistent with approaches that they've
23 taken in the past. But in terms of actually
24 understanding the CUs that are caught in the
25 fishery, what their status is relative to a
26 benchmark, and explicitly managing the fishery to
27 be consistent with recovery plans for CUs below
28 their benchmark, no, that's not happening.

29 Q With respect to FRSSI would you have the same,
30 that's not a reflection either of the Wild Salmon
31 Policy?

32 MR. YOUNG: I think FRSSI -- well, FRSSI does not
33 consider the full range of conservation units
34 within the Fraser. It also scales up essentially
35 management decisions to an aggregate level, that
36 at least the Marine Conservation Caucus has
37 expressed definite concerns about the quality of
38 that sort of analysis and whether that's
39 adequately getting at an understanding of the
40 impacts at an aggregate harvest level to component
41 stocks, even the ones that are assessed as a part
42 of FRSSI. So there's a range of challenges we've
43 seen with FRSSI. But in terms of it being a true
44 application of the Wild Salmon Policy, no, I don't
45 think it is.

46 Q And Dr. Riddell, do you have a view on the
47 management of fisheries today by DFO and its

1 relationship to the Wild Salmon Policy and FRSSI
2 in particular?

3 DR. RIDDELL: Well, let me comment generally before
4 FRSSI, and I would have a slightly different
5 perspective than Jeffery. And only in the sense
6 that while the full implementation of the Wild
7 Salmon Policy and management are certainly not
8 there yet, there isn't any question that the
9 Department is being much more conservative in its
10 approach, and recognizing that there are a number
11 of biological units of salmon that are depressed,
12 and that you can't evaluate them yet with
13 reference to the lower benchmark. But I think
14 that you definitely would have to acknowledge that
15 they are thinking in terms of a more conservative
16 approach, recognizing the value of biodiversity.
17 Certainly otherwise you wouldn't have as many
18 comments from fishers about the allowable harvest
19 rates in season, and so on. But Jeff is right, I
20 mean, there are varying levels of depression in
21 different populations and, of course, is the worst
22 one driving the fishery? Well, probably not right
23 now, and that will have to be dealt with down the
24 road.

25 A comment on the lower benchmark versus the
26 limit reference points. Just by coincidence last
27 week, a number of us from B.C. attended a Science
28 meeting of the MSC Scientific Panel, the Marine
29 Stewardship Certification, and they had some of
30 the leading science around the world at this
31 meeting in Seattle that work in reference points.
32 And once they sort of understood salmon more
33 fully, they recognized the very practical
34 application of the lower benchmark as opposed to
35 getting down to a limit reference point. Because
36 their definition of a limit reference point was
37 very much that they are severely depressed in
38 recruitment.

39 And I think as I said last time I was here,
40 you certainly don't want to be driving populations
41 down to that level where they may not recover.
42 And so the lower benchmark was very explicitly a,
43 as you called it, a compromise, it was a change of
44 wording with the same intent, that you did not
45 want to put the stock at risk of suddenly
46 disappearing because of a random event. All
47 right? So you wanted to be much more secure in

1 what you were going to accomplish at that lower
2 benchmark.

3 Does FRSSI address the Wild Salmon Policy? I
4 don't think it does in the full sense, but I think
5 it's much more an issue that you'd be addressing
6 under Strategy 4. I think it definitely takes
7 some of the issues of mixed stock conservation and
8 protection of diversity into account already by
9 changing these harvest rates. But there are many
10 elements under Strategy 4 that you'll talk about
11 that FRSSI doesn't touch on, such as the ecosystem
12 values, and so on. And as Jeff says, the current
13 spatial structure doesn't take into account fully
14 the conservation units of Fraser sockeye. But in
15 all honesty, once you have the CUs and the
16 benchmarks, that's really pretty much an
17 analytical step that they could proceed on fairly
18 quickly.

19 Q Thank you. Mr. Young, having spoken about Wild
20 Salmon Policy and fisheries management, what about
21 the relationship, if any, between the goals of the
22 Wild Salmon Policy and salmon enhancement
23 programs?

24 MR. YOUNG: One of the elements of the Wild Salmon
25 Policy that we definitely looked for when it was
26 first developed was how the question of
27 enhancement would be dealt with. There was
28 identification in the Policy of development of, I
29 believe it was called a Risk Management Framework,
30 to understand how enhancement would be handled in
31 this context of conserving wild salmon. There's
32 also a definition of "wild" salmon in the Wild
33 Salmon Policy, that essentially says, you know, a
34 wild fish is one that is the offspring of a
35 naturally spawning adult, along those lines, so
36 essentially not a first generation hatchery fish.

37 Since the release of the Policy we have been
38 interested in the development of the Risk
39 Management Framework and how the question of
40 enhancement would be dealt with, particularly in
41 issues of conservation of stocks of concern. It's
42 only been very recently that we've started to see
43 some material from Fisheries and Oceans regarding
44 enhancement and the development of this Risk
45 Management Framework.

46 It was acknowledged at that meeting that
47 they'd only taken some early stats and that they

1 hadn't fully developed the Risk Management
2 Framework as it was defined in the Wild Salmon
3 Policy. So it's definitely been a long process
4 actually getting here, and we still aren't at a
5 place where we have that Risk Management
6 Framework, or where it's easy or possible for us
7 or others to be able to understand well how
8 enhancement is connected to the goals of the Wild
9 Salmon Policy explicitly.

10 Q And you've been in communication, you and others,
11 with the Minister of Fisheries on the subject.
12 I'd ask, Mr. Lunn, if we could have Commission's
13 Tab 11 on the screen, please.

14 You're familiar, Mr. Young, with this letter,
15 you're a signatory of it, I think?

16 MR. YOUNG: Yes, I am.

17 Q And just go to the last page, along with Dr. Orr
18 of the Watershed Watch, and Misty MacDuffee of the
19 Raincoast Conservation Foundation, yourself and
20 Greg Knox. Just is there anything you'd add to
21 what just you said with respect to your -- you and
22 representatives of other ENGOs presenting these
23 views to the Minister?

24 MR. YOUNG: Sorry, could you repeat that question?

25 Q Would you add anything to what you've just said
26 that comes out of this letter?

27 MR. YOUNG: I would just summarize that the letter
28 includes a summary of our concerns, that the
29 potential risks of enhancement that's really been
30 revealed with science over the last few years,
31 that in our view has increased the need to really
32 understand better how the Wild Salmon Policy and
33 enhancement should effectively be integrated.

34 So given the revelations in some of this
35 information, it kind of spurred our interest in
36 understanding where the Department was at with
37 respect to enhancement. We decided to summarize
38 that information and request a meeting, which we
39 did receive.

40 Q Now, Mr. Young, you made reference to a biological
41 risk assessment, and if I may ask, Mr. Lunn, if
42 you could put page 36 of the Wild Salmon Policy on
43 the screen, just to point out that there is an
44 express -- on the sidebar in the blue, a specific
45 reference to the development in the third bullet
46 of a biological risk assessment framework. And
47 that is what you're seeking, I take it, from DFO?

1 MR. YOUNG: Yeah, we are seeking the development of
2 that, and the opportunity to review and understand
3 how it will be applied.

4 MR. WALLACE: Thank you. Mr. Registrar, could we have,
5 please, the letter to Minister Shea of July 19th,
6 2010 marked as the next exhibit, please.

7 THE REGISTRAR: Exhibit 938:

8
9 EXHIBIT 938: Letter from C. Orr, J. Young,
10 et al to Minister Gail Shea re Request for
11 Meeting to Discuss Canada's SEP and the WSP,
12 July 19, 2010
13

14 MR. WALLACE:

15 Q Dr. Riddell, do you have any views on the
16 relationship that you'd like to add on between
17 salmon enhancement and the principles of the Wild
18 Salmon Policy?

19 DR. RIDDELL: I'm not sure you have enough time.

20 Q Briefly.

21 DR. RIDDELL: Well, before leaving the Department, this
22 was very much a contentious issue on how we were
23 defining this. It's very much in the public eye
24 that enhancement is good and useful. And I don't
25 think that there's any question that there are
26 examples where that has been the case. But when
27 you start talking to major hatcheries, then the
28 difficulty you come up against is that there's a
29 full gradation from enhancing habitat at local
30 scales that many community groups do, all the way
31 through to the major hatcheries that we manage
32 through the Salmonid Enhancement Program of the
33 Department of Fisheries and Oceans. And then
34 there are activities around the world in the North
35 Pacific that are substantially larger than
36 Canada's Enhancement Program.

37 And reading this letter in the material, I'd
38 point out that the very last paragraph has a
39 telling piece of information, and that I think the
40 number is even a little bit low. I think the
41 number now is that over six billion salmon are
42 released from hatcheries in the North Pacific on
43 an annual basis.

44 So the scale of the program is something I
45 tell people publicly is a concern in itself. And
46 then you get down to many debates about whether
47 there are genetic effects, ecological effects,

1 disease and pathogen effects, and so on. So it's
2 been highly contentious.

3 I think we talked about this before, the
4 definition of "wild" in the Wild Salmon Policy is
5 very, very similar to a definition used in Europe
6 under ICES directives for Atlantic salmon. I
7 think, as Jeff says, in the last five years since
8 the signing of the Policy, there have been a
9 number of papers that have come out and have very
10 clearly demonstrated concerns about major
11 hatcheries.

12 So I think it is something that Canada needs
13 to address. Many of our hatcheries are situated
14 in Lower Fraser around the Strait of Georgia, so
15 there are particular areas that would be of more
16 concern than others. And I have always recognized
17 that as a point of concern, because this is a tool
18 of management. But you will find many, many
19 differences of opinions on the role of major
20 hatcheries and interactions with wild fish.

21 Q So is this a subject on which a biological risk
22 assessment needs to be done; is that your view?

23 DR. RIDDELL: Well, there's quite a bit of work in
24 biological risk assessment frameworks being done
25 in Washington and Oregon, many of them based on
26 genetic models. There's not as much information
27 on the ecological. And so part of the problem
28 when doing a biological risk assessment is you
29 have a limited amount of hard information upon
30 which to assess risk. And so to really do this, I
31 would have to say I'd be promoting the direction
32 of some research funds to really try and assess
33 this type of interaction before you could really
34 assess risk in a quantitative way. Otherwise you
35 get into many of these debates about, you know,
36 just how much of a risk it really is.

37 So before you're really going to make a great
38 deal of progress, I think, and really doing a risk
39 assessment framework, we really need to do some
40 basic assessment and some research.

41 Q Thank you, Dr. Riddell. Mr. Young, are you aware
42 of any influence of Wild Salmon Policy has on the
43 regulation or management of aquaculture activities
44 in B.C.?

45 MR. YOUNG: No, I'm not aware of decisions made by the
46 Department related to aquaculture, and I would
47 extend that to habitat management, as a result of

1 the Wild Salmon Policy.

2 Q Dr. Riddell, we've spoken a bit already about the
3 issues of the implementation of Strategy 1 and the
4 fact that I think you've -- the scientific basis
5 is strong but slow, I gather, and the development
6 of benchmarks has been slow. I gather that one of
7 the things you've been doing lately is working in
8 Skeena watershed with respect to the application
9 of the Wild Salmon Policy there. Perhaps you
10 could tell me -- tell the Commissioner a little
11 bit about that experience in establishing
12 benchmarks there.

13 DR. RIDDELL: Sure. I mean, what the Pacific Salmon
14 Foundation is doing is basically managing funds
15 from the Gordon and Betty Moore Foundation under
16 their Wild Salmon Conservation Initiative, and
17 their interest is, of course, promoting the
18 conservation of salmon in strongholds, what they
19 call habitat strongholds, where you've got viable
20 wild populations.

21 The implementation of the Wild Salmon Policy
22 is the primary objective of what's called the
23 Skeena Watershed Initiative. And so now that we
24 have the conservation units defined, and we have
25 some guiding documents on benchmarks, we are
26 currently funded, and I personally am working with
27 another analyst, to look at benchmarks for Skeena
28 salmon, all species, starting on the Skeena
29 sockeye. And what the intention is here is to
30 simply assist the Department in making progress in
31 defining the benchmarks for the conservation
32 units.

33 We also are using the Skeena Watershed
34 process as kind of a pilot to your Strategy 4.
35 And the need for doing these together is that when
36 we get down to describing the lower benchmarks,
37 then we need to take into account consultation
38 with the various user groups there in terms of
39 impacts and socioeconomic values, as the Policy
40 says. And so we're doing this, trying to do this
41 all together at the same time. Plus we have funds
42 from the Moore Foundation to work on habitat
43 issues that address Strategy 2.

44 Q This is being done essentially as a pilot project
45 for the Wild Salmon Policy?

46 DR. RIDDELL: I would say the only one that's really a
47 pilot is the governance process, the Skeena

1 Watershed Initiative itself, where we're trying to
2 make sure that we have the users in the Skeena
3 Drainage all represented there. There have been
4 issues there in terms of who is allowed to be
5 represented on that. So we have all the First
6 Nations, and we're having growing pains in terms
7 of full active involvement, and then the NGOs have
8 reps, the commercial fishery has reps,
9 recreational fishers, and so on. It's a group of
10 about 24 people, I guess, when everybody is
11 present. That's what I would call the pilot.

12 The others are very much sort of the
13 technical application of material that has been
14 published by DFO and then try to apply it to the
15 CUs.

16 Q Thank you. The comment, you both commented about
17 the delay in the development of the implementation
18 of Strategy 1. Dr. Riddell, what do you say are
19 the implications of that delay for -- for
20 fisheries management?

21 DR. RIDDELL: There was an implication in the early
22 going, as I acknowledged, that as we started
23 actually thinking about how to do this, we were
24 drawing on some work that was a very similar type
25 of process in the United States. There was a
26 National Oceanographic and Atmospheric
27 Administration Group, and various ways that we
28 could define the conservation units.

29 I think the delay there prolonged the
30 application of fisheries management as it had been
31 practised before. And so the notion that there's
32 a fundamental change and we're trying to go to a
33 new way of defining the populations and take it
34 into account in management, that may have been
35 actually extended over a bit of time that took the
36 emphasis out of implementing the Policy.

37 But I think it's coming back now, as I
38 indicated already. Talking to people that are
39 commenting on the conservation units, the people
40 that are monitoring this in the Department have
41 been very responsive. Where information has been
42 corrected, they've applied it. And we're at a
43 little bit of a standstill right now in getting
44 actual data set out for people commonly so that
45 they can use it. This is sort of commenting on
46 the open and transparent process that the Wild
47 Salmon Policy speaks to. But I think the

1 Department is close to getting a common set of
2 data out that all the groups could use.
3 And then organizations like myself or the
4 David Suzuki Foundation, we could probably assist
5 by having groups work on defining these
6 benchmarks.

7 Q Thank you. Mr. Young, you also commented on the
8 delays in establishing, in implementation. How
9 would you put the implications of those delays?

10 MR. YOUNG: Without having conservation units defined
11 with benchmarks and an understanding of the status
12 relative to those benchmarks, you are -- you don't
13 have essentially the core information you need to
14 then decide what to do, particularly about those
15 CUs below the lower benchmark. The WSP is fairly
16 clear about how one of the main objectives that
17 would occur as a result of that assessment and of
18 Strategy 4 planning would be developing recovery
19 plans, and the way to bring conservation units
20 below their lower benchmark above it. So without
21 that information, you're quite limited, I guess,
22 in terms of what you can really do consistently
23 with the Wild Salmon Policy.

24 I think that the progress around defining the
25 CUs, although somewhat drawn out, has been quite
26 effective scientifically, and maybe even
27 reasonably completed time-wise, given the amount
28 of prioritization and funding that was behind it.
29 But clearly we're running into a challenge in
30 terms of actually getting the benchmarks
31 implemented. So this is just around Strategy 1.

32 The Strategies 2 and 3, I think there's even
33 greater challenges. Strategy 2, I think some
34 excellent work was put together identifying how to
35 reasonably assess habitat; "reasonably" meaning
36 somewhat efficiently, given inherent constraints
37 around the efforts that would be required to go
38 out and assess the status of habitat. But we
39 really do only have a small number of assessments
40 completed. And so there is a lack of information
41 coming from that strategy that would then be
42 useful to either CU planning for recovery, for
43 example, or applying that information to other
44 habitat responsibilities of the Department.

45 And then going down the list, Strategy 3, not
46 really getting to a point where we're
47 understanding how it's going to be applied,

1 obviously limits any application.

2 Q And what's necessary, Mr. Young, in your view to
3 correct that? Dr. Riddell spoke of use of people
4 outside the Department, the need for resources.
5 How do you see this, advancing this? I'll ask the
6 same question of Dr. Riddell.

7 MR. YOUNG: I think that there is that opportunity. I
8 think getting help from others is an option, and
9 something that maybe could be explored further. I
10 think that the keys to getting as far as we have
11 with Strategies 1 and 2 was actually at least
12 identifying the method or the framework by which
13 we'd assess. So getting the CU definitions -- the
14 CU definition methodology, and now working through
15 the benchmark methodology is the critical first
16 step. And then for Strategy 2, the habitat
17 assessment methodology. So I think probably the
18 key outstanding element of Strategy 3 is clearly
19 identifying that methodology, what it means to
20 apply Strategy 3, and then we can go about
21 applying it.

22 Q So that's not a matter of getting people on the
23 ground, that's a matter of doing more high level
24 research and...

25 MR. YOUNG: It will likely involve a number of things.
26 It would require some support and prioritization
27 of that strategy within the Department to have it
28 happen. It probably would be best facilitated by
29 engagement and help from others. It probably will
30 require some on-the-ground ground truthing
31 evaluations, that kind of thing, which was
32 necessary for Strategies 1 and 2, as well. So I
33 think a range of those things would be necessary.

34 Q And, Dr. Riddell?

35 DR. RIDDELL: Well, I agree with mostly what Jeff's
36 saying, and that the really limiting factor in the
37 early going was definition of the conservation
38 units. There was a lot of uncertainty about how
39 we were going to account for the diversity of the
40 salmon streams and the species spawning in them.
41 So I think a lot of people were looking for how
42 the Department was actually going to address that
43 and define these units. We do now have some
44 methods for defining the benchmarks, and so we
45 have a basis to proceed on this.

46 I think that there's no question now that
47 there is enough people with the analytical

1 capacity to assist the Department in doing this.
2 Ultimately the information has to go back to the
3 Department for consultation with the various user
4 groups, because when you get right down to it,
5 it's likely just the Department that will really
6 have to sign off on the benchmarks after the
7 consultations. And that's, I think, a process
8 detail that could be worked out.

9 The information capture. We, before I left
10 the Department again, many times talked about the
11 Wild Salmon Policy would not be implemented by the
12 Department alone, that there are many people out
13 in British Columbia that are involved in community
14 groups, for example, that could assist the
15 Department in collecting habitat data, or
16 identifying habitat issues. We knew we had to be
17 more involved with the Province because they have
18 much of the terrestrial habitat information that
19 could be used.

20 And I think that would bring me to the sort
21 of information collation and distribution as
22 another limiting factor, that there were a number
23 of discussions about building a Wild Salmon
24 website where you could develop these sort of
25 tools and you could share the information that
26 people could contribute to. There are issues then
27 about how you have people responsible for
28 controlling what goes into these databases, so
29 that you have a level of confidence that the data
30 is credible and verified, and so on.

31 But I think that once we've got the few steps
32 in place, that there are ways that we could more
33 actively do this. And I think we just need a
34 concerted effort to really push this forward for a
35 couple of years to get people sort of back in the
36 throes of the Wild Salmon Policy.

37 Q And I assume once you get all the pieces together,
38 which I think is what you're talking of now, you
39 then have an ongoing monitoring obligation, as
40 well, and how do you see that challenge unfolding?

41 DR. RIDDELL: Well, the Department puts a lot of money
42 into ENGO monitoring in the first place, and if I
43 can use the Skeena example again. In 2005 David
44 Peacock, who is the management and stock
45 assessment biologist up there, Karl English and
46 myself, we documented all of the assessment
47 programs going on in Central B.C., Northern B.C.,

1 within the Department, and then looked at how it
2 would be allocated to sort of key assessment
3 programs. We called it the Core Assessment
4 document.

5 Strategy 1.3 requires you to basically look
6 at that again and make sure that you have a way of
7 evaluating and monitoring the status of the
8 conservation units. That information should then
9 be made publicly available through some sort of
10 communication system for probably a website. And
11 so I think there are ways that this can be
12 addressed now.

13 The monitoring of the habitat, there are
14 many, many people that spend a lot of time on
15 salmon streams and could be organized to really be
16 a very useful way of collecting information.
17 There are electronic ways that you can capture a
18 lot of information now on indicator populations.
19 Typically the Department would use indicator
20 stocks to identify key assessments for
21 productivity of salmon stocks, and so on. There
22 isn't any reason why you couldn't apply the same
23 sort of standard to changes in flow regime, the
24 sort of habitat indicators.

25 And then there are different levels of
26 monitoring you can use. The Wild Salmon Policy
27 actually goes through for salmon that you could
28 have a tiered monitoring system that would be more
29 cost-effective. Because the Policy does commit
30 the Department to monitoring distribution of
31 salmon, as well. You have the same concern
32 whenever you use indicators that you're not
33 getting a biased sample by studying one stream,
34 for example. And so you do need to have sort of a
35 tiered structure for this data capture.

36 But these are things that are easily
37 designed. You just need the opportunity and the
38 resources to do it.

39 Q Thank you. Mr. Young, on habitat monitoring and
40 development of that?

41 MR. YOUNG: Yeah, I agree with Brian that there is
42 likely some opportunities that have not been fully
43 explored to redirect monitoring effort within the
44 Department, and with external partners to fulfill
45 the monitoring requirements under Strategies 1 and
46 2, and perhaps 3, as well. However, I do think
47 that this is one of the key potential capacity

1 constraints within the Department is maintaining
2 this monitoring. Even if there are external
3 partners, they're going to have to play a key
4 coordinating role. It's my assumption that -- or
5 it's my estimate, I guess, that the current
6 monitoring capacity, and the monitoring capacity
7 over recent years is probably insufficient to do
8 the job fully. So additional resources would
9 likely be required to monitor at a level that
10 pretty much any of us or a credible scientist
11 would say would be necessary to get at least some
12 sense of the statuses to use in their habitat.
13 And this is additionally concerning, given all the
14 indications we're receiving of reduced support for
15 these types of initiatives, rather than increased.

16 Q Ms. Tessaro has a monitoring function, as well.

17 Mr. Young, discussion about the difference
18 between benchmarks and reference points, and in
19 particular in reference to the use of the latter
20 in the Marine Stewardship Council Certification.
21 Can you just elaborate on that and tell us whether
22 or not it's important?

23 MR. YOUNG: The Marine Stewardship Council includes
24 criteria referencing the use of limit reference
25 points, requiring the use of limit reference
26 points. It includes fairly explicit criteria that
27 when a stock unit caught in the fishery is below
28 its limit reference point, recovery needs to be
29 allowed, in other words, no fishing until that
30 stock has recovered to 125 percent of its limit
31 reference point.

32 Now, Brian elaborated on how potentially one
33 interpretation of the WSP benchmark is that the
34 limit reference point is essentially a low, low
35 bar, and a lower benchmark might be a higher one,
36 maybe with some buffering above that. Within the
37 context of the assessment, though, they've
38 essentially suggested or adopted the idea that the
39 lower benchmark is equivalent to the limit
40 reference point as defined by the Marine
41 Stewardship Council. And that does raise some
42 questions and concerns about, well, firstly if are
43 we yet managing to the lower benchmarks? I would
44 say not, and therefore it's hard to suggest that
45 the fishery is fully past that criteria. There's
46 conditions on the fishery such that it's required
47 to put those forward.

1 But whether we're at a point where we're
2 managing consistent to the MSC standard in a way
3 where highly depressed stocks, potentially below a
4 reasonable definition of a limit reference point,
5 are truly being relieved of fishing pressure, I
6 think is a concern both in terms of the way we're
7 currently practising fisheries, as well as
8 potentially how a lower benchmark might be defined
9 and applied.

10 I'll add one other quick element, and that's
11 that my best understanding of how that criteria
12 essentially got built into the Marine Stewardship
13 Council Certification is essentially drawn from
14 the FAO Code of Conduct for Responsible Fishing or
15 Responsible Fisheries. And I also understand that
16 that's part of a discussion right now around
17 updating the methodology MSC uses, is they've
18 recognized the need to protect biodiversity, and I
19 think discussing the Wild Salmon Policy as a model
20 for doing that. But then also getting around how
21 do we ensure that we're meeting the Code of
22 Conduct requirement, which essentially says you
23 have to have a no fishing point when a stock unit
24 falls below a limit reference point.

25 So a number of concerns about whether we
26 really are using limit reference points, whether
27 that's consistent with the sustainability
28 standards, the MSC, and whether the lower
29 benchmark under the Wild Salmon Policy is a limit
30 reference point, or not.

31 Q Thank you. Dr. Riddell, yes.

32 DR. RIDDELL: Well, just to comment further. I think
33 Jeff clarified my point that in this discussion
34 with the Marine Stewardship Certification and
35 their science advisors last week, the UN FAO
36 description of a limit reference point is the key
37 stumbling block. And because these are people
38 that don't typically do assessments on Pacific
39 salmon, there was quite a bit of uncertainty about
40 what the lower benchmark meant versus a limit
41 reference point. And so the Stewardship Council
42 is now reviewing three new standards that they
43 would bring out. One defining how you certify a
44 fishery, but a fishery is on many conservation
45 units -- well, typically is on more than one
46 conservation unit or stock. And so how do you
47 actually take into account the more depressed

1 stocks when you're doing the certification. There
2 is the issue of how you are going to explain to UN
3 FAO that the limit reference point that is being
4 used at the certification for Pacific salmon is
5 not the same as how they use it elsewhere. And
6 there is actually a third standard they're looking
7 at on how you take into account enhancement in the
8 certification of these fisheries.

9 So a number of the issues that you're talking
10 about today are currently serious topics for
11 discussion in the entire certification process
12 right now, and is under scientific review.

13 Q That's helpful. Thank you very much. Just move
14 on briefly on Strategy 6 of the Wild Salmon
15 Policy, which called for a five-year review, which
16 didn't occur. I wonder if I could ask you each,
17 starting with you, Dr. Riddell, to comment on the
18 need for one, who should do it, and who should
19 write the terms of reference.

20 DR. RIDDELL: Well, is there a need for one? Yes. We
21 made a commitment at the time within the
22 Department. I think I commented previously that I
23 thought that it was a significant contribution
24 that the Department put in at the time, and so I
25 very strongly promote periodic review like that.

26 Who should do it? I'd already had
27 discussions before your Commission was structured
28 with the Pacific Fisheries Resource Conservation
29 Council. They are an advisory council to the
30 federal Minister of Fisheries, and they were going
31 to propose starting to write terms of reference,
32 and then they could appoint a panel or conduct a
33 review themselves. So I think that any
34 independent group like that could have actually
35 written the terms of reference and described the
36 process.

37 As to who does it, well, I think then you
38 need to really -- if it's an open and transparent
39 process, it needs to maybe involve government, but
40 clearly wants to involve people external to
41 government that can comment on how the Department
42 has performed in implementing the Policy.

43 Q Thank you Mr. Young, anything to add to that?
44 MR. YOUNG: Just to reiterate that I think the two key
45 terms are "independence" and "transparency". So
46 having at least some involvement by external
47 scientists and stakeholders, with the opportunity

1 for recommendations to be made and the
2 deliberations around it to be fully transparent
3 are the key elements. So just ensuring that there
4 is level of independence.

5 In terms of the terms of reference, I do
6 think equally that should be developed adequately
7 independent, but ultimately I think the Wild
8 Salmon Policy does lay out a fairly clear, you
9 know, step-wise requirements that essentially
10 would form the term of reference for a review,
11 just essentially how we've been meeting what we
12 said we'd do in the Wild Salmon Policy.

13 Q Thank you. I've heard this afternoon the need for
14 further activities and more work to be done, and I
15 assume that all these things will cost money.
16 Have you put your mind, Mr. Young, to what sort of
17 financial commitment you think is necessary to
18 properly bring this, complete this Policy,
19 implement it, and carry on?

20 MR. YOUNG: So in some of our early reviews of the
21 Policy, wrapped up in some of the reporting we
22 did, we acknowledged and understood that there was
23 at least a couple if not three years of funding to
24 support implementation, around a million dollars a
25 year. It was our understanding, based on how that
26 process rolled out, that additional funding
27 ultimately would be needed, that that million
28 wasn't sufficient on its own just to support the
29 implementation function, the coordination
30 function. We also thought that at least a five-
31 year time period would have been required to
32 support that.

33 And I think given where we've gotten to
34 today, I think it's fairly evident what happened
35 when that money kind of dried up. I think there
36 was less momentum. There wasn't as much
37 centralized coordination potentially within the
38 Department. But ultimately even that wasn't quite
39 enough, so that's why at the time we recommended a
40 number closer to \$3 million a year, which is
41 essentially a building-out of the million for five
42 years. It would probably be closer to the mark in
43 terms of just pure support for implementation. Of
44 course, that would only be useful if it truly came
45 with a mandate to apply and implement the Policy,
46 the actual political, and the direction to have it
47 done.

1 That those estimates are independent, I would
2 say, of some of the core monitoring assessment
3 science work that may be required. I understand
4 that a lot of existing capacity within DFO was
5 essentially moved over to complete some of the
6 basic science work. I would assume more of that
7 would be necessary across habitat and ecosystems,
8 and even within the monitoring of status itself.
9 But as I already mentioned earlier today, that to
10 truly fulfil the functions of monitoring
11 consistent with what the Wild Salmon Policy
12 requires, I think likely some substantial
13 increases around assessment are probably needed.

14 Q Thank you. Dr. Riddell?

15 DR. RIDDELL: Well, I don't think that I would go quite
16 as high as Jeff in terms of that. I would say
17 that I'd like to see a short, intense period of
18 catch-up, so that we can actually really start
19 evaluating how to implement the Policy and what
20 conservation units require special attention. I
21 think that's the location where it's quite
22 possible you're going to need additional
23 resources.

24 I've told people in the last year or so that
25 if we really had a focused couple of year
26 implementation, maybe about two-and-a-half million
27 dollars would be required to really get a lot of
28 the action steps on the ground.

29 Q Is that for each of those two years, or in total?

30 DR. RIDDELL: Each year. And that I would have to
31 agree completely with Jeff that in the long term,
32 because you are committing to monitoring habitat
33 and building new data systems, taking further
34 account of ecosystem indicators, as well, I think
35 that the reality is you would have to likely look
36 at some additional funds on an ongoing basis for
37 that monitoring.

38 Now, how you really implement that would
39 really drive how much you need directly for the
40 Department. There are other Departments,
41 Environment Canada, there is Indian and Northern
42 Affairs, you know, we have the Aboriginal Fishing
43 Strategy in B.C., and so on. There are programs
44 where we could probably integrate some of these
45 things and not necessarily need brand new money
46 from Treasury Board.

47 I think the reality is from what we see in

1 those that you will have to find some ongoing
2 resources. I just don't think it's as
3 overwhelming as people believe. I don't think
4 you're looking at ten million a year, or anything
5 like that. I think you're looking for a fairly
6 reasonable sum that would be worth it for
7 conserving this resource.

8 Q Thank you. Dr. Riddell, what about the role of
9 governance in the pace of the implementation?

10 DR. RIDDELL: I'm sorry, in the pace?

11 Q Yes. You spoke of lack of momentum. Was it
12 simply a question of money, or were there other
13 impediments internally that you see in causing
14 this to slow down?

15 DR. RIDDELL: Well, I don't think there's any question
16 there is a capacity issue. Clearly, this is a
17 national policy that needs to be implemented, but
18 there are, I'm afraid, other: Pacific Salmon
19 Treaty takes a lot of people's time, and so on.
20 There are a lot of demands on the people in the
21 Department already. I think you'd really have to
22 look at it squarely in terms of if you really want
23 to implement this quickly, should you continue to
24 rely on the Department to do it, or should you
25 find the money so that you can use the expertise
26 that we have throughout this province to really
27 implement this quickly. I think we could
28 certainly draw on a number of people that have
29 substantial expertise that could assist us in
30 doing this.

31 Q Does DFO have the science capacity to do the next
32 steps?

33 DR. RIDDELL: I don't think there's any question they
34 have the science capacity. Many of the
35 scientists, though, are, of course as I've just
36 said, directed to other activities part-time, and
37 so they could certainly maybe lead various
38 activities, but they can also use external help so
39 that we reach completion within a reasonable
40 timeframe.

41 Q Mr. Young, do you have any comments on the
42 governance in implementation of the Wild Salmon
43 Policy?

44 MR. YOUNG: It's my understanding that stronger
45 direction from higher levels within the
46 Department, along with accountability to the roles
47 that are assigned to accomplish some of those

1 elements likely would have been useful, or would
2 be useful. I think also a connection back to
3 Ottawa, potentially a better understanding of the
4 priority of the Policy and some direction from
5 Ottawa might also help.

6 There was a time, as well, where I suggested
7 that essentially some form of champion, someone
8 that was identified within the Department that
9 really had as their priority an overriding
10 responsibility of seeing the Policy implemented,
11 and them being in a position of authority and
12 leadership to be able to drive others towards
13 meeting those objectives and ensure the
14 accountability mechanisms are in place would
15 likely be useful.

16 I'd add to that, that that's going to be
17 particularly critical, I'd say, not as much,
18 although it's proving to be important, just in
19 terms of getting the science background work. But
20 when we get to the point where we're looking at
21 applying this Policy to actual management
22 decisions in fisheries and in habitat protection
23 and management, I think that kind of governance is
24 going to be required.

25 Q Thank you. Dr. Riddell, you mentioned the meeting
26 of the Marine Stewardship Council and the
27 certification issue. Can you just comment,
28 there's some 31 of the conditions on certification
29 for the sockeye, Fraser River sockeye, I think are
30 Wild Salmon Policy related. How do you see this
31 playing out in terms of the timelines of the MSC
32 and the meeting of those conditions?

33 DR. RIDDELL: Well, I mean, that's actually a really
34 important question in my mind, because 37 -- 36 or
35 37, I can't remember right now, those are across
36 the four sockeye fisheries. They're not all
37 Fraser.

38 Q Oh, thank you.

39 DR. RIDDELL: But many of the certification conditions
40 in the different sockeye fisheries are very, very
41 similar in wording, and the majority pertain to
42 the Wild Salmon Policy implementation in various
43 ways. So there isn't any question that there's a
44 really important value to Canadian communities in
45 fisheries to maintaining the certification. We
46 need to implement this Policy within the next four
47 years. It was a five-year agreement for

1 certification. We've had a year. There's been an
2 audit that I've heard has got mixed reviews, and
3 that I was not involved, so I'm only hearing this
4 third-hand. But the bottom line is you have four
5 more years to make progress to maintain your
6 certification.

7 The other part is that there is a
8 certification for pinks pending. That's in the
9 works, as well. It will largely depend on Wild
10 Salmon Policy and also on information quality. So
11 there's real value in putting this Wild Salmon
12 Policy on the grounds for the betterment of our
13 coastal communities and fisheries, all fisheries,
14 really.

15 Q Thank you, Dr. Riddell. And, Mr. Young, what do
16 you see is the importance of the MSC action plan?

17 MR. YOUNG: I'll make two comments. The first is that
18 given the pre-eminence of the Wild Salmon Policy
19 in the conditions -- well, firstly, it identified
20 that the Wild Salmon Policy isn't fully applied
21 yet, given that they had to place conditions on
22 the fishery to see it applied. But it also
23 iterates that how important implementing the Wild
24 Salmon Policy is for our fisheries to meet kind of
25 internationally accepted standards for
26 sustainability. So just overall that it does kind
27 of establish a bar in that we need to implement
28 the Policy to meet that bar.

29 And then in terms of the conditions, they do
30 lay forward fairly explicit timelines that need to
31 be met to maintain certification. Some of them
32 are as straightforward and fundamental as the Wild
33 Salmon Policy is having these limit reference
34 point -- or, sorry, the lower benchmarks defined,
35 and we're now at a point where certification has
36 been granted, and if we don't implement these
37 conditions within the timelines, there is a very
38 real risk that certification will be withdrawn and
39 the industry will lose that benefit.

40 THE COMMISSIONER: Mr. Wallace, I note the time.

41 MR. WALLACE: Thank you. And that was my very last
42 question.

43 THE REGISTRAR: The hearing is now adjourned for the
44 day and will resume at ten o'clock tomorrow
45 morning.

46 (PROCEEDINGS ADJOURNED TO JUNE 2, 2011 AT
47 10:00 A.M.)

1 I HEREBY CERTIFY the foregoing to be a
2 true and accurate transcript of the
3 evidence recorded on a sound recording
4 apparatus, transcribed to the best of my
5 skill and ability, and in accordance
6 with applicable standards.
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10 _____
11 Pat Neumann
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14 I HEREBY CERTIFY the foregoing to be a
15 true and accurate transcript of the
16 evidence recorded on a sound recording
17 apparatus, transcribed to the best of my
18 skill and ability, and in accordance
19 with applicable standards.
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23 Karen Hefferland
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26 I HEREBY CERTIFY the foregoing to be a
27 true and accurate transcript of the
28 evidence recorded on a sound recording
29 apparatus, transcribed to the best of my
30 skill and ability, and in accordance
31 with applicable standards.
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35 Diane Rochfort
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