

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



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

**Public Hearings**

**Audience publique**

**Commissioner**

L'Honorable juge /  
The Honourable Justice  
Bruce Cohen

**Commissaire**

**Held at:**

Room 801  
Federal Courthouse  
701 West Georgia Street  
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Tuesday, May 31, 2011

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

le mardi 31 mai 2011

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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 May 31, 2011/le 31 mai 2011  
4

5 THE REGISTRAR: The hearing is now resumed.

6 MS. GAERTNER: Good morning, Mr. Commissioner. Brenda  
7 Gaertner for the First Nation Coalition and with  
8 me, Leah Pence. As you were advised yesterday,  
9 I'd hoped for 90 minutes. I've condensed my  
10 material to 60, if we do well.

11 Dr. Davis, we've got a lot of things to cover  
12 today in the hour that I have. I'm used to it;  
13 you may not be. But I'm going to try my best to  
14 cover it.  
15

16 CROSS-EXAMINATION BY MS. GAERTNER:  
17

18 Q I've got four things that I want to cover with  
19 you, just to let you know. I'm going to drill  
20 down a little bit more specifically on some of the  
21 strategic level discussions of yesterday and talk  
22 about picking up from your evidence of yesterday  
23 and, more specifically, relate it to First  
24 Nations' rights and responsibilities.

25 Then I want to turn to questions specifically  
26 around **SARA** and First Nations' rights and  
27 responsibilities and use the example of Cultus to  
28 see what we did and what we didn't do and lessons  
29 learned there and where we can move from there.

30 I've got some questions on the existing  
31 socioeconomic analysis and where we are there, and  
32 room to improve. At the end of our dialogue this  
33 morning, I want to try to again turn to some  
34 lessons learned and where we're going with new  
35 processes.

36 So first of all I'm going to turn you briefly  
37 - on what I might call the no-brainers - to the  
38 First Nations Coalition's document number 1, and I  
39 want to go to page 6 of that if I may. At page 6  
40 of this document -- first of all, are you familiar  
41 with this document? You might have seen it in the  
42 materials we provided. It's a critique by the AFN  
43 on **SARA** and how First Nations could participate.

44 A I've looked through it, yes.

45 Q Thank you very much. I'm just going to briefly  
46 use it as a stepping off point. At page 6 of the  
47 document, they note three general overarching



1 reasons why **SARA** is significant to First Nations.  
2 You'll see that at the bottom of page 6 in the  
3 paragraph that says, "In their briefing document  
4 on **SARA**...". They note, first, that as  
5 traditional "Keepers of the Earth", First Nations  
6 have a solemn duty - what often I've been taught  
7 is a responsibility - to prevent species from  
8 becoming at risk and to assist those in risk.

9 In your experience, you're quite familiar  
10 with that approach that First Nations have?

11 A Yes.

12 Q And you can see that in some of their approaches  
13 to ecosystem approaches and holistically to  
14 looking at the whole of the environment in which  
15 they live and are part of, and in addition, their  
16 precautionary approaches to the use of resources.

17 A Yes.

18 Q And secondly, they note that:

19  
20 **SARA** provides First Nations with an  
21 opportunity to play a central role in the  
22 struggle to protect and recover species at  
23 risk and their habitats.

24  
25 We might say they offer the promise or they  
26 provide the opportunity. Would you agree with me  
27 on that?

28 A Well, I make a comment here. A very interesting  
29 statistic is that some 20-some-odd percent of  
30 endangered species in Canada are on First Nations  
31 lands, so they play a pivotal role with respect to  
32 stewardship in those areas.

33 Q And bringing it forward to the attention of  
34 Canada.

35 A Yes.

36 Q And you'll agree that in **SARA**, there are a couple  
37 of specific ways that, through the legislation,  
38 there's been an attempt to include them. They've  
39 got the National Aboriginal Council on Species At  
40 Risk; is that correct?

41 A That's correct.

42 Q And that's a national body with a national  
43 oversight role that's not a local body, correct?

44 A It's a national body, part of the **SARA**  
45 legislation.

46 Q Okay, and it provides a national oversight role.  
47 It doesn't provide the local information; is that

1 correct?

2 A Correct.

3 Q And again, the legislation provides that First  
4 Nations will be cooperatively involved in the  
5 development of the recovery plans; is that  
6 correct?

7 A That's correct.

8 Q And finally, COSEWIC has an aboriginal traditional  
9 knowledge subcommittee. That's also correct; is  
10 that right?

11 A Yes, it does.

12 Q And again, that's a national policy board that's  
13 providing some oversight and attempting to provide  
14 some consistency in approach as it relates to  
15 traditional knowledge; is that correct?

16 A That's a traditional knowledge group embedded  
17 within the COSEWIC process.

18 Q And again, it's a national group that's attempting  
19 to provide some direction on how to work with  
20 traditional ecological knowledge?

21 A Correct.

22 Q All right. Now, I'm going to again --

23 MS. GAERTNER: Let's have that marked as the next  
24 exhibit.

25 THE REGISTRAR: Exhibit number 907.

26

27 EXHIBIT 907: Document titled "Effects of  
28 **SARA** on First Nations Fisheries".

29

30 MS. GAERTNER:

31 Q I'm going to take you back to that document later  
32 in our dialogue.

33 Can I now turn to Exhibit 900? You're  
34 familiar with this exhibit, Dr. Davis, as this is  
35 your article. Yesterday, your counsel, Mr.  
36 Timberg, took you to a number of key items that  
37 you listed at page 1 which form the basis of  
38 difficulties of domestic fisheries management, and  
39 I won't go through those again. You'll see those  
40 listed at page 1 as examples.

41 But I want to take you to the next stage  
42 which is you mentioned yesterday the unique  
43 fiduciary and constitutional obligations DFO  
44 carries to First Nations, and let's bring that  
45 home to First Nations in British Columbia who rely  
46 on Fraser River sockeye salmon. So you'll agree  
47 with me that one of the difficulties or

1 opportunities, some might say, in domestic  
2 fisheries management is that recognition of  
3 aboriginal rights and entitlements.

4 A I suppose it could be classed as a difficulty or  
5 opportunity. I think it's a reality, and it's a  
6 reality that reflects decisions of the courts and  
7 the special requirements to live up to those  
8 findings and the constitution and all of the  
9 provisions with respect to the relationship with  
10 First Nations.

11 Q And you'll also agree with me that as it relates  
12 to Fraser River sockeye salmon, there is a --  
13 given its wide distribution and the various  
14 numbers of First Nations that have accessed Fraser  
15 River sockeye salmon traditionally and for their  
16 food and, in some cases, for economic purposes,  
17 that again that provides a unique challenge for  
18 fisheries management in British Columbia as it  
19 relates to Fraser River sockeye.

20 A It particularly does in the sense of the people  
21 who live all along the river and have benefited  
22 historically from it and have that tie for food,  
23 social and ceremonial purposes, so it's an  
24 integrating factor right up through the whole  
25 watershed of the Fraser.

26 Q You'll also agree with me that the variety and the  
27 different numbers of First Nations and the  
28 different ecosystems that they rely upon provides  
29 a variety of different interests and concerns.  
30 It's not, as some might say - and I don't often  
31 like using the term - Pan-Indian. We don't have  
32 one Indian approach to the Fraser River approach  
33 to the Fraser River sockeye, do we?

34 A Not at all, and it's all not sweetness and light.

35 Q No. All right. So let's talk about what you call  
36 the managing the transition to rebuilding then in  
37 this document, and in particular, so far, as I've  
38 -- in the paper, and again, if we need to do it,  
39 I'll take you to it, but since you wrote it I  
40 think you'll agree with me. In the paper you talk  
41 about the transition to rebuilding and you say  
42 that we need to make a successful case for the  
43 economic advantage of fisheries renewals and we  
44 need policy change and international governance in  
45 achieving popular support for fisheries  
46 rebuilding. Those are concepts you're familiar  
47 with. Do you agree with me?

1 A Yes, I am.

2 Q All right. And yesterday, when you talked about  
3 that transition period, as I heard your evidence,  
4 you talked about exploitation to preservation as  
5 one of the ways of characterizing that, that's  
6 correct?

7 A I used those terms, yes, to sort of -- the  
8 bookends between heavy harvesting and the  
9 preservation side of things on the other side.

10 Q And you talked about mixed stock fisheries to what  
11 my clients are now calling "known stock fisheries"  
12 or "terminal fisheries" in some cases, but at  
13 least known stock fisheries.

14 A I talked about mixed stock fisheries and terminal  
15 fisheries.

16 Q All right. Can you also agree with me that we're  
17 in the midst of a transition from the denial of  
18 First Nations' title rights and responsibilities,  
19 and that denial was in place prior to the  
20 constitution, to a recognition and accommodation  
21 of their really constitutional rights and how that  
22 will change the management of Fraser River sockeye  
23 salmon, in particular the duty to consult and  
24 accommodate when looking at processes that may  
25 impact their rights.

26 A I don't know that I'd use those very words such as  
27 "denial", but certainly I would see the reality of  
28 the decisions that have come about and the court  
29 findings and the increased recognition on the part  
30 of resource managers that these are very important  
31 factors that must be taken into account.

32 Q And where by no means have we achieved that  
33 recognition. We're definitely in a transition,  
34 and that it's part of the transition you're  
35 talking about.

36 A We're in a transition and, of course, the  
37 transition also involves all the other groups as  
38 well so the challenge is how to bring all the  
39 vested interests into the question.

40 Q That specific issue we're going to get to in just  
41 a couple of more minutes, Mr. Davis, 'cause I  
42 appreciate that's a handful for DFO.

43 Now, let's go to page 8 of your report, and I  
44 specifically want to take you to the first full  
45 paragraph halfway down. You introduce something  
46 in this paper that we've only heard a little bit  
47 about in this Commission so far that I think is

1 extremely useful, which is you introduce in black-  
2 and-white terms the importance of incentives, and  
3 the incentives as an important key to success.  
4 You're nodding. You agree that that's an  
5 important component of moving through this  
6 transition?

7 A Yes. And this workshop was interesting in the  
8 sense that we had there economists and people who  
9 talk about how to facilitate change and incentives  
10 are part of facilitating change and bringing  
11 people towards accepting of change.

12 Q All right. And I'm going to take you to a quote  
13 that you have in the middle of that paragraph,  
14 "Incentives are an important key to success...".  
15 You talk about ITQs and other measures, and of  
16 course that's an incentive the DFO is looking at  
17 in particular as it relates to the commercial  
18 industry; is that correct?

19 A Yes, and this of course is an international forum  
20 here, but the same principles do apply.

21 Q All right. And then I want to go on to the rest  
22 of that sentence.

23  
24 ... and that a sense of ownership,  
25 stewardship, and having a say in the future  
26 well-being of the stocks and those that  
27 exploit them is very important.

28  
29 A Yes, that's --

30 Q And you'll agree that that's an important  
31 incentive for First Nations on the Fraser River  
32 sockeye.

33 A Very much so.

34 Q All right. And then you go on later in that  
35 paragraph and you say that:

36  
37 If people feel they are involved in the  
38 decisions, that they are being heard, and  
39 that they may benefit from future stock  
40 abundance or the availability of fisheries  
41 resources for the future, they may well be  
42 willing to make sacrifices to achieve  
43 rebuilding...[and] if people are going to  
44 sacrifice, the approach needs to be perceived  
45 as being fair to competing interests and  
46 values, transparent so people know what is  
47 going on, and credible, in terms of the

- 1                   measures being proposed.  
2  
3                   You'll agree with that statement?  
4       A       Yes, I do.  
5       Q       And you agree that those specific words and those  
6               specific issues are germane to the Fraser River  
7               sockeye salmon and DFO's relationship to First  
8               Nations.  
9       A       I agree and not only to First Nations, but to all  
10              the others involved in the game as well. That's  
11              my distillation of many years of working in this  
12              area.  
13       Q       All right. And so when it comes to things like  
14              choosing to not exploit now and to preserve for  
15              the future, we need to understand who's going to  
16              have an access to the fisheries in the future, how  
17              that preservation is going to happen, and how the  
18              sacrifices are going to be balanced; is that  
19              correct?  
20       A       I'd agree with that.  
21       Q       All right. I want to go one step further  
22              regarding the participatory governance structures.  
23              Given the work that you've done with DFO and  
24              elsewhere, both in British Columbia and the north,  
25              and including with First Nations, would you agree  
26              that a transparent inclusive governance process  
27              between DFO and First Nations is an incentive?  
28       A       Yes, and I would also agree that that is an  
29              incentive with respect to all of the groups who  
30              are involved in the complexities of the fisheries  
31              management on the coast.  
32       Q       All right. That's exactly where we're going to go  
33              next. You've said that twice and I know that  
34              that's important to you.  
35       A       Yes.  
36       Q       Yesterday in your discussions with Mr. Leadem, who  
37              was - if I'm going to paraphrase - suggesting a  
38              one-table-for-all to be involved. You commented  
39              on the unique constitutional obligations of the  
40              First Nations. You'll recognize that, yes? When  
41              you nod, I need to have it in the evidence, so if  
42              you can say "yes", that'd be great.  
43       A       Yes, I recognize those.  
44       Q       Thank you. You're familiar with the terms "Tier  
45              1", "Tier 2", "Tier 3" as it relates to Fraser  
46              River sockeye?  
47       A       Yes, I am.

- 1 Q Okay. Would you agree that a functional Tier 1  
2 and Tier 2 process would be useful during this  
3 transition period?
- 4 A Perhaps you could define for us what you  
5 understand Tier 1, Tier 2, Tier 3 to --
- 6 Q I'm sorry, I thought you understand that. I'd be  
7 happy --
- 8 A I do, but I'm not sure --
- 9 Q Tier 1 --
- 10 A -- people in the room do.
- 11 Q Yeah, they do. They've been hearing about it.
- 12 A Okay.
- 13 Q Sorry. But Tier 1, of course, is First Nations  
14 along the migratory route of the Fraser River  
15 sockeye working together in a mandated process.  
16 Tier 2 is First Nations working with DFO in a  
17 government-to-government process --
- 18 A Yes.
- 19 Q -- and Tier 3 is the multi-stakeholder process.
- 20 A Yes.
- 21 Q All right? Would you agree that a functional Tier  
22 1 and Tier 2 process would be useful during this  
23 transition period?
- 24 A I do, and in fact it informs what DFO is doing in  
25 terms of rolling out the policy under PICFI and  
26 other initiatives.
- 27 Q And would you also agree that DFO's practice of  
28 marching forward to Tier 3 processes, i.e. needing  
29 to get everybody in the room, without making sure  
30 that Tier 1 and Tier 2 process is functioning, is  
31 a source of difficulty right now, and it will  
32 continue to challenge both DFO and First Nations,  
33 if it's not put in place?
- 34 A I've heard that, but I understand that the focus  
35 is on the Tier 1/Tier 2 elements at this point in  
36 time.
- 37 Q Well, you'll agree with me that something like the  
38 Integrated Harvest Planning Committee and some of  
39 the things that are occurring under **SARA** are all  
40 pretty well Tier 3 processes; is that correct?
- 41 A I'm not exactly sure what's going on currently  
42 with respect to the Integrated Harvesting  
43 Planning, so I'm a bit out of the loop, counsel.
- 44 Q All right. So I'll pursue that when we have  
45 people that are more directly involved in that.  
46 That's fine.
- 47 Now, I want to bring this home a little bit.

1           When we talk about the Cultus process for just a  
2           second, just as it relates to -- I'm going to  
3           still say it's strategically, but you'll agree  
4           with me that given the challenges associated with  
5           the short time frames and all of the things around  
6           Cultus, that it might have been quite useful to  
7           you to have had a functional Tier 1 and Tier 2  
8           process in place, to have dialogue with First  
9           Nations around the complexities associated with  
10          listing Cultus.

11         A    What DFO did at the time was a whole series of  
12           consultations with First Nations and also with all  
13           the other groups, doing First Nations separately,  
14           and so that was a sequential move of people  
15           travelling to different parts of the communities  
16           and engaging people. So a more integrated group  
17           that one could speak to and a more cohesive  
18           approach certainly would help.

19         Q    And the other place where it might help is that as  
20           we've already seen, and we're going to spend a  
21           little time on this detail, is that when First  
22           Nations have different views on things, which is  
23           absolutely expected, DFO also often places  
24           themselves in a position of an arbitrator between  
25           them, and that it might be useful to have a Tier 1  
26           process in place for them to address those issues  
27           themselves.

28         A    Well, if you're a manager and you're engaging in  
29           consultations, it's far better to have a  
30           coordinated and agreed position coming back in  
31           terms of what the Department could be informed  
32           from, rather than a whole series of different  
33           ideas and different concepts that in fact lead you  
34           to conclude that there's a whole array of opinions  
35           out there.

36           So if your interpretation is that a more  
37           integrated group of people who could speak  
38           collectively and bring forward strategic points,  
39           that would help the process, that would clarify  
40           things.

41         Q    All right. Now, I want to go one step further  
42           with you on this again. Recognizing that DFO  
43           feels compelled to deal with Tier 3 processes to  
44           make better management decisions, i.e. let's get  
45           everybody in the room, what is your suggestion on  
46           how to deal with the unique constitutional  
47           obligations you have to First Nations?



1 A Yeah. Well, first of all, I'm not sure DFO feels  
2 compelled to just deal exclusively with Tier 3.  
3 The work that I've heard of that's going forward,  
4 which is supporting the building of Tier 1 and  
5 Tier 2 relationships, suggest that there is a  
6 priority on strengthening those activities and  
7 that tees into having a stronger Tier 3 dialogue.

8 I'm sorry, I've forgotten where your question  
9 was going.

10 Q No, that's fine. But to the extent that the  
11 Commissioner has heard specifics about the  
12 challenges associated with some of those Tier 3  
13 processes, you'll agree that it'll be useful to  
14 get the Tier 1 and Tier 2 more in place.

15 A Definitely.

16 Q All right. And once they're in place, I'm  
17 wondering what kind of models we might want to  
18 look at. I want to turn you to page 7 of your  
19 report, in particular - this same article - in  
20 particular your discussions about the Pacific  
21 Halibut Commission.

22 A Yes.

23 Q At page 7, you say this: An effective process for  
24 decision-making, around effective --

25  
26 ...those involved are integral to developing  
27 advice and thus have a meaningful role in the  
28 decision-making process.

29  
30 You talk about fishermen, processors,  
31 government scientists, Commission technical staff  
32 working closely together, sharing information and  
33 deciding on management measures and making  
34 recommendations to governments who are responsible  
35 for making the decisions, which recommendations  
36 are generally accepted. That's the process that's  
37 used for the Pacific Halibut Commission; is that  
38 correct?

39 A That's my understanding of how it works and why  
40 it's been successful.

41 Q And that's a model that we could be looking at  
42 very easily when it comes to Fraser River sockeye  
43 salmon, the complexities of management.

44 A It's a good model, and it's an interesting one in  
45 the sense that it was driven from the bottom up by  
46 the resource users on both sides of the border  
47 when that Commission was created. It's a good

1 example of a process that's working well.

2 Q And then at page 8, you talk about the kinds of  
3 things that a process like that could be useful  
4 for. I'm putting a number of things together. In  
5 particular, you quote a person by the name of  
6 Symes, S-y-m-e-s, and again, you'll - or Symes -  
7 you'll be more familiar with that.

8 In particular, he or she talks about three  
9 very specific things that a participatory  
10 governance structure could be involved in. Those  
11 are day-to-day issues of management.

12 A Yes.

13 Q Those are, for example, fishing plans for upcoming  
14 seasons. Those are my words, but that's the day-  
15 to-day management. So institutional arrangements,  
16 that's correct, that that would be a useful thing?

17 A We're talking about the bottom sentence here  
18 dealing with day-to-day issues, good institutional  
19 arrangements, and then the constructions of  
20 values, principles and criteria to guide policy.

21 Q All right. So those are three things that a  
22 participatory governance structure, like a  
23 Commission, could be useful in and that would be  
24 like fishing plans, developing appropriate  
25 decision-making process for various different  
26 issues that come up, and the construction of  
27 things like policies, for example, the Wild Salmon  
28 Policy.

29 A That seems eminently reasonable.

30 Q All right. Are there any other models that  
31 immediately come to mind as being useful to this  
32 Commissioner when considering the challenges  
33 associated with governance in a modern context?

34 A I can't think of any -- well, certainly the  
35 procedures whereby you've got collaborative work  
36 going on between First Nations and government, or  
37 between the fishing industry and government in  
38 terms of gathering information are good ones.

39 I'm thinking in the Atlantic sense where we  
40 had a very active program where the industry was  
41 involved in gathering scientific information, and  
42 that really helped from the perspective of  
43 management and those kinds of initiatives on our  
44 coast too where the eyes and ears that are on the  
45 water can be part of acquiring the data or  
46 detecting changes in the environment that are  
47 important for management. Integration of those

- 1 kinds of things into this generalized process I  
2 think is very useful.
- 3 Q And again, when you mention there "industry", of  
4 course in this context - or from my clients'  
5 perspective - it would be First Nations also who  
6 would be very interested in determining the types  
7 of questions, the types of data, the types of  
8 approaches that are used to collect that data, all  
9 of that.
- 10 A Well, there's a very significant number of First  
11 Nations involved in commercial fisheries, and of  
12 course the traditional knowledge as well from  
13 folks who have been on the ground and associated  
14 with the resource in many areas.
- 15 Q Maybe I'll just pick up on that. There hasn't  
16 been much discussion to date about the role of  
17 traditional ecological knowledge, and the  
18 Commissioner has been interested in that.  
19 Your discussions yesterday, again with Mr.  
20 Leadem from the Conservation Coalition, there was  
21 a fair bit of discussion on the value of inclusive  
22 independent scientific knowledge. You'll also  
23 agree that it's extremely important to have those  
24 that are holders of traditional ecological  
25 knowledge, or who have access to those holders  
26 being part of any of those types of think tanks.
- 27 A Yes. I've had a couple of experiences that  
28 brought that home to me very vividly.
- 29 Q And from that experience, would you agree that the  
30 development of the necessary protocols for how to  
31 access that information and use that information  
32 is an extremely important step?
- 33 A There's a number of things. First of all, what we  
34 call "modern science" may be slightly different  
35 from traditional knowledge, so we have to find  
36 ways of interpreting and validating and making  
37 sure that the traditional knowledge is as useful  
38 in terms of the information coming forward, and  
39 that it's complementary - it can be used with the  
40 regular science - and then bringing it forward in  
41 such a way that it is helpful and one can draw on  
42 it. Lessons that we've learned from doing that  
43 sort of thing have helped DFO with improving the  
44 science they use to make decisions.
- 45 Q You'll agree that that often takes time and local  
46 sensitivity?
- 47 A It does. In the Arctic, very simply, people took

- 1           us to areas where we didn't do surveys and we  
2           found that we could double the size of the stock  
3           estimate by the local knowledge that was applied.
- 4        Q     I'm wondering are you familiar with the Gwaii  
5           Haanas Marine Agreement?
- 6        A     Yes, I am. In fact, I've done some work on that.
- 7        Q     And you'll agree with me that that's potentially  
8           another model that could be considered when  
9           looking at models of participatory governance?
- 10       A     I would agree that Gwaii Haanas is a very powerful  
11           agreement. It is perhaps -- it's very fortunate  
12           that it deals with a discrete area. But I think  
13           it's going to be something that leads to an  
14           example of how we could do a different type of  
15           governance and how we could do a different type of  
16           collaborative management in an area.
- 17       MS. GAERTNER: Mr. Commissioner, I didn't provide  
18           notice in advance of this document, so I won't put  
19           it in now, but I think it's useful for the witness  
20           to bring to your attention its value.
- 21       Q     In that situation, you've got a marine area that's  
22           being --
- 23       MR. WALLACE: Sorry, Mr. Commissioner, this model on  
24           which we're now being asked to receive evidence is  
25           not something that anyone knows what it is. It's  
26           simply an expression of opinion, and I don't think  
27           it has any use without knowing what the model is.  
28           So I'm...
- 29       MS. GAERTNER: Well, I'll get you to explain the model  
30           in a few minutes. In fact, I'll run through it  
31           and see -- I think it's a useful model. I don't  
32           think there is anything controversial. It's done  
33           by an agreement. The agreement is in ringtail. I  
34           discovered it last night in ringtail. I can't  
35           bring it to everybody's attention because I  
36           haven't given notice of it, but we've got a  
37           witness here who can comment on its usefulness.  
38           I'll give notice, we'll talk about it during the  
39           aboriginal fishing week.
- 40       MR. WALLACE: The issue of notice is just as pertinent  
41           whether the document is put forth. We don't have  
42           the basis on which this opinion can be tested and  
43           the issue of notice applies whether the document  
44           is presented or not.
- 45       MR. ROSENBLOOM: I was just going to indicate if Ms.  
46           Gaertner invites whether anybody objects, I  
47           certainly don't object and if there's no one in

1 the room that objects to the release of the  
2 document and put it to the witness, we can get on  
3 with the hearing.

4 MS. GAERTNER: If no one objects, it's ringtail FNC  
5 000029.

6 MR. TIMBERG: Mr. Commissioner, I'm rising late to this  
7 conversation. I've not discussed this document  
8 with my witness, and I, myself, would appreciate  
9 the opportunity to, at a minimum, discuss this  
10 with him for a moment.

11 MR. LUNN: It's also going to take me a few minutes to  
12 get it --

13 THE COMMISSIONER: All right. It's going to take Mr.  
14 Lunn a few minutes to bring up the document. In  
15 any event, Mr. Timberg, the witness apparently is  
16 familiar with the model that's being discussed.  
17 Perhaps we can at least flesh out what his  
18 familiarity is, where his comfort zone is in terms  
19 of being able to answer Ms. Gaertner's questions,  
20 and to the extent that he feels he needs to read  
21 the document before he answers. I invite him to  
22 let us know that.

23 A Mr. Commissioner, I'm not sure what document is  
24 being referred to, but I can tell you that I've  
25 worked on aspects of the planning for the National  
26 Marine Conservation area in Gwaii Haanas with the  
27 Parks Canada people, and participated in fora and  
28 workshops in Gwaii Haanas that's part of the  
29 planning, so I have a general appreciation of what  
30 this is all about, but not specifically the  
31 literature unless it's something I've seen, which  
32 I don't know.

33 MS. GAERTNER:

34 Q All right. So the document itself is the actual  
35 Gwaii Haanas Marine Agreement between the Crown  
36 and the Haida Nation. In that agreement it sets  
37 out that there's a management board with three  
38 representatives from the Council of Haida Nation  
39 and three representatives from Canada. You're  
40 generally familiar with that structure; is that  
41 correct, Dr. Davis?

42 A I'm generally familiar with it, yes.

43 Q And there are co-chairs, and those co-chairs are  
44 responsible for developing management plans and  
45 for implementing those management plans and for  
46 reaching decisions collectively together; is that  
47 correct?

1 A That's correct.

2 Q And are you familiar with that document that's in  
3 front of you now?

4 A In a general way.

5 Q You're familiar that's the agreement that put into  
6 place this board?

7 A Yes.

8 MS. GAERTNER: Without any objections, I'm happy to  
9 have this marked as the next exhibit. Those are  
10 the only questions I have of the witness as it  
11 relates to this, Mr. Commissioner.

12 THE COMMISSIONER: What I would suggest, Ms. Gaertner,  
13 is we mark it with a letter for identification.  
14 Mr. Timberg, I don't think, has had an opportunity  
15 to really look at the document in more detail.  
16 Just in fairness to you and your fellow counsel,  
17 perhaps we could mark it with a letter and then  
18 later we could have it marked if there's no  
19 objections.

20 MR. TIMBERG: Having now seen the document, it looks  
21 like it's a public document as to an agreement  
22 between Canada and the Haida Nation, so I think no  
23 objection.

24 THE COMMISSIONER: All right. Well, then, we can mark  
25 it then with a number.

26 THE REGISTRAR: That would be Exhibit 908.

27

28 EXHIBIT 908: Gwaii Haanas Marine Agreement

29

30 MS. GAERTNER:

31 Q All right. Leaving that general discussion, just  
32 one more strategic discussion with you about what  
33 you referenced yesterday as in-season management  
34 and the importance of flexibility within season  
35 management.

36 Page 7 of that same article that we were  
37 dealing with, you set out some tools and  
38 approaches for effective conservation and  
39 fisheries rebuilding for the in-season management  
40 and you provide some useful topics. First of all,  
41 management plans that anticipate the factors that  
42 may result in reductions in abundance and include  
43 measures to compensate for them as being one of  
44 the things that we have to be careful about.

45 A Yes, and then I was talking about having a plan  
46 that was flexible to accommodate those kinds of  
47 changes and the --

1 Q And you talked about those --

2 A (Indiscernible - overlapping voices) concept.

3 Q -- bookends. You'll agree with me that an example  
4 of something we have to be careful about is  
5 establishing minimum escapement targets that don't  
6 assume the status quo in the ecosystem going  
7 forward over long periods of time.

8 A One has to establish realistic targets that are in  
9 keeping with exactly what's going on in the  
10 environment.

11 Q And so you can't assume that the environment is  
12 going to stay the same over the next 10 or 15  
13 years.

14 A No. In fact, my advice to the Commission is that  
15 expect more uncertainty.

16 Q And that the next point you speak about there is:

17

18 Good management plans should take into  
19 account natural and man-made influences and  
20 respond accordingly.

21

22 In that situation, I wonder if you could  
23 speak about the need to move away from aggregate  
24 management. We have so much aggregate management  
25 still going on in the Fraser River sockeye because  
26 of the older patterns of management. Do you agree  
27 that we've got to move, as best we can, out of  
28 this aggregate management into much more detailed  
29 stock-specific, or what we call conservation unit  
30 specific management?

31 A Well, I think that's the whole purpose of the Wild  
32 Salmon Policy and the creation and the definition  
33 of conservation units. The challenge is going to  
34 be how do we do it, how can we do it in a way that  
35 is flexible in keeping with the realities of the  
36 environment, and how can we do it so that it's  
37 fair and that the benefits are shared amongst the  
38 different people who enjoy the outcomes from the  
39 resource harvesting.

40 Q And we ought not to rely only on the Wild Salmon  
41 Policy. We've got other places, for example, the  
42 Fraser Panel and with the international relations  
43 with the United States that we need to carefully  
44 look at how aggregate management is still  
45 happening there.

46 A Yes. And in fact that's a very important reality.  
47 We have to consider how the Salmon Treaty works,

1           how the Fraser Panel works, how that all ties into  
2           quite a complex relationship with the United  
3           States, so it's not an easy task at all.

4       Q     Okay. I need to turn now away from the more  
5           general and down into some of the specific work  
6           that happened with **SARA** and as it relates to  
7           Cultus and Sakinaw.

8           Now, I understand from your evidence  
9           yesterday, Dr. Davis, and if I didn't get this  
10          right, please correct me, but I heard on a number  
11          of occasions, in response to questions from  
12          counsel, that you felt that DFO had pursued a full  
13          array of options available to you at a management  
14          level for Cultus and Sakinaw, and that that was  
15          available whether it was listed or not. As I  
16          understand it, if they had been listed, we would  
17          not have been able to have as much incidental  
18          catch at Sakinaw and Cultus as we presently have.  
19          Do I have that right?

20       A     Well, that would have depended very much on what  
21          was happening in a given year in terms of the  
22          allowable harm that could be permitted. Part of  
23          the uncertainty with respect to listing was just  
24          what the future would look like. Would we get  
25          into situations such as we've seen with Fraser  
26          sockeye in recent years that have led to this  
27          Commission, where one could have none, or  
28          virtually very, very low levels of incidental  
29          harm. So --

30       Q     But that was precisely the concern you had, or DFO  
31          had, when listing it, was that it was the  
32          potential that the incidental catch in the mixed  
33          stock fishery could result in -- a listing could  
34          result in shutting it down.

35       Q     Yes, and let me come back to your other point in  
36          terms of the suite of things that were introduced.  
37          Minister was keen on having a comprehensive suite  
38          of conservation and recovery measures. That's in  
39          fact what was done. Some of those were shorter  
40          term, some of those were longer term as I  
41          understand them in terms of different pieces of  
42          work that were done. But what we wanted to do was  
43          make sure that the recovery team did develop a  
44          thorough set of approaches that address the  
45          various challenges identified in the COSEWIC  
46          assessment, and that those were funded and carried  
47          out in subsequent years. Some of them would be



- 1 discrete pieces of work, some of them would be  
2 work that went on over multiple years.
- 3 Q But listing would give the Minister less  
4 flexibility as it relates to that suite; is that  
5 correct?
- 6 A Absolutely.
- 7 Q And that was a concern of the Minister?
- 8 A That was a concern of the Minister, and the other  
9 concern, a big one, was what happens if we list  
10 and the stock continues to decline and it's not  
11 possible to have any harvesting? How do you de-  
12 list? **SARA** is, in fact, quite silent on de-  
13 listing.
- 14 Q Yes, you mentioned that yesterday. Now, why was  
15 it that in this process Cultus and Sakinaw were  
16 lumped together?
- 17 A They represented two small stocks of lake spawning  
18 sockeye, so they were similar in characteristic.  
19 They were also lumped together because the time  
20 frame of the advice coming from COSEWIC was such  
21 that you had to consider that batch of species  
22 together. They were not unique in that there were  
23 other species moving forward too. All had to have  
24 this same time frame.
- 25 Q But you'll agree with me that they actually have a  
26 slightly different migratory route.
- 27 A Yes.
- 28 Q And they would have different effects on the  
29 marine fisheries and the FSC access to those  
30 marine fisheries.
- 31 A Both Cultus and Sakinaw would be present in the  
32 fisheries approaching the Fraser River, so they're  
33 present in lower Georgia Strait and up through  
34 Johnstone Strait, so they were both species,  
35 populations that would be encountered during  
36 active fisheries of Fraser-bound fish.
- 37 Q Perhaps then I'll ask the direct question that I'm  
38 wondering about which is that there are some that  
39 feel that by lumping them together and treating  
40 them together that what we have is DFO's reaction,  
41 quite early in the **SARA** process, to the fears and  
42 the concerns around weak stock management, and  
43 that you lumped them together 'cause it brought  
44 those fears together.
- 45 A We lumped them together because we had to process  
46 them together as decisions that were linked, but  
47 they encompass some of the same issues and the

1 same concerns, counsel, that you mentioned.  
2 Q Okay. I want to turn briefly to some of the  
3 challenges that are exhibited. I just want to  
4 start with this. The questions I'm about to ask  
5 are not for the intention, as Mr. Rosenbloom  
6 suggested, that we get behind the decision of the  
7 GIC not to list. This is not the purview of the  
8 Commission.

9 However, I feel it's extremely important to  
10 look at the process that was used or not used and  
11 some of the things behind it. To get a sense of  
12 what are the challenges, and what we're up  
13 against, both as it relates to First Nations and  
14 potentially other stakeholders, but also as it  
15 relates to the Department of Fisheries and Oceans,  
16 all right? So let's just use it as a good example  
17 of what we can do better.

18 Now, I want to start with Exhibit 887, if I  
19 may, and that was Commission document number 1.  
20 Now, this is one of the earliest documents that's  
21 a memorandum to the Minister that we've been  
22 provided, and it's in February of 2004. At page 1  
23 is a summary and the third bullet there you see  
24 "emergency listing" and it goes on to talk about  
25 the severe impacts of:

26  
27 ...\$30 million on the commercial industry, as  
28 well as on some First Nations fisheries.  
29

30 All right? And then at page 3 under the heading  
31 "Alternative One", it says:

32  
33 Listing[s] would result in a significant  
34 impact on [to] First Nations fisheries.  
35

36 How had DFO reached that conclusion in February  
37 2004 when there hadn't been, as I understand it,  
38 any specific consultation with First Nations at  
39 that point with respect to this listing.  
40 A Well, what DFO was looking at, at that point in  
41 time, was the presence of these fish in mixed  
42 stock fisheries up and down the coast. Certainly  
43 totally aware of what the implications of **SARA**  
44 were with respect to allowable catch, and the fact  
45 that a significant number of First Nations engage  
46 in commercial fishing, some 25 percent of  
47 commercial fishermen, I think, at that time, was

1 the number used, as well as people who are  
2 distributed throughout the range of the Fraser-  
3 bound fish.

4 Q And then at page 5, is it fair to say that you're  
5 anticipating what the views of First Nations might  
6 be in this document? When you say First Nations  
7 and coastal communities would strongly oppose the  
8 listing?

9 A Yes.

10 Q Could we now go to Tab 5 of the Commission  
11 documents which is Exhibit 889 at page 2. This is  
12 a DFO document. It's the first draft of the **SARA**  
13 Listing Summary, and you'll see at page 2 that the  
14 summary reflects this statement:

15  
16 FSC fisheries in mixed stock at sea fisheries  
17 are not expected to be restricted in amount  
18 but there could be restrictions on [in the]  
19 timing of [the] fisheries removing some of  
20 the flexibility enjoyed by First Nations in  
21 recent years.

22  
23 You'll agree with that?

24 A That's what that document says, and that of course  
25 was the assessment of the folks who wrote it at  
26 that particular time as a draft.

27 Q And that's quite a bit of change since February.  
28 Would you agree with me on that?

29 A This one is a listing summary, as I understand  
30 it, written in Pacific Region. The other document  
31 was an information note for the Minister which was  
32 a synthesis of information coming up from the  
33 region, so there's probably a source difference in  
34 these.

35 Q And likely those that are -- the second document  
36 that I've taken you to is a little bit more  
37 accurate, a little bit closer to home, a little  
38 bit more specific as it relates to the  
39 flexibilities and the issues that they're going to  
40 have to deal with in terms of management.

41 A It would depend on what thinking was going on in  
42 the region in terms of just what types of  
43 fisheries restrictions or measures would have to  
44 be taken in the event of listing.

45 Q Okay. And then if we go to Exhibit 889A, which is  
46 another draft of this same document that's one  
47 month later, and we go to the "Benefits" and then

1 go to the list identified with costs to First  
2 Nations on page 1, and you see the impact is very  
3 -- is low.  
4 MR. WALLACE: I think the one on the screen is 889B.  
5 A Sorry, I'm having trouble finding the passage to  
6 which you're referring.  
7 MS. GAERTNER: Sorry. I'm sorry. It's dated July  
8 20th, there you see it.  
9 Q At the bottom of that page, so a month later,  
10 "Costs to First Nations", "Impact Low". Right at  
11 the bottom of the page, Dr. Davis.  
12 MR. TIMBERG: And if you could go to the second page  
13 also.  
14 A Okay. And could page up? I want to look at  
15 whether this is collected for the whole coast or  
16 is -- that's what the document says.  
17 MS. GAERTNER:  
18 Q And your understanding is that what was going to  
19 happen if they were listing it, particularly as it  
20 relates to Cultus, they were going to have to move  
21 some of the FSC - and I'm talking about FSC  
22 because that's where you've got constitutional  
23 obligations - the FSC fisheries for First Nations  
24 in the marine, they're going to have to move those  
25 around. That was one of -- but that flexibility  
26 was possible.  
27 A Yes, I think it was. I'm not aware, though,  
28 counsel, exactly what is underlying this analysis  
29 and how that document was produced, not being the  
30 author of it or close to it.  
31 Q But you'll agree that the author of those, close  
32 to it were those that were closer to home looking  
33 at the management of the fisheries and the options  
34 they had.  
35 A This was prepared by Pacific Region staff as I  
36 understand it.  
37 Q So those in Ottawa would typically rely on that  
38 assessment; is that correct?  
39 A Correct.  
40 Q And that assessment is quite different than the  
41 February assessment that I took you to earlier.  
42 A There are differences amongst the documents, yes.  
43 Q I want to go back to Exhibit 887, and I want to  
44 take you to bullet 4 at page 5. And if you want  
45 to just take a moment to read that bullet.  
46  
47 There is an important legal consideration

1                   respecting the department's approach to **SARA**  
2                   and salmon populations threatened with  
3                   extinction. Failure to take measures to  
4                   conserve and rebuild an at-risk population  
5                   under **SARA** could put DFO in a difficult  
6                   position with First Nations. If it were  
7                   [was] biologically and technically possible  
8                   to rebuild a population, but the government  
9                   chose not to on the basis of social or  
10                  economic considerations, a First Nation with  
11                  an Aboriginal right to fish that population  
12                  might well argue that failure to conserve and  
13                  rebuild constitutes an infringement and  
14                  raise[s] this argument in the context of a  
15                  legal action.

16  
17                  You'll agree with that assessment?

18         A         That's one side of it. There's another side,  
19                  counsel, too, that I've heard argued the other  
20                  way, that in fact infringement could result from  
21                  failure to allow aboriginal people to harvest fish  
22                  so we --

23         Q         That's precisely what we were talking about  
24                  earlier, wasn't it, Dr. Davis, that there is a  
25                  complexity associated here with DFO's  
26                  responsibility to a large number of First Nations  
27                  on the Fraser River and in the marine, and that  
28                  you were well aware of that complexity in February  
29                  when you wrote this memo.

30         A         The Department was well aware of it when the memo  
31                  was prepared, yes.

32         Q         All right. Can I now turn to Commission document  
33                  888A? This is a document for the timeline for  
34                  consultation, and you'll see there -- and I was  
35                  just amazed when I read this, Dr. Davis. It  
36                  appears that you left an hour -- an hour, sorry --  
37                  one month, or just over one month, five weeks to  
38                  complete consultation with First Nations on this  
39                  issue. How did the Department ever imagine, given  
40                  the complexity that we've just talked about both  
41                  at a strategic level and at a very fact-specific  
42                  level, that you could ever complete consultation  
43                  with First Nations on this matter in one month?

44         A         Well, if you look through the paper trail on a lot  
45                  of this, you'll find that it is a huge challenge  
46                  and in fact many of the things the Department did  
47                  with respect to **SARA** in subsequent years, and a

1 lesson learned was to try to provide more time for  
2 consultation because --

3 Q That's totally unrealistic.

4 A We're bound by the legislative requirements and  
5 the timelines therein.

6 Q Could you not have sought an extension of time?  
7 Could you not have decided to defer this in order  
8 to meet your constitutional obligations to First  
9 Nations?

10 A Well, what we did in subsequent years is we  
11 developed what we called an extended process, and  
12 there's a loophole in **SARA** whereby if the Minister  
13 does not formally acknowledge receipt of the  
14 COSEWIC advice, one can follow a longer time track  
15 and we put a number of species in subsequent years  
16 through what we called an extended process that  
17 allowed more time for consultation, and we applied  
18 that across the country. So that was a lesson  
19 learned from this.

20 Once the clock starts to tick, there is  
21 little time to do all the necessary things and a  
22 lot of the criticisms we've heard here, too, about  
23 socioeconomics relate to the fact that the clock  
24 was ticking and the processes had to play out  
25 according to getting the advice into PCO.

26 Q So maybe I'll just ask this question, then. You  
27 know, their perception by many First Nations is  
28 that there was a lot of reluctance on the part of  
29 DFO to list, not just on the part of industry but  
30 on the part of DFO to list, and that the failure  
31 to seek an extension of time to properly address  
32 these issues met DFO's goals of being able to say,  
33 "We can't list." There's too many dangers out  
34 there.

35 A Well, I wouldn't put it that way. I think we were  
36 learning from this process, but we were now locked  
37 into the process and of course there was a lot of  
38 concern about listing, there's no question about  
39 that in terms of the implications of it.

40 Q Perhaps I can also now take you to Exhibit 888.  
41 Now, yesterday in your evidence you read most of  
42 that first paragraph, but you failed to read the  
43 last, under "Decision Process", sorry. The full  
44 paragraph under "Decision Process". You read most  
45 of that first paragraph, but you failed to read  
46 the last line.

47

1                   Decisions about the [weighing] weighting of  
2                   some criteria are best left to senior  
3                   management and the Minister.  
4

5                   Dr. Davis, we've just had a long discussion about  
6                   the value of having participatory governance  
7                   involved, and the need in fact as it relates to  
8                   First Nations, to have their involvement as it  
9                   relates to their constitutional rights. How can  
10                  decisions about weighing criteria like that be  
11                  best left to senior management and the Minister?

12                A    I recognize that this document is advice or a memo  
13                    written by one of David Bevan's staff to him.  
14                    That's probably his opinion. That isn't  
15                    consistent with what I was saying yesterday where  
16                    I said we need to find ways, collectively, to make  
17                    these tough decisions and where we set the bar  
18                    with respect to weak stock management.

19                Q    And so you'd actually disagree with that last  
20                    sentence?

21                A    I think that the Minister and senior management  
22                    had a key role to play, but I think we could  
23                    certainly do a lot better in terms of how we  
24                    engage everyone in these decisions.

25                Q    Thank you, Dr. Davis. Maybe I'll just ask this  
26                    question, then. Would you agree with me that when  
27                    the tough gets going (sic) and there are complex  
28                    issues that clearly stakeholders and First Nations  
29                    may disagree on, that one of the tendencies DFO  
30                    has is to go silo? It's to go internal and to  
31                    move this into senior management and the Minister.

32                A    I think that that is quite typical of any big  
33                    department that has to make tough decisions in  
34                    circumstances where there are many differing views  
35                    and many differing issues and, as you've pointed  
36                    out, a lot of legal issues that accompany things  
37                    as well. So, yes, you tend to get internal  
38                    process but you also do need to get really good  
39                    external consultation and the best type of advice  
40                    you can.

41                    One of the problems that I talked yesterday  
42                    was if you have a situation where the Minister in  
43                    the Department is the ultimate arbiter in every  
44                    decision, that is going to lead to all kinds of  
45                    problems, so we need to find mechanisms whereby  
46                    informed bodies of wise people can assist and  
47                    externalize some of those decisions.

1 Q And you'll agree with me that that's a matter of  
2 most importance when the Commissioner is looking  
3 at policies, practices and procedures of DFO and  
4 how that might be changed in the future for the  
5 long-term sustainability of the Fraser River  
6 sockeye.

7 A Absolutely.

8 Q Just to highlight a couple of other challenges  
9 that DFO had in this process, could I go to First  
10 Nations Coalition's document number 2, please.  
11 Are you familiar with this document?

12 A I think I've seen it in the paper trail, and it is  
13 the document that summarizes consultations in  
14 British Columbia in May of 2004.

15 MS. GAERTNER: Could I have this document marked as the  
16 next exhibit?

17 THE REGISTRAR: Exhibit 909:

18

19 EXHIBIT 909: First Nations Coalition  
20 Consultation Summary

21

22 MS. GAERTNER:

23 Q Now, in an effort to speed through the work that  
24 we have to do here today, Dr. Davis, I wonder if  
25 you could see whether -- I'm just going to list  
26 the nature of the concerns that are set out in  
27 this document and whether you'll confirm whether  
28 those were concerns that DFO was aware of during  
29 this time.

30 The First Nations had concerns about how  
31 socioeconomic impacts would be considered more  
32 important than their fears regarding the stocks,  
33 that some First Nations had those concerns.

34 A Yes.

35 Q The concerns that local people should be making  
36 the decisions regarding the listing and not people  
37 who have no knowledge of the local area.

38 A Okay. I'm having trouble tracking it in the  
39 document.

40 Q It's at page 2 of the document.

41 THE COMMISSIONER: Sorry, which document is this, Mr.  
42 Lunn?

43 MR. LUNN: Tab 2, the First Nations...

44 MS. GAERTNER:

45 Q So local people should be making the decision, not  
46 people who have no knowledge of the local area.

47 That was a concern raised by First Nations to DFO?



- 1 A Yes. I'll agree with you, this is a summary of  
2 the input that came from a variety of First  
3 Nations' perspectives as this consultation was  
4 carried out.
- 5 Q And you'll agree with me that these issues, when  
6 brought to DFO, have implications to the exercise  
7 of their title and -- their fishing rights at  
8 least as it relates to FSC or otherwise, and that  
9 the consultation process that continued was  
10 inadequate to address these concerns.
- 11 MR. TIMBERG: I'll object to that question. I think  
12 she's asking the witness to comment on aboriginal  
13 rights that is a legal matter and one that's  
14 appropriate here.
- 15 MS. GAERTNER:
- 16 Q Dr. Davis, you've already mentioned that you --  
17 that one month is an inadequate period of time to  
18 address consultation on Fraser River sockeye  
19 salmon on these matters; is that correct?
- 20 MR. TIMBERG: Again, I'm going to object that the  
21 adequacy of consultation is a legal issue, and  
22 it's not appropriate.
- 23 MS. GAERTNER:
- 24 Q Practically speaking, can you complete  
25 consultation with First Nations on these complex  
26 issues in one month or a month and a half, Dr.  
27 Davis?
- 28 MR. TIMBERG: Okay --
- 29 MS. GAERTNER:
- 30 Q Practically speaking, can you complete  
31 consultation with First Nations on these complex  
32 issues?
- 33 MS. GAERTNER: There's no issue of law there, Mr.  
34 Timberg. What we have here is a question of,  
35 practically, can they do this work within that  
36 short period of time given the complexity of the  
37 issues that First Nations are raising with them.
- 38 MR. TIMBERG: My objection is that you're tying it back  
39 to legal aboriginal rights.
- 40 MS. GAERTNER: Well, he's aware of the obligations the  
41 Department has as it relates to consultation.  
42 He's got to practically put that down onto the  
43 ground.
- 44 MR. TIMBERG: Well, again, the issue of aboriginal  
45 rights is an individual issue that's determined on  
46 a case-by-case scenario. So I'm going to object  
47 to that question.

- 1 THE COMMISSIONER: Ms. Gaertner, it might be more  
2 helpful - and try to avoid this particular  
3 controversy between you and your learned friend -  
4 to simply base it on this witness's personal  
5 experience with the consultation process and what  
6 his experience has been, rather than to tie it to  
7 a document or necessarily to what your learned  
8 friend's concern is which is some legal framework  
9 within which consultative processes have been  
10 engaged and considered.
- 11 MR. GAERTNER: All right. I'll take him to a specific  
12 document that he provided on that later when he  
13 had met with the First Nations.
- 14 Q So if we could turn specifically to the  
15 socioeconomic analysis issues. I've only got  
16 another five minutes with you, Dr. Davis, and I  
17 have more material than five minutes will allow  
18 for.
- 19 Can you agree that the Gislason report, which  
20 is now Exhibit 892C, is not the robust  
21 socioeconomic analysis that you talked about  
22 yesterday that needs to be done to make these  
23 decisions?
- 24 A I talked about it yesterday in terms of an early  
25 document that was developed in the process and the  
26 fact the Department recognized that we needed an  
27 overall plan and approach for more robust  
28 socioeconomic analyses and that consequently  
29 resulted in the development of the other document  
30 that we looked at with Commission counsel.
- 31 Q And you'll agree that the consultant did not  
32 qualify the non-financial benefits of FSC  
33 fisheries?
- 34 A There were, I believe, some qualitative statements  
35 in there, but the quantification needed to be more  
36 robust.
- 37 Q And do you recall that the way that he assessed  
38 the loss of food value was to simply give it a  
39 landed value of \$2.90 in the river and \$3.85 at  
40 the marine?
- 41 A I don't recall that detail.
- 42 Q Would you like to see it in order to agree to  
43 that? But that's a detail that shows up in many  
44 of DFO's documents subsequent to that, was that  
45 calculation. Do you recall that?
- 46 A Well, I'll accept that there would be parts of  
47 this document that would find their way through

- 1 the process.
- 2 Q And you'll agree that that's a dangerous over-  
3 simplification of the food value of FSC fisheries  
4 to First Nations?
- 5 A I am not competent to decide on the food value.
- 6 Q But you're competent to make an observation, as  
7 you do from your experience, on how important  
8 food, social and ceremonial purposes are to First  
9 Nations all along the Fraser River, and that  
10 putting a value of \$2.90 on the river value is an  
11 over-simplification.
- 12 A I certainly recognize the importance of these fish  
13 to folks. I think to put a value on it, one needs  
14 to be an economist that looks at this and  
15 addresses it in an appropriate way.
- 16 Q You're familiar with Paul Ryall's work in British  
17 Columbia?
- 18 A In general, but I'm not sure what you mean by  
19 "work" specifically.
- 20 Q You're familiar with who Paul Ryall is?
- 21 A Yes.
- 22 Q All right. Can I have Exhibit 756, please? I'd  
23 like to go to page 11 of that exhibit.
- 24 MR. TIMBERG: Is this in your list of documents?
- 25 MS. GAERTNER: I don't list exhibits. It's been an  
26 exhibit. It's an exchange under oath from Dr.  
27 Ryall. These are questions and answers that were  
28 provided to Dr. Ryall.
- 29 MR. TIMBERG: My understanding is that the process is  
30 that if a party is going to be listing a document  
31 to put to a witness, they need to provide advance  
32 notice of that so that the witness can review it.  
33 So this has not been provided to the witness.
- 34 MR. GAERTNER: Mr. Commissioner, this is a unique  
35 exhibit because it's actually evidence in this  
36 inquiry. These were questions I put to Mr. Ryall  
37 because I didn't have the opportunity to ask them  
38 orally, and his answers. So, in my view, they  
39 should be treated exactly the same as transcript.
- 40 MR. WALLACE: Mr. Commissioner, I accept Mr. Timberg's  
41 position on this. We have set a rule as people  
42 provide notice of all documents they wish to put  
43 to witnesses, even if they are exhibits. As  
44 you'll note, we're getting close to 1000 exhibits.
- 45 MR. LEADEM: Very briefly, this is a transcript that  
46 should -- this is a transcription of evidence.  
47 You may recall that Dr. Ryall was unable to

1 complete his evidence and what Ms. Gaertner's  
2 attempting to do is now just put the transcription  
3 to him, to this witness, to get his commentary. I  
4 don't see anything wrong with that.

5 MS. GAERTNER: Mr. Commissioner, these are highly  
6 relevant questions to Mr. Ryall. They're about  
7 the socioeconomic implications associated with  
8 these types of assessment.

9 THE COMMISSIONER: I understand, Ms. Gaertner. What I  
10 would permit you to do is put the question -- I  
11 don't know what question it is you're going to ask  
12 about this particular exhibit, but I would  
13 certainly allow you to put your question to the  
14 witness, and again, in fairness to the witness, if  
15 he needs to look at something or read something in  
16 order to answer your question, I'll give him that  
17 opportunity to do so. But if you want to put this  
18 exhibit to the witness, and then I'd like to hear  
19 what your question is.

20 MS. GAERTNER:

21 Q All right. The question that I asked Mr. Ryall  
22 was:

23  
24 Do you agree that it would be an error or at  
25 least insufficient for a study of the socio-  
26 economic value of FSC fisheries to assume  
27 that the value of fish caught for FSC  
28 purposes is equivalent to the landed value of  
29 fish caught for commercial purposes? Please  
30 explain.

31  
32 Mr. Ryall's answer is:

33  
34 I agree that it would be an insufficient  
35 estimate of the socio-economic value of FSC  
36 fisheries. I don't think that type of  
37 monetary figure captures the social values.

38  
39 Would you agree with Mr. Ryall in his answer to  
40 that question, Dr. Davies?

41 MR. TIMBERG: Could we have the number of the question  
42 so we can review it?

43 MS. GAERTNER: It's on page 11, section (c), question 4  
44 -- sorry, page 12, question 4.

45 A I would agree with Mr. Ryall on this. I don't  
46 think there's a way of putting a specific value  
47 just related to catch on this. I understand that

- 1           certainly the social and ceremonial aspects of a  
2           value of a fish to First Nations are very, very  
3           important. I wouldn't know how to value that  
4           myself, but I think it is a significant issue.
- 5           Q     And so is the food value; is that correct?
- 6           A     Yes, absolutely.
- 7           Q     And the food value may be much more valuable to  
8           them in some of those communities that rely on  
9           salmon as their primary protein source, than the  
10          landed value.
- 11          A     The food value is very important and the type of  
12          food value too, where that fish came from, from  
13          the standpoint of the elders being used to a  
14          certain type of fish.
- 15          Q     Exactly. Dr. Davis, maybe I'll just -- from my  
16          own experience working on socioeconomic analysis  
17          with First Nations on these matters, it actually  
18          requires them to be actively involved in  
19          developing the terms of reference and looking at  
20          the nature of the data, looking at the methodology  
21          that's used by the expert, all of those things.  
22          Would you agree with me that that would be  
23          extremely useful in developing a socioeconomic  
24          analysis for these complex matters?
- 25          A     I'm not sure how else you could do it.
- 26          Q     And you'll agree with me that none of that was  
27          done in the presentation of this report or the  
28          presentation of any of the socioeconomic analysis  
29          that was completed by DFO or otherwise on making  
30          the decision to list.
- 31          A     I'm sure there were deficiencies there which was  
32          why we felt that the process could be improved in  
33          the future, and that we're learning from this  
34          early **SARA** experience.
- 35          Q     I want to just complete the challenges associated  
36          with the consultation by taking you to Exhibit  
37          894. We spoke about this exhibit yesterday. This  
38          is your November 4th email at the bottom of the  
39          page, and perhaps just take a moment to refresh  
40          your memory on that. This is a meeting that  
41          you're having with First Nations involved in the  
42          emergency listing, and I assume that's Soowahlie  
43          and others; is that correct?
- 44          A     I frankly can't remember there. It was a  
45          collectivity (sic) of people who were in the room.
- 46          Q     And you're reflecting on the fact that they  
47          haven't received - it's November now - they

1 haven't received the analysis that DFO used as it  
2 relates to the socioeconomic assessments; is that  
3 correct?

4 A That's correct, yes.

5 Q So you're pretty well on the cusp of making any  
6 final decisions. In fact, by November 4th, have  
7 you made the decision not to list?

8 A The Minister has announced at that point that  
9 recommendation is made to GIC. There's no  
10 decision not to list. That comes later.

11 Q All right. But the Minister has made his decision  
12 to recommend not to list.

13 A He's made a public recommendation.

14 Q And the First Nations involved in the request for  
15 the emergency listing don't even have the  
16 socioeconomic analysis; have I got that right?

17 A They don't have the Gislason and other  
18 documentation at that point.

19 Q And at the bottom of the page, you suggest that it  
20 would be best to get that information to them; is  
21 that correct?

22 A Yes, and in fact I talked to regional staff and we  
23 made a decision to get that information out.

24 Q Now, I want to go to the next page on that, and  
25 this is your final point on that.

26

27 The lesson from all of this is that we need  
28 to find a way to do socioeconomic impact  
29 assessments much earlier in the listing  
30 process, share the analysis, seek feedback  
31 and input the results along with the COSEWIC  
32 advice.

33

34 Would you revise that lesson by saying we  
35 need to involve First Nations in developing the  
36 approaches that are going to be necessary to look  
37 at the socioeconomic analysis and involve them in  
38 the development of the terms of reference. You  
39 don't want to go off and do this analysis all on  
40 your own, do you, Dr. Davis?

41 A I think it would be good to have an inclusive  
42 process, not only with First Nations, but with  
43 others. There was round criticism of the  
44 socioeconomic analysis coming from a lot of  
45 quarters.

46 Q Now, I'm just going to conclude with giving you an  
47 opportunity to respond to two observations, if I

1 may. The first one is having had the experience  
2 with Cultus and Sakinaw, there is a perception by  
3 many of my clients that relying on **SARA** in order  
4 to protect weak stocks as it relates to the Fraser  
5 River, given the complexities associated with  
6 mixed stock fisheries is a waste of time.

7 A I don't agree it's a waste of time. I think **SARA**,  
8 as I mentioned in earlier testimony, is a very  
9 useful and complementary vehicle with the  
10 **Fisheries Act** and that, together, they're useful  
11 and that the **SARA** process identified conservation  
12 concerns - and continues to do so - that help  
13 alert us to the need to take action, and that  
14 action does get taken.

15 Q So you can appreciate that given what happened  
16 with Cultus and Sakinaw that that perception is  
17 out there. What do you think DFO should do about  
18 that?

19 A Well, DFO did change its process and develop this  
20 more extended process for some species, recognized  
21 in fact that we had to have more robust  
22 socioeconomic analysis, recognized the  
23 complexities of the consultation process and the  
24 need to do it as thoroughly as possible. And the  
25 type of evidence that I've given here I hope shows  
26 you that in fact we need to find better ways of  
27 moving forward with respect to making these tough  
28 decisions about weak stocks and conservation and  
29 weak stock management.

30 Q Would you agree that an active consultative  
31 protocol or process that was clearly spelled out  
32 as it relates to **SARA** listings might be useful for  
33 the Department of Fisheries and Oceans?

34 A I think it might be useful for the Government of  
35 Canada, because we're not unique with respect to  
36 the aquatic species. Environment Canada has to  
37 engage in these sorts of things as well. When I  
38 say "we", I still talk like DFO, but I'm a retired  
39 non-DFO person.

40 MS. GAERTNER: Yes. Given the time, I think that I've  
41 well used my allotted time, Mr. Commissioner, so  
42 I'll complete my questions of Dr. Davis now.

43 THE COMMISSIONER: Thank you, Ms. Gaertner.

44 MR. WALLACE: Mr. Commissioner, that is the list of  
45 counsel wishing to examine Mr. Davis (sic).

46 THE COMMISSIONER: I think Mr. Timberg is standing, Mr.  
47 Wallace.

John Davis (cont'd)

Cross-exam by Ms. Gaertner (FNC)

Cross-exam by Mr. Timberg (CAN) (cont'd)

1 MR. WALLACE: Other than re-examination. I wondered,  
2 though, perhaps, as a preliminary matter before  
3 re-examination, while Mr. Davis is still on the  
4 stand, there was some -- this isn't something I  
5 intend to put to Mr. Davis, it's something I seek  
6 to enter as an exhibit by agreement.

7 Yesterday Mr. Davis made some comments about  
8 the endangered species protection regime in  
9 British Columbia, and there's a feeling that that  
10 may not have been an accurate characterization.  
11 It was really a question of interpretation of law,  
12 probably not something that Mr. Davis would know  
13 from personal experience. I'm proposing that we  
14 simply enter as an exhibit the province's public  
15 statement of that regime which is found on its  
16 website where it sets out the legislative package  
17 which addresses the issues of endangered species  
18 protection, and I would ask if we could simply  
19 mark that as an exhibit by consent.

20 MR. TYZUK: Mr. Commissioner, it's Boris Tyzuk for the  
21 Province of B.C. I've spoken to Mr. Wallace and  
22 to other counsel and we're in agreement with that  
23 approach. That is, I've spoken with Mr. Leadem.

24 THE COMMISSIONER: Thank you. So we'd give that a  
25 number then, Mr. Wallace. Thank you.

26 THE REGISTRAR: That will be Exhibit number 910.

27

28 EXHIBIT 910: Province of B.C. public  
29 statement concerning endangered species  
30 protection regime  
31

32 MR. WALLACE: Mr. Leadem, any -- sorry, Mr. Timberg,  
33 any re-examination?

34 MR. TIMBERG: I have three questions for redirect.  
35 It's Mr. Timberg for Canada.  
36

37 CROSS-EXAMINATION BY MR. TIMBERG, continuing:  
38

39 Q Dr. Davis, you were asked by Ms. Gaertner  
40 regarding your consultations with respect to the  
41 **SARA** listing, and you commented that there were 20  
42 percent of endangered species are on First Nations  
43 land. Can you advise whether First Nations in  
44 British Columbia expressed any concerns to you  
45 about how **SARA** would operate as it affects First  
46 Nations land?  
47

A Oh, yes. A lot of discussion, and that's



1 reflected in some of these consultation summaries  
2 that are there. I talked a lot with Byron Louis  
3 who was one of the folks that authored or was part  
4 of the review of the major AFM document that  
5 counsel referred to. My perception with respect  
6 to the complexity of this is from those kinds of  
7 discussions.

8 Q And what were their comments?

9 A Well, when I was talking about the infringement  
10 side of things, I had understood from those  
11 discussions that it was a two-edged sword that  
12 could cut both ways. So basically, you know, one  
13 could get into an infringing (sic) situation with  
14 listing or failure to list.

15 Q I see. With respect to Ms. Gaertner talking to  
16 you about collaboration between DFO and First  
17 Nations groups and stakeholders, and you commented  
18 about the east coast example of science being  
19 gathered by the commercial fishers on the east  
20 coast, could you provide a bit more specific  
21 information as to what fishery that is on the east  
22 coast?

23 A They were Sentinel Fisheries in a number of the  
24 groundfish fishing activities on the east coast,  
25 and with respect to the fleet recording  
26 information and bringing it forward. The Sentinel  
27 Fisheries were funded by the Department and that  
28 helped with respect to the scientific information  
29 that was used for management.

30 Q All right. And, to your knowledge, is any of that  
31 approach in gathering science being utilized on  
32 the west coast? Do you have any information about  
33 that?

34 A There have been a number of activities over the  
35 years where commercial fishers and First Nations  
36 have been involved in gathering information from  
37 the fisheries. There's no question. It's been  
38 done in a number of locations. In fact, even some  
39 of the regulatory side of things where we have  
40 monitoring and cameras and recording of all of the  
41 landings within the groundfish fleet in the west  
42 coast is an example of that. Also examples of  
43 fishermen experimenting with different types of  
44 gear that are more selective to avoid catching  
45 other species incidentally, and a lot of  
46 innovation in terms of gear design.

47 So my point is that there is a lot of

John Davis (cont'd)  
Cross-exam by Mr. Timberg (CAN) (cont'd)  
Questions by the Commissioner

1 knowledge and innovation out there and the  
2 challenge is how we best use it.

3 MR. TIMBERG: Okay. Thank you. And, Mr. Registrar, if  
4 we could go to Exhibit 889A, and I'll ask that we  
5 move to page 2 when that comes up.

6 Q Ms. Gaertner, in her cross-examination, was asking  
7 you about the statement at the top of the page.

8 MR. TIMBERG: If we could just sort of straddle page 1  
9 and 2, there, thank you.

10 Q With respect to "First Nations, Impact Low", and  
11 if we go up, that conclusion was from --

12 MR. TIMBERG: If we could just go up, Mr. Lunn, please.

13 Q With respect to **SARA** listing benefits and cost,  
14 and then if we go down to page 2, under the  
15 "Fishing Industry, Impact High", and about the  
16 sixth bullet down, it states:

17  
18 First Nations will also be affected by  
19 foregone commercial fishing revenues, as they  
20 hold 25% of southern commercial salmon  
21 licences.

22  
23 And so if you could just elaborate on your  
24 observations about these impacts affecting First  
25 Nations in the fishing industry?

26 A That was the distinction I was trying to bring  
27 out. There is of course the FSC concern that Ms.  
28 Gaertner has raised, but also there is a  
29 significant number of First Nations people  
30 involved in commercial fisheries as cited here, so  
31 it depends how you cite impacts on First Nations,  
32 whether it's collective, including all of the  
33 commercial fishers, or whether it's FSC that's  
34 being talked about.

35 MR. TIMBERG: Thank you. Those are all my questions.

36 THE COMMISSIONER: Mr. Wallace, I just have two quick  
37 questions, if I may be permitted.

38 MR. WALLACE: Thank you.

39  
40 QUESTIONS BY THE COMMISSIONER:

41  
42 Q Dr. Davis, it may have come out in your evidence  
43 and I apologized if I missed it. During your time  
44 at DFO, how close were you to the development of  
45 the Wild Salmon Policy?

46 A My role was I was sharing an office side by side  
47 with Pat Chamut, and Pat was busy drafting the

1 Wild Salmon Policy, so I was able to review drafts  
2 and comment. I wasn't directly responsible for  
3 the writing or for the specifics.

4 Q This morning, in giving an answer to Ms. Gaertner,  
5 she was asking about aggregate management and you,  
6 then, made reference to the Wild Salmon Policy.  
7 Your words were - and I apologize, I may not have  
8 this exactly - that the challenge is how we do it.  
9 My question really goes to my understanding of the  
10 context here which was around 1999 a suite of  
11 policies were introduced having to do with the, if  
12 I may say it, the reform of the fishery. But out  
13 of this came and emerged the Wild Salmon Policy  
14 eventually in 2005. You were, I gather, there  
15 during that period of time when both nationally  
16 and regionally there was a lot of discussion  
17 around ecosystem management and Wild Salmon Policy  
18 and so on.

19 I'm just trying to understand this piece that  
20 you raised this morning which may be the largest  
21 piece of the Wild Salmon Policy, is how do we do  
22 it? I have in my mind a not very good analogy of  
23 building a car without wheels, and hoping someday  
24 we can find the wheels so we can move it forward.  
25 Was that the position, or were there deeply  
26 considered considerations at the time around how  
27 do we do it?

28 A Well, as you trace, Mr. Commissioner, the  
29 evolution of this thinking, I think what we were  
30 seeing in the Department was a recognition of the  
31 need to move more towards weak stock management  
32 and to consider questions of biodiversity. How do  
33 you do that?

34 Consequently my understanding is that the  
35 Wild Salmon Policy evolved out of trying to come  
36 to grips with that question, and how do you define  
37 the management units that are going to be used for  
38 the appropriate protection of biodiversity? At  
39 what level do you take the management regime in  
40 terms of weak stock preservation down to the level  
41 of an individual conservation unit?

42 We know from genetics that we can identify  
43 fish right down to very tiny runs. But if you  
44 preserve the biodiversity associated with a sub-  
45 tributary of a river, essentially you would not  
46 have any fishing activity because you're trying to  
47 manage to the weakest stock component in the

1 system.

2 So my understanding of the approach is that  
3 we would define conservation units, use those as  
4 the kind of tools and indices for effective weak  
5 stock management and then make decisions about how  
6 you operationalize (sic) that into the fishing  
7 plan. Where I suggest this is complex and  
8 difficult, and where we have challenges of setting  
9 the bar, is just how you do that. So it'd be very  
10 interesting in your discussions of Wild Salmon  
11 Policy to put to the witnesses questions about  
12 just exactly what a fishing plan would look like  
13 for a given number of conservation units. How  
14 would it work? What would be the implications of  
15 that? And what would be the tools that you use to  
16 ensure that you're able to live up to the  
17 requirement to manage those specific CUs?

18 That, I think, is the challenge of  
19 operationalizing this, given that there will be  
20 enormous debate about the impacts of setting a  
21 fishing plan that respects that requirement.

22 Q And do I correctly understand, sir, that during  
23 that period of time that those discussions were  
24 held around the evolution of the Wild Salmon  
25 Policy, the kinds of issues that you just raised  
26 would have been known to those who were drafting  
27 the policy and ultimately taking it out for  
28 consultative purposes to the First Nations and  
29 stakeholders who would have had a deep interest in  
30 this policy.

31 A Yes.

32 THE COMMISSIONER: Thank you very much.

33 A Thank you.

34 MR. WALLACE: Thank you, Mr. Commissioner. Dr. Davis,  
35 thank you very much for your attendance here.  
36 That's all we have.

37 THE COMMISSIONER: Dr. Davis, may I add my appreciation  
38 in your retirement, taking time to come to this  
39 Commission and give your evidence. Thank you very  
40 much.

41 A Thank you, Mr. Commissioner, it's been an honour  
42 and a privilege to be able to do it, and I really  
43 wish you well in terms of this very complex  
44 challenge and I'm so pleased you're doing it.  
45 It's most important.

46 MR. WALLACE: Mr. Commissioner, I wonder if this would  
47 be an appropriate time to break and we can convene

1 the next panel.

2 THE COMMISSIONER: Yes, especially since I don't get  
3 many compliments like this, Mr. Wallace, I'll take  
4 that during the break.

5 MR. WALLACE: I thought it was a good note to end on.

6 THE REGISTRAR: The hearing will now recess for 15  
7 minutes.

8

9

(PROCEEDINGS ADJOURNED FOR MORNING RECESS)

10

(PROCEEDINGS RECONVENED)

11

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

13 MS. TESSARO: Good morning, Mr. Commissioner. It's  
14 Lara Tessaro, Commission counsel, for the record.

15 THE COURT: Ms. Tessaro.

16 MS. TESSARO: Perhaps we could simply proceed by having  
17 the witnesses affirmed.

18

19

NEIL SCHUBERT, affirmed.

20

21

MIKE BRADFORD, affirmed.

22

23 THE REGISTRAR: State your name, please.

24 MR. SCHUBERT: Neil Schubert.

25 DR. BRADFORD: Mike Bradford.

26 THE REGISTRAR: Thank you. Counsel.

27

28 EXAMINATION IN CHIEF BY MS. TESSARO:

29

30 Q Dr. Bradford and Mr. Schubert, we're going to be  
31 going through three issues today: in summary, the  
32 Recovery Strategy that was created in 2005,  
33 efforts to implement aspects of the Recovery  
34 Strategy in subsequent years, and finally some  
35 chronological evidence about what happened to the  
36 Cultus Sockeye Recovery Team following the --  
37 leading up to the creation of the summary and  
38 following its conclusion. And in order to lead  
39 into that, we should hear a little bit about who  
40 you are. So, Mr. Schubert, could you provide us  
41 with an explanation of your current position and  
42 your duties.

43 MR. SCHUBERT: My current position is as Section Head  
44 for the Freshwater Ecosystems Section and Science  
45 Branch. I also chair the Cultus Sockeye  
46 Conservation Team which is the team that formed  
47 somewhat after the dissolution of the Recovery

1 Team.

2 Q And in terms of the history of your employment at  
3 DFO from 2000 to 2005, you were the Chief of Stock  
4 Assessment?

5 MR. SCHUBERT: Chief of Stock Assessment for the Lower  
6 Fraser area, that's correct.

7 Q And from 1994 to 2000 in the Lower Fraser area,  
8 you were the head of Fraser River Sockeye and Pink  
9 Assessment programs?

10 MR. SCHUBERT: That's correct.

11 Q And then from 1997 -- I'm sorry, 1994 through to  
12 1997, you were a Fisheries Management Biologist?

13 MR. SCHUBERT: Yes.

14 Q And how long have you been with the Department in  
15 total?

16 MR. SCHUBERT: I joined the Department as a student in  
17 1985, and full-time from 1987, I believe.

18 Q And in that time has your focus been primarily on  
19 the Fraser River?

20 MR. SCHUBERT: Almost entirely until my current job,  
21 which has a regional focus.

22 Q And in focusing on the Fraser River, you were  
23 working primarily on managing First Nations  
24 fisheries, recreational fisheries and doing salmon  
25 assessment work?

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

27 Q And perhaps you could just briefly outline your  
28 management and science experience with respect to  
29 Cultus Lake sockeye in particular.

30 MR. SCHUBERT: I was initially involved in an ad hoc  
31 process that began in 2000-2001, which led into  
32 the formation of some workgroups that prepared  
33 some papers that were later produced as CSAP  
34 documents. When the recovery team -- well, prior  
35 to that, the COSEWIC asked me to author their  
36 assessment of Cultus sockeye, which I did in 2003.  
37 Following that, the formation of the Recovery Team  
38 in late 2003, which I was asked to chair - not  
39 working? - I was asked to chair the Cultus Sockeye  
40 Recovery Team beginning in late 2003, which I did  
41 until the end of 2004. After that, more or less  
42 ad hoc contributions, providing advice on IFMPs,  
43 for example, until the formation of the  
44 Conservation Team in 2007.

45 Q And perhaps we should just pull up your -- what I  
46 believe is your c.v., and that's Tab 1 of the  
47 Commission's documents -- Tab 2, my apologies.

1 Are you able to confirm that this is your c.v.?

2 MR. SCHUBERT: Yes.

3 MS. TESSARO: Could we please mark this as the next  
4 exhibit.

5 THE REGISTRAR: Exhibit 911.

6

7 EXHIBIT 911: *Curriculum vitae* of Neil D.  
8 Schubert

9

10 MS. TESSARO: And if we could now go to Tab 1, please,  
11 Mr. Lunn.

12 MR. LUNN: We also have this document at Canada's Tab  
13 8, I think it's a more recent version, if that's  
14 of assistance.

15 MS. TESSARO: That may be of assistance, if it's a more  
16 recent version. We'll ask Dr. Bradford that, but  
17 if you could pull that Tab 8 up.

18 Q Dr. Bradford, is this a copy of your current c.v.,  
19 and if you need to have it scrolled through to  
20 ascertain that, then please let us know.

21 DR. BRADFORD: No, that's the more recent version. I  
22 can confirm that.

23 MS. TESSARO: And could we have this marked as the next  
24 exhibit.

25 THE REGISTRAR: Exhibit 912.

26

27 EXHIBIT 912: *Curriculum vitae* of Michael  
28 James Bradford

29

30 MS. TESSARO:

31 Q And Dr. Bradford, you are currently a Research  
32 Scientist in the Salmon and Freshwater Ecosystems  
33 Division of DFO's Science Branch?

34 DR. BRADFORD: That's correct.

35 Q And when have you -- how long have you served in  
36 this position?

37 DR. BRADFORD: Since 1992.

38 Q And you're also an adjunct professor?

39 DR. BRADFORD: That's right, at Simon Fraser  
40 University, and the University of Alaska in  
41 Fairbanks.

42 Q Could you briefly describe your primary areas of  
43 expertise.

44 DR. BRADFORD: They are quite broad. I've done  
45 research on population dynamics of salmon, and  
46 including sockeye salmon from the Fraser River; a  
47 variety of habitat issues I've worked on; flow and

1 the effects of flow regulation on fish; some work  
2 on endangered species of fish, including other  
3 freshwater species apart from salmon; invasive  
4 species in the Fraser River Basin, and as well  
5 some time in the Yukon working on Yukon salmon.

6 Q And you've published on sockeye salmon population  
7 biology, lake fertilization, the status and  
8 recovery of Cultus Lake sockeye salmon, and  
9 recovery goals and targets for endangered salmon  
10 populations.

11 DR. BRADFORD: Correct.

12 Q And could you quickly outline your educational  
13 background, as well.

14 DR. BRADFORD: I have a Bachelor's and Master's degree  
15 from Simon Fraser University from the Biology  
16 program, and a Ph.D. from McGill University in  
17 Biology.

18 Q And in terms of your specific experiences related  
19 to Cultus recovery, could you outline those.

20 DR. BRADFORD: I joined the Cultus Recovery Team in  
21 2003, late, I believe, and as well was appointed  
22 to the Interior Fraser Coho Recovery Team.  
23 Participated in those processes, and also started  
24 to become involved in some of the recovery actions  
25 at Cultus Lake, helped out with the staff at the  
26 Cultus Lake Laboratory. And I've since been  
27 involved in the Cultus Lake Conservation Team to  
28 present.

29 Q And perhaps we should just address that issue of  
30 nomenclature straight away before we continue.  
31 Both of you have referenced separately the Cultus  
32 Sockeye Recovery Team, and the Cultus Sockeye  
33 Conservation Team, and perhaps, Mr. Schubert, you  
34 could just quickly outline the basic -- the  
35 similarities and differences between those two  
36 teams.

37 MR. SCHUBERT: The Cultus Sockeye Recovery Team was  
38 part of a pre-**SARA** implementation process and was  
39 intended to be a **SARA** compliant body that would  
40 produce the recovery strategy for Cultus sockeye.  
41 As such, its main difference from the Conservation  
42 Team is it included in its membership non-DFO  
43 people, so it was a broad spectrum of stakeholder  
44 groups were represented on the team. Beyond that,  
45 the structure of the Conservation Team, it was  
46 formed to fill a void which had become obvious in  
47 recovery planning for Cultus sockeye, three or



1 four years after the Recovery Team had disbanded.  
2 It included as membership only DFO staff. Its  
3 mandate is largely as a communication vehicle and  
4 coordination of recovery efforts. The terms of  
5 reference do specify producing something  
6 equivalent to a **SARA** recovery implementation plan.  
7 However, we haven't had the resources to proceed  
8 on that basis to date.

9 Q But you're going to -- oh, pardon me. Continue,  
10 go ahead. I'm sorry to interrupt you. Continue  
11 your answer.

12 MR. SCHUBERT: I think that covers the basic points.

13 Q We'll go through your views on the efficacy of  
14 those two processes as we proceed through the day.  
15 But if we could go back now, I think, to 2003 and  
16 the COSEWIC Assessment and Status Report, which is  
17 at Tab 4 of the Commission's documents.

18 Mr. Schubert, you mentioned already that you  
19 authored a COSEWIC Assessment Report. Is this the  
20 report that you referred to?

21 MR. SCHUBERT: That's right.

22 Q And can you situate this in time for us? When was  
23 this written?

24 MR. SCHUBERT: I believe the emergency assessment  
25 occurred in September or October 2002, so from  
26 that point I would have been asked to write the  
27 full COSEWIC Assessment and Status Report. So  
28 through the winter of 2002 and into the spring of  
29 2003.

30 Q And to be clear, how is it that you, as a DFO  
31 scientist, came to author the COSEWIC Assessment  
32 and Status Report?

33 MR. SCHUBERT: The process that preceded this was our  
34 in-house process and involved the formation of  
35 three workgroups, one on stock assessment and  
36 fishery management issues, one on enhancement, and  
37 one on habitat that were charged in an area-based  
38 process to bring together all the information in  
39 those three categories.

40 I chaired the Stock Assessment Fisheries  
41 Management Workgroup report, and it was a very  
42 thorough long documentation of the status of the  
43 population and threats against it, and prospects  
44 for recovery. And that document which came out, I  
45 believe, in mid-summer, perhaps July of 2002, was  
46 used by Chief Doug Kelly and Ken Wilson in their  
47 request for emergency assessment by COSEWIC.

1 COSEWIC was therefore aware of this document and  
2 my status as the chair and senior author of that  
3 document, they asked me as an expert on -- on the  
4 subject to write the status report.

5 Q And is that in any way unusual that DFO research  
6 biologists are contracted by COSEWIC to write  
7 status reports?

8 MR. SCHUBERT: I'm not sure how broad-spread it is, but  
9 I'm aware that Jim Irvine, for example, wrote the  
10 coho document for Interior B.C. coho. I think  
11 Chris Wood might have written the Sakinaw  
12 document.

13 Q Right. And we heard yesterday, I should just  
14 confirm that both of you were in attendance at our  
15 hearings yesterday.

16 MR. SCHUBERT: That's correct.

17 DR. BRADFORD: Yes.

18 Q And Mr. Wallace put a document to Dr. Davis, which  
19 was, as you may recall, the response statement  
20 that was published by the Government of Canada in  
21 response to the COSEWIC Assessment and Status  
22 Report, and Dr. Davis confirmed that the  
23 Government of Canada's position was that it agreed  
24 with the scientific assessment. Do you remember  
25 -- I'll actually not ask that question.

26 Did you ever hear from any DFO manager - and  
27 I'll ask this of both of you - fisheries manager,  
28 that they disputed in any way the Cultus  
29 assessment in this document?

30 MR. SCHUBERT: I don't recall hearing anything like  
31 that from senior managers. I should add that the  
32 workgroup paper was also later incorporated with  
33 the other two workgroup papers into a CSAP  
34 document, which was fully peer-reviewed through  
35 the CSAP process. And, I guess, any concerns  
36 would have been expressed in that process, and  
37 that document was accepted.

38 Q And maybe I'll be a bit clearer in asking the  
39 question of you, Dr. Bradford. I'm asking this  
40 because the Wild Salmon Policy at this point in  
41 2003 was still a couple of years away from being  
42 finalized, and the notion of the evolution of  
43 conservation units was still being developed. And  
44 I'm wondering if you ever heard from anybody at  
45 DFO that Cultus sockeye as a population was too  
46 genetically small a unit to protect.

47 DR. BRADFORD: No, unfortunately I didn't really get

1           involved with Cultus as far as recovery goes until  
2           2004. So I wasn't really part of this.

3           Q     Okay.

4           DR. BRADFORD: The COSEWIC listing.

5           Q     So maybe we could just mark the COSEWIC Assessment  
6           and Status Report as the next exhibit, please.

7           THE REGISTRAR: Exhibit 913.

8

9                     EXHIBIT 913: COSEWIC Assessment and Status  
10                    Report

11

12          MS. TESSARO:

13          Q     So turning, then, to 2004, if we could turn to the  
14          recovery strategy that's been referenced, which is  
15          at Tab 6 of the Commission's documents. Mr.  
16          Schubert, who created this document?

17          MR. SCHUBERT: It's a product of the Recovery Team. We  
18          did hire a contract report writer that took  
19          submissions from individual team members and  
20          synthesized summaries from team dialogue during  
21          our meetings in order to produce the document.

22          Q     And I realize that this document has as its  
23          heading the "National Conservation Strategy for  
24          the Cultus Lake Sockeye Salmon", and we have been  
25          referring to a document called the Recovery  
26          Strategy. Could you just clarify whether this is  
27          the Recovery Strategy, why it's entitled "National  
28          Conservation Strategy", what the history is there.

29          MR. SCHUBERT: Yeah, I can take you through the  
30          timeline. The Recovery Team at the end of  
31          December 2004 had produced a full draft of the  
32          Recovery Strategy document, which was going  
33          through final editing by Brian Harvey and myself,  
34          Brian being the report writer. When the decision  
35          came down not to list Cultus sockeye, we were  
36          required to remove all references to the **Species**  
37          **at Risk Act** from the documents. So from January  
38          through May of that year, 2005, we went through  
39          that process and submitted the revised document to  
40          Carol Eros, who was the person that I dealt with  
41          on the Salmon Recovery Coordinating Committee, I  
42          think they were called.

43                 Later that year, I think August, Don Radford,  
44          the Acting Director of Fisheries Management,  
45          acknowledged receipt and told us it would inform  
46          subsequent IFMP processes. It wasn't until the  
47          following spring, I think April of 2006, that the

1 Regional Director General signed it off and sent  
2 it to Ottawa to John Davis for review and  
3 approval.

4 So from May of 2006 through December of 2007,  
5 there was kind of a lag in the process while  
6 Ottawa considered the contents of this and other  
7 recovery strategies, and we had a number of  
8 recommendations or directions that came back to  
9 us, regarding the strategy. We were required to  
10 change the name of the document from a "Recovery  
11 Strategy" to a "Conservation Strategy". We were  
12 also required to remove any reference to the term  
13 "recovery" from the document. We were also  
14 required to remove the term "critical habitat" and  
15 replace it, initially I think it was with  
16 "proposed critical habitat", and finally that  
17 evolved to "important habitat". We also updated  
18 the recovery actions in the document and the  
19 document was translated into French because the  
20 proposal was to post it on the Environment Canada  
21 RENEW site, and that required a French  
22 translation.

23 So that was 2007, but -- yeah, that was the  
24 end of 2007. By mid-2008 it had finally been  
25 posted, but not on the RENEW site, on the Regional  
26 Fisheries and Aquaculture Management site. And  
27 there were a number of problems with what was  
28 posted on that site. It was a poorly formatted  
29 document, rather than the one you see on the  
30 screen here. It still referred to the document as  
31 a RENEW document, which it was not, so it wasn't  
32 citable in that form. And it also retained the  
33 date of 2005, despite the fact that there was  
34 information through 2007 in it.

35 So the Conservation Team at that point was in  
36 place. We had a discussion about the utility of  
37 this. You know, people expressed the opinion that  
38 this was a good body of work, but it was currently  
39 uncitable, and we needed a way to address that.

40 As the team chair, I discussed it with Brian  
41 Riddell, who was the Director of SAFE in Science  
42 Branch, and the person to whom my substantive  
43 position reported, as well as my position as team  
44 chair. He agreed that it could be released as a  
45 Fisheries and Aquatic Sciences Technical Series  
46 Report, so we reformatted it on that basis, and I  
47 think by November of 2009 it was finally released

1 in a citable form. So it was a long history.  
2 Q If I could paraphrase that, the Recovery Team,  
3 with you being the lead editor, finished this  
4 strategy in early 2005, but it wasn't available  
5 and citable and in an appropriate format until  
6 late 2009?

7 MR. SCHUBERT: That's correct.

8 Q If we could just really quickly look at page 3  
9 which is the "Table of Contents". Thank you. I'd  
10 just like to have you confirm, Dr. Schubert, that  
11 in substance, if you can, this is the same  
12 document as the final technical report that you  
13 mentioned was published in November 2009.

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

15 MS. TESSARO: Could we have this document marked as the  
16 next exhibit, please.

17 THE REGISTRAR: Exhibit 914.

18  
19 EXHIBIT 914: National Conservation Strategy  
20 for the Cultus Lake Sockeye Salmon  
21

22 MS. TESSARO:

23 Q Mr. Schubert, I'm going to characterize -- and I  
24 may continue to call this the "Recovery Strategy"  
25 despite it's name change, so know that I am  
26 referring to the document that we've just marked  
27 as an exhibit. I'm going to characterize it as  
28 essentially a biological document, one that looks  
29 at conservation status and factors related to the  
30 conservation status, threats to the population and  
31 measures to address those threats from a largely  
32 biological perspective; is that fair?

33 MR. SCHUBERT: I think so. That was the intention of  
34 the Recovery Strategy under **SARA**.

35 Q So we heard questions from my friend, Mr. Harvey,  
36 yesterday around the fact that actions taken in  
37 relation to **SARA** by the Department didn't engage  
38 socioeconomic analysis, or tradeoffs between  
39 conservation and socioeconomic. And with respect  
40 to the Recovery Strategy, you'd agree with that  
41 characterization?

42 MR. SCHUBERT: Yes.

43 Q And is that because -- well, maybe we'll get into  
44 this later. Perhaps we could just really quickly  
45 turn to page 5 of the document to look at the  
46 conservation objectives in it. And if this is a  
47 question for Dr. Bradford, instead for you, Mr.

1 Schubert, then whoever is more appropriate to  
2 answer it, please do. But the question is, could  
3 you describe the evolution of the four objectives,  
4 with a particular focus on "Objective 1". Why  
5 were these chosen?

6 DR. BRADFORD: I can go ahead. I think it's on the  
7 previous page. There we go. So we describe a  
8 "Conservation Goal", which is an overall goal to  
9 restore the Cultus Lake sockeye population:

10  
11 ...to the status of a viable, self-sustaining  
12 and genetically robust wild population that  
13 will contribute to its ecosystems and have  
14 the potential to support sustainable use.  
15

16 At the time the status of the population was  
17 nowhere near that. It was quite poor. And so we  
18 developed a sequential or hierarchical set of  
19 objectives, and it's kind of like taking the  
20 patient from the ambulance to the emergency room,  
21 to the hospital ward, and finally being  
22 discharged.

23 And so the first objective was informed by  
24 our understanding, albeit uncertain, about the  
25 number of spawners one would need to minimize the  
26 genetic risks associated with very small  
27 populations. And the scientific basis for this  
28 objective was chronicled in a report I authored,  
29 co-authored with Chris Wood in 2004, which is a  
30 full scientific evaluation of the objectives of  
31 the recovery plans. And so it's really just to  
32 make sure there's sufficient spawners to prevent  
33 inbreeding or untoward genetic problems with  
34 having a very small population in the lake.

35 Would you like me to go through it?

36 Q If you could just go through the remaining  
37 objectives.

38 DR. BRADFORD: Okay. The second objective was to  
39 essentially set the stage for the population to  
40 grow, and so it required that each four-year  
41 period there would be more spawners than the  
42 previous four-year period. So the population  
43 would be on a positive trajectory.

44 The third objective was to reach a point at  
45 which the population could be potentially  
46 considered to be delisted by COSEWIC and that  
47 involves an abundance of fish, plus also

1 amelioration of the threats that's normally  
2 required for a change in designation by COSEWIC.  
3 And finally the fourth objective was one that  
4 that would be -- one would look at in terms of the  
5 long-term goal for the population, and there is a  
6 great range within the recovery team of  
7 perspectives and what that should be, and we  
8 provided just general guidance and some  
9 information in the appendix on how one might  
10 calculate the fourth objective.

11 Q And with respect to the issue of critical habitat  
12 that you just mentioned, Mr. Schubert, if we could  
13 go to the previous page in the executive summary.  
14 At the top of the second column on the right, it  
15 reads:

16  
17 The Recovery Team identified the habitat it  
18 believes is important to the population's  
19 survival and recovery. We propose the  
20 following as important habitat:

- 21  
22 • *Migratory corridors:* Sweltzer Creek,  
23 including where it drains Cultus Lake  
24 and joins the Chilliwack River;  
25  
26 • *Spawning and incubation areas:* the lake  
27 bed at depths from 1 to 20 m at Lindell  
28 Beach, Snag Point, Spring Bay, Mallard  
29 Bay, Salmon Bay and Honeymoon Bay, as  
30 well as the aquifers that feed these  
31 spawning areas; and [finally]  
32  
33 • *Juvenile rearing areas:* the lake  
34 pelagic zone.  
35

36 Which members of the Recovery Team identified that  
37 important habitat? Was that the Habitat sub-  
38 working group?

39 MR. SCHUBERT: No, this resulted from deliberations of  
40 the entire recovery team, and I don't recall  
41 specific individuals identifying specific habitat  
42 areas. But that was the consensus view of the  
43 team that this was as fine a division of habitat  
44 types as we could come up with.

45 Q Thank you. The document then goes on to, I'm  
46 going to suggest, propose a number of conservation  
47 measures, and then describe ongoing activities to

1           achieve and assess recovery. Is that a fair  
2           paraphrase of what the document sets out to do?  
3   MR. SCHUBERT: In broad brush, there are a number of  
4           other sections that deal with other issues,  
5           recoverability of --  
6   Q        Could you perhaps --  
7   MR. SCHUBERT: Recoverability of the population, for  
8           example.  
9   Q        Without me tortuously taking you page-by-page  
10           through the document, could you --  
11   MR. SCHUBERT: Oh.  
12   Q        -- give an overview of the main elements of the  
13           recovery strategy and what it seeks to do.  
14   MR. SCHUBERT: The main elements are the current  
15           structure and status of the population; the  
16           limiting biological factors that affect the  
17           population; the threats to the population; a broad  
18           description of the population's habitat. An  
19           important part of it was the identification of  
20           knowledge gaps. So we knew a lot about Cultus  
21           sockeye because of its very extensive period which  
22           it's been assessed, the longest of any salmon  
23           population in B.C. But there were a number of  
24           areas where we still have had weaknesses, which we  
25           identified as areas for future research.  
26           The final parts of the document were the  
27           actual conservation goal and objectives, which  
28           we've gone through, approaches that could be used,  
29           and actions already underway, which address most  
30           of the approaches that could be used. We also had  
31           appendices that dealt with issues on freshwater  
32           productivity and potential target levels of  
33           abundance that could be used to address our  
34           objective number 4.  
35   Q        And turning away from the Recovery Strategy  
36           itself, I understand that DFO has funded four  
37           distinct programs aimed at achieving recovery for  
38           Cultus Lake. It has a suite of recovery measures  
39           that break down into four program groups. I'm  
40           wondering if you could describe those.  
41   MR. SCHUBERT: Do you want to describe those?  
42   Q        Either of you is fine.  
43   DR. BRADFORD: Sure. There's two assessment programs.  
44           There's a fence that's been installed at Cultus  
45           Lake that is used to count fish coming and going  
46           from the lake, salmon in particular, and that has  
47           a long history back to 1925. And so there are two



1 identified programs to continue with that fence  
2 program and augment some of the sampling to assist  
3 with the captive breeding program. So those are  
4 two of the programs, counting fish in and out of  
5 the lake.

6 The third program is the captive brood stock  
7 program, including supplementation, so that's the  
8 hatchery program.

9 And the fourth program was entitled "Improve  
10 freshwater survival", which encompassed the  
11 beginnings of the predator control programs and  
12 considerations of milfoil and habitat issues in  
13 the lake itself.

14 Q In terms of counting fish coming in and out of the  
15 lake, in the documents that would often be  
16 referred to as the smolt assessment program and  
17 the adult assessment program?

18 DR. BRADFORD: That's correct.

19 Q In terms of the enhancement programs, could you  
20 elaborate a little bit on the elements of the  
21 enhancement program with respect to captive  
22 breeding, supplementation, et cetera?

23 DR. BRADFORD: I wasn't directly involved in the early  
24 stages, but in 1999 and 2000 there was evidence of  
25 very high pre-spawning mortality in Cultus  
26 sockeye. So fish would come back to the lake, but  
27 perish before they had a chance to spawn in early  
28 winter. And so it was recognized that if this  
29 continued for a number of years in succession,  
30 there would be no Cultus population. And so  
31 attempts in the early 2000 to create a captive  
32 breeding program, which is essentially a parallel  
33 population kept in captivity, reared to the adult  
34 stage, that would be essentially a living gene  
35 bank in case there was a catastrophic loss of fish  
36 due to lengthy disease outbreak in the lake. And  
37 it was recognized that that could only go on for a  
38 couple of generations because there are inherent  
39 risks from a genetic perspective, as well as just  
40 the ticking time bomb of keeping fish in captivity  
41 with disease outbreaks and these kinds of things.

42 So that program was initiated, a very  
43 scientifically rigorous breeding program was put  
44 in place to minimize genetic loss, and they were  
45 able to develop techniques to rear fish to adult  
46 maturity in captivity, spawn them, and in the  
47 process of doing all that, it creates a lot more

1 eggs that are needed to keep the program going.  
2 So in addition to keeping a living gene bank, the  
3 program was able to supplement the population in  
4 releases of fry to the lake and smolts, yearling  
5 smolts, to help increase the numbers of fish  
6 returning from the sea.

7 Q Thank you. And in terms of the program to improve  
8 freshwater survival, what's been the main focus of  
9 efforts there over the last few years.

10 DR. BRADFORD: Well, sure. You'll see in the  
11 Recovery/Conservation Strategy that there is  
12 mention of predators, milfoil, and some of the  
13 urban and recreational developments about the  
14 lake. But the primary focus, I think, has been on  
15 the predator control program, because it was  
16 something that Dr. Ricker started in the 1930s to  
17 increase survival, and has kind of a legacy. It  
18 was operating for a few years in the late 1980s.  
19 So that interest in seeing whether we could remove  
20 predators to increase freshwater productivity.

21 Q By predators are you really talking about northern  
22 pikeminnow?

23 DR. BRADFORD: Well, the early program in the 1930s  
24 gillnetted every fish out of the lake, and so it  
25 was pretty much a slaughter of trout, pikeminnows,  
26 suckers and everything. But we can't do that  
27 these days, and so we focus primarily on the  
28 northern pikeminnow. And I should say the  
29 northern pikeminnow is a native population. It's  
30 not an introduced species. It's been in the lake  
31 as long as salmon have, I'm sure.

32 So although the evidence in the early program  
33 still remains equivocal, there is an interest in  
34 seeing whether this could be a measure to help  
35 increase the productivity above the natural levels  
36 of productivity to help rebuild the population.

37 Q In terms of the other predators of sockeye that  
38 one can no longer control, could you just give a  
39 sense of the range of other predators in the lake?

40 DR. BRADFORD: Homo sapiens?

41 Q Yes.

42 DR. BRADFORD: And our lures. No, we don't eat little  
43 sockeye, but we're on the lake exerting predator  
44 control, I suppose. But there are rainbow trout,  
45 bull trout, the little sculpins, or people call  
46 them bullheads, that live in the gravel, they're  
47 all important predators. And it was observed in

1 the 1930s that there was only a survival of one or  
2 two percent of the eggs laid in the lake, and it  
3 was that early research identified the fact that  
4 there was considerable mortality in the lake, as  
5 occurs in all lakes, and that perhaps the  
6 population could be rebuilt by minimizing this  
7 mortality.

8 Q And you also mentioned milfoil.

9 DR. BRADFORD: Yes. Milfoil was introduced into Cultus  
10 Lake, as it has been introduced to many water  
11 bodies in the 1970s, I believe, and spread  
12 throughout the littoral zone. And I think  
13 everyone knows, an extremely difficult weed to  
14 control. It's a non-native species, but it is  
15 similar to native aquatic plants that we do have  
16 in this region.

17 It spread throughout the lake. The lake has  
18 steep shores and forms a thin band around the  
19 lake, and it has been speculated to impair the  
20 spawning habitat for sockeye, and potentially have  
21 impacts on predators, in other words, provide  
22 habitat for young predatory fish and which could  
23 adversely affect sockeye.

24 We surveyed the lake to update the older  
25 surveys on the extent of milfoil in the lake and  
26 found that it was still growing, albeit more  
27 slowly in the littoral zone, which is the part of  
28 the lake which the lakebed receives light, so it  
29 allows the plant to grow from the substrate. And  
30 we -- there has been attempts to remove milfoil  
31 primarily because of it's impact on recreation in  
32 the lake.

33 And as part of the Recovery Program, we did  
34 attempt a removal in a small area, kind of an  
35 experimental removal during the winter months.  
36 There was the idea that if we removed milfoil in  
37 the winter months -- the problem with milfoil is  
38 the fragments can re-root and start a new plant.  
39 And if we did that in the winter months, that  
40 might not happen. So we did spend some time and  
41 resources on an experimental removal, but it grew  
42 back within months in spite of our best efforts.  
43 And so we've kind of abandoned attempts to remove  
44 milfoil.

45 I should say that during this time we also  
46 did some remote operated vehicle underwater  
47 photography of sockeye salmon and noted that they

1 spawn much deeper than we thought originally.  
2 And so the concern about milfoil colonizing  
3 spawning beds was, I guess, reduced based on this  
4 new information. So our concerns about milfoil  
5 and salmon were perhaps less than what might be --  
6 what is indicated in the plan, I think.

7 Q When you say the "plan", you mean the Recovery  
8 Strategy?

9 DR. BRADFORD: Yes, that too.

10 Q In terms of the Recovery Strategy again, and if --  
11 this question is for you, Mr. Schubert, if we need  
12 to go there we can, but were there any other  
13 specific habitat recovery measures that were set  
14 out or contemplated for the future in that  
15 Recovery Strategy other than predator removal and  
16 milfoil removal?

17 MR. SCHUBERT: I don't recall. Let me refer to the  
18 Recovery Strategy. I think Mike touched upon the  
19 assessment of the littoral habitat, where there  
20 are attempts to map and characterize spawning  
21 habitat, Eurasian water milfoil distributions, and  
22 groundwater sources. That is something that  
23 occurred.

24 Q Maybe we could turn to Table 2, actually, this  
25 might be more helpful. Table 2 is at Ringtail  
26 page 30, and we should probably expand that a bit.  
27 Thanks.

28 If you look at Objective number 1, and  
29 approach "g", it identifies as an approach:

30  
31 Identify imminent risks from habitat  
32 destruction, pollution affecting each life  
33 stage.

34  
35 Was that work done?

36 MR. SCHUBERT: We have commissioned some work on  
37 contaminants. Mike, can you comment on that?

38 DR. BRADFORD: Yes. A study was done on contaminants  
39 in water and sediment in Cultus Lake. I'm not an  
40 expert on this matter, but the outcome of it was  
41 -- there was concern about the impacts of outboard  
42 motors and hydrocarbons in the water, but the  
43 levels of these chemicals were very similar to  
44 other lakes, including Chilliwack Lake, which was  
45 sampled as a control lake, which doesn't receive a  
46 lot of recreational activity. So there wasn't  
47 anything to indicate there were contaminant

1 issues. There were elevated levels of certain  
2 metals in the sediments at Cultus Lake, but again,  
3 we would need to know whether those were just due  
4 to background geology.

5 Q And I will bring you to that contaminant study in  
6 a moment.

7 DR. BRADFORD: Okay.

8 Q And make sure that it's on the record. But while  
9 we're at Table 2, my next question regarding  
10 Objective 2, approach "e", which stipulates:

11  
12 Mitigate effects on habitat.  
13

14 And, Mr. Schubert, I'm wondering if you can  
15 identify which if any activities in the last six  
16 years have been efforts to mitigate effects on  
17 habitat.

18 MR. SCHUBERT: Our efforts have focused on, I guess,  
19 improving our knowledge as to what role habitat  
20 played in the collapse of the population. Another  
21 study which was conducted was an investigation of  
22 the groundwater percolation through the Lindell  
23 Beach area, and there was -- the conclusion from  
24 that study was that there was no apparent impact  
25 on percolation of groundwater as a result of water  
26 withdrawal from the Lindell Beach community.

27 Q Would you distinguish between -- you both  
28 reference habitat assessments, or efforts to  
29 assess impacts, and I'm wondering if you  
30 distinguish at all between assessments and actions  
31 or recovery measures, you know, restoration  
32 efforts. Are those -- are those different things?  
33 Should we understand those differently in terms of  
34 the recovery strategy?

35 MR. SCHUBERT: I think in terms of our actions that we  
36 needed to determine whether mitigative measures  
37 were required, based on what we suspected was a  
38 mechanism that could be harming the populations.  
39 The collection of knowledge was our first step.  
40 And beyond that, I don't think we've identified  
41 any smoking gun, therefore there haven't been much  
42 in the way of attempts to change habitats.

43 Q Could we turn to page 15 of this document. Pardon  
44 me, just give me one moment.

45 I'm not sure if I actually have the right  
46 page, but my question is about Lindell Beach, and  
47 I'm wondering if, Mr. Schubert, you could describe

1 the nature of habitat disturbances, I'll put it  
2 that way, at Lindell Beach, in particular with  
3 respect to recreational developments.

4 MR. SCHUBERT: Lindell Beach was initially developed as  
5 a kind of a summer cottage area in the 1950s, and  
6 there are currently a fairly large number of  
7 cottages. They are right on the beach. Those  
8 cottages, many of them have -- piers have been  
9 built out into the water.

10 Q And have there been any -- any assessment of the  
11 impacts of those piers and/or recovery measures  
12 taken with respect to mitigating any impacts?

13 MR. SCHUBERT: I'm not aware of any impacts, direct  
14 impacts of the piers on the spawning environment.

15 Q Have those been assessed?

16 MR. SCHUBERT: In any sort of structured way, not to my  
17 knowledge.

18 Q We should probably ensure that the contaminant  
19 study that you referenced is marked, and that's  
20 Tab 9 of Canada's documents. I realize you have  
21 also referenced additional studies, and I'm not  
22 going to put them all on the record, but we will  
23 confer with Canada and ensure that somehow they  
24 get on the record.

25 Is this the study that you were referring to,  
26 Dr. Bradford?

27 DR. BRADFORD: Yes, it is.

28 MS. TESSARO: Could we have this marked as the next  
29 exhibit, please.

30 THE REGISTRAR: You're referring to Tab 9 of Canada's  
31 documents?

32 MS. TESSARO: Yes.

33 THE REGISTRAR: That will be 915.

34 THE COMMISSIONER: Nine hundred and...?

35 THE REGISTRAR: Fifteen.

36 THE COMMISSIONER: Thank you.

37  
38 EXHIBIT 915: Tovey et al, Preliminary  
39 Assessment of Contaminant Exposure Risk to  
40 Developing Cultus Lake Sockeye Embryos  
41

42 MS. TESSARO:

43 Q Just before we move away from the point of habitat  
44 assessment, was it ever contemplated that under  
45 Strategy 2 of the Wild Salmon Policy the Recovery  
46 Team or the Conservation Team should create some  
47 kind of habitat status report?

1 MR. SCHUBERT: Certainly not a Habitat Status Report,  
2 that's a fairly detailed document that we didn't  
3 have the resources to address. What we have had,  
4 or what I've had in the back of my mind for the  
5 team, the Conservation Team to produce would be  
6 indicators and benchmarks under Strategy 2, and I  
7 think that's a tractable objective, given that we  
8 do do a lot of limnological assessments of the  
9 lake on a fairly frequent basis.

10 Q And we'll get into challenges of funding later, as  
11 well. I think in the remaining five minutes we'll  
12 consider the final what I'll call recovery  
13 measure, and that's harvest control measures.  
14 Now, I asked you earlier whether or not -- to  
15 describe the four main recovery programs and  
16 nothing came up in your answers about fishing. Do  
17 harvest control measures not fall within that  
18 suite of recovery programs for Cultus Lake, Mr.  
19 Schubert?

20 MR. SCHUBERT: Exploitation rate control is definitely  
21 one of the approaches to recovering a population.  
22 We don't directly advise fisheries management on  
23 explicit exploitation rates in any given year, but  
24 we do, I guess, expect them to be set within the  
25 terms of the objectives of the Recovery Team,  
26 which will allow the minimum escapement and cycle  
27 over cycle growth, and in the future I think the  
28 achievement of the lower and upper benchmarks that  
29 have been set out provisionally under Wild Salmon  
30 Policy.

31 Q When you referred just then to the objectives and  
32 recovery strategy, were you referring to  
33 specifically to Objectives 1 and 2?

34 MR. SCHUBERT: That's correct.

35 Q And with respect to Objective 1, considering the  
36 scientific underpinning of that objective for a  
37 moment, achieving 1,000 successful adult spawners  
38 - this question is for you, Dr. Bradford - to  
39 achieve 1,000 successful adult spawners, how many  
40 actual spawners need to return to Cultus? What's  
41 the required escapement?

42 DR. BRADFORD: That would be the average over four  
43 years is the way we've framed it in the  
44 calculations.

45 Q Okay.

46 DR. BRADFORD: But we have a very difficult time  
47 estimating the number of fish that die, that enter

1 the lake and are counted through the counting  
2 fence and die before they spawn. And all Late run  
3 populations have this issue in the last while. So  
4 we've often used a figure of 20 or 30 percent  
5 mortality to assist us. And so we would --  
6 normally, the number of fish you'd want to have  
7 come back to the counting fence would, for  
8 example, a thousand fish plus 20 or 30 percent  
9 allowance for pre-spawning mortality, plus  
10 whatever the hatchery program would be using for  
11 its brood stock program. So there's sort of a  
12 number of aspects that would sum up to the number  
13 you need to have return to the fence to meet all  
14 those requirements.

15 Q Help me out with this, because I do want you to  
16 attempt to pin this to a number. But my  
17 understanding is that there is a standard ratio,  
18 for effective population size, or what I've been  
19 told is  $N_e$ .

20 DR. BRADFORD: Okay. So, yeah, this gets a bit  
21 confusing. So the effective population size  
22 refers to the number of fish that contribute to  
23 the next generation, and normally in any wild  
24 population there could be a hundred families, for  
25 example, males and females that spawn, but a much  
26 smaller percentage of those spawn successfully and  
27 contribute to the next generation. And often it's  
28 only 20 percent of the spawners contribute to the  
29 next generation. So what is in the recovery goal  
30 is what's called  $N_c$ , the census number, and that's  
31 designed to be sufficiently large such that the  
32 effective number,  $N_e$ , minimizes genetic risk. I  
33 don't know if I'm helping. But so that's how the  
34 guidelines were developed.

35 Q Mm-hmm.

36 DR. BRADFORD: But when it comes to fish back to the  
37 lake, we also have to consider the pre-spawning  
38 mortality, which is why I mentioned the 20 or 30  
39 percent.

40 Q You know, I'm surprised to hear you mention 20 or  
41 30 percent, because my understanding, and maybe  
42 you can tell me if I'm wrong, is that effective --  
43 that the standard ratio for effective population  
44 size, as accepted in the literature, is 0.1, or  
45 ten percent.

46 DR. BRADFORD: Okay. So pre-spawning mortality is the  
47 mortality of mature adults in the lake before they



1 spawn, okay, and it's a phenomenon that's observed  
2 in Fraser River sockeye. So that's a totally  
3 separate matter than the effective population size  
4 in genetics.  
5 Q Okay.  
6 DR. BRADFORD: Two separate things.  
7 Q Are you able to identify a number that represents  
8 the minimum escapement of spawners that's  
9 necessary to achieve Objective 1?  
10 DR. BRADFORD: Yes. I think I described that process.  
11 Q You did, but not the -- I'm wondering if a number  
12 of fish has been identified. Has anybody actually  
13 identified, in order to achieve a thousand fish...  
14 DR. BRADFORD: Okay. So it's a four-year average.  
15 Q Mm-hmm.  
16 DR. BRADFORD: Okay. And we know that there's four age  
17 cohorts, that's why it's -- the four years is the  
18 generation time, as in most sockeye in the Fraser  
19 River. And so if we calculate it over the four-  
20 year period, and we know that some of the -- in  
21 Cultus Lake, two of the four years are very small  
22 abundances and two of the four years are very  
23 large. So there is no single number. it's a  
24 running average over time.  
25 Q And there's no range that (indiscernible -  
26 overlapping speakers).  
27 DR. BRADFORD: Well, you want a minimum of 500  
28 successful spawners in the lake in any given year,  
29 but the four-year average is a minimum of 1,000  
30 successful spawners.  
31 MS. TESSARO: Okay. Well, I'll leave this aside and  
32 see if I can come back to it later, but my final  
33 -- actually, looking at the time, we should  
34 probably break now, if that's okay.  
35 THE COMMISSIONER: Thank you, Ms. Tessaro.  
36 MS. TESSARO: Thank you.  
37 THE REGISTRAR: The hearing will now adjourn until 2:00  
38 p.m.  
39  
40 (PROCEEDINGS ADJOURNED FOR NOON RECESS)  
41 (PROCEEDINGS RECONVENED)  
42  
43 THE REGISTRAR: Order. The hearing is now resumed.  
44 MS. TESSARO: Good afternoon, Mr. Commissioner. Lara  
45 Tessaro, Commission counsel.  
46  
47

1 EXAMINATION IN CHIEF BY MS. TESSARO, continuing:  
2

3 Q Dr. Bradford, Mr. Schubert, I'd like to turn to  
4 your Dr. Bradford's assessment in 2010 evaluating  
5 the performance of recovery efforts over previous  
6 years. And that paper is found at Tab 24 of our  
7 materials.

8 DR. BRADFORD: Okay.

9 Q You were one of the authors of this paper?

10 DR. BRADFORD: Yes, I am the senior author.

11 MS. TESSARO: And could we mark this paper as the next  
12 exhibit, please?

13 THE REGISTRAR: I understand it's Exhibit 804.

14 MS. TESSARO: Oh, I'm sorry. It's already marked.  
15 Thank you.

16 Q Dr. Bradford, what was the purpose of the paper?  
17 Was it intended to inform management and for what  
18 purpose?

19 DR. BRADFORD: Well, I think the purpose was to provide  
20 an update on the status of Cultus Lake sockeye  
21 salmon. It had been a number of years since some  
22 of the recovery measures had been put in place.  
23 It was also to look forward a little bit using the  
24 simulation modelling. And we were also at a point  
25 where we were wanting to make a decision about  
26 where to take the captive bird stock program.

27 Q And was it generated by a request for advice from  
28 some other branch of DFO?

29 MR. SCHUBERT: It was requested jointly by the salmon  
30 enhancement people, as well as fisheries  
31 management.

32 Q And do you know the purpose for which fisheries  
33 management requested the advice? Was it to inform  
34 fisheries management activities?

35 MR. SCHUBERT: As far as I know, it was just simply a  
36 periodic update of what we know about how the  
37 population is recovering and its current status.

38 Q Okay.

39 DR. BRADFORD: And if I may, at the bottom of article  
40 page 1 in italics, not PDF page but yes, at the  
41 very bottom, the last -- that last line in italics  
42 in the top are taken directly from the request for  
43 science advice.

44 Q Thank you very much. And perhaps just generally,  
45 Dr. Bradford, you can explain the performance  
46 measures, if you will, that you used in assessing  
47 the status of Cultus Lake and the success of

1 recovery efforts to date?

2 DR. BRADFORD: Certainly. If you could window down  
3 just a tiny bit to the next little block there?  
4 We looked at the trends in essentially the spawner  
5 counts coming back to Cultus Lake in relation to  
6 objectives one and two of the conservation  
7 strategy. And we have such detailed data for  
8 Cultus Lake we could directly look at some of the  
9 impacts of the predator control program, for  
10 example. And then that give us sort of a  
11 benchmark of where the population was at, as of  
12 2009 essentially. And we used the computer  
13 simulation model to provide some idea of where the  
14 population might be headed under various  
15 alternative recovery strategies going forward.

16 Q And you mentioned that you assessed against the  
17 objectives in the recovery strategy. Did you also  
18 assess abundance against any other metrics?

19 DR. BRADFORD: Well, the objectives one and two we  
20 talked about this morning, which are a couple of  
21 the interim measures. The third objective of the  
22 conservation strategy was phrased in terms of the  
23 abundance that could lead to the population be  
24 delisted. And that was formulated before a lot of  
25 the work with the Wild Salmon Policy had taken  
26 place. And in the years between 2004 and 2009, we  
27 have developed some of the machinery for the upper  
28 and lower benchmarks and that kind of thinking.  
29 And so I thought it was reasonable to take the  
30 recovery conservation strategy objective three and  
31 essentially replace it with the lower benchmark  
32 proposed for the Wild Salmon Policy. Only the  
33 abundance benchmark.

34 Q And we'll look at the table that considers those  
35 performance measures in the Wild Salmon Policy  
36 lower benchmark in a moment. Mr. Schubert, I'm  
37 wondering if, in assessing the performance of  
38 Cultus sockeye and the performance of recovery  
39 measures implemented to date, if there's any other  
40 important performance measures that we'd use  
41 beyond the ones identified by Dr. Bradford?

42 MR. SCHUBERT: Not that I'm aware of.

43 Q Could I suggest to you that the extent to which  
44 stakeholders have been consulted and involved in  
45 conservation efforts would be a performance  
46 measure that you could use in assessing recovery  
47 efforts to date?

1 MR. SCHUBERT: I think that was one of the ones that  
2 was identified in the conservation strategy, yes.  
3 MS. TESSARO: And for the record, that's page 36 of the  
4 recovery strategy conservation strategy.  
5 Q Is there a reason why that particular performance  
6 measure of assessing the extent to which  
7 stakeholders are engaged wasn't considered in the  
8 2010 assessment of Cultus and recovery measures?  
9 MR. SCHUBERT: The 2010 assessment was, I think, a  
10 biologically-based assessment. That was the focus  
11 of it.  
12 Q Would it be useful to do that kind of assessment?  
13 MR. SCHUBERT: I think it would be useful to maintain,  
14 I guess, a living document that records that type  
15 of information as the process goes forward.  
16 Q And we're going to turn later as well to your  
17 views on the utility or importance of stakeholder  
18 engagement as well.  
19 MS. TESSARO: But staying with this document for a  
20 moment, if you could turn perhaps to page 27, Mr.  
21 Lunn, which is PDF page 33, I think. And zoom  
22 into Table 3. It's the only table I'm interested  
23 in here for the moment.  
24 Q So Dr. Bradford, does this table describe the  
25 performance assessment that you described a few  
26 moments ago? Does this summarize it?  
27 DR. BRADFORD: These are the performance measures that  
28 were used in the simulation model going forward so  
29 they're very similar to the measures used to  
30 evaluate the current abundances. But this table  
31 refers to indicators that were put into the  
32 simulation model but certainly the first three,  
33 the calculations are the same.  
34 Q And you mentioned before that, in terms of  
35 objective three, that you replaced that with a  
36 consideration, the WSP lower benchmark; do you  
37 have that right?  
38 DR. BRADFORD: That's right.  
39 Q And so under criteria for assessing the WSP lower  
40 benchmark, the criteria stated there is the  
41 generational average of spawners that were born in  
42 the wild is greater than 10,200?  
43 DR. BRADFORD: Yes.  
44 Q And my question just to make this clear is that  
45 criteria is the line between the red zone and the  
46 yellow zone in the strategy one of the WSP?  
47 DR. BRADFORD: Yes.

- 1 Q And I'm wondering, going back to our earlier  
2 conversation about where I was trying to  
3 understand what spawner abundance would relate to  
4 objective one? I can see that if you use the WSP  
5 lower benchmark that in order to get out of the  
6 red zone you need over 10,000 fish. Under the  
7 conservation strategy objectives, was there not a  
8 similar number ever identified of the generational  
9 average of spawners that you would need to achieve  
10 conservation strategy objectives?  
11 DR. BRADFORD: Well, I don't know how to be clearer on  
12 objective one, as indicated in this table. It's  
13 just the four-year average has to be greater than  
14 a thousand successful spawner, no year less than  
15 500. So that is the criteria and you take the  
16 four running years of spawner data and to see  
17 whether it meets these criteria.  
18 Q No, and I understand you on that.  
19 DR. BRADFORD: Okay.  
20 Q But you just explained that WSP lower benchmark  
21 had been substitute for objective three.  
22 DR. BRADFORD: Okay.  
23 Q And I'm wondering if, whichever objective you tie  
24 it to, had there ever been, under the recovery  
25 strategy, an identification of the generational  
26 average of spawners that you would need to achieve  
27 the recovery goal or objectives?  
28 DR. BRADFORD: For objective three?  
29 Q I don't need you to necessarily tie that to an  
30 objective. I'm trying to understand if there was  
31 ever a similar criteria identified under the  
32 recovery strategy, as now has been identified  
33 under the lower benchmark of the WSP or if that  
34 number was never ever identified?  
35 DR. BRADFORD: Neil, maybe you can help me out. In  
36 objective three, we looked at a number of  
37 alternatives for calculating a number that would  
38 fit into that category.  
39 MR. SCHUBERT: Our original objective three was based  
40 on assumptions about what COSEWIC would want to  
41 see in order to delist the population. So I think  
42 the Wild Salmon Policy lower benchmark would be  
43 somewhat above that. I believe that the intention  
44 of the Wild Salmon Policy lower benchmark is to  
45 alert managers that there's an issue and if the  
46 issue is not addressed we're likely to have a  
47 conservation concern, which would be flagged by

1 COSEWIC and go through that process. So the  
2 strategy didn't identify any explicit number but  
3 what it did was look at a few things that it  
4 thought that COSEWIC would be interested in.

5 And I think the level where we thought  
6 depensation in the lake, the lower survival  
7 because of lower abundances, when that would start  
8 would be something they were interested in seeing  
9 so a regime change from lower survivals to higher,  
10 more closer to the historic average survivals. I  
11 believe we considered pre-spawn mortality levels  
12 and what sort of precautionary assumptions should  
13 be made in terms of the number of fish that should  
14 return to the river and still achieve these other  
15 types of numbers.

16 Q My question isn't intended as a criticism of the  
17 recovery strategy. My question is intended to  
18 attempt to understand whether the scientists  
19 working on recovery at Cultus Lake, the scientists  
20 working with the new conservation team, were able  
21 to provide any guidance to fisheries managers on  
22 just how many spawners were necessary to avoid  
23 that COSEWIC endangerment line that the recovery  
24 strategy is based around.

25 DR. BRADFORD: I don't think we did. I think the  
26 identification of this number, 10,200, just came  
27 in the last year, as a result of the work that Sue  
28 Grant and Carrie Holt had been doing. So previous  
29 to that, no, I think that's correct.

30 MR. SCHUBERT: And there were different interests on  
31 the team so I think that we felt that we wouldn't  
32 be able to come up with a definitive number based  
33 on the opinions of the different interests but we  
34 should focus on what COSEWIC might consider for  
35 delisting. And similarly, for the upper  
36 benchmark, the objective number four. One of our  
37 appendices looks at potential ways to derive that  
38 but we don't recommend any.

39 Q Right. In terms of Exhibit 804, going back to a  
40 somewhat higher level, yes, this is the 2010  
41 assessment on which you're the lead author, Dr.  
42 Bradford. Is it fair to understand that you were  
43 not assessing the efficacy of any harvest  
44 management activities in this document?

45 DR. BRADFORD: We noted that the exploitation rates  
46 since the early 2000s were certainly much lower  
47 than the previous average and so that those

1 reduced harvest rates would be contributing to the  
2 abundances that we had seen and the very slow  
3 climb in the abundance, movement toward the  
4 recovery objectives.

5 Q And the average exploitation rate that you  
6 identified from 2003 to 2009 was 17 percent in  
7 this document?

8 DR. BRADFORD: It sounds about right.

9 Q If you need to go to the page. It looks like it's  
10 page 16 of the real document, so PDF.

11 DR. BRADFORD: Yes, I can read there that the recent  
12 2003 to '09 harvest rate is 17 percent compared to  
13 the historical average of 67 percent.

14 Q And this ties back to my theme earlier of trying  
15 to understanding how comprehensive the suite of  
16 recovery measures is. Is it fair to say that this  
17 assessment of the effectiveness of recovery is  
18 looking primarily at the role of the hatchery and  
19 the role of predator control programs? Is that  
20 the focus of this 2010 assessment?

21 DR. BRADFORD: I think that's the way the document  
22 reads out now, yes.

23 Q So perhaps just on those two recovery measures,  
24 you could explain your assessment, your findings  
25 and the recommendations that you reached in  
26 relation to captive breeding supplementation  
27 efforts and predator control?

28 DR. BRADFORD: Certainly. With respect to the predator  
29 control program, as you can see on the page in  
30 front of us, the 2004/2005 DFO itself conducted  
31 some preliminary studies and tried to estimate the  
32 number of fish in the lake so we had some idea of  
33 what we were looking at. In 2006, the Area E  
34 commercial fishing group worked with our staff at  
35 Cultus Lake to put together a proposal for funding  
36 for using a commercial fishing vessel in Cultus  
37 Lake to remove pikeminnow and that was  
38 successfully funded by the Southern Endowment Fund  
39 of the Pacific Salmon Commission for, I believe,  
40 three years perhaps four.

41 And a large number of pikeminnow were  
42 removed. And subsequent to that, the Southern  
43 Endowment Fund is tied to the equity market and  
44 that didn't do so well so the CSAB then stepped  
45 forward and provided additional funding for the  
46 last couple of years to keep that program going.  
47 So it's been, after the initial assessment,

1 largely run by representatives from the commercial  
2 sector. We can now add the data collected from  
3 this project to the work that was done in the '30s  
4 and the '90s and we've concluded that the  
5 pikeminnow program appears to have increased  
6 survival of juvenile salmon in the lake,  
7 especially for very small broods of salmon. So it  
8 is a contributing factor to recovery.

9 Q Does the paper go so far as to say it's a  
10 contributing factor or does the paper identify  
11 that predator removal is coincident with increased  
12 freshwater survival?

13 DR. BRADFORD: Well, you could conclude that but we  
14 have data from three different time spans that are  
15 spread from 1935 to present. So when we put all  
16 those data together, we see in years and when  
17 there is predator control, we have higher  
18 survival. So I think if it was a coincidence, I  
19 don't think we'd see it over and over in time.

20 Q Are you basically inferring a cause-and-effect  
21 relationship?

22 DR. BRADFORD: Absolutely. We have little information  
23 on what's in the stomachs of pikeminnow, for  
24 example, that sort of thing.

25 Q On that, when was the last time that someone did a  
26 diet study? Was that Ricker?

27 DR. BRADFORD: Yeah, there's a particular problem with  
28 pikeminnow in that they regurgitate their stomach  
29 contents very easily and so the only way that we  
30 can really come to understand the stomach contents  
31 is when the fish are caught in gillnets and their  
32 snouts are entangled. And we don't use gillnets  
33 because of the bycatch, the collateral damage on  
34 trout and bull trout and this kind of thing. So  
35 the gear that we use results in the fish  
36 regurgitating their stomach on capture.

37 Q Got it. Thank you.

38 DR. BRADFORD: I won't go any further in the details.

39 Q Please don't. On your assessment of the captive  
40 breeding efforts and other enhancement efforts,  
41 what were your findings and recommendations there?

42 DR. BRADFORD: Well, the captive breeding program has  
43 been successful in the insurance policy aspect of  
44 it. It was designed to provide a living gene bank  
45 of fish in case there was a catastrophic loss of  
46 spawners in the lake due to disease issues. And  
47 so that was successful. They were able to keep



1 adults reared in captivity. We found that, as I  
2 mentioned, the program resulted in the release of  
3 many fry into the lake and those survived in the  
4 lake, went to sea and came back as adults and in  
5 the last few years have been a major contributor  
6 to the number of adults returning to the lake. So  
7 there was a short-term success that's identified  
8 in the paper with that program.

9 We also identify the risks. There are risks  
10 associated with breeding wild animals in captivity  
11 in selection for traits that do not allow them to  
12 survive in the wild. There are also risks  
13 associated with things like disease outbreaks and  
14 other factors in the mechanical failures in the  
15 hatchery environment. And so the desire of the  
16 captive breeding program was to run it for a  
17 number of years to get through that period of high  
18 disease and then begin to wind it down. And  
19 that's the conclusion that was reached in this  
20 paper was that it was appropriate to start to do  
21 that now.

22 Q So did you make a comparable recommendation in  
23 terms of phasing out the hatchery as well?

24 DR. BRADFORD: Well, we recommended that the captive  
25 breeding portion of the program be phased out but  
26 there was potential for an ongoing hatchery  
27 program. And by "hatchery program", I mean that  
28 fish are taken as they come to the lake. They are  
29 spawned in a hatchery and then released the  
30 following year. So we're not raising them to  
31 adults in captivity. And that would be a fairly  
32 low level of enhancement but it could provide,  
33 again, an insurance policy if there was a  
34 catastrophic event somewhere along the way.

35 Q Mr. Schubert, is there any views being expressed  
36 currently amongst the conservation team about  
37 whether the Inch Creek Hatchery should begin to be  
38 phased out?

39 MR. SCHUBERT: The conservation team, I think, came to  
40 the decision to terminate captive breeding in our  
41 second-from-the-last meeting back in December, I  
42 believe. And we made three recommendations at  
43 that point. One was the termination of captive  
44 breeding because it had achieved its objectives  
45 and the risks remained. The second was to  
46 continue supplementations for the Inch Creek  
47 Hatchery until 2013 brood year. And at that

1 point, that release would coincide with the final  
2 release of the last of the captive-bred fry. And  
3 at that point, we would do a full review of  
4 enhancement to determine whether it's required to  
5 achieve the goal of the recovery team, which is a  
6 self-sustaining, genetically-robust population in  
7 the wild. So the goal implies no enhancement.

8 Q Thank you. Dr. Bradford, in terms of the other  
9 recovery measures contemplated in the recovery  
10 strategy and perhaps this one can be an example  
11 we'll take milfoil removal. It doesn't seem that  
12 there was an assessment of those other habitat-  
13 related recovery measures contemplated in the  
14 recovery strategy in your 2010 assessment. Do I  
15 have that right and, if so, why not?

16 DR. BRADFORD: You have it right and that was raised.  
17 I suppose, as I mentioned earlier, we did some  
18 work in 2006 and stopped doing work on the milfoil  
19 issue specifically because we didn't think we  
20 could make a difference or it would have any  
21 effect on the salmon and so I guess in the  
22 interests of the volume of this document, we left  
23 out some of those earlier projects.

24 Q Okay. And finally, this is a very broad question  
25 but I think considering the 2010 assessment it  
26 flows from it. Having done this assessment, what  
27 would your views be on what the most important  
28 recovery measure affecting Cultus Lake recovery  
29 would be?

30 DR. BRADFORD: Well, I tried to get an idea of that by  
31 using this simulation model, which projects  
32 forward for the next 20 years. And you can  
33 essentially turn on and off the different measures  
34 to see how big the effect was. As with all Fraser  
35 sockeye, the major driver of abundance is the  
36 survival of smolts when they reach the ocean. And  
37 when there's down periods in that survival, of  
38 course, all of the runs have difficulty returning  
39 in numbers. And we found in the simulation model  
40 that the fate of the Cultus in the model  
41 population at least was strongly dependent on the  
42 ocean survival rate. And then the other factors,  
43 and I looked at harvest between 20 percent and 50  
44 percent, turning on and off the hatchery program  
45 and turning on and off the predator control  
46 program and they all contributed somewhat equally  
47 to improving survival. So there wasn't a single

1 one that stood out.

2 Q Well, that answer puzzles me a bit because if  
3 you've identified ocean survival or smolt recruit  
4 survival as the most important factor, as you've  
5 said, affecting Cultus Lake and its recovery,  
6 would it not then flow that the most effective  
7 recovery measure would be one that addressed smolt  
8 to recruit survival?

9 DR. BRADFORD: Sure. But I don't know that we can do  
10 anything about that. So that's when fish leave  
11 Cultus Lake, travel down the Fraser River and go  
12 to sea. And I guess I'm operating on the  
13 assumption that there's no recovery action that we  
14 can take to improve survival at that stage.

15 Q What about exploitation rates?

16 DR. BRADFORD: Well, the indicator is the survival to  
17 the fishery. So in other words, smolt recruit  
18 refers to leaving the lake and then returning to  
19 coastal waters and fishery is a source of  
20 mortality that we've modelled separately from that  
21 survival rate.

22 Q Okay. I realize that you have done some updated  
23 figures for your 2010 assessment incorporating  
24 data from 2010 and I think we should ensure that  
25 we identify that and mark it.

26 MS. TESSARO: That, Mr. Lunn, is Tab 9 of Canada's  
27 documents.

28 THE REGISTRAR: Exhibit 915.

29 MS. TESSARO: I'm actually going to suggest, if I  
30 might, Mr. Giles, that this be marked as Exhibit  
31 804A because it is related to the existing  
32 exhibit. It updates the tables therein, if that's  
33 acceptable.

34 THE REGISTRAR: It's already marked as 915.

35 MR. LUNN: It's already Exhibit 915.

36 MS. TESSARO: Okay. I'm sorry. I'm not making myself  
37 very clear.

38 DR. BRADFORD: That's not this.

39 MS. TESSARO: That's not this document. So the  
40 document we're looking at the 2010...

41 MR. LUNN: Tab 6, thank you.

42 MS. TESSARO: Is it possible then to have this marked  
43 as Exhibit 804A?

44 THE REGISTRAR: We can do that.

45 MS. TESSARO: Thank you.

46 THE REGISTRAR: 804A, it is.

47

1 EXHIBIT 804A: Bradford *et al.* 2010 Status of  
2 Cultus Lake Sockeye Salmon  
3

4 MS. TESSARO:

5 Q And I actually before doing that should just ask  
6 Dr. Bradford if this is the updated data that you  
7 assembled updating your 2010 status assessment?

8 DR. BRADFORD: That's right.

9 Q Thank you. And I'd like to shift topics entirely  
10 now away from the recovery strategy and the  
11 assessment in 2010 of Cultus sockeye and recovery  
12 measures and look more now at the evolution of  
13 recovery planning and recovery implementation in  
14 the time leading up to the recovery strategy and  
15 the years following it. And for that purpose, Mr.  
16 Schubert, I understand that you have created a  
17 chronology of some of the highlights and lowlights  
18 of what I've just described.

19 MR. SCHUBERT: Yeah. When I realized I would be here  
20 as a witness, I started looking through all the  
21 material I had available to me and it became very  
22 confusing in my mind which year various events  
23 happened so I put together a chronology based on  
24 what I considered to be significant milestones  
25 through the process based on the information I  
26 had.

27 Q And maybe we should just -- I hope this is Tab 14  
28 of Canada's documents. And if you need the hard  
29 copy binder, Mr. Schubert, I think there's one  
30 hopefully available to you there.

31 MR. SCHUBERT: I'll pull it out.

32 Q But if you're able to look through this document  
33 quickly and confirm that it's the chronology that  
34 you referred to?

35 MR. SCHUBERT: Yeah, that's correct.

36 Q Are there any particular entries in this  
37 chronology that you feel yourself to be unsure of  
38 or that you doubt the accuracy of?

39 MR. SCHUBERT: No.

40 Q And this document was created in the last...?

41 MR. SCHUBERT: Last week.

42 Q Last week. So I'm not going to take you through  
43 the entire document. I'm going to ask that it be  
44 marked as the next exhibit.

45 THE REGISTRAR: Exhibit 916.  
46  
47

1 EXHIBIT 916: Chronology Cultus Lake Sockeye  
2 Recovery  
3

4 MS. TESSARO:

5 Q And rather than taking you through entry-by-entry  
6 I think what I'll do instead is ask you to  
7 describe in some detail the creation of the  
8 recovery team, the team's activities over the  
9 course of 2004, leading up to basically the fall  
10 of 2004. And if you need to refer to this  
11 document, as you proceed, I'm not looking for  
12 specific dates; I'm looking for a general  
13 description of what the team did, who it did it  
14 with.

15 MR. SCHUBERT: Okay. You would like my comments to  
16 focus on the creation of the team itself?

17 Q From the creation of the team onwards through its  
18 creation of the recovery strategy.

19 MR. SCHUBERT: Okay. I'll just take a moment to get my  
20 thoughts in order here.

21 Q That's fine.

22 MR. SCHUBERT: Okay. Things started to flow from the  
23 release of the CSAP paper, which described the  
24 status of Cultus sockeye and, coincidentally, the  
25 COSEWIC decision to list it as endangered. That  
26 occurred in 2003. The COSEWIC assessment occurred  
27 in May. Shortly after that, the RDG announced the  
28 formation of a salmon recovery steering committee.  
29 And that committee's intention was to focus on the  
30 three COSEWIC-listed salmon population, Sakinaw,  
31 Cultus and Interior B.C. Coho. The committee was  
32 authorized as a kind of a pre-**SARA** process to form  
33 three recovery teams for the three species, to  
34 conduct stakeholder reviews, draft recovery  
35 strategies and to develop consultation plans and  
36 peer reviews for each strategy so that summer  
37 started the process of forming the teams.

38 I was contacted by Don Lawseth, I believe,  
39 and asked to chair the Cultus and to start putting  
40 the Cultus process in order, which I did, drafted  
41 potential team member lists, set up the draft  
42 terms of reference, and that led to in November  
43 the inaugural meeting of the three teams which was  
44 held at Harrison Hot Springs. The idea was to  
45 bring all three teams together. And to kick off  
46 the process, it brought in, I think, international  
47 experts on recovery planning, which I recall at

1 least a couple from the United States that shared  
2 their experiences with the **Endangered Species Act**.  
3 And at that time, team membership had not yet been  
4 finalized and I think there was some discussions,  
5 some input from various stakeholder groups  
6 regarding who they would like to see on the teams.  
7 And I think our team membership was finalized by  
8 February of 2004.

9 Q If I could just interrupt you there very briefly.  
10 Is the team membership an appendix to the recovery  
11 strategy?

12 MR. SCHUBERT: Yes, it is.

13 Q Okay. And if you could continue. Thank you.

14 MR. SCHUBERT: Anyway, that process established the  
15 terms of reference for the team as a multi-  
16 interest group but technically-focused team. So  
17 we had representation from all of the stakeholders  
18 that we could identify that had an interest in the  
19 recovery of Cultus sockeye. That included First  
20 Nations' reps, commercial fishing reps, sport  
21 fishery rep, reps from various other levels of  
22 government, the province, I think the Conservation  
23 Council, Pacific Salmon Commission, as well as a  
24 core group of DFO staff. And we met 12 or 13  
25 times through 2004 and our major objective was to  
26 draft a **SARA**-compliant recovery strategy.

27 Q And perhaps just if you could give us your  
28 assessment or view of the utility of that process?  
29 Is it a process that worked? Was it a  
30 constructive process? Was it challenging?

31 MR. SCHUBERT: It was definitely a challenging process  
32 in that we had people from different interest  
33 groups that we had to mould into an effective  
34 functional recovery team. It was also challenging  
35 in that we weren't given a very long time period,  
36 if you think about it, to produce something major  
37 that had not, to my knowledge, been produced in  
38 Canada, a recovery strategy for a salmon  
39 population like that.

40 Q In terms of the multi-stakeholder nature of the  
41 team, do you have any recommendations or views to  
42 share on the utility of engaging external  
43 technical experts and stakeholders in that kind of  
44 recovery planning process?

45 MR. SCHUBERT: If you look at **SARA**-related documents,  
46 they identify the recovery strategy development  
47 phase as a science, technical-oriented process.

1 The approach we took put people on the recovery  
2 team that weren't necessarily science or  
3 technically oriented. They all had a knowledge of  
4 the species, many from local interests or from  
5 local community perspectives but not necessarily a  
6 technical background. I was initially leery of  
7 that process. I wasn't certain that it would work  
8 but the process we adopted was consensus-driven  
9 and we met quite frequently over a 12-month  
10 period.

11 The consensus approach required that everyone  
12 on the team buy into team decisions. And I think  
13 that was key to this process. You can't have, I  
14 think, an effective recovery team if everyone  
15 doesn't buy into the conclusions and decisions of  
16 the team. And that was made easier, I think, by  
17 the very frequent meetings and I guess a  
18 regularized series of meetings so that people were  
19 able to interact frequently and got to know each  
20 other. And I think there was a mutual respect  
21 that was generated amongst team members that came  
22 from working in the consensus-based environment  
23 and realizing that other team members are wanting  
24 to make compromises in order to come to agreement.

25 Q And at the end of the day, all of the documents  
26 that the team produced were ultimately based on  
27 consensus, as I understand?

28 MR. SCHUBERT: That's right.

29 Q Which, as we've heard, is a fairly challenging  
30 thing in the world of Fraser River sockeye?

31 MR. SCHUBERT: Yes, it definitely is.

32 Q To shift into the fall of 2004, at some point you  
33 learned that there was some kind of socioeconomic  
34 analysis underway within DFO and I'm wondering if  
35 you can describe the history of steps there?

36 MR. SCHUBERT: I had become aware, I think, in May,  
37 that there was a report authored by Gord Gislason,  
38 as a socioeconomic analysis of the listing  
39 process. When I had seen it, it seemed quite  
40 rudimentary and undeveloped and I didn't realize  
41 it was a final document at that point so I didn't  
42 pay any attention to it. We had other things to  
43 focus our attention on at that point. In  
44 September, according to my notes, I was on a  
45 conference call with John Davis and others. We  
46 became aware that that document was being put to  
47 use and had been the basis of a briefing of the

1 provincial government and that there are other  
2 documents associated with it. So I, at that  
3 point, asked for an opportunity for our stock  
4 assessment fisheries management work group to  
5 evaluate it and to provide some reviews and  
6 recommendations back to the managers, which was  
7 provided. That was limited to the DFO members of  
8 that work group because some of these documents  
9 were still considered secret or confidential and  
10 weren't to be shared with other members of the  
11 recovery team.

12 We had a meeting, I believe a conference  
13 call, as a work group, to discuss the information  
14 we had and it was fairly rudimentary. We had the  
15 Gislason paper and we had a PowerPoint  
16 presentation but we didn't have a lot of the other  
17 documents. We based our review on the information  
18 we had and had a meeting with policy and fisheries  
19 managers. I recall Steve Wright, Mary Hobbs and  
20 Paul Ryall being at that meeting with a number of  
21 us from the work group. And we had a full  
22 discussion.

23 I think they might have shared additional  
24 documents with us at that point but we walked away  
25 still feeling very leery about the quality and  
26 utility of this socioeconomic analysis. There was  
27 to be a second meeting with fisheries managers, I  
28 believe, Les Janz and Paul Ryall, a few days  
29 later. That was going to be in connection with  
30 their meeting with the Fraser panel but that  
31 didn't come off and we didn't get any further  
32 information regarding the analysis at that point.

33 Q Do you know if any of those individuals are  
34 economists?

35 MR. SCHUBERT: I'm sorry?

36 Q Mr. Ryall, Ms. Hobbs, Mr. Janz, and Steven Wright,  
37 are any of those individuals economists?

38 MR. SCHUBERT: Steve Wright was an economist. I  
39 believe Mary Hobbs had an economics background.  
40 I'm not sure if she was an economist.

41 Q And do you understand that those two individuals  
42 were the people creating the economic analysis  
43 that DFO policy management were circulating?

44 MR. SCHUBERT: I am not aware of that.

45 Q Do you know who authored the internal DFO  
46 socioeconomic analysis documents?

47 MR. SCHUBERT: No.



1 Q At the time, did you ask?

2 MR. SCHUBERT: I don't recall.

3 Q Okay. I'm going to ask Mr. Lunn if he could pull  
4 up an email that you sent to Dr. Davis.

5 MS. TESSARO: It appears that it's in October although  
6 it's not dated. And it's one of the two emails  
7 that was distributed late this week. It's the  
8 longer one.

9 Q Thanks for your patience as we find this. And  
10 this is the document.

11 MS. TESSARO: Thank you, Mr. Lunn. And if this could  
12 be expanded out a bit.

13 Q The reason I'm bringing up this document is  
14 because I understand that this sets out your and  
15 your colleague's DFO concern with a socioeconomic  
16 analysis. And I thought it may be a useful aid  
17 for the two of you to describe what were both the  
18 procedural and the substantive concerns that  
19 recovery team members had with the socioeconomic  
20 analysis? And don't feel bound by the document  
21 but if it's useful to reference it.

22 MR. SCHUBERT: Okay. This was my attempt to summarize  
23 for Dr. Davis the content of a much longer  
24 document prepared by the working group. In my  
25 mind, the working group identified probably six  
26 major issues, most of which are covered in this  
27 email. The first was the assumption that a  
28 listing would meet a complete closure of fisheries  
29 or, in other words, a less than 5 percent  
30 exploitation rate.

31 Discussions amongst the team, we had felt  
32 that a listing would not necessarily require  
33 complete fisheries closures but that some level of  
34 harvest could be allowed through recovery provided  
35 we met the minimum population goal and the  
36 population growth objectives. So we felt that was  
37 more draconian than it should have been. We also  
38 felt that there was a number of cycle specific  
39 issues that weren't addressed by the socioeconomic  
40 analysis or the four years there are occasions  
41 when co-migrating populations aren't strong enough  
42 to support harvests so the impact of Cultus would  
43 have been much less and, conversely, there are  
44 cycles where Cultus is quite abundant that might  
45 have permitted more fishing than assumed.

46 There was also at this point, in terms of a  
47 cycle specific issue, by early September the

1 Department knew that the 2004 cycle Fraser  
2 populations had collapsed and that there was  
3 unlikely to be harvest on that cycle for the next  
4 four to eight years. The Gislason analysis was  
5 completed before the occurred back in April but  
6 this was certainly something that was known by  
7 late September when we were responding to this  
8 document in October. And that complication hadn't  
9 been addressed at all.

10 There was the issue that the team felt that  
11 the attribution of all costs of recovery to Cultus  
12 was inappropriate. In 1995, the Late Run sockeye  
13 populations began to migrate into the river much  
14 earlier than normal and there was an associated  
15 high pre-spawn mortality, which led to a general  
16 conservation concern for Late Run sockeye  
17 populations. The exploitation rate responses to  
18 that were to significantly reduce the exploitation  
19 on the Late Run, which benefited Cultus as well.  
20 I don't think it was until about 2004 that  
21 separate exploitation rate targets were  
22 established for a Late Run versus Cultus, but when  
23 that had occurred, in at least a couple of those  
24 years, the difference between what was required  
25 for the Late Run and what was required for Cultus  
26 were quite trivial; they were 3 percent. So the  
27 reduction of exploitation rates from what they  
28 used to be at a level of 40, 50 percent or greater  
29 down to 12 percent, was being attributed to Cultus  
30 when, in fact, the reduction to 15 percent was  
31 what was required for those Late Run populations  
32 and the impact of Cultus was a further 3 percent  
33 on that. So we felt it inappropriate that all of  
34 those costs be attributed to the recovery of  
35 Cultus.

36 Q I don't know if you have anything to add to this,  
37 Dr. Bradford, in terms of the DFO members of the  
38 recovery team's concerns with the socioeconomic  
39 assessment?

40 DR. BRADFORD: No, I think the main points are  
41 summarized in the email here.

42 MS. TESSARO: And perhaps we should mark that email now  
43 as the next exhibit.

44 THE REGISTRAR: Exhibit 917.

1 EXHIBIT 917: Email from Neil Schubert to  
2 John Davis re Socio-Economic Analysis for  
3 Cultus Sockeye  
4

5 MS. TESSARO:

6 Q What I'm going to do in my remaining time, which  
7 I'm sorry to say is about 15 minutes more, which  
8 exceeds my time estimate, is basically take the  
9 opportunity with you, Mr. Schubert, to put a  
10 number of internal memoranda to ministers on the  
11 record and seek your reaction to some of the  
12 information in them. I'm sorry. There's one more  
13 question I should ask about the socioeconomic  
14 assessment and that's that after you did get  
15 information from DFO and were able to share that  
16 with other members of the recovery team, did the  
17 recovery team take any action at that point?

18 MR. SCHUBERT: We convened a meeting on November 15th  
19 where we invited John Davis, as well as others. I  
20 believe Bill Otway attended and Brian Riddell.  
21 And to discuss the socioeconomic analysis and what  
22 the fate of the team was likely to be. And  
23 following that discussion with Dr. Davis, the team  
24 decided that it needed to respond to the  
25 socioeconomic analysis and to provide DFO managers  
26 with their concerns regarding its quality.

27 Q And how did you do that?

28 MR. SCHUBERT: We met by conference call, I think, a  
29 couple of days later and drafted a letter to the  
30 acting RDG.

31 MS. TESSARO: And if I could, Mr. Lunn, call up Tab 9  
32 of our documents that contains what I believe to  
33 be the minutes of that November 15th meeting and  
34 appending the letter that was sent to the RDG?

35 Q Are you able to confirm that, Mr. Schubert, that  
36 this is a document that contains, if you need to  
37 flip through the document we can do that, but the  
38 minutes of that November 15th meeting and also  
39 attaches the letter that the team sent to the  
40 regional director general?

41 MR. SCHUBERT: Yeah, this document attaches the minutes  
42 which does attach the letter, yes.

43 MS. TESSARO: Thank you. If we could mark this  
44 document as the next exhibit?

45 THE REGISTRAR: Exhibit 918.  
46  
47

1 EXHIBIT 918: Cultus Sockeye Recovery  
2 Activities Monthly Update for November, 2004  
3

4 MS. TESSARO:

5 Q Skipping ahead in time to January 21st, 2001, that  
6 was the date that the world learned that Cultus  
7 sockeye would not be listed under **SARA**. I'm  
8 wondering if you could describe the events of the  
9 following days?

10 MR. SCHUBERT: Well, there wasn't much in the way of  
11 events in the immediately following days. The  
12 regional director for fisheries management  
13 authored a letter in response to the recovery  
14 team's letter. I think it was dated January 25th  
15 but I don't think I saw it until perhaps April  
16 when a package was sent out by the regional  
17 director as administrator to the area directors at  
18 the three areas with the affected populations  
19 announcing the disbanding of the recovery team as  
20 well as committing to ongoing funding for the  
21 recovery efforts and to a process to replace the  
22 recovery team process.

23 Q And what was your reaction, personally, to  
24 receiving that letter via the regional director's  
25 assistant disbanding the team?

26 MR. SCHUBERT: I was quite surprised that a functioning  
27 group like that would be disbanded without some  
28 sort of interim process put in place to continue  
29 recovery activities or recovery planning.

30 MS. TESSARO: And I think we have that letter. I  
31 believe it's at the first document, Mr. Lunn. I'm  
32 sorry to be rushed. The first document within Tab  
33 10 of our documents. I'm sorry. It's very faint.

34 Q Is this the letter that you referred to that you  
35 received from Mr. Bradford?

36 MR. SCHUBERT: Yes, it is.

37 MS. TESSARO: And could that be marked as the next  
38 exhibit?

39 THE REGISTRAR: Exhibit 919.  
40

41 EXHIBIT 919: Letter from D.D. Radford to  
42 Neil Schubert dated January 25, 2005  
43

44 MS. TESSARO:

45 Q You mentioned a moment ago that there would be  
46 some new process to guide Cultus recovery. I'm  
47 wondering, over the course of 2005, whether there

1           were any developments to create that new process  
2           and what happened there?

3       MR. SCHUBERT: Well, the new process was to be area-  
4           based. So the area directors were to appoint  
5           coordinators for the process and also develop a  
6           process which would -- can't get this right. That  
7           the areas would appoint a coordinator and develop  
8           a process to develop and implementation plan.  
9           That hadn't occurred by October. I had had a  
10          number of conversations with Jim Wild, who is the  
11          area director for lower Fraser about setting up  
12          that culminated in a meeting that we had at Cultus  
13          Lake lab with Jim in early October where the  
14          director plus a lot of the people that were still  
15          involved in Cultus sockeye issues got together to  
16          discuss what the process should look like. We  
17          outlined, I think, in a fair amount of detail what  
18          the process should be. It was to be, you know, a  
19          DFO-based process.

20                 There were recommendations for team members  
21                 and for work product development. Jim was to make  
22                 inquiries regarding how we would bring  
23                 socioeconomic analysis into the process at this  
24                 point and he was to take this to his area  
25                 executive team for discussion and moving forward.  
26                 I documented our understanding from that meeting  
27                 in an email to him and to, I think, Don Lawseth  
28                 and Don Radford and Al MacDonald, I think, at that  
29                 time. The subsequent meeting of the area  
30                 executive team did not act on it. Mr. Wild  
31                 deferred any action until he had received copies  
32                 of minutes of the meeting and no subsequent action  
33                 occurred at the area level.

34       Q       Looking at the document that's on the screen,  
35                 which was an exhibit that we last marked, if you  
36                 could scroll down to the second page. There's a  
37                 commitment in the second paragraph in the last  
38                 sentence:

39                                 The department is also committed to  
40                                 completing and implementing the recovery  
41                                 strategy that the team is working so hard to  
42                                 produce.  
43                                 produce.

44                                 Did you receive comparable verbal assurances that  
45                                 there would be implementation of the recovery  
46                                 strategy?  
47                                 strategy?

1 MR. SCHUBERT: I believe the approach that was  
2 identified, perhaps not here but perhaps in the  
3 other April 11th document from Don Radford, it  
4 identified that the recovery strategy would inform  
5 the IFMP process and that's how the recovery would  
6 be implemented.

7 MS. TESSARO: And I'm going to take us on a whirlwind  
8 through marking some documents now. And the first  
9 one, Mr. Lunn, is Tab 13. And this tab is two  
10 documents. I'll describe the first document as a  
11 cover sheet dated October 11th, 2005. You can see  
12 that it's from D. Radford to P. Sprout with  
13 remarks from P. Ryall.

14 Q I'm wondering, Mr. Schubert, if you saw a memo on  
15 acceptance of the Cultus and Sakinaw Lake sockeye  
16 recovery strategies in the fall of 2005 to your  
17 recollection?

18 MR. SCHUBERT: Yes, I did.

19 MS. TESSARO: And if we could turn to the next document  
20 behind this tab, which is a memo?

21 Q Have you seen this memorandum before?

22 MR. SCHUBERT: Yes, I have.

23 MS. TESSARO: Could we mark this memorandum as the next  
24 exhibit, please?

25 THE REGISTRAR: The memorandum will be marked as  
26 Exhibit 920.

27  
28 EXHIBIT 920: Memorandum for the Regional  
29 Director General, Pacific Region Acceptance  
30 of the Cultus and Sakinaw Lake Sockeye  
31 Recovery Strategies  
32

33 MS. TESSARO: And if we could turn to page 3 of this  
34 document?

35 Q I'm going to read a paragraph into the record here  
36 and seek your reaction. It says:

37  
38 Endorsement of these documents indicates that  
39 DFO has received the Recovery Team's advice  
40 on how to recover the species. The documents  
41 present the biological targets for recovery  
42 but do not take into account specific  
43 socioeconomic considerations or risk  
44 management tolerance. Further, the documents  
45 do not constitute a commitment to implement  
46 all of the recovery strategies nor are there  
47 any legal requirements as there would have

1                   been for a **SARA** recovery strategy. The  
2                   Department maintains full discretion to  
3                   assess what options can be realistically  
4                   implemented in light of management  
5                   objectives, budgetary considerations and the  
6                   need to set priorities.  
7

8                   Were you aware at the time, in the fall of 2005,  
9                   that the RDG was being advised that there was no  
10                  commitment to implement all of the recovery  
11                  strategies? Were you aware of this advice at the  
12                  time? Sorry.

13 MR. SCHUBERT: No, I don't believe I was.

14 Q   Do you have any reaction to it? Is it surprising  
15       to you?

16 MR. SCHUBERT: No, I wouldn't say that's particularly  
17       surprising.

18 MS. TESSARO: Okay. If, in the same vein, we could  
19       move to Tab 14 of the Commission's documents? And  
20       I'm sorry, again, Tab 14 has two separate  
21       documents and I'm only actually interested in the  
22       decision paper, which is the second document.  
23       Thank you, Mr. Lunn.

24 Q   Have you seen, Mr. Schubert, this decision paper  
25       entitled "Current **SARA** Implementation Issues"  
26       before?

27 MR. SCHUBERT: I saw it last week.

28 Q   Had you seen it before that time?

29 MR. SCHUBERT: No, no.

30 Q   If you flip over to the third page of this, it's  
31       dated July 17th, 2006. In the time leading up to  
32       July 17th, 2006, were you asked for any advice or  
33       did you provide any input on how to implement  
34       recovery strategies and the need to implement  
35       recovery strategies to the policy branch?

36 MR. SCHUBERT: Not that I recall, no.

37 MS. TESSARO: As this is a DFO record, although you  
38       have not seen this until recently, I'm going to  
39       ask, unless there's any objection that this be  
40       marked as the next exhibit.

41 THE REGISTRAR: Exhibit 921.

42  
43                   EXHIBIT 921: Regional Management Committee  
44                   Decision Paper - Title: Current **SARA**  
45                   Implementation Issues  
46

47 MS. TESSARO: And then finally, the final memoranda

1 that I'd like to put on the record is at Tab 16 of  
2 the Commission's documents. And if you flip to  
3 the second page of this memorandum which is for  
4 the regional director general from Sue Farlinger,  
5 the regional director. The date stamp is May  
6 15th, 2008.

7 Q And under the heading, "Analysis DFO Comment", the  
8 following comment is provided by Ms. Farlinger to  
9 Mr. Sprout:

10  
11 A process to implement these conservation  
12 plans has not been formalized. Science has  
13 established a Cultus Lake Sockeye  
14 Conservation Team to coordinate activities  
15 and develop an implementation plan.

16  
17 Is that your understanding of events as of May  
18 2008?

19 MR. SCHUBERT: Yes, we had indeed formed a conservation  
20 team.

21 Q And was part of the team's mandate at that time to  
22 develop an implementation plan for the recovery  
23 strategy?

24 MR. SCHUBERT: Yes, when I drafted the terms of  
25 reference that was one of the objectives of the  
26 team. There were a number of objectives:  
27 communication and coordination amongst recovery  
28 efforts, evaluation of status, development of  
29 benchmarks and timeframes for recovery were also  
30 part of that. As subsequent events unfolded,  
31 however, we actually had funding for the team for  
32 a short period, about three or four months. That  
33 was kind a year-end surplus from the **SARA's**  
34 national funding that got the team going.  
35 Subsequent to that, it was again kind of an ad hoc  
36 process off the side of tables of the team members  
37 without any real commitment other than the base  
38 recovery project. So a lot of the initial items  
39 that were in our objectives on the terms of  
40 reference we have not been able to achieve because  
41 we simply do not have the resources to do so.

42 MS. TESSARO: Could I please have this memorandum  
43 marked as the next exhibit?

44 THE REGISTRAR: Exhibit 922.  
45  
46  
47



1 EXHIBIT 922: Memorandum for the Regional  
2 Director General - Cultus Lake Sockeye and  
3 Sakinaw Lake Sockeye Conservation Strategies  
4

5 MS. TESSARO:

6 Q You just used the word "ad hoc" in reference to  
7 staff attempting to implement recovery planning  
8 off the side of their desk. And I'm wondering if  
9 you could provide your recommendations on how a  
10 recovery implementation process could be approved?

11 MR. SCHUBERT: Well, I think the process is identified  
12 in the Wild Salmon Policy under Strategy 4.  
13 Strategy 4 identifies an interim process where  
14 response teams -- no, is it response teams, the  
15 terminology?

16 Q I believe that's the expression in Strategy 4,  
17 yeah.

18 MR. SCHUBERT: Would be formed and those would be  
19 multi-stakeholder groups, interest-based. They  
20 would be informed by socioeconomic analyses and  
21 would provide recommendations to the IFMP process.  
22 They would also be directly responsible for  
23 setting benchmarks for identifying reasonable  
24 timeframes for recovery. There were attempts in  
25 August of 2006 by Brian Riddell and myself to  
26 actually form a Wild Salmon Policy based response  
27 team. That never went anywhere at regional  
28 headquarters. I don't know what the issues were  
29 there but the attempts failed and I guess it was  
30 kind of as a result of that that we went to the  
31 conservation team approach. I think the structure  
32 that would be conferred on the planning process by  
33 formalizing it as a WSP process would probably go  
34 a long way in achieving what most people think of  
35 as an implementation plan or a recovery plan that  
36 we haven't been able to approach with our in-house  
37 approach.

38 Q I have just two further lines of question. And  
39 the first is for you, Mr. Schubert, and then the  
40 second, the last, is for both of you. In terms of  
41 funding, how had the recovery work done by the  
42 conservation team been funded and how is it  
43 currently funded?

44 MR. SCHUBERT: From about 2003, **SARA** set up the  
45 national group, funded the recovery projects in  
46 the region. In 2009, a decision was made  
47 nationally that they would no longer fund recovery

1 projects for non-**SARA** listed species. So that cut  
2 the funding to the region from the **SARA** set up  
3 source in that year. There was a lot of running  
4 around to try to make up for the loss of funds. I  
5 believe there was an overall reduction in the  
6 amount of funds that the three recovery teams  
7 received for their recovery efforts. From that  
8 off-the-top reduction there was a pot of about  
9 half-a-million, I think, and half of that was  
10 reallocated from already funded **SARA** set up pots  
11 of money and the other half was funded by the  
12 region.

13 Cultus actually got off quite lucky in that  
14 process because most of our projects were funded.  
15 There was a loss of projects directed towards  
16 investigations into freshwater survival but our  
17 other main projects were funded. In subsequent  
18 years, last year and this year, I guess, funding  
19 has been entirely through the region is my  
20 understanding.

21 Q For the entirety of the recovery measures?

22 MR. SCHUBERT: Yes.

23 Q And in terms of the connection that you've just  
24 raised to Strategy 4 of the Wild Salmon Policy, to  
25 either of your knowledge, has Cultus every been  
26 identified as in the language of Strategy 4, as a  
27 priority CU?

28 MR. SCHUBERT: To the best of my knowledge, I don't  
29 think any CU has been identified as a priority CU.

30 Q And you probably have some strong basis for that  
31 knowledge because I understand you also have a WSP  
32 hat that you wear?

33 MR. SCHUBERT: I attempt to coordinate a group of  
34 scientists in their work on WSP. It's much like  
35 herding cats.

36 Q Dr. Davis testified yesterday on the issue of --  
37 he was asked about the scale of recovery planning.  
38 I don't know if you recall that but he explained  
39 that for certain things you need local, lake-  
40 focused efforts but then considering trade-offs in  
41 the context of a mixed stock fishery, you also  
42 need planning at a broader Fraser River level, to  
43 paraphrase his evidence quite poorly, I think.  
44 I'm wondering if you, yourselves, have views on  
45 whether the Cultus Lake CU, individual sockeye CU,  
46 is an appropriate or necessary level or scale for  
47 recovery planning under Strategy 4 and what your

1 views are on the scale of recovery planning for  
2 endangered sockeye.

3 MR. SCHUBERT: I think in an ideal world you would do  
4 you planning on a CU-specific basis. However,  
5 what we did with Cultus and probably with Sakinaw  
6 and Interior coho is kind of the Cadillac of the  
7 recovery planning exercises. It involves a lot of  
8 resources and it involved a lot of people and it  
9 simply would not be sustainable if there is a much  
10 larger number of CUs that are in red status and  
11 need recovery planning efforts.

12 Q There are seven right now, are there not?

13 MR. SCHUBERT: Well, there's probably more than that.

14 Q What about you, Dr. Bradford? Do you have any  
15 views on the appropriate scale for recovery  
16 planning efforts?

17 DR. BRADFORD: I would concur with Neil in the sense  
18 that we've been on this team for over seven years  
19 now and there don't seem to be any reliefs. And  
20 to ramp up a similar number of teams would be a  
21 real strain on resources, although in the case of  
22 Cultus, we are also constrained by the sheer  
23 volumes of information data that we have. And I  
24 think many other CUs would have much less  
25 information to work with and probably fewer  
26 management options to work with as well so some  
27 cases may be simpler and require less resources.

28 The other thing I would say is that the scale  
29 thing is important. We do have local community  
30 groups heavily involved in Cultus but, by the same  
31 token, we have the commercial fishing sector  
32 working on the predator control program. So  
33 they're working at a local scale but I think it  
34 indicates their support at a larger scale so it  
35 does cross scales, I guess, some of these  
36 activities.

37 MR. SCHUBERT: And I think what we are likely to see in  
38 the future with Wild Salmon Policy is either  
39 processes that focus on multiple CUs or processes  
40 that focus on CUs that cover very broad geographic  
41 distributions. And the simple recovery team  
42 process is probably not totally applicable to  
43 that. I tend to think that a two-or-three-tiered  
44 process is going to be required in the future  
45 where you have local work groups that report to  
46 larger teams that then might have a political  
47 oversight body that directs their activities.

1 Q I realize that I kind of glibly said, "Aren't  
2 there seven CUs in the red zone?" And I just want  
3 to really make sure that the record isn't unclear  
4 on that. With respect to Sue Grant's paper,  
5 recent paper, working paper, assessing, under  
6 Strategy 1, the status of Fraser River sockeye CUs  
7 and identifying in that paper, I believe,  
8 preliminarily seven Fraser River sockeye CUs in  
9 the red zone, would you agree that I've got that a  
10 little more accurately now?

11 MR. SCHUBERT: I cannot say for sure it's exactly seven  
12 but it seems reasonable. In my response, I was  
13 thinking in terms of the region.

14 MS. TESSARO: Okay. Thank you. I just wanted to  
15 clarify that. And thank you for indulging a long  
16 examination and for your assistance. Thank you,  
17 Mr. Commissioner. And it's been pointed out to me  
18 that we should take a break.

19 THE REGISTRAR: The hearing will now recess for ten  
20 minutes.

21  
22 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS)  
23 (PROCEEDINGS RECONVENED)  
24

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

26 MR. TIMBERG: Yes, it's Tim Timberg and Geneva Grande-  
27 McNeill for Canada. We have 45 minutes estimated  
28 for our questions.

29  
30 CROSS-EXAMINATION BY MR. TIMBERG:  
31

32 Q I'd like to ask Mr. Schubert, if you could  
33 describe DFO's knowledge on the status of the  
34 Cultus Lake sockeye, starting in the late 1990s;  
35 what was DFO aware of with respect to the Cultus  
36 Lake?

37 MR. SCHUBERT: Well, there had been annual estimates of  
38 spawning escapement made throughout that period,  
39 but the small stocks like Cultus tend to get  
40 rolled up into the larger process when accounting  
41 for Fraser sockeye and there wasn't a lot of  
42 attention paid to the sharply declining status of  
43 the population.

44 In the late 1990s, largely as a result of a  
45 small group of locally-based DFO people, we became  
46 aware that it was approaching a really critical  
47 point, especially with a very high pre-spawn

1 mortality in 1999 and 2000. So entirely on an *ad*  
2 *hoc* basis that group got together and felt that it  
3 would be appropriate to begin enhancing these  
4 populations taking some fish into the hatchery and  
5 determining whether or not they could be  
6 successfully enhanced in that environment. There  
7 hadn't been a lot of experience with hatchery  
8 culture of sockeye at that point.

9 Also at about that time, the enumeration  
10 fence on Sweltzer Creek was in quite a state of  
11 disrepair, it had been declining for the last  
12 couple decades, and in a joint effort between the  
13 Sto:lo Nation and DFO people jointly funding with  
14 our DFO engineers doing the design and  
15 construction work, that enumeration fence was  
16 completed. So starting in the 2000s there was a  
17 growing awareness that we had a major conservation  
18 issue and some actions were being taken to address  
19 that.

20 Q All right. And just for clarity, when was the  
21 first study done of Cultus Lake? I think you are  
22 aware of that, Dr. Bradford?

23 DR. BRADFORD: The very first work was done in the  
24 early 1920s.

25 Q Okay. Thank you. And if we could turn, Mr. Lunn,  
26 then, to Tab 4 of Canada's binder. And Mr.  
27 Schubert, could you identify what this document  
28 is? It's called the Cultus Lake Sockeye Recovery  
29 Planning Process, July 24th, 2002.

30 MR. SCHUBERT: Just taking back a step, in late 2001,  
31 an area-based process was implemented following a  
32 multi-stakeholder meeting that was held at Cultus  
33 Lake and jointly hosted by Soowahlie First Nation  
34 and DFO. That group recommended, I guess, a  
35 planning process be implemented. We had a meeting  
36 shortly after that, in-house, and established  
37 these three work groups, which were to produce  
38 work group reports in the three areas that were  
39 required; enhancement habitat, and this one, which  
40 was the report of the Stock Assessment and  
41 Fisheries Management Work Group, so this group was  
42 conducted between January and July, when it was  
43 completed.

44 MR. TIMBERG: All right, thank you. If this could be  
45 marked as the next exhibit.

46 THE REGISTRAR: Exhibit 923.

47

1 EXHIBIT 923: Cultus Lake Sockeye Recovery  
2 Planning Process, July 24th, 2002, Report of  
3 the Stock Assessment and Fisheries Management  
4 Work Group  
5

6 MR. TIMBERG: And then if we could go, Mr. Lunn, to Tab  
7 3 of the Commission's list of documents.

8 Q And Mr. Schubert, could you identify this  
9 document, please?

10 MR. SCHUBERT: Yes, this was a status assessment of  
11 Cultus Lake sockeye salmon that was prepared for  
12 the CSAS process.

13 Q Okay. And so why was this document prepared?

14 A Well, after we completed the work group report we  
15 realized that it's a stand alone report, I mean,  
16 it's not citable, what are we going to do with it,  
17 so we felt that it deserved citable status, so we  
18 recommended that a CSAB review of the status of  
19 Cultus sockeye be implemented, and that allowed us  
20 to use the work group report as the basis for that  
21 document, but also incorporate other aspects of  
22 the habitat and the enhancement work group reports  
23 into that work.

24 Q All right. And if we could turn to page 31 of the  
25 document. And what can we learn from the  
26 conclusions, at page 31, and then page 34 is the  
27 recommendations, at this point in time?

28 MR. SCHUBERT: The basic conclusions were that this is  
29 a genetically unique population and is probably a  
30 designatable unit under COSEWIC. For population  
31 status it had experienced a collapse, and the  
32 three main reasons for that collapse were a very  
33 long period of overexploitation in the fisheries,  
34 followed by a number of years of variable marine  
35 survivals in the early to mid 1990s, and that was  
36 followed by the beginning of 1995, the early  
37 migration of the late run, which affected Cultus  
38 as well and resulted in very high pre-spawn  
39 mortalities.

40 Q All right. If we could turn to page 34. So this  
41 is, again, we're still in 2002. What were the  
42 recommendations at that time?

43 MR. SCHUBERT: I think the overarching recommendation  
44 was that we needed a process and a framework to  
45 address this problem. We recommended the risk  
46 assessment framework that would be developed by an  
47 intersectoral working group that would evaluate

1 risk of fisheries and recovery options in terms of  
2 a fairly broad spectrum of values. In the interim  
3 period, we recommended that the fisheries be  
4 managed on a precautionary basis that would not  
5 further endanger the population, and that  
6 ultimately a full-scale recovery plan be developed  
7 for the population.

8 We also had a large number of recommendations  
9 regarding the types of assessment information we  
10 needed into the future.

11 Q All right.

12 MR. SCHUBERT: Either the maintenance of existing  
13 projects, as well as the conduct of new research.

14 Q Okay. And what happened after the result of this  
15 CSAS paper?

16 MR. SCHUBERT: That was quickly followed by the COSEWIC  
17 decision on the emergency listing. But in terms  
18 of process within DFO and implementation of this  
19 paper, I don't recall a lot going on.

20 Q Okay. But the point being that this CSAS paper  
21 was done prior to the COSEWIC paper?

22 A That's right. The work group report, as I  
23 mentioned earlier, had been used by Chief Kelly  
24 and Ken Wilson in their petition for emergency  
25 listing.

26 A I see. Okay. And that was all work that DFO had  
27 been doing?

28 MR. SCHUBERT: And for myself, after this, my focus was  
29 on preparing the COSEWIC paper, itself.

30 MR. TIMBERG: All right. So following this, just for  
31 the chronology, Mr. Lunn, if we could have Exhibit  
32 913. And if that could be marked as an exhibit  
33 before we move on?

34 THE REGISTRAR: Exhibit 924.

35

36 EXHIBIT 924: CSAS Research Document  
37 2002/064, Status of Cultus Lake Sockeye  
38 (*Oncorhynchus nerka*), by N.D. Schubert and  
39 others  
40

41 MR. TIMBERG:

42 Q And so earlier this afternoon Ms. Tessaro took you  
43 through this document, and this is the COSEWIC  
44 paper that you were asked to write in 2003?

45 MR. SCHUBERT: That's correct.

46 Q Okay. Thank you. So I won't go through this  
47 process, we've talked about it, but I would like

1 to ask you: What did DFO do with the release of  
2 the COSEWIC paper? So once this one is completed,  
3 what then is the next step that happens?

4 MR. SCHUBERT: Shortly after that the Salmon Recovery  
5 Steering Committee was formed and the entire  
6 COSEWIC -- or the pre **SARA** process that was  
7 initiated by the Department.

8 Q Okay. And we've talked about that. Mr. Lunn, if  
9 we could go to Tab 2 of Canada's documents. And  
10 this is the National Recovery Strategy for Sockeye  
11 Salmon Cultus Population in B.C., dated Draft  
12 September 7th, 2004. Could you explain what this  
13 document is?

14 MR. SCHUBERT: This is the recovery strategy document  
15 that the team was charged with writing. September  
16 7th draft, that would be a reasonably preliminary  
17 draft. It was probably the draft that was used  
18 for the public consultation session that occurred  
19 that summer that included our draft objectives and  
20 goals.

21 Q All right. Perhaps you can just tell us, briefly,  
22 about the consultation session?

23 MR. SCHUBERT: Part of the Steering Committee's terms  
24 of reference were to have feedback from  
25 stakeholders partway through the process. I don't  
26 recall the date, but I believe it was sometime  
27 during the summer. So all three teams were,  
28 again, assembled. We provided presentations on  
29 our conclusions and recommendations to date,  
30 including the draft goal and recovery objectives,  
31 and asked for feedback from the public and from  
32 various interest groups.

33 Q All right. Earlier, you talked about the recovery  
34 team and the makeup of it being multi-stakeholder  
35 and the fact that it was consensus-based. I would  
36 like to just ask you a more open-ended question as  
37 to what do you think it takes to have an effective  
38 recovery team?

39 MR. SHUBERT: I guess I could respond on a number of  
40 levels. One of the aspects of Cultus that made it  
41 easier for us was the very discrete nature of the  
42 population. It wasn't multiple seas we're dealing  
43 with, but a single population that occupied a  
44 fairly restricted geographic distribution in  
45 Cultus Lake and environments. And we also have  
46 the longest time series and most intensive set of  
47 assessment data for any population anywhere. So



1 that certainly facilitated our deliberations.

2 But in terms of an effective team, I think  
3 there's a number of process issues that are  
4 critical. Having a detailed and fair terms of  
5 reference was key, and also a code of conduct, and  
6 having a chair or facilitator that was thoroughly  
7 aware of those two items and enforced them during  
8 meetings, I think, helped the process.

9 The consensus nature of the teams, I think,  
10 is an important thing as well in that with  
11 consensus it requires team numbers to compromise  
12 in order to come up with recommendations and  
13 objectives that everyone can buy into, and that  
14 process, as well as, I think, fairly frequent or  
15 regularized meetings helped establish a level of  
16 trust amongst team members that was very important  
17 to us in the functioning process.

18 Another thing that I think I learned from the  
19 process is that you can have interest-based  
20 representation, provided there is a firm  
21 commitment to adhering to terms of references and  
22 codes of conduct. Another important element of  
23 successful recovery planning, I think, is to have  
24 some sort of budget available to the team, not  
25 only to cover, you know, things associated with  
26 the meetings, but the team will identify,  
27 inevitably, data gaps which impair its ability to  
28 identify threats or other aspects of recovery. It  
29 will recommend recovery actions that need to be in  
30 place to facilitate recovery, and if these  
31 recommendations are made into a void with no hope  
32 of ever addressing them in terms of concrete data  
33 collection or actions, then I think it takes a lot  
34 of the enthusiasm out of the process and you're  
35 probably going to have a worse process with less  
36 buy-in by individuals.

37 And finally, I think the team reporting  
38 structure is important. My experience with Cultus  
39 is that it's probably inappropriate to have a  
40 recovery or response team reporting through the  
41 fisheries management structure in DFO sectors.  
42 There is always the potential for perception of  
43 conflict of interest when that occurs, whether the  
44 perception is real or not. And I know when the  
45 recovery team was disbanded in early 2005, some  
46 team members felt that this action was a direct  
47 result of a criticism of a socioeconomic analysis,

1           and the team had become an irritant and needed to  
2           be gotten rid of.

3           Q     So what's your recommendation on reporting as to  
4           where a recovery team should be reporting?

5           MR. SCHUBERT:  When I was asked to chair the  
6           conservation team several years later, I agreed,  
7           provisionally, upon it reporting either through  
8           policy or through science, but not through a  
9           fisheries management.

10          Q     And what's the present reporting structure of the  
11          conservation team?

12          MR. SCHUBERT:  We report through science.  My  
13          supervisor is Mark Saunders, Director of SAFE.

14          MR. TIMBERG:  All right.  And Mark Saunders will be  
15          appearing later this week.  Thank you.  And if  
16          this could be marked as the next exhibit, please,  
17          the National Recovery Strategy?

18          THE REGISTRAR:  Exhibit 925.

19

20                   EXHIBIT 925:  National Recovery Strategy for  
21                   the Sockeye Salmon *Oncorhynchus nerka*,  
22                   (Cultus Population) in British Columbia,  
23                   Draft - September 7, 2004  
24

25

26          MR. TIMBERG:  And then, Mr. Lunn, if we could then have  
27          Exhibit 914, please.  And I'm not sure, either of  
28          you may answer this question:

29          Q     Was the conservation strategy for Cultus Lake  
30          sockeye peer-reviewed ever?

31          MR. SCHUBERT:  The conservation strategy, no; the  
32          recovery strategy, which essentially morphed into  
33          the conservation strategy, was reviewed to the  
34          extent that the goals and objectives were reviewed  
35          by Mike Bradford and Chris Wood in the CSAB  
36          document.

37          MR. TIMBERG:  Okay.  So if we could then have, Mr.  
38          Lunn, exhibit (sic) 5 from the Commission's  
39          binder?

40          Q     And Dr. Bradford, if you could explain to us what  
41          this document's about?

42          DR. BRADFORD:  Yes, in the middle of 2004, if I recall,  
43          we were -- Chris Wood and I were asked if we could  
44          provide a detailed review of the scientific basis  
45          for the recovery objectives for the three recovery  
46          teams that were in the midst of their work during  
47          that year, and that was -- we provide a lot more  
48          technical detail on how those objectives were

1 arrived at, within this document, that was  
2 inappropriate for the recovery plans themselves.  
3 Q And just while we're here, I'm just wondering if  
4 we should look at the recovery objectives at page  
5 46 of 52. Page 42 of the document, itself. There  
6 we are. And so these are the goals and the  
7 objectives that were reviewed?

8 DR. BRADFORD: That's right.

9 Q All right. And we've talked about those earlier  
10 today, so I won't go over them again. But  
11 perhaps, Dr. Bradford, you can just comment on  
12 what is the benefit of a CSAS review? Why does  
13 DFO do this?

14 DR. BRADFORD: Well, it's a peer-review process that  
15 which we bring in both reviewers, external, if  
16 appropriate, or internal, if available, to review  
17 each paper in detail, and then there's a  
18 subcommittee, a large group of scientific experts,  
19 mainly departmental staff, but also people from  
20 outside that can contribute, to look at the  
21 scientific basis of these papers.

22 Q And what's the benefit of that?

23 DR. BRADFORD: Well, I think it assures that the best  
24 available science is being brought to bear on  
25 these questions were appropriate.

26 MR. TIMBERG: All right. Thank you. If we could then  
27 have, from Canada's list of documents, tab -- we  
28 should get this marked. If we could have this  
29 marked as the next exhibit, please?

30 THE REGISTRAR: Exhibit 926.

31  
32 EXHIBIT 926: CSAS Research Document  
33 2004/128, A review of the biological  
34 principles and methods involved in setting  
35 minimum population sizes and recovery  
36 objectives for the September 2004 drafts of  
37 the Cultus and Sakinaw lake sockeye salmon  
38 and Interior Fraser coho salmon recovery  
39 plans, by Mike Bradford and Chris Wood  
40

41 MR. TIMBERG: Thank you. And if we could then move to  
42 Canada's list of documents, Tab 13.

43 Q So Mr. Schubert, when did the recovery activities  
44 start receiving funds? I'll start off with that  
45 question and then I'll turn to this document.

46 MR. SCHUBERT: In terms of outside funding from  
47 SARACEP, that began in 2003/2004, and part of

1           those funds were to support the functioning of the  
2           recovery team. Others were used to contract  
3           various reports. We had a traditional ecological  
4           knowledge report, a habitat report, and one or two  
5           others that I can't think of at the moment.

6           Q     All right. And if you could then identify this  
7           document that we have in front of us, titled,  
8           Cultus Recovery Funding Summary?

9           MR. SCHUBERT: Yeah, I put that together, I believe, in  
10          2009, to document our SARACEP sources of funding  
11          when the decision was made to cut that source off.

12          Q     All right.

13          MR. SCHUBERT: And I updated it fairly recently to the  
14          2010.

15          Q     And so what does this tell us about funding? It  
16          tells us that the present funding is how much  
17          exactly here? That's 304 -- can you just explain  
18          the numbers for us here?

19          MR. SCHUBERT: The funding has been reasonably stable  
20          over that period. The biggest hit that we had was  
21          the loss of the freshwater survival funding for  
22          the various sort of habitat-oriented projects,  
23          which occurred in 2009. The smolt enumeration  
24          fence was a new fence that was required  
25          specifically to address the conservation issue and  
26          was funded entirely during that period through  
27          SARACEP or its replacement funding. Similarly,  
28          enhancement was funded through that source for the  
29          same for the same reason.

30          The adult enumeration fence initially was a  
31          supplement to existing stock assessment funding.  
32          In 2009, I think, that funding was jeopardized and  
33          was added to the overall cost of that project.  
34          And freshwater funding has been somewhat variable,  
35          because different suites of projects have been  
36          conducted over time.

37          MR. TIMBERG: All right. If this could be marked as  
38          the next exhibit.

39          THE REGISTRAR: 927.

40

41                         EXHIBIT 927: Cultus Recovery Funding Summary

42

43          MR. TIMBERG:

44          Q     Mr. Schubert, were you consulted about the cuts to  
45          the budget?

46          MR. SCHUBERT: Yes, Karen Calla approached me as a  
47          chair of the conservation team - I'm trying to get

1           that terminology correct - and asked for an impact  
2           statement, if we lost funding.

3       Q     All right. And what is the impact of the budget  
4           cuts on the program.

5       MR. SCHUBERT: The real impact that occurred because  
6           replacement funding was available, was fairly  
7           limited. We secured funding for the continued  
8           operation of our two most important assessment  
9           projects, as well as for the enhancement and  
10          captive breeding project.

11       Q     That's external funding?

12       MR. SCHUBERT: That became DFO core funding --

13       Q     I see.

14       MR. SCHUBERT: -- after 2009.

15       Q     Okay. All right, so then my question is: Do you  
16           have any external funding?

17       MR. SCHUBERT: Mike, perhaps you can comment on the  
18           pikeminnow?

19       DR. BRADFORD: Yes, I mentioned earlier that the  
20           pikeminnow removal program was funded by this --  
21           it's not indicted on this table, but funded by  
22           this other endowment fund for, I believe, three  
23           years, at least, and then more recently by the  
24           CSAB in the last couple of years.

25       Q     All right.

26       MR. SCHUBERT: And there are other projects that  
27           occurred over this time period that are not  
28           included on this list that were funded from other  
29           pots of money. I believe the Soowahlie First  
30           Nation had at least two or three contracts for  
31           habitat improvement for assessment of sport  
32           fisheries and that kind of thing.

33       Q     All right. And what about the Cultus Lake  
34           Stewardship Society, are they involved?

35       MR. SCHUBERT: They are a grassroots group that have  
36           been involved for the last, probably, four or five  
37           years, most recently in a project proposal jointly  
38           prepared by Dan Selbie, at the Cultus Lab, and the  
39           class group received funding, and so there will be  
40           work done there this coming year.

41       Q     And what's that work about, just briefly?

42       MR. SCHUBERT: You probably know better than I.

43       DR. BRADFORD: It's a study to look at the sources of  
44           nutrients coming into Cultus Lake, and  
45           particularly aimed at the potential role of some  
46           of the recreational developments, the agricultural  
47           lands, golf courses, and that sort of thing.

1 Q All right.

2 MR. SCHUBERT: And there's also other A-based work that  
3 we've done through Science in terms of the  
4 limnological and hydroacoustics assessments of the  
5 lake that aren't captured here.

6 MR. WALLACE: Okay. Thank you. And if we could have,  
7 Mr. Lunn, from the Commission's binder, Tab 10(c).

8 Q And Mr. Schubert, could you identify this  
9 document, please?

10 MR. SCHUBERT: Yeah, this was a document received in  
11 April of 2005, from the Regional Director of  
12 Fisheries Management's administrator, sent to the  
13 three area directors, announcing the future of the  
14 Cultus Sakinaw and Interior coho processes.

15 Q And this is when the recovery team stopped their  
16 work?

17 MR. SCHUBERT: That's right. It announces a number of  
18 things: a commitment to funding at the level of  
19 the previous years; that the recovery strategy  
20 would inform the IFMP process that the two areas  
21 would appoint coordinators and develop project  
22 timelines and long-term objectives for the  
23 process.

24 MR. TIMBERG: All right, thank you. If this could be  
25 marked as the next exhibit.

26 THE REGISTRAR: Did you wish to relate that to Exhibit  
27 919? Otherwise, it will be marked as 928. Is it  
28 related to 919?

29 MR. TIMBERG: I don't believe so.

30 THE REGISTRAR: Okay. So that will be marked as 928.  
31 That's the CAN number that ends in 643.

32

33 EXHIBIT 928: Note outlining a process to  
34 address 1) Cultus and Sakinaw sockeye  
35 following the decision not to list these two  
36 stocks under **SARA**, and 2) Interior Fraser  
37 coho during the period of the listing  
38 decision-making process  
39

40 MR. TIMBERG: Then if we could, Mr. Lunn, move to  
41 Canada's list of documents, Tab 3.

42 Q And Dr. Bradford, could you describe what this  
43 document is?

44 DR. BRADFORD: Science Advisory Report is essentially a  
45 succinct summary of a larger working paper, which  
46 was the 2010 assessment document we discussed  
47 earlier.

1 Q All right. For the assistance of the record,  
2 that's Exhibit 804 that we -- which is the large  
3 CSAS document, and then this is a brief summary, I  
4 guess. Is that what this is?

5 DR. BRADFORD: That's correct.

6 Q And if we could just turn to the -- focus on the  
7 summary on the first page here, and I'm wondering  
8 if, Dr. Bradford, you could just provide comment  
9 on the statement, the second bullet:

10  
11 The decline appears to have been halted but  
12 the population has not met any of the  
13 recovery objectives...nor a lower benchmark  
14 proposed under the Wild Salmon Policy.

15  
16 Can you describe what the status of the population  
17 is presently?

18 DR. BRADFORD: Sure. That statement was made in the  
19 meeting in May 2010, and at that point the  
20 statistics from the number of spawners coming back  
21 to the lake that we discussed earlier had not met  
22 either of objectives 1 or 2 for the recovery -- of  
23 the recovery plan, conservation plan, but the  
24 decline appeared to have stopped, and I should say  
25 with the augmented or revised figures that we  
26 looked at earlier, or came up, that conclusion is  
27 not correct now in the sense that we had a very  
28 large return in 2010, and so with recalculating  
29 the statistics the population is very close to  
30 objectives 1 and 2, I believe, now.

31 Q Okay. That's because of the large return last  
32 year?

33 DR. BRADFORD: Yes.

34 Q Okay. And can you comment on poor survival after  
35 smolts leave Cultus Lake? So can you just  
36 describe for us the success rate in the -- and  
37 actually, I'm going to take you to that document,  
38 it occurs to me. If we could turn to Exhibit  
39 804A. And Dr. Bradford, this is the update that  
40 you've provided to your 2010 paper?

41 DR. BRADFORD: That's correct.

42 Q And can you - I think it's a couple of pages - can  
43 you perhaps discuss freshwater survival in Cultus  
44 Lake and ocean survival with the Cultus Lake  
45 population using these documents? I think we have  
46 to go on a couple of pages, Mr. Lunn.

47 DR. BRADFORD: Yes, Figure 3 in the document - there we

1 go. So as I mentioned, we have studies dating  
2 back to the 1920s for this population, and this  
3 figure is the number of smolts leaving the lake  
4 divided by the number of spawners that went in two  
5 years earlier. So it's an index of the  
6 productivity of the sockeye population in the  
7 lake, and you can see, like all salmon statistics,  
8 it's highly variable, but for the most part  
9 there's no real trend. And I bring this up  
10 because it's -- we have identified many habitat  
11 concerns within Cultus Lake, due to all the human  
12 development around the lake, but the salmon data,  
13 themselves, tend not to show an overall declining  
14 trend, which is what you would expect if the  
15 habitat conditions within the lake were  
16 deteriorating over the past, well, nearly 100  
17 years, as we have this data.

18 So in freshwater we don't have evidence for a  
19 declining trend in survival or conditions that  
20 have affected the salmon population. So if we  
21 were to go to, I believe, Figure 7, the last page  
22 in this document --

23 Q And just before you move off this diagram, I  
24 think, as I understand it, you can just sort of  
25 draw a horizontal line across those high returns  
26 and low returns and it shows that it's relatively  
27 stable?

28 DR. BRADFORD: Yeah, and I think the -- I should --  
29 like we could direct -- have a look at 1999 and  
30 2000, two very low years, and those are years when  
31 we had a large loss of adults in the lake, and  
32 it's probably unrelated to habitat conditions in  
33 the lake. So there are exceptional years, but the  
34 average has been maintained over time.

35 Q Okay, thank you. And then for marine survival of  
36 Cultus Lake, I think we go to the next page?

37 DR. BRADFORD: Figure 7, which you're at, now. And so  
38 this is, as I mentioned earlier, the smolt to  
39 recruit survival, which is the proportion of  
40 smolts when leaving the lake that survive and make  
41 it back to coastal waters and are potentially  
42 available for a fishery or to return to the lake,  
43 itself. And the heavy black line is the wild  
44 Cultus Lake data, and they show that declining  
45 trend through the 2000s to levels of one or one  
46 and a half percent in 2003/4/5 that are really --  
47 make it difficult for a population to survive or



1 to grow. But you can also see that in the 2006  
2 brood year, which corresponds to the 2010 returns.  
3 We had a very large increase in the survival of  
4 smolts once they left the lake, and that is the  
5 major contributor to the very large returns we had  
6 in 2010. So a lot of the population dynamics of  
7 salmon is driven by this ocean stage.

8 And then I defer comparison the red -- pinky-  
9 red line is the comparable data for the Chilko  
10 population, and you can see it has a somewhat  
11 parallel trend of decline through the 2000s, but a  
12 really sharp increase this last -- for this last  
13 year's return.

14 Q Okay. Thank you. If we could then go to Exhibit  
15 804. And if we could go to page 22. So just for  
16 clarity, we're now on the primary paper that you  
17 were just providing the updated information on.  
18 And these are the recommendations that you came  
19 to. And I think you've gone over most of them  
20 earlier with Ms. Tessaro, but I'm wondering, a  
21 sort of general question is: Are the recovery  
22 strategies working? And perhaps, would other  
23 steps help?

24 DR. BRADFORD: Yes, there are aspects of the program  
25 that are working. It appears, from a statistical  
26 perspective, if you like, that the predator  
27 control program is causing an increase in the  
28 survival of fish in the lake. I think there's a  
29 great deal of uncertainty about the captive  
30 breeding program and the hatchery releases. We  
31 need to be able to determine that these returning  
32 hatchery fish can actually reproduce successfully  
33 in the wild, and there's a growing body of  
34 evidence elsewhere that hatchery rearing of fish  
35 does tend to decrease their survival in the wild,  
36 their fitness in the wild. So that's something I  
37 think that's important to follow, to track.

38 And, of course, the restrictions on harvest  
39 have enabled more spawners to come back than would  
40 have otherwise if harvest rates had been higher.

41 Q All right. And if we could turn to Tab 11 of  
42 Canada's documents. And what is this document,  
43 Dr. Bradford?

44 DR. BRADFORD: This is an illustration -- this is an  
45 example paper - we might want to roll to the next  
46 page - just to give you a sense of the title and  
47 the abstract is in the bold text there. This is

1           one of a number of studies coming out in the last  
2           couple of years that show that a captive breeding  
3           program does effect the genetics and reproductive  
4           fitness of salmon, and so that when we do have a  
5           lot of captive breeding fish interbreeding with  
6           wild fish, it can bring down the overall  
7           reproductive success of a salmon population.

8           So it does suggest to take a fair degree of  
9           caution when relying on a captive breeding program  
10          to restore an otherwise depleted salmon stock.

11 MR. TIMBERG: All right. If this could be marked as  
12          the next exhibit.

13 THE REGISTRAR: Exhibit 929.

14

15                   EXHIBIT 929: *Science Genetic Effects of*  
16                   Captive Breeding Cause a Rapid, Cumulative  
17                   Fitness Decline in the Wild, by Hitoshi  
18                   Araki, et al

19

20 MR. TIMBERG: And I note that another previous document  
21          I had failed to get marked as an exhibit, so if we  
22          could call up Tab 3 from Canada's list of  
23          documents, and if we could just go to the front of  
24          the page, and if this could be marked as the next  
25          exhibit.

26 THE REGISTRAR: That will be 930.

27

28                   EXHIBIT 930: CSAS Science Advisory Report  
29                   2010/056, Assessment of Cultus Lake Sockeye  
30                   Salmon in British Columbia in 2009 and  
31                   Evaluation of Recent Recovery Activities

32

33 MR. TIMBERG: Thank you. And if we could then move to  
34          Tab 7 of Canada's list of documents.

35 Q          And if, Dr. Bradford, you could explain what this  
36          document tells us about *Parvicapsula*, just  
37          briefly? I'm just seeking to have it entered.

38 DR. BRADFORD: Yes, this is a newer study, and shows  
39          that there is still concern over *Parvicapsula* in  
40          sockeye salmon, and it appears to be a source of  
41          mortality for adults returning to the lake.

42 Q          And you're one of the -- you're the primary  
43          author?

44 DR. BRADFORD: That's right.

45 Q          And perhaps you could just tell us just maybe one  
46          more sentence as to why we're concerned about  
47          *Parvicapsula*?

1 DR. BRADFORD: Okay. Well, we have -- in the interests  
2 of being brief, but not that -- we have, of  
3 course, talked about the change in migration  
4 timing of the late runs, and so many of the late  
5 run populations, including Cultus, enter  
6 freshwater much earlier than they used to, prior  
7 to the late 1990s. They all spawn at the same  
8 time. And so what the consequence of this change  
9 in migration timing is they spend longer in  
10 freshwater than they would have 15 or 20 years  
11 ago, and salmon are in the process of dying in  
12 freshwater, essentially, and become vulnerable to  
13 disease the longer they spending freshwater.

14 And so this is a disease that they pick up in  
15 the Fraser River, in the Lower Fraser River. All  
16 salmon pick it up. Sockeye salmon migrating  
17 upstream. But the lengthy time between the time  
18 they enter the river and the time they spawn means  
19 that a proportion of the returning salmon stocks  
20 succumb from this disease, it appears.

21 MR. TIMBERG: All right.

22 THE COMMISSIONER: Do you want to mark it, Mr. Timberg?

23 MR. TIMBERG: Yes, I do. If that could be marked as  
24 the next exhibit.

25 THE REGISTRAR: Exhibit 931.

26  
27 EXHIBIT 931: *Parvicapsula minibicornis*  
28 infections in gill and kidney and the  
29 premature mortality of adult sockeye salmon  
30 (*Oncorhynchus nerka*) from Cultus Lake,  
31 British Columbia, by Michael J. Bradford and  
32 others  
33

34 MR. TIMBERG: And then if we could have Tab 9 from  
35 Canada's list of documents.

36 Q And Dr. Bradford, if you could comment on what  
37 this document tells us?

38 DR. BRADFORD: I mentioned --

39 MR. TIMBERG: Has that been entered already?

40 DR. BRADFORD: Yes.

41 MR. TIMBERG: Sorry, that's been dealt with, so I won't  
42 go there.

43 THE COMMISSIONER: What exhibit is this?

44 MR. LUNN: 915.

45 THE COMMISSIONER: 915, thank you.

46 MR. TIMBERG: So I have about seven minutes.

47 MS. TESSARO: Just to be fair to Mr. Timberg, while

- 1 this was marked, I'm not sure that the witness had  
2 the opportunity to comment on it previously. It  
3 was marked, but I don't believe I asked you very  
4 many questions, if any, about it. Just so as to  
5 not preclude you from asking any, if you had some.
- 6 MR. TIMBERG:
- 7 Q Well, I will ask you one question, Dr. Bradford.  
8 What does this document -- how does it assist us  
9 to understand a contaminant exposure risk to  
10 developing Cultus Lake sockeye embryos?
- 11 DR. BRADFORD: Well, as I mentioned earlier, it was a  
12 study of contaminant levels in water and sediment  
13 in Cultus Lake, partly the concern over  
14 recreational activities and all the humans that  
15 use the lake, especially in the summer. It didn't  
16 show any elevated levels of some of the organic  
17 compounds that were analyzed, though there was the  
18 suggestion of increased metals in the sub-strait.
- 19 Q Right.
- 20 DR. BRADFORD: And it was suggested that an  
21 experimental study that would -- in which one  
22 would incubate salmon eggs in the sediments to  
23 assess the toxicity of those sediments would be a  
24 useful thing, but unfortunately we were unable to  
25 obtain funding for that study.
- 26 Q Okay. Thank you. I'm wondering, for both of the  
27 panellists, what have you learned from the  
28 recovery strategy on Cultus Lake sockeye that can  
29 be applied to other conservation units of concern  
30 as WSP has implemented? And perhaps I'll ask you,  
31 Mr. Schubert, first, and then I'll ask Dr.  
32 Bradford.
- 33 MR. SCHUBERT: I think in my previous comments I more  
34 or less summarized my views, certainly in terms of  
35 the process, the terms of reference, code of  
36 conduct, the conduct of team meetings, the  
37 consensus-based decision-making, the need for  
38 budgets.
- 39 Q All right. So you've answered that.
- 40 MR. SCHUBERT: I think so.
- 41 Q Do you have anything further to add to that, Dr.  
42 Bradford?
- 43 DR. BRADFORD: Well, I think the other thing, perhaps,  
44 is the linkage between an individual team or  
45 response team and a larger planning process, which  
46 I think, at the moment, is not great as far as the  
47 Cultus situation goes, and when it comes to

1 setting timelines for recovery and protocols for  
2 achieving recovery in the longer term, I think  
3 there's some room for improvement in the current  
4 arrangements.

5 Q Okay. And can you comment on whether community  
6 involvement is important in a recovery program?  
7 Mr. Schubert?

8 MR. SCHUBERT: I think it's a central component, and we  
9 certainly made efforts to engage the local  
10 community, in our recovery efforts. Over the  
11 period of -- or activity since 2002, we've had  
12 four community meetings that were co-sponsored  
13 with Soowahlie First Nation, but it allowed two-  
14 way communication with most of the interest groups  
15 that were involved in Cultus.

16 We have a community advisory who's stationed  
17 at the Cultus Lake lab, who has been intimately  
18 involved in engaging the community and producing  
19 documents that promote stewardship in householder  
20 activities, in visitor activities around the lake,  
21 in promoting the class group, which I think  
22 evolved out of a local high school and has become  
23 much larger since then.

24 Q All right. And can DFO implement a recovery  
25 program by itself?

26 MR. SCHUBERT: I'm sure anything's possible, but my  
27 view is that it needs to be embracing multi-  
28 stakeholders and looking at things like  
29 socioeconomic analysis to be effective in the long  
30 term.

31 Q All right. And Dr. Bradford, do you have anything  
32 to add on that question?

33 DR. BRADFORD: No addition. I mean, the class example,  
34 the study on nutrients, is a situation where they  
35 brought in additional resources, expertise, and  
36 there's more activity than we would have been able  
37 to manage on our own.

38 Q Sorry, what example is that?

39 DR. BRADFORD: The class group has initiated this  
40 nutrient study at Cultus Lake and brought in  
41 external funding to do that work, and, you know,  
42 it's an example of the kind of leveraging you get  
43 when you have a large number of stakeholders  
44 involved.

45 MR. TIMBERG: Right. Okay, thank you. Those are all  
46 my questions.

47 THE COMMISSIONER: Thank you, Mr. Timberg.

1 MS. TESSARO: Mr. Commissioner, that brings us to four  
2 o'clock and we will be back tomorrow with the same  
3 witnesses.

4 THE COMMISSIONER: Thank you very much.

5 MS. TESSARO: Thank you.

6 THE REGISTRAR: The hearing is now adjourned until ten  
7 o'clock tomorrow morning.

8  
9 (PROCEEDINGS ADJOURNED TO WEDNESDAY, JUNE 1,  
10 2011, AT 10:00 A.M.)  
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19 I HEREBY CERTIFY the foregoing to be a  
20 true and accurate transcript of the  
21 evidence recorded on a sound recording  
22 apparatus, transcribed to the best of my  
23 skill and ability, and in accordance  
24 with applicable standards.  
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29 Diane Rochfort  
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32 true and accurate transcript of the  
33 evidence recorded on a sound recording  
34 apparatus, transcribed to the best of my  
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Karen Acaster

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

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Karen Hefferland