

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: Tenue à :

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

Wednesday, December 1, 2010

le mercredi 1 décembre 2010

Errata for the Transcript of Hearings on December 1, 2010

Page	Line	Error	Correction
ii		Lara Tessaro is missing her title	Junior Commission Counsel
iv		James Walkus is not a participant	remove from record
iv		Musgagmagw Tsawataineuk Tribal Counsel	Musgamagw Tsawataineuk Tribal Council
83	27, 32	Pearse	Pearce

APPEARANCES / COMPARUTIONS

Brian J. Wallace, Q.C.

Lara Tessaro

Senior Commission Counsel

Tim Timberg

Geneva Grande-McNeill

Government of Canada

Boris Tyzuk, Q.C.

D. Clifton Prowse, Q.C.

Province of British Columbia

No appearance Pacific Salmon Commission

No appearance B.C. Public Service Alliance of Canada

Union of Environment Workers B.C.

("BCPSAC")

Charlene Hiller Rio Tinto Alcan Inc ("RTAI").

Shane Hopkins-Utter B.C. Salmon Farmers Association

("B.C.SFA")

No appearance Seafood Producers Association of B.C.

("SPAB.C.")

Lisa Glowacki Aquaculture Coalition: Alexandra

Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society

("AQUA")

Tim Leadem, Q.C. Conservation Coalition: Coastal Alliance

for Aquaculture Reform Fraser Riverkeeper Society; Georgia Strait Alliance; Raincoast Conservation Foundation; Watershed Watch Salmon Society; Mr. Otto Langer; David Suzuki

Foundation ("CONSERV")

Don Rosenbloom Area D Salmon Gillnet Association; Area

B Harvest Committee (Seine) ("GILLFSC")

APPEARANCES / COMPARUTIONS, cont'd.

David Butcher, Q.C. Southern Area E Gillnetters Assn.

B.C. Fisheries Survival Coalition ("SGAHC")

Christopher Harvey, Q.C.

Chris Watson

West Coast Trollers Area G Association; United Fishermen and Allied Workers'

Union ("TWCTUFA")

Keith Lowes B.C. Wildlife Federation; B.C. Federation

of Drift Fishers ("WFFDF")

No appearance Maa-nulth Treaty Society; Tsawwassen

First Nation; Musqueam First Nation

("MTM")

No appearance Western Central Coast Salish First

Nations:

Cowichan Tribes and Chemainus First

Nation

Hwlitsum First Nation and Penelakut Tribe Te'mexw Treaty Association ("WCCSFN")

Brenda Gaertner

Leah Pence

First Nations Coalition: First Nations
Fisheries Council; Aboriginal Caucus of
the Fraser River; Aboriginal Fisheries
Secretariat; Fraser Valley Aboriginal
Fisheries Society; Northern Shuswap Tribal

Council: Chehalis Indian Band:

Secwepemc Fisheries Commission of the Shuswap Nation Tribal Council; Upper Fraser Fisheries Conservation Alliance; Other Douglas Treaty First Nations who applied together (the Snuneymuxw, Tsartlip and Tsawout); Adams Lake Indian Band; Carrier Sekani Tribal

Council; Council of Haida Nation ("FNC")

APPEARANCES / COMPARUTIONS, cont'd.

No appearance Métis Nation British Columbia ("MNB.C.")

No appearance Sto:lo Tribal Council

Cheam Indian Band ("STCCIB")

No appearance Laich-kwil-tach Treaty Society

James Walkus and Chief Harold Sewid Aboriginal Aquaculture Association

("LJHAH")

No appearance Heiltsuk Tribal Council ("HTC")

No appearance Musgagmagw Tsawataineuk Tribal

Counsel ("MTTC")

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Vancouver, B.C. /Vancouver (C.-B.) December 1, 2010/le 1 décembre

THE REGISTRAR: Order. The hearing is now resumed. MR. ROSENBLOOM: Yes, good morning, Mr. Commissioner. I have approached this cross-examination in part on the belief that the issue of funding the implementation of WSP is a critical matter for this Commission. Appreciating that, I have informed Mr. Wallace just before we commenced this morning that I have a number of questions relating to funding issues and some of them were to be directed to Mr. Saunders and indeed to Dr. Irvine. But as they are returning for the Implementation Panel, it appears from Mr. Wallace's direction that he would prefer that my questioning about funding implementation be postponed until these two gentlemen return on the Implementation Panel. And as a result, I will ask nothing further in respect to that issue with those two gentlemen.

However, I also told Mr. Wallace and he appears to accept my direction, that I do have the odd questions for Dr. Riddell on that issue of funding, as Dr. Riddell returns, but he returns in the capacity as a stakeholder on -- with the Stakeholder Panel. And I think that is to Mr. Wallace's satisfaction. So I will proceed accordingly.

CROSS-EXAMINATION BY MR. ROSENBLOOM, continuing:

O Dr. Riddell, you provided a will-say document, not only your document of November the 16th, but a document of November the 19th, and I believe, Mr. Wallace, that document has not as yet been filed as an exhibit; is that correct?

- MR. WALLACE: Indeed, the will-say statement for summary of anticipated evidence of Dr. Riddell for the 19th is with respect to his role as a stakeholder, not his perspective from today. So if the questions relate to that summary of evidence, then the appropriate time to raise it is when Dr. Riddell returns, I think it will be probably Wednesday of next week as a member of the Stakeholder Panel.
- MR. ROSENBLOOM: But this is precisely what I was

wanting to get an agreement with Mr. Wallace so we didn't waste the time of the Commission. Yes, 3 indeed, on the November 19th will-say document of Dr. Riddell, he speaks to the funding 5 implementation issue, and he speaks to it, not in 6 the context of a stakeholder with the Salmon 7 Foundation, but speaks to it in the context of 8 when he was Division Manager. And I'll just read 9 one snippet from his statement so that then 10 there's an appreciation of why I'm asking these 11 questions now and not later. 12 MR. WALLACE: If the matter is raised in Dr. Riddell's 13 summary of evidence for the 19th, then that's the 14 appropriate time to raise it when he returns on 15 the Stakeholder Panel. 16 MR. ROSENBLOOM: Well, I don't know why it is when it's 17 evidence that Dr. Riddell's giving in respect to 18 when he was Division Manager and the funding 19 issues when he was Division Manager with DFO. THE COMMISSIONER: I haven't seen that document, I 20 21 don't believe. Was that the one that came up on 22 the screen yesterday and we replaced it with an 23 earlier document? 24 MR. WALLACE: That's correct. 25 MR. LUNN: Yes, that is correct. 26 THE COMMISSIONER: I tend to agree with you, Mr. 27 If there is statements in that Rosenbloom. 28 document pertaining to his role within the DFO, 29 and with respect to funding matters, then I think 30 it is appropriate for you to ask him now. And if 31 that's the case, I can ask Mr. Wallace to produce 32 the document now. We could have it marked at this 33 point. If it's Mr. Riddell's document, he can 34 identify it, and if there is content there that 35 pertains not to the stakeholder position, but to 36 his position within the DFO, then I think it's 37 appropriate for you to ask those questions. MR. ROSENBLOOM: I'm nappy to be governed accordingly. 38 39 I wonder if that document, Dr. Riddell's will-say 40 of November 19th, be marked as an exhibit.

MR. WALLACE: We obviously did not have any understanding on this at all. I don't understand how the evidence that Dr. Riddell will give as a stakeholder has anything to do with his position now, and it gets more kind of complicated. Because with respect to Dr. Riddell's appearance

THE REGISTRAR: Exhibit number 122.

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PANEL NO. 6
Cross-exam by Mr. Rosenbloom (GILLFSC)

here today, he is appearing in his capacity as an ex-DFO employee. He is represented in that capacity by counsel for Canada, and we've had discussions with him in the other capacity quite apart from that. So I'm not sure what prejudice you would suffer, Mr. Rosenbloom, if this matter were raised more efficiently next week.

COMMISSIONER: I think perhaps, to both of you,

- THE COMMISSIONER: I think perhaps, to both of you, what my particular concern would be that if he if there are matters that Mr. Rosenbloom wants to put to him in his capacity as a former member of the DFO having to do with funding issues, that he is going to be able to address those while the other panel members are here so that follow-up questions might be asked. So, Mr. Rosenbloom, there's two ways we can proceed. If Mr. Wallace is not prepared to enter that exhibit at this point, I wouldn't prevent you from asking questions if you can phrase them as a question, even though perhaps your source for that is the stakeholder statement that he's made and will be entered when he comes back.
- MR. ROSENBLOOM: And as I put those questions to Dr. Riddell, and incidentally I'm not -- my questioning of Dr. Riddell on this matter isn't extensive. But as I do place evidence before him of what he said in that will-say, surely Dr. Riddell can have the benefit of looking at that document and it can be even marked for identification purposes, if that is of more comfort to my friend. So I will proceed accordingly.

THE COMMISSIONER: Mr. Timberg?

- MR. TIMBERG: Mr. Commissioner, I'm representing Dr. Riddell in his capacity as a DFO employee. We have installed firewalls within our office. I will not be representing Dr. Riddell with respect to his position at the Pacific Salmon Foundation so I've not reviewed that witness summary with Dr. Riddell. If I could perhaps have a moment to review the witness summary and speak to Dr. Riddell before this happens, that would be appreciated.
- MR. ROSENBLOOM: My questioning, I think, is benign enough that I have no problems with that whatsoever. I'll take it one step further. I will draw to counsel's attention the two

paragraphs of Dr. Riddell's will-say of November 19th that I do intend to ask a few questions about. So that will speed it up even further. I'm happy to do that.

MR. TIMBERG: If I could just have a moment, please. THE COMMISSIONER: All right.

MR. TIMBERG: Mr. Commissioner, I have reviewed the questions and I don't think there's anything in there that Dr. Riddell's not familiar with or seems a link to the witness summary for today's panel, so I have no issue.

MR. ROSENBLOOM:

- Q Dr. Riddell, in your November 19th document, and I suppose now I'd like to have it entered as an exhibit, or for identification, if that's preferred.
- MR. WALLACE: I think it's probably appropriate to mark it for identification at this point. There's more in it than just this paragraph.

THE REGISTRAR: Be marked as Q for Identification.

MARKED Q FOR IDENTIFICATION: Summary of anticipated evidence of Dr. Brian Riddell dated November 19, 2010

MR. ROSENBLOOM:

And speaking to that to that document, and Mr.

Lunn can bring us at the screen to page 3. You
say under "Funding and governance of the WSP" and
I quote:

As context, he will say that when he was a Division Manager in Science he was dealing with constant budget cuts over time in a situation where DFO's level of salmon stock assessment is already minimally responsible. To make budget cuts at that borderline level had a very significant effect on DFO's ability to gather core data.

I wonder if you would expand upon your comment as set out there.

DR. RIDDELL: I certainly can, Mr. Commissioner. I mean, it would be a fairly long response, and I think for a second about the key elements.

Science Branch and salmon stock assessment is a very large scope of a task, as we saw in my

introductory talk. We are talking about the entire Province of British Columbia, 8,200 different populations that people refer to, and what we have done over time is come to a limited number of what I call core stock assessment programs for chinook and coho, many people recognize them as being indicator populations. Of particular interest to the Commission would be the level of commitment of the Department to Fraser sockeye salmon.

Fraser sockeye salmon are seen as the key sort of resource task within the Department and has always been treated as sort of a first level responsibility or priority for funding. Part of this also is tied to the Pacific Salmon Treaty, where we took over responsibility for assessment of Fraser Sockeye and Pink Salmon in 1985.

And so relatively small budget cuts cause a significant loss of program delivery in a sense, because you're — with variation in budgets you're not laying people off continually to cover budget. You have accumulation of staff, and a few percent cut in a total turns into several percent cut in operating funds. And so if you maintain the Fraser sockeye programs, what we were doing is continually reducing other activities around British Columbia in order to sustain a core program that was our top priority in Fraser sockeye.

These things even change from year to year, which is the other balancing act, because everybody who knows in Fraser sockeye you have the cyclic dominance phenomena. What that means for core budgets is that you have very different costs in terms of meeting the core level of responsibility.

Any sockeye population over 75,000 spawners, or expected to be over 75,000 spawners is required to have a full mark-recapture, or some quantitative measure of monitoring associated with it. And that is a commitment made by the Department and following from the Pacific Salmon Treaty. So this means that in years like 2010 where we had very large returns, any single program is extremely expensive to do good mark-recapture, and in this case you would have had to do five or six major mark-recapture programs.

To give you a better sense of the cost, this year's program - and Mark probably knows this off the top of his head - it would probably be in the \$2 million to \$2.2 million range to deliver multiple mark-recapture programs like that.

In the low cycle, we probably can do reporting for Fraser sockeye in the 800,000 to one million range. Those sorts of differences made a huge effect when you have to pay for large programs. So it was always a balancing act in terms of where you can actually put your funds to get the best information for overall assessment of all species and all areas.

I don't know that I can be much more specific in terms of what it was.

The total budget has not gone down in the level that you frequently hear people referring to. I hear people saying, "Oh, we've lost 50 percent of the total budget." We've never lost anything on that magnitude. Over time the reductions are more in the -- they may be in the 10 to 20 percent range in total, but as I said, the impacts of the constant reduction is that you lose your operating funds for conducting the basic programs, and that's where it had a significant effect on collection of data.

- And so, Dr. Riddell, yesterday you heard an exchange that I had with Mr. Saunders regarding what I believed to be the evidence of the Deputy Minister, Claire Dansereau, before this Commission a few weeks ago, where she informed the Commission that the Department was facing further budget cuts, and Mr. Saunders believed it was five percent. My memory was ten percent. But in any event, whatever it was, can you speak from your experience within DFO the significance as a Department faces a five or ten percent cut in the context of the implementation of the WSP.
- DR. RIDDELL: Well, I mean, I should clearly identify that I've been outside this budgeting process for two years. If I had another five or ten percent reduction in 2009 budgeting, and when I was leaving, it would have meant that you would have had another loss of some programs. A five percent total budget cut is likely to generate at least a ten percent operating budget cut in terms of annual costs, and probably more like ten to 15

percent. And so you -- you can't continually take proportionate cuts across all programs. You're driven to the point where you fundamentally have to start dropping activities. And so in stock assessment, that means that you're dropping assessment of some populations and that, in order to meet that budget.

- So there's a competition for funds. And when you were in a position of authority within DFO, the requirement to implement WSP surely put added stresses on what would be your day-to-day programs, would it not?
- DR. RIDDELL: It did, but it's probably not as direct as you might be thinking, in a sense, because different people were doing different tasks. Much of the stock assessment work is the responsibility of our area offices, managed jointly by the Area Manager, such as Barry Rosenberger for the Fraser, and myself for the Stock Assessment staff and Science Branch within Science Branch. So a number of the people that you've been hearing about for Wild Salmon implementation for Strategy 1 and Strategy 3, are not people that have direct responsibility for annual stock assessment and deliver of escapement programs, monitoring of catch, and that sort of thing.

It does put a pressure on it because you can't give them additional funds to hire more people to assist them. Right? But the pressure is not -- if you lose ten percent, you don't lose ten percent capacity to implement Wild Salmon. But you also can't go and find more people to help you increase the fate of implementation of Wild Salmon.

- Q Well, as Regional Director General, if you second certain individuals from your department to be working exclusive on WSP implementation, isn't that a loss to the other programs within the Department obviously?
- DR. RIDDELL: Well, it's a loss to a particular activity in the other programs possibly. But, I mean, I'm not talking about anything from the regional budget at the regional Director General level. I'm talking about all the resources within Science Branch. So the regional offices that implement the escapement monitoring programs are jointly managed by the local areas and Science

Branch Stock Assessment, and that.

The trade-off in this is that if, for example, you wanted to increase the speed of analysis of the big return in 2010, because all of these mark-recaptures take a lot of analysis, it will simply take more time because you can't -- you don't have the flexibility of assigning more people to assist in that program. So what normally might be done in two months might take four months to get the final answers this year. So you're always looking at trade-offs in terms of meeting deadlines and what's the first priority. But it surely leads to prejudice of other programs

- Q But it surely leads to prejudice of other programs within the Department when there is a financial crunch and you have something as significant as WSP for implementation.
- DR. RIDDELL: Well, but as you've just implied, WSP is a priority for implementation. It seems like it's taken a long period of time, but there have been some of our best people dedicated to working on that file. While I was there, I did not give them any additional assignments. They were protected to continue to work on those issues as a priority, and that. I simply couldn't give them much additional funds to assist them in doing it faster, and that. But they were not impeded in the sense that they weren't given money to travel or to get to meet people, and so on.

The direct costs of what you're referring to in terms of budget cuts has effects on the core monitoring of salmon populations on an annual basis.

Q Thank you. I want to lead you very, very briefly to one other paragraph or bullet within your will-say. It is at page 4 of the same document, and it is the fourth bullet where you say, and I quote:

However, he will say that recovering and implementing the WSP would require DFO to make a concerted, cooperative and focused implementation effort. He believes that a concerted implementation effort would require DFO to devote intense funding for at least one year.

My question to you, based upon your knowledge, having worked in a senior position capacity within

DFO, is what do you -- how do you imagine intense funding to be in terms of quantum?

DR. RIDDELL: Well, the -- sorry, Mr. Commissioner, the statement was made in the sense that we are at the five-year period, and I think that most people expected we could have made more progress in terms of full implementation by now, and certainly personally I believe that.

To really catch up, because we have made significant progress in the information files, the Strategies 1, 2 and 3, that if you really wanted to catch up and get this fully implemented, I said one year as an intense effort to catch up, you probably need to bring in several persons with knowledge of the policy and of salmon. They exist outside government, so that it could be done with And that's why it could be done in a contracting. year and probably would cost a few million dollars. We've had numbers thrown around like \$30 million to \$40 million. It would be nothing like that, and that. But several million -- well, not several, I'm implying three to five at the outside would probably allow you to make substantial progress.

Something we haven't even talked about is there has been extensive discussion about how you maintain the open and transparent aspect of the principle of the Wild Salmon Policy. One of the notions that we talked about in the initial workplans was an active website where people could go and track what's the state of the development of the conservation unit for their particular areas of concern, and what's the state of the populations, what are the escapement trends. These are things that should be readily done with the technologies we have these days. It really just takes a concerted effort to complete that type of work.

Q Thank you very much. My last area of examination is directed at Mr. Chamut, and the testimony that you gave before this inquiry a few days ago on November the 29th. And I'll ask Mr. Lunn to have that transcript up before the Commission.

I want to direct your attention to page 72, and this is page 72 of the transcript, as opposed to the electronic. There we go. At line 17 you say in response to examination in chief by Mr.

Wallace:

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Well, I would be $\ensuremath{\mathsf{--}}$ my honest reaction is one of disappointment.

You're speaking of the slowness of implementation. You say:

I did anticipate that this was going to be a difficult job to undertake, but I did [not] understand that over the period of five years that I would have expected there would have been more progress made. In particular, we talked about the desirability of trying to do things like pilot projects, or at least testing out some of the approaches...

Let's stop there for a moment.

I appreciate and the Commission appreciates you are no longer with the Commission. You are in retirement. In terms of when you were within DFO and you were piloting this program of implementation, what did you have in mind in terms of -- in terms of the pilot programs. What did you imagine DFO could have done that to the best of your knowledge hasn't been done in respect to pilot programs?

- MR. CHAMUT: Okay. I want to be very clear. You in your introduction to my -- the question to me, you indicated that at some point that I was piloting implementation, or words to that effect. I want to be clear that at no point did I ever engage in the implementation of the Policy, because it was concluded just as I was leaving. And so the implementation has basically been undertaken by staff of the Department following my departure.
 - I appreciate that, and I really should have spoken I guess, to piloting the program leading to the publication of the policy, and that's what I (indiscernible overlapping speakers).
- MR. CHAMUT: Right. Okay.
- Q Thank you.
- MR. CHAMUT: But in -- the essence of your question is -- is related to pilot projects, and I certainly felt at the time that I was working on the Policy, as we were getting closer to its end, I felt that one of the areas that was very challenging for the

Department, and I think challenging for other interests to understand, was Strategy 4. And that one of the best ways to actually help elucidate how it could work and the benefits and problems that have to be overcome, was to actually carry out a pilot project in a specific area. Something small enough that it was — it was doable, something where there wasn't — an area where the was a sufficiency of data and informed stakeholders that would be interested in — in engaging in that kind of activity. And I felt that it would be a good learning experience for both the Department and for those co-operators that need to come together to make it work.

And there are areas in the province, as I recall, where integrated watershed planning was -was not just an idea, but it was actually being practised in various forms in some areas. thought selecting one of those areas would probably have been a good thing for learning and for testing theories and helping to demonstrate what this strategy is all about. And I think the Skeena might have been a good area. There was some thought maybe about Port Alberni, or areas like that, and I don't ever have -- I didn't have detailed discussions about that, but I do recall having very general discussions about the importance of demonstrating how Strategy 4 would work through a pilot project.

- Q And I of course will direct questions to the Implementation Panel about whether that was done or not, but to the best of your knowledge, has that ever been initiated by DFO?
- MR. CHAMUT: I really don't know.
- Q Thank you. Further on in your testimony you speak of the need to priorize this WSP initiative within DFO senior management, and right up to the DM level, to the Deputy Minister level. And you speak of working under the Deputy Minister Murray when you were in a senior position in Ottawa. In reading this, and please correct me if my perception is wrong, I get the impression you are disappointed that there isn't a stronger commitment in Ottawa to the implementation of WSP at this time; is that fair to say?
- MR. CHAMUT: No, I don't think that's fair to say, because I have -- I have not spoken to anyone in

Ottawa in six years. I have no idea what the perception is about WSP. You mentioned the Deputy Minister in your -- in your remarks, and I've never met the current Deputy, and I don't -- I know nothing of her, her particular thinking.

I think my comments earlier were based on my experience. I had -- I had said that oftentimes Pacific issues took a back seat to some of the issues in the Atlantic, in terms of the focus of the Department. A lot of the attention was focused on some of the big problems that crop up quite regularly in the Atlantic fishery. And the Pacific was always a region that was, in my opinion, well managed, operated a bit more independently, and didn't necessarily get the same degree of attention from Ottawa, which can be both a blessing and a curse.

- Q And in your testimony on the 29th you spoke of this these aren't your words the competition for attention between Atlantic Canada and the Pacific Region, and one got the impression from your testimony that you felt we were at the losing end of that struggle to get Ottawa's attention; is that fair to say?
- MR. CHAMUT: I think often that's true. I think in general terms the -- the Atlantic Regions, there are four of them, and the -- often the problems that come up are -- are quite difficult and challenging for the Department. So there's inevitably a strong focus on managing and dealing with those Atlantic issues.

I don't want to give the impression, though, that Pacific is -- is basically not given any attention. I think that a lot of times Pacific was able to operate more independently. But when there were problems, and in my experience, I mean, I have a number of years experience, both in the Pacific Region and in Ottawa, when there was a serious issue that needed attention, then there was -- the necessary focus was provided to help the region deal with it. But generally speaking, a lot of attention tended to be focused on the Atlantic because of the nature of the problems that crop up so regularly there.

Q Do you have any suggestions of how the Western Division of DFO could strategize to receive more acute attention than Ottawa on their issues?

 MR. CHAMUT: Well, I don't know if I have any specific recommendations to make. I know at times -- going back 20 years, there was actually a decision taken, I think it was over -- well over 20 years ago, to have an Assistant Deputy Minister located in Vancouver to provide a link with Ottawa and a sort of a senior level presence in the Region. And if there was one thing I would recommend, is that you not -- that that not be considered, because it just doesn't work. The reality is that if you have an Assistant Deputy Minister in Vancouver, that person is pretty well divorced from all of the goings on in Ottawa. So you really need to have the person in Ottawa, or the senior -- senior official responsible for activities in the Pacific Region, the individual needs to be located in Ottawa if he or she is to be effective.

I think there's -- I think a lot of it has to do with the larger degree of political attention that -- that gets focused on the Atlantic. There is a lot of program staff in Ottawa that does work on Pacific issues. And I know that when there's a Pacific Minister, there's generally a little bit more focus. But I'm not suggesting there be two Ministers. I think that would be -- be just a mistake.

I think a lot of it ends up with making sure that the Regional Director General has a clear and quick line of communication with the Deputy, and with all the ADMs. And I think it would be important for the RDG to have -- to be seen frequently in Ottawa. In other words, be a presence there that people know and you can reach out to staff in Ottawa on a regular basis and make sure that your problems are getting the appropriate attention.

But in a large department like the Department -- like DFO, there's no easy, quick solution. I think it depends on people working together and being committed to a particular workplan or resolving particular issues. And I think that that's best done through, you know, face-to-face discussions and focused -- focused activities. Thank you. My last area of examination with you, Mr. Chamut, relates to evidence you gave again on November the 29th in response to a question in

chief by my friend, Mr. Wallace. I lead you to page 76. And at page 76 Mr. Wallace asked a question, and from my review of the transcript, you answered half of it. I'm very interested in you answering the second half of it. Mr. Wallace at line 5 asked, and I quote:

We've heard, today, that the concepts have been around, you know, prior to the 1990s and were crystallized through the '90s, and here we are in 2010 and it's not implemented. Had their (sic) been a Wild Salmon Policy developed and implemented more quickly, could it have been done more quickly?

And that part you answered. Then Mr. Wallace asked in the question:

Could it have had any impact on the decline on Fraser River Sockeye?

And on that question I don't believe you answered and I'm not faulting you for that, but I am interested in your answer. Had this program, the WSP been implemented within the timeframe that some of you were at least hopeful that it would come into effect, five years, we would have it implemented by now. What effect would that have had, firstly, on the runs of the last two or three years, and secondly, for the runs of 2011 and '12, and so on?

MR. CHAMUT: I think it would be very difficult for me to answer that question. There's so many factors involved, and you'd need to go back and look at -you'd need to do some more detailed modelling, I would think, about looking at escapements, and looking at expected production and the like. And it would be -- I think it would be inappropriate, and in fact I don't even know if I could venture a reliable answer or a credible answer on whether or not returns would have been more, or less. There's all sorts of issues associated with salmon production in the ocean, in-river mortality, there were disease outbreaks in the '90s, and things of that nature, I don't think are going to be affected directly by the Wild Salmon Policy. There might have been some instances where

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PANEL NO. 6
Cross-exam by Mr. Rosenbloom (GILLFSC)
Cross-exam by Mr. Butcher (SGAHC)

escapement might have been -- might have been enhanced in small populations, and I think that would be a positive thing, but if you're looking at dramatic shifts in terms of the number of salmon coming back, I don't -- I don't think there would have been. But as I say, a credible answer is one that would probably take some qualified scientists a fair bit of time to look at and they'd have to make a number of assumptions, which I'm just jot able to do at this point.

- MR. ROSENBLOOM: I fully appreciate your answer and I thank the panel for responding to my questions. Thank you.
- MR. WALLACE: Southern Area E Gillnetters Association, B.C. Fisheries Survival Coalition.

CROSS-EXAMINATION BY MR. BUTCHER:

Q Mr. Lunn, if we could please have Exhibit 108.
Dr. Riddell, this is your resume. And if you can just --

THE REGISTRAR: Name please, David.

MR. BUTCHER: Sorry, it's David Butcher.

- Your background academically is in studying the fish genetics?
- DR. RIDDELL: Yes, ecology and population genetics.
- Q And your Ph.D. was in -- was involved a study on the genetics of Atlantic salmon?
- DR. RIDDELL: Yes.

- Q How much of your time -- when did you join the Department, first of all?
- DR. RIDDELL: September 1979.
- Q Was that immediately after getting your Ph.D.?
- DR. RIDDELL: Yes, it was. Yes.
- Q And how much of your time since then has been spent in population genetics?
- DR. RIDDELL: Well, not as much as I anticipated when I came in 1979. The early period was probably half my time spent on science. We initiated, as it says, we initiated the Salmon Genetics Program in Science in 1982 and I established that program, and that. And that program I was actively involved with for a number of years, and that. But when I came out, I took a job working in what was at that time called International Salmonid, and it was called that because it supported the development of the Pacific Salmon Treaty.

- Q And what I'm most interested in is whether you'll accept that you bring to this work a preference, a perspective that prioritizes genetic diversity.
- DR. RIDDELL: Mr. Commissioner, I think I acknowledged that in my very first presentation in terms of my background and what led me up to concerns about the value of biodiversity within Pacific salmon. But I also would emphasize that diversity is not separated from production dynamics and stock assessment. Because as I tried to establish in the beginning, if you don't fully use the environment by maintaining diversity of salmon, genetic, and throughout different populations, then you're not using the full dynamic of the population to produce fish.
- Q No, and with respect, I don't think that as a general concept is in dispute anywhere. But I do want to ask you some questions, see if we can put some of this biodiversity issue into context. All of the sockeye salmon runs in British Columbia have developed in the post-Pleistocene Epoch, correct?
- DR. RIDDELL: Yes.

- Q It's within the last 10,000 years, and perhaps in a much shorter period.
- DR. RIDDELL: Shorter and longer, because of course some of it did develop in different isolated areas that were the glacial refugia. But the diversity we see today is mostly generated since the last epoch.
- Q And obviously at times after the glaciers melted away from the areas particularly in the north.
- DR. RIDDELL: Yes.
- Q And it's during that fairly short period of time that this genetic diversity has been developed?
- DR. RIDDELL: Well, depends what you think by "short", I guess. It's definitely within the last 10,000 years is when the ice has retreated through B.C.
- Q And you'll accept that that diversity now can be described as "rich", or even as "staggering".
- DR. RIDDELL: Those are both I think a bit subjective, I guess. But it's certainly a rich diversity when you look at the diversity that you have in salmon generally. It's much greater than a number of other fish species.
- Q Well, the word "rich" I chose because it came from a paper that you had written.

DR. RIDDELL: Mm-hmm. 1 2 That is in the material that has been provided. 3 And the word "staggering" comes from a paper 4 written by Dr. Carl Walters. If that's Dr. 5 Walters' description, I take you'd accept it? 6 DR. RIDDELL: Not necessarily, no. 7 Do you accept that Dr. Walters is a leading 8 fisheries scientist in this province? 9 DR. RIDDELL: He's a leading fisheries scientist, in 10 analysis, probably one of the world leaders, but 11 not in genetics. 12 And you've worked with him --13 DR. RIDDELL: That's correct. 14 -- quite a bit over the years. 15 DR. RIDDELL: Extensively. 16 Published papers with him. 17 DR. RIDDELL: Yes. 18 You hold him in very high regard? 19 DR. RIDDELL: Yes, I do. 20 If we could please have Exhibit 97. And, Mr. 21 Lunn, about four slides in is the -- is a table 22 prepared by Dr. Riddell. No, keep going. 23 one, thank you. 24 I'm interested in the bottom line, obviously. 25 This is a reference to a -- or this table 26 references an earlier paper written by a man 27 called Pat Slaney, and others, correct? 28 DR. RIDDELL: Yes, it does. It comes from a paper that 29 was -- they were solicited by the American 30 Fisheries Society and there were three papers 31 This was Pat Slaney and written in a series. 32 three other authors involved in summarizing the 33 diversity of salmon in British Columbia and the 34 Yukon. 35 Now, he's using that phrase "stocks" to define the 36 diverse groups of sockeye. 37 DR. RIDDELL: Yes. 38 And you take the position that that is no longer 39 the best measure. 40 DR. RIDDELL: That is not an appropriate measure. 41 How many conservation units do we now have of 42 those previously described 917 stocks? 43 DR. RIDDELL: Sockeye salmon is -- currently I think 44 the number is 230 lake-based populations and 45 another 24 river-based populations. So you'd be

looking at 254 sockeye of the 917 referred to in

this table. That's also in the presentation in

the second-last page of...

- Now, why is it that Mr. Slaney or Dr. Slaney could only determine the status for 60 percent of the stocks? Is that because of a lack of data?
- DR. RIDDELL: Well, as you see, it's not uncommon from the other species. They're all in a similar range, and it does speak to the widespread geographic range of salmon throughout British Columbia. And where they define adequate trend or sufficient data, is that you had a consistent time series of information over about 25 or 30 years that you could look at the distribution and trend of data.

It does come to what information the Department has been able to accumulate through time, and there have been periods where there has been reductions in that, particularly through the early 1990s, there was a loss of some diversity — or some data, and that. That probably has dropped the number for some. But it basically gets to your fundamental point that you can't monitor every single population where you're looking at every species in each stream throughout British Columbia. They don't get visited every single year.

- No. So if we looked at it the other way, we don't have enough -- or Slaney didn't in 1996 have enough data to assess 40 percent of the stocks in the province.
- DR. RIDDELL: The way he defined "stocks", yes.
- Q That lack of data was a recurring theme or problem in the papers that led to the development of the Wild Salmon Policy.
- DR. RIDDELL: Well, Mr. Commissioner, it is a concern. But I also want to point out that you do not need to visit every stream every year in order to be able to monitor the trend and distribution of salmon. Within the conservation units, the Wild Salmon Policy acknowledges that we would have three levels of annual evaluation that we -- well the Wild Salmon Policy recommended that the Department implement.

You did have what we called the indicator populations, which were the most intensively and most costly assessment programs where you really can explain what is happening on an annual basis. There is then the intensive monitoring programs,

where we would monitor a subset of populations on an annual basis, using a repeated survey design that was developed for the particular population. And then you have what we called extensive surveys, which really were largely visual. They could be over-flights. And what you're really looking for is the broad distribution and use of habitat by salmon within each CU.

- Q Let's turn to that third column, the "% Extinctions of Known 'Stocks'". Slaney's identified 20 known stocks that have become extinct. Do you know what period he was referencing there?
- DR. RIDDELL: Pretty well for the 1900s. Some of the populations were known to have existed, but we actually had no modern data for. But because they were known to have existed in the record, they would have been counted as a population. But it was all in the 1900s.
- Q And where were those populations? Were they all in south-western B.C.?
- DR. RIDDELL: Well, Mr. Commissioner, I'd have to really check to be certain, but the vast majority would certainly have been in south-western B.C. For sockeye salmon, the number gets to be —— of CUs gets to be quite large. For example, I said there's 230 lake-based, plus another 24. If you use the 230, that's just under —— well, it's about a quarter of the 917. In the maps, in Holtby and Ciruna, you would see that many of these lakes are small lakes scattered through central and northern British Columbia, through the islands, and that. The information base on those is more limited, and that. But that's where we end up having large numbers of CUs because each of those is genetically identifiable.
- And as Mr. Rosenbloom attempted to ask you yesterday, those small CUs have very little contribution to overall abundance.
- DR. RIDDELL: Well, there's a continuous range. It's very small, then, yes, they can only produce so many fish, and that. But you -- it's not a matter that you only harvest large fish, the large populations, of course. So you may have some that only produce a few thousand fish, you have others that produce tens of thousands, hundreds of thousands, and then millions. The ones producing

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millions are a very small portion of this.

Q And but again the point was I was trying to establish was that those small CUs in the north that you've just been talking about involve lakes with very small carrying capacities, small populations now, that can never be large populations?

DR. RIDDELL: The lakes that support those small populations are just fundamentally small. Some are as productive as other large, some are less productive. But they're fundamentally small and the spawning area is limited. That's why the populations are limited in their potential production capacity.

I should point out, though, that the fundamental premise of the Wild Salmon Policy is that these small populations have other values, and this is the reason why they were sustained. A very interesting point is if you look at maps of salmon distribution through the Central Coast, you'll find that many of the maps have small houses on them. Those small houses represent family fishing sites for First Nations, and almost every lake has a family associated with harvest. So there are different values for different groups. But in terms of your question about potential production, then, yes, some lakes will always be very small.

- Q Now, is it true that some lakes have also known to be re-colonized in the last 80 years by sockeye salmon?
- DR. RIDDELL: Well actually, re-colonized is very, very limited. Where we've tried to do direct re-colonization, and this really, I suppose, also gets to what you feel is a measure of success of re-colonization. The most common, I suppose, system where we've tried to re-colonize for major production is the Upper Adams River, north of the late run Adams that we just had the phenomenal run to. And there have been many efforts to restore production into the Upper Adams that has a spawning capacity of about two million spawners. There are now sockeye salmon returning to that lake system in very small numbers, but nothing near the capacity of the spawning area.

So for sockeye salmon, this is why I made the point in the presentation here that the importance

of sustaining sockeye CUs is that from evidence of genetics, they're different, and from evidence of transplanting fish around there's not many examples of successful transplants where we can restore production for sockeye salmon. You can for the other species more readily; not for sockeye.

- Now, you mentioned the Upper Adams then. The sockeye run on that lake collapsed because of a dam built on it.
- DR. RIDDELL: Yes, 1908.
- Q Have some of the other extinctions that you have -- or that Slaney's recorded also occurred on the rivers where dams have been built?
- DR. RIDDELL: Yes, there are a few of them noted in the actual paper.
- Q And do they make up the vast majority of those extinctions?
- DR. RIDDELL: I don't know if I can answer that directly. But they they are the ones that people commonly are aware of, the Alouette, the Coquitlam, the Upper Adams, there are some well-known ones. Whether it be the majority, I don't honestly know if I can say that without looking.
- Q I do want to now go, if I might, to a paper that you have written called the "Spatial Organization of Pacific Salmon: What to Conserve?"

Now, Mr. Lunn, that is document number 4 on Canada's list of November the 19th.

And this paper, Dr. Riddell, begins with the sentence that I made reference to earlier about you using the word "rich". It begins with this sentence:

The rich biological diversity in salmonids has been recognized for centuries and has been a central premise in managing salmon fisheries in this century.

That now would be the last century, correct? I take it those are words that you would still adopt.

- DR. RIDDELL: Yes, I have no problem with them. Yes. Q This paper, as I understand, a note in your will-say, might be considered to be a precursor to the Wild Salmon Policy discussions.
- DR. RIDDELL: Well, again, in the additional material I

provided, it certainly -- personally it was where I start from, but it's one of several things that initiated the Wild Salmon Policy.

 And towards the bottom of page 25, sorry, page 23, you note this about two-thirds of -- in the bottom paragraph you were talking about a series of studies that are being undertaken in the United States to assess stocks, correct?

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DR. RIDDELL: Yes, I think.

And then you said this:

In Canada, a comparable inventory of Pacific salmon has not been prepared.

And then you go on to say:

In...British Columbia...one-third of the spawning populations known since the...1950s have been lost --

Sorry:

In south-western British Columbia...one-third of the spawning populations since the...1950s have now been lost or decreased to such low numbers that spawners are not consistently monitored.

Those are the south-western populations that figure in the extinctions in your charts, aren't they?

DR. RIDDELL: Well, it's, Mr. Commissioner, a couple of points. As I've said earlier, the Slaney paper that we've already identified, I said was part of three solicited by the American Fisheries Society. That request followed directly from the paper that I'm referring to here, the Nehlsen et al in 1991. All right. That was the first one to try and go through in looking at the diversity and loss of diversity in southern -- southern U.S. areas, and that. Whether you could equate the same populations that you're referring to here in my figure 1, will be included in the Slaney paper, for certain, and that.

Whether they were actually called extinct or not would depend on the particular population. I used a measure of whether there was no fish

observed with a visit, or in some of our data systems where people no longer feel that there's enough fish to go and actually try to monitor. They simply put "N/As" or other codes in. I assumed that those were essentially extinct to in terms of looking at the trend in the populations. Whether they were the same ones that Slaney counted, I'd have to see directly. Quite honestly, I've never done that direct comparison, but I don't think they would actually be very different.

On page 27, you've asked a question that also gets asked repeatedly in the materials leading up to the Wild Salomon Policy. You make this point under the heading number 3: "What Is It We are Preserving?" And you make the point:

Conserving biological diversity will involve trade-offs with other management objectives and will incur costs. It is appropriate then to briefly consider the values of conserving this diversity, particularly since the necessity for maintaining diversity will continue to be questioned.

And then you make reference to a paper by a fellow called Dr. Larkin, Dr. Peter Larkin, and now deceased, correct?

DR. RIDDELL: That's correct.

- And he, too, was a leading fisheries biologist at UBC.
- DR. RIDDELL: Yes, he was, for sure.
- And he had a different perspective, and you've quoted from him a paper that he wrote saying:

Insofar as genetics is concerned, we should not become too hysterical about population declines to low levels.

Correct?

- DR. RIDDELL: No, I'm sorry, what are you actually referring to?
- Q Under the heading "What Is It We Are Preserving?" DR. RIDDELL: Yes. Yeah.
- Q You've made reference to Dr. Larkin's position that "we should not become too hysterical".
- DR. RIDDELL: Oh, I see what you've -- I'm sorry.

- Q And that's "about population declines to low levels".
 - DR. RIDDELL: Yes.

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- Q And you go on to say that in your view his views should be rejected.
- This is also something that we talked DR. RIDDELL: about a bit with Mr. Rosenbloom's questions yesterday, in the sense that there is an area in conservation biology called minimum viable population sizes. Before a lot of people started looking at population dynamics of salmon, the -there is animal genetics that if a population becomes very small for a limited period of time, then you don't lose a great deal of diversity just by the size of the population. However, if the population remains small, you will lose genetic diversity every generation. And so there's a cumulative effect that is known to occur, and that. And so it's true in the sense that a temporary reduction to a small population size will not be a major threat to loss of diversity, but a reduction to a small population size over a number of generations will definitely accumulate to a significant loss of neutral diversity.
- Q And I understand that, but one of the things that we have in the history of sockeye production in this province is some remarkable recoveries from very low population levels, correct?
- DR. RIDDELL: Yes. And I have said that in other works that I believe fundamentally that genetic diversity of salmon is not largely intact, but certainly largely in existence throughout most of its range. There is a limited number of extinctions. But just because a population is small doesn't doom it to a genetic loss. It can recover. They have a significant resilience. And that's why I think we can restore a lot of salmon production.
- Q And a classic example of that would be the Horsefly population, that was down to fish in -- returning fish in less than 100 fish in very poor years, around in the mid-1940s.
- DR. RIDDELL: Well it -- it was actually reduced in abundance much earlier than that because of a logging dam again, and that population was almost extirpated again, and recovered from a very small population. That occurred over about 30 or 40

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years, though, and puts it into then the timeframe that you're talking about.

You'll agree that the runs came down to as low as hundreds of animals?

DR. RIDDELL: Well, the reason I'm hesitating to agree with that statement is I don't believe that there actually records over the period of about 1910 to
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- with that statement is I don't believe that there actually records over the period of about 1910 to about 1940, in terms of what they were. But we do know that when the dam was there that the population was driven down to very small numbers. So it did recover from a very, very -- what we would call a significant bottleneck, and that.
- MR. BUTCHER: And we actually do have the data, and I just wanted to go here to make the point. Mr. Lunn, I'm looking for the -- this document.
- MR. LUNN: I think it's Exhibit 75.
- MR. BUTCHER: Exhibit 75. And if we can please go to page 383.
- Q You'll see there under the heading "Quesnel" Horsefly returns in the 1930s of from anywhere from zero to 918 fish. Do you see that?
- DR. RIDDELL: Yes, I do.

- Q And if we go -- and you'd have to follow the -- really the years of that -- follow from 1949 all the way through to 1985, which is on page 397. You see by 1985 that run, over a 40-year period, had recovered to having more than a million fish. That is perhaps a classic example of the resilience of the sockeye?
- DR. RIDDELL: Yes, I would think so.
- Q And a very good example of the ability of fisheries managers to rekindle a population that was in dire straits long before the Wild Salmon Policy came into effect.
- DR. RIDDELL: Well, without doing the assessment, I don't think you can conclude that, because I don't know that it was management. It could easily have been environmental conditions. Harvest rates were very high. But you can see that in the final page that we came to that you did have a return in '81 of 661,000. So if we track back through, and I'm sure that if you've talked to Carl Walters, you'll have seen some of this. There is a classic recovery of this population where very, very strong production of one year and then three off years, and that. But there's no question that the population is a good example of the resilience and

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productive capacity of our Fraser Lakes.

And I'm bouncing around here a bit, but I'm

wondering if we could now go to Exhibit 117,

please. Dr. Riddell and Dr. Irvine, did either of

you have a role in writing this report?

DR. RIDDELL: That's actually an interesting question,

Mr. Commissioner, because I don't recall

contributing to this report, and it may be just be

memory. But I actually do not have a recollection

of preparing this Policy document, and that.

Q Dr. Irvine?

- DR. IRVINE: Yeah, I, too, am surprised by the date of this document, because the -- the version that I remember was the one that was publicly released in I think it was March of 2000, so this must have been a draft of the first draft. And I'm sure there were drafts of the first draft and this must have been one of them.
- And who --
- DR. RIDDELL: Could I please add something to that? O Sure.
- DR. RIDDELL: I mean, I think the other thing that I should point out here is that in the spring of 1999, this was the renegotiation, the second major negotiation of the Pacific Salmon Treaty, of which I was very tightly involved with for about three months and did nothing but that, and it was exactly over this period. So it may be why I have no recollection, but I really do not believe I contributed to this document.
- Did either of you contribute to the next one in the series, I think it's March or May 2000. Dr. Irvine, I see you nodding.
- DR. IRVINE: Yes, I did contribute. Dr. Skip McKinnell was sort of -- he had the pen at that stage of the development, as I recall.
- Q Sorry, and his name was Dr....?
- DR. IRVINE: Skip McKinnell.
- Q There are some things in this paper that I want to draw your attention to. If perhaps we can first go to page 11. There is in this draft and it appears I think in the next draft, as well, this comment at the bottom of page 11, "A recent publication". This is at the very bottom of page 11:

A recent publication summarizes the current

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views:

There is no "correct" answer to the question of precisely how much biological diversity and population structure should be maintained or can be lost to provide a long-term future for salmon. Scientific estimates, including uncertainties associated with them, are only part of the argument. Society must decide what degree of biological security would be desirable and affordable if it could be achieved, i.e., the desired probability of survival or extinction of natural populations, over what time and what area, and at what cost. Nonetheless, biological diversity and the structure of salmon populations are being lost at a substantial rate, and this loss threatens the sustainability of naturally reproducing...populations in the Pacific Northwest.

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Do you accept, Dr. Riddell, that first comment, that:

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There is no "correct" answer to the question of precisely how much biological diversity and population...should be maintained or can be lost to provide a long-term future for salmon.

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DR. RIDDELL: Well, Mr. Commissioner, I point out that what you're referring to here is extracted from the book *Upstream*, which was the product of a U.S. National Science Council Panel that I worked on for a few years, and that. And this would have been from the Committee's consensus document, which was the final book.

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I do agree with the statement generally, because it comes down to really a value judgment in terms of whether you need every single of the so-called stocks you referred to before when we looked at the stream by species. And really what we have to sustain is what we've come to in the Wild Salmon Policy, which is the conservation

units, and that. Because you really can't determine the value of an individual stream and species. You really have to look at the sort of broader, the natural network or the natural structure of the Pacific salmon, which we tried to define more appropriately within the conservation unit.

- And do you agree with the second statement in there, that this is really a question, the question of the degree of biological security is a question for society, rather than a purely scientific question?
- DR. RIDDELL: Well, I would have a more biological perspective on it, as you tried to point in the very beginning. But I think that even the Wild Salmon Policy acknowledges this generally, because that's why we included Strategy 4 in the final version, and that. There are choices to be made in how much of the diversity will be sustained at what cost.

The difficulty I have with the -- what people refer to as trade-offs there, is we don't know how the environment is going to change through time, and that, and so we don't know which are the really important populations to sustain. You're really driven to the difficult decision to sustain as much as you possibly can, and that. But then you do need to reflect that under Strategy 4, there will be trade-offs that may have to be made in terms of how much of the diversity you can sustain.

Q If we could have Exhibit 8 for a moment, the Wild Salmon Policy, and go to page 9. I'm going to suggest that that concept of uncertainty was carried forward from that first document right into the final Policy. At the bottom of page 9 under the heading "Objective 1", in the second sentence, this is written:

While maintaining diversity is broadly accepted as essential for the health of wild salmon, the significant scientific and policy issue is how much diversity? The genetic diversity of a species includes every individual fish. Preserving maximum genetic diversity would eliminate human harvesting of salmon and prohibit human activities that

might harm salmon habitat. Conversely, to maintain a taxonomic species, such as sockeye salmon, but ignore within-species population structure would reduce diversity and contravene the intent of the UN Convention on Biological Diversity, SARA and the intent of this policy.

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And then it goes on to say:

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DFO intends to maintain diversity through the protection of "Conservation Units".

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16 17 The question I have from that, Dr. Riddell, is it's apparent that despite seven or eight years of development in the Policy, there was no expression of a quantification of how much diversity is required; is that correct?

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DR. RIDDELL: Yes, I think you're correct in that I would point out, though, that interpretation. you've referred to my 1993 paper and I asked the exact same question in my first principle. And I say basically in the absence of other information, you conserve everything you possibly can, and that. Now, that's obviously the biological perspective. I think it's in face of a great deal of uncertainty, that's the best thing that you could advise in terms of sustaining salmon production and for evolution and for whatever use there could be.

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When you come down to a national policy like this, then you clearly have to recognize that there is different opinions, and Mr. Chamut spoke to these things. We had many discussions in the development of the Policy about that, and that, and that's why the Policy reflects that here. It's not possible to give a particular value on how much diversity you need until you had much, much greater understanding of how the diversity is sustained in the various populations.

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MR. BUTCHER: Now, you've mentioned your paper again, and that was document 4 on Canada's list of the 19th of November.

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MR. LUNN: I'll just pull it back up.

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MR. BUTCHER: And if I can take you to page 33, under the heading -- yes, if you can go back, Mr. Lunn.

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MR. LUNN: It's page 33?

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MR. BUTCHER: Page 33, but it's 33 of the paper, not of -- and if we can go to the top of that page.

Q Under the heading "What to Conserve?" you wrote this:

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The rhetorical response is simple: "Everything". In practice though, the response seems to have been "as much as is practical".

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The pure biologist's response is we must conserve everything, but the broader response in the Department is that there has to be some balancing. Is that a fair comment?

DR. RIDDELL: I'm sorry, excuse me, Mr. Commissioner. It's a fair comment and it's not exactly what was intended with this statement, because really what I'm talking about here is that in the sense of having limited knowledge about how biological diversity would change in the future, then we should conserve "everything". That's obviously a lofty goal. And the reference then to "as much as is practical" really gets back to another issue that I've identified, where when we -- when I joined the Department, there clearly was a major focus on the major production populations, very little on smaller populations to the extent that the Department even at one point struck this notion of a stock write-off policy, at the same time as the international community was evolving into the conservation biology school, and that.

So there clearly is wide range of opinion on this. What I'm referring to as "as much as is practical" is that at the harvest rates that were being conducted in the past, then you were putting smaller, less productive populations at risk, and that, and so there had to be some better balance than was existing at the time.

- MR. BUTCHER: This would probably be the right time to mark that document as an exhibit.
- MR. WALLACE: Would it also perhaps be the right time to take a break?
- MR. BUTCHER: Certainly.
- MR. WALLACE: May I suggest, Mr. Commissioner, we'll take the morning break.
- THE REGISTRAR: Do you wish to mark that document first?

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       MR. WALLACE: Yes, please.
       THE REGISTRAR: Exhibit number 122.
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       THE COMMISSIONER:
                         Sorry, one hundred and...?
       THE REGISTRAR: Twenty-two.
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       THE COMMISSIONER: Thank you.
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                 EXHIBIT 122: "Spatial Organization of
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                 Pacific Salmon: What To Conserve?" (1993),
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                 B.E. Riddell
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                         The hearing will now recess for 15
         THE REGISTRAR:
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            minutes.
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                 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)
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                 (PROCEEDINGS RECONVENED)
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       THE REGISTRAR: Order.
                               The hearing is now resumed.
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       CROSS-EXAMINATION BY MR. BUTCHER, continuing:
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            Dr. Riddell, before the break, I was asking you
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            some questions about the fact that protecting
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            biodiversity can come with a socioeconomic cost.
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            And I want to now turn to some situations where
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            protecting biodiversity can perhaps come with a
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            biological cost. And I've pulled up Exhibit 117
            again, and if we can please have enlarged the
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            paragraph under the heading, "Review of Factors
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            Affecting Conservation of Wild Salmon."
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                 There's one sentence here that I want to
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            begin this questioning on, Dr. Riddell, maybe two.
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       THE COMMISSIONER: I'm sorry, which document are you
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            on? I apologize?
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       MR. BUTCHER: Sorry?
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                  I'm sorry, which document are we on, Mr.
       THE COURT:
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            Butcher?
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       MR. BUTCHER:
                     117.
       THE COURT: Ah, thank you.
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       MR. BUTCHER: Exhibit 117, page 6:
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                 It is generally considered that within reason
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                 harvests can be sustained without harming the
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                 potential for future harvests. This has been
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                 reinforced by a common theory about salmon
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                 productivity. There can be too many spawners
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                 and that reducing the number of spawners may
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                 be good for both the salmon and the fishers.
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Do you see that, Dr. Riddell?

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46 47 said.

dependence is?

2 DR. RIDDELL: Yes. 3 That is the theory that might popularly be known 4 as over-escapement, isn't it? 5 DR. RIDDELL: No, that's a very common statement about 6 stock recruitment, very generally, that the 7 maximum rate of productivity is sustained at very 8 low stock size. The concept of over-spawning 9 really speaks to catastrophic loss of populations 10 at very high numbers of spawners. The idea that 11 there's a reduced rate of productivity as the 12 number of spawners returns to a particular 13 spawning region is actually just part of the basic 14 stock recruitment theory. 15 Okay. So I -- you're telling me I've mixed up two 16 ends of the same concept, is that what you're 17 saying? 18 DR. RIDDELL: The two extremes, basically, yes, that's 19 correct. 20 And we've heard already from other witnesses of 21 studies that have shown that productivity can 22 decrease if the number of spawners increases too 23 significantly. That, I take it, you accept? DR. RIDDELL: That is part of the theory, yes. 24 25 And I'm going to suggest to you a number of points 26 here, for a moment. Firstly, that most of the 27 sockeye smolts are -- in this province, are 28 produced in a few large lakes; is that correct? 29 DR. RIDDELL: Yes, I think we've -- yeah. 30 And there is clear evidence of an upper carrying 31 capacity for smolt production in the large lakes, 32 such as the Quesnel, Chilko and Shuswap? 33 DR. RIDDELL: Yes, becoming clearer at the higher 34 levels, yes. 35 And there is an overall negative relationship 36 between productivity and spawner abundance?

DR. RIDDELL: Yes, that's part of the theory, as we've

MR. WALLACE: Mr. Commissioner, I -- it's hard, often,

harvest management, but the detail that Mr.

to find the line between wild salmon policy and

Butcher is going into at this point, it would be

far better, in my view, presented to that panel than this one. I'm -- with the other counsel and

other witnesses, I -- it may well be that Dr.

Would you go -- well, can you tell us what density

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Riddell will be part of that panel, but I would suggest that this is better put to a harvest management panel.

MR. BUTCHER: Mr. Wallace always seems to object about three questions from the end of a particular subject. I have two points in response. I understand why my friend has divided this hearing into boxes, because that's the only way we can possibly manage this amount of material, but the reality is these aren't watertight compartments of information, they flow one from the other, or one into the other.

The second point I want to make is we, as funded counsel, are being told by Commission counsel that we must be economic in our attendances at the hearing. And speaking for myself, it's perhaps important that some of these issues get covered as quickly as possible because that makes it more efficient and it may prevent us from having to be here on other occasions when the same subjects arise. So it's -- I would like -- I'm objecting to the objection on those two grounds.

- MR. WALLACE: Well, Mr. Commissioner, with respect, it seems to me that covering the ground now does not obviate the need to cover it when the right people are here to deal with the matter in a logical way so I don't think there's any efficiency in having this matter proceed.
- THE COMMISSIONER: Mr. Butcher, I certainly understand Commission counsel's attempt to respect that economic attendance concern that you raise, however, in this particular circumstance, I believe that your questions now flow from those earlier questions you asked about this exhibit and some of the other related exhibits. And at least for my purposes, I think I would find it helpful if you would continue with your line of questioning.
- MR. BUTCHER: Thank you. And actually, to be fair, they flow from Canada's questions about why is biodiversity important. Sorry, I've forgotten where I was.
- THE COURT: You were talking about density and dependence.
- 46 MR. BUTCHER: I've moved on.
 - THE COURT: You were talking about density and

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dependence.

MR. BUTCHER:

- Q I have a question about density dependence and I thought that first, I should ask you what you understand it to mean.
- DR. RIDDELL: Well, density dependence is simply referring to that as the population grows to large numbers, that it does not have the same rate of production and it can -- because it may fully utilize the environment, it may fully utilize the available food sources, and so the return for a spawner, in the salmon sense, declines as the abundance returning increases.
- And I understand it also means that that decline can be over several years. So it doesn't just affect the spawning generation, but subsequent generations, as well?
- DR. RIDDELL: Well, Mr. Commissioner, I think that I'd have to say the evidence is still out on that. I understand Carl Walters is doing some research currently on intergenerational effects and Fraser sockeye so it probably does have some basis in his analysis. I simply have not reviewed that new analysis to know enough to indicate that. What you're really referring to is for many periods we've looked at, what are the biological causes of cyclic dominance in Fraser sockeye, and that has been a perplexing problem for many, many years. I understand Carl's analysis is now indicating multi-generational effects. So I simply haven't seen it to really support it clearly.
- And that does lead me into the next question as to whether or not you're able to say from your own knowledge that some of the survival declines, say up to the period 2003, can be explained by density-dependent effects? Are you able to comment on that one way or the other? Sorry, that should be density-dependent effects that are related to increases in spawner abundance.
- DR. RIDDELL: Mr. Commissioner, I don't know that I would conclude that yet because as we see evidence now where you sum all Fraser escapement and all Fraser returns and you have a very almost linear decline in productivity so this is the return of progeny for the number of spawners in the previous generation, that is very perplexing in the sense that you don't have these over-spawning events

that you're referring to, or these very high spawning events every year in every population and so why is there such a strong coherence between all of the populations now when you sum them together? I know from talking with Carl, that this is a question in his mind, as well, and that. So I understand the concern in terms of would it contribute to -- is the increasing spawning causing this long-term decline in productivity? It definitely would contribute to a decline in productivity per stock per brood year. What is uncertain in my mind is whether or not it really accounts for the full trend that we're seeing in the total number of Fraser sockeye.

- So have I got this right, that you're accepting that this may be a legitimate explanation, but you just don't have enough information, yourself, yet, or there may not, to your knowledge, be enough research done yet on that subject?
- DR. RIDDELL: Basically. I have not seen an analysis of all of the sockeye combined in a single return event. Because the fundamental difference we're talking about here is that if you had talked about Quesnel, or you talked about Adams Lake run, or you talk about Chilko Lake, and you look at the population dynamics of those, they do not show as strong a signal of the rate of decline since the mid-1990s. They do have decline. Chilko has one of the strongest. But when you put all of the populations together, which are coming from all different lakes, why do we see such a strong decline across all of the populations? That, to me, still needs further explanation in terms of why that strong decline over that period of -that long period.
 - Q But again, you'd accept that if this was an area that Dr. Walters was working on, his opinion is one that this Commission should listen to carefully?
- DR. RIDDELL: Yeah, no question.
- Q If I can go back, please, to Exhibit 117, which is up on the screen now, and go, please, to page 11, I think. It's not page 11, I think it's page 8. Sorry. It's page 10.

This is a -- under the heading, "Lack of Information," in this very first report, it says:

There are several major areas where a lack of information threatens the conservation of wild salmon. In the face of uncertainty, decisions that affect wild populations need to be made very cautiously such that errors will not compromise the achievement of conservation objectives.

Two questions, really, for anybody on the panel. What is it, what information was missing that is referred to here and why is it that the Department, to this period of time, allowed that information or database to subside?

- DR. RIDDELL: Well, Mr. Commissioner, maybe I can start? It's difficult to comment on what people were talking about here in terms of lack of information, since we weren't the authors. My previous comments related to the annual monitoring of spawning escapements, which is largely the critical information you need for looking at conservation because this is the spawning base for the next generation.
- Q And it's that critical information that ultimately became Strategy 1 in the WSP?
- DR. RIDDELL: Related to it, yes. I mean, you do need to look at total production and including catch. You can't define productivity by only looking at escapement.
- Q Well, maybe Strategies 1, 2, and 3 --
- DR. RIDDELL: Yes.
- Q -- in the WSP, then? That --
- DR. RIDDELL: 1, 2 and 3 relate to all production, not just productivity or escapement.
- Q Now -- okay. What reductions were there in information and data gathering and collection by the Department in the period before 1999? What material had been lost over time?
- DR. RIDDELL: Well, Mr. Commissioner, if I complete what I was saying earlier -- excuse me -- what we were losing through time is information on the very localized spawning populations. Again, so if you want diversity of information, let me just give you a couple of examples, that through the '90s, and this should be reinforced by persons with Fisheries Management background, we used to have something in the Department called fisheries guardians. These were local vessels of people

that did work in local areas for many, many years and really knew the environments. As money became tighter and tighter, through time, the number of guardians was reduced and so you lost that sort of local tie with the local environment, and that, and the fishery officers of the area, their task is split between data information collection and enforcement. There was a period where they prioritized enforcement and reduced the amount of time that was spent on collecting data. tended to actually vary quite a bit by area of the But I think, really, what you're province. talking about here is very population-specific information limits your knowledge about the diversity and the biological diversity that is expressed in salmon.

So number one is the limited number of populations that you saw every year, and then when did they return, what's the variation in the run timing and the productivity? Those are the critical factors and for resource management.

- Q So going back to the language that you used earlier this morning, you were receiving, still receiving good information about what were called the indicator streams, but you'd started losing the information about those streams that had been historically the subject of intensive or extensive data collection?
- DR. RIDDELL: Yes, that's a good analogy to it, and that -- where the populations were large, where the environment is very good for visual observation and you could get back repeatedly, then you tend to have more repeatable data on an annual basis, and that. And so you tended, almost by de facto, to start developing indicator populations that were important to go back to every year, and then as resources and even things like weather, annually, varied, you were able to check the other populations for the quality of habitat and the distribution of the spawners, and the numbers of fish.
- Now, you're saying, Dr. Riddell, that it is those smaller diverse populations that are particularly important to biodiversity, correct?
- DR. RIDDELL: Yes, actually, a lot of the small populations are the diversity.
- Q And yet, you're also now telling us that it is

- precisely those important populations that we were losing all information about in the 1980s and 1990s?
- DR. RIDDELL: Mr. Commissioner, ergo the Wild Salmon Policy. This is the genesis, if you want, of why we've come to this and why we've restructured salmon, to avoid the notion that a single species, single stream is a stock. It is not a stock. It doesn't have a genetic future if it was isolated by itself. The real genetic structure of salmon are these networks of populations across multiple streams, right, and they can be assessed in different ways, the way I described to you, right? So it was exactly what you have just led to that really made us determine to implement the Wild Salmon Policy so that you can monitor and sustain diversity.
- Now, you as a Department, are the guardian of this resource, or a guardian of this resource and, yet, you, as a Department, have allowed the information of -- on the resource to fall below levels that allow you to manage it accurately; is that fair?
- DR. RIDDELL: No, that's not fair. There are two documents that I wrote when I was with PFRCC that go through a very detailed history of the number of surveys done by stream throughout British Columbia, and they do not get to an irresponsible level, but I have personally written things, within the Department, identifying that the decline is getting to what I called minimally responsible at the time. So yes, you have sufficient monitoring going on, depending on the question you ask, but you do not have it at very fine spatial scales.
- And Mr. Chamut, I ask you this only because you are the most senior person involved. Why was that allowed to happen?
- MR. CHAMUT: We're talking here a period of '80s and '90s; is that correct?
- Q Yes.

MR. CHAMUT: During that period, there was a variety of initiatives taken in government to restrict spending. Certainly, in the mid -- in the early '90s, there was a very strong push by government to reduce deficits and the Department of Fisheries and Oceans, along with every other federal department, was asked to find ways to reduce

expenditures and contribute to this deficit reduction initiative. And the Pacific Region, as every other region, was expected to provide funding surplus monies, or monies that were of low — dedicated to low-priority projects that would result in a deficit reduction. And the job of the Region and of managers was to try and find — try to maintain the high-priority projects and find areas where reductions could be achieved without necessarily adversely affecting the mandate.

And so over that time, there were reductions and I think it's been fairly clear that many parts of the Department did have reductions that did affect their capacity to deliver programs, but I think throughout, what was always foremost in the mind of managers was to try and protect those programs that were most important to the delivery of the mandate. And I think, to a large extent, that was done. Yes, programs were reduced, the funding was reduced, but the effort was made to try and direct those cuts to the lowest-priority programs in order to maintain those programs that were most important to our mandate.

- So I think what you might be saying in another way is that the local managers responded to the national cuts as best you could?
- Well, it's not a matter of saying, "No, MR. CHAMUT: I'm not going to contribute to a reduction that has been directed by government." That's part of the job of the public service. And I think what a public servant has to do is to provide realistic proposals for how budgets can be reduced and savings achieved while still maintaining the core programs. That was always the job of the managers and I think, over the course of the years, that job was done reasonably well in all regions. as Brian has said, Dr. Riddell has said, yes, there were reductions to stock assessment programs, but it was done in a judicious manner so as to ensure that the basic requirements of the programs were still being met. But in the Fisheries business, you could double the budget and still need more if you wanted to deal -- if you wanted to satisfy each and every individual requirement that comes up. What, I think, is important is to maintain a program that provides you with the ability to meet your responsibilities

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and I think that, in fact, has been done.

But would it be correct to say that a fis

- Q But would it be correct to say that a fishery guardian monitoring program would be quite cheap, a lower-cost item?
- MR. CHAMUT: I'm sorry, your question, I didn't hear it.
- Q That a fishery guardian monitoring program would not be a high-budget item?
- MR. CHAMUT: There were reductions to fishery guardians and alternative ways of collecting the information were developed.
- Sorry, Dr. Riddell, you want to add to that?
- DR. RIDDELL: Let me just add that the Fishery Guardian Program, in total, did not disappear. The discussion was in terms of some areas, are there alternative ways for less funds to collect data that would suffice for the management of the resource in that area? So Central Coast maintained a guardian program in some areas, but in other areas, we had fishery officers that knew the system extremely well, and they took over those responsibilities. West Coast of Vancouver Island required guardian vessels, but maybe it didn't maintain all of the -- if there were five before, maybe you had three. So it was not as simple as saying that there's no more guardian vessel, it was a matter of how do we collect the data required for the most efficient method?
- Q Now -- but obviously, there were deficiencies in the data, you're not retracting from that at all?
- DR. RIDDELL: I'm not retracting from that. I've said that before.
- Now, I've asked you about questions relating to the period before this document was written. Was there any improvement in the data collection between the writing of that document in 1999 and the very recent report, the 194-page report that was issued in draft form about 10 days ago, or is that the first significant effort to improve data collection since 1999?
- MR. WALLACE: This panel doesn't have that report. It will be tabled, with respect, in the implementation panel. One of its authors will be here then.
- THE COURT: I'm sorry, Mr. Wallace, I didn't hear, it will be tabled when?
- MR. WALLACE: It will be tabled with the next panel and

1 one of the authors will be called at that time. THE COMMISSIONER: Thank you. 3

MR. BUTCHER:

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- All right. I'll tell you this. Sorry, Dr. Riddell, you've got an answer to my question, I think?
- DR. RIDDELL: Well, I don't need to refer to the document that you're discussing so should I answer the question is, I guess, my question.

Please.

DR. RIDDELL: There is a yes/no answer, unfortunately. Following the 1999 agreement with the Pacific Salmon Treaty, there were additional resources, \$11 million, specifically to implement new elements of the treaty. Those new elements of the treaty were largely outside the Fraser, and they did significantly improve some of the assessments for a period of years.

The no element was that in the next round of government reductions, there were reductions to the amount of money that could go there again. we've had a period of growth and a period of reduction again.

My comment about not being in the Fraser River is that the 1999 treaty did not address the Fraser River agreement and the limitation of use of the funds was outside of the Fraser. But the Fraser program, as I said earlier, has always been the first priority for Fraser sockeye in terms of collection of core stock assessment data. are limitations to it in the sense, for example, juvenile programs that Dr. Walters is now commenting on. There were decisions, probably 15 years ago, that there's limited use of those juvenile data because of the way they were collected and so for efficiencies, we put that one in to adult monitoring.

So it's not to say that the Fraser has a comprehensive system that can't be improved, it can be improved, but it's always been the first priority for allocation and stock assessment in science management.

- So what you're telling us is that the situation is much worse elsewhere?
- DR. RIDDELL: It's poorer than in the Fraser River for Fraser sockeye.
- I want to move on to a slightly different subject,

but still in this document, Exhibit 117, page 14. The bottom header says this:

Wild Salmon Principle Three: Minimum Wild Salmon Abundance Levels will be Established for Populations within each Conservation Unit to Avoid Extirpation of Local Populations.

Is this the first time that the phrase, "Conservation Unit" was used?

- DR. RIDDELL: Mr. Commissioner, the term, "Conversation Unit" comes from a number of science papers. It was first used by our staff by Drs. Wood and Holtby in the Skeena in a paper in 1998 so it's application here would probably have followed from that scientific paper.
- So the first time that the concept was expressed with respect to the Fraser in a formal way?
- DR. RIDDELL: No, this paper does not refer to the Fraser only, this is the policy paper that you had identified previously.
- The first time that it applied in a formal way that would have applied to the Fraser, as well as every other stream?
- DR. RIDDELL: Yes.
- Q When were the conservation units finally drawn up? When were they finally identified?
- DR. RIDDELL: Mr. Commissioner, I think that's a matter of record in the Holtby and Ciruna paper that's been submitted to Commission, and that was published -- that was approved in 2007 for all populations throughout British Columbia.
- Q Why did it take eight years to identify the basic unit of management?
- DR. RIDDELL: Well, I think it's not correct to equate it to eight years in the sense that we didn't know that there was going to be acceptance of the concept of the conservation unit until the approval of the policy in 2005. Why it took about it took about three years of actual work to identify the final ones and that came to, as I presented in this slide show, you start in two steps. The first step required to have certain map-based information available to you from one from the Province, and then the second one from the Wild Salmon Centre. Both of those were developed after 2005 and so they had to be

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finalized before we could use them, and then we had to do quite a bit of work with the Yukon Government to develop the maps for the Yukon, and So Dr. Holtby had been working on the methodologies, collecting the data required to use the method, had been collecting a large database for application of step 2, when it gets down to the specific sockeye populations. Then we put it out for two rounds of extensive reviews by our own regional staff, by First Nations that were working in particular areas, and I think it was commonly available on the website, for anyone to comment on them. So it was a matter of having the methodology developed, actually completing the methodology, and then actually having two rounds of reviews to see whether or not the method made We had to do a verification of the actual sense. analysis.

So it was actually a fairly intensive threeyear effort to do it, but in terms of the long term that you're pointing out, while we had talked about the concept, it is different from a number of other organizations, how they organize populations and so it did take some discussion and we did not know if it was going to be approved until the document was approved in June 2005.

- So although the concept is identified, no work is done on the issue for six years?
- DR. RIDDELL: Well, I wouldn't say no work because there was frequent discussion about the concept and why we wanted to find a new terminology.
- No work on practically identifying what that meant?
- DR. RIDDELL: I think to try and state where you're going would be that there was no work on actually completing the assessment or the estimation of where the lines are.
- Q Identifying the conservation units?
- DR. RIDDELL: Identifying those in real geography. All right. The theory and how you would do it was discussed extensively. All right. But that's quite different than actually having all the information collated and being able to conduct that analysis, and then to verify that people accept that this is a good representation of the geographic variation in salmon.
- Q Now, during this period, 1999 to 2005, the returns

are collapsing?

time.

DR. RIDDELL: The returns are not collapsing.

Q Sorry, the returns are declining significantly?

DR. RIDDELL: Well, the reason I showed the figure in my slideshow is that the production of salmon is not proportionate to the reduction that was occurring in the commercial catch. The commercial catch was actually being significantly limited to ensure that we sustain spawning escapements and that it's not -- you can't look at the trend in the catch and equate that directly to the total production, and that. But there's no question that the commercial catch was declining through

Those numbers are also very dependent on what year you look at because, of course, Fraser pink salmon, for example, are only every two years, and that's why they were average, but I think if your statement is that the catch was declining over that time, that's true, but it was not related to conservation units in any sense.

- No, I'm not suggesting it is, but I'm suggesting there was some urgency to getting this work done and nothing was being done, other than to discuss it on a philosophical level; is that fair?
- DR. RIDDELL: No, that's not even really relevant in the sense that the -- as I've said, the stock assessment work that was being done, as you pointed out, there are very few stocks that have the vast majority of the production, and that, and those assessments were done on an annual basis every year through that time period, and that. And so what we were seeing is that we were certainly monitoring the populations and finding that reduced productivity, that we had to take some actions.

There were stocks in that period, such as the Cultus Lake issue that came up, and Sakinaw, those particular populations, of course, that was through COSEWIC and then the **SARA** considerations, they were limiting Fisheries Management opportunities to harvest certain returns, and that, but the development of the conservation units was certainly not impeding any element of Fisheries Management.

Q But this was the proposed new management unit, correct?

- DR. RIDDELL: It was the proposed management unit from Science.
 - Q Was there any doubt that it was going to become part of a Government of Canada policy?
 - DR. RIDDELL: Yes.

- Q How long did that doubt continue for?
- DR. RIDDELL: Until June 2005. And actually, I suppose, when you get down to how you define them, it may have -- the actual definition of the units, the uncertainty there probably continued for a couple more years, until the methodology was truly verified.
- Q Now, I want to turn to a different subject and that is why it took so long to get this Wild Salmon Policy developed. We've heard already that it was -- that there were a number of tensions between the different branches in the Department. Was that the main cause of the six-year delay?
- DR. RIDDELL: Well, Mr. Commissioner, I don't think I can really respond to that because much of that tension, as you're describing, was occurring when I was actually not involved so I don't think I'm appropriate to comment on that.
- And I should have stepped back because others have asked about a tension between Science and Fishery Management, but I think you, Dr. Chamut, in your evidence summary, have also identified a tension between Canada and the Region, or headquarters and the Region; is that fair?
- MR. CHAMUT: No, I wouldn't put it quite that way. The -- I've -- we've described the process, and maybe I can go through it again just to be clear, but the Region had identified the need for a Wild Salmon Policy, and I think there was general acceptance that that would be a good thing to do, given the changes that were occurring in the fishery.

There were various efforts made to try and craft a Wild Salmon Policy. The first one I saw was in -- I think, was in 2000. That came into headquarters as every policy of this sort of significance would do, it comes into headquarters for a review to allow each sector and each sector head to have a look at it and see what the implications might be for his or her program.

The document came in in 2000, it was reviewed, and it wasn't so much that there was

animosity or tension between headquarters and the Region, I think there was unanimity of view that a policy was desirable, but the policy that came in in the first instance was judged to be, as I recall, unclear, and the consequences for what it meant for Fisheries Management --

If I could just stop you there for a moment. In your -- the Summary of Anticipated Evidence, we have it written this way:

He --

That is you:

-- will say that in that first review, the WSP did not pass muster. Senior management all agreed the draft WSP was not sufficiently developed --

MR. CHAMUT: Yeah.

Q

-- that it was poorly described, and not clearly written. In particular, the draft WSP discussed CU as the unit that DFO was going to conserve without defining CSU's (sic) or discussing the number of --

Sorry:

-- CU's, or discussing the number of CU's. The concept of CU's, as originally described, had unclear implications for fishing activities, harvest management, and departmental programming. This first review was not a rejection, but a request for more work.

MR. CHAMUT: Well, I would like to say you took the words right out of my mouth. Before you interrupted, that was about what I was going to say. It was not -- I mean, this process oftentimes followed this particular cycle. There'd be -- a proposal would come in from the Region, it would be reviewed, there'd be questions, comments, and often it would go back. Most often, it would go back to the Region with a request for, "Clarify this, let me understand this

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a little bit better," or some people might say, "I disagree with this, that, or another element," and the Region would then take it and take those comments under advisement and would, in fact, craft another document that would be subjected again to a similar review once the required changes had been made.

- But tell me if I'm getting this right. You're sending it back to the Region to say, "We don't like this because you haven't defined conservation units, or discussed the number of conservation units," but they can't do that because they don't have the resources to do the work; is that fair?
- MR. CHAMUT: No, I don't think that's fair at all. mean, I know that it took time to get the number of conservation units defined, but at that time, there was a general understanding of how many there were likely to be, and for me, as -- in my capacity at that time, the main issue was trying to understand what the consequences would be for Fisheries Management. And in sending it back, the expectation was that Science and Fish Management and policy perspectives in the Region would be brought together and some of these questions would be clarified so that we could, in fact, properly assess what the implications of this new policy would be for a variety of different concerns. that was the process and I don't think that it's fair to say that we were basically sending it back without the Region having the capacity to be able to provide the information that was being requested.
 - So are you saying you weren't expecting them to be able to define the conservation units at this point, because that's not what your statement seems to suggest.
- MR. CHAMUT: I think what we -- what I certainly wanted was a better understanding of how the -- what the consequences would be for resource management and, yes, it was -- in the initial drafts, it was a very unclear concept. It didn't provide any clarify with respect to how big these things would be, how small they might be, and we needed additional information to be able to make a judgment about that.
- Q Now, how many --
- MR. CHAMUT: And if you look -- well, go ahead.

1 Sorry. 2 DR. RIDDELL: Are you finished? 3 MR. CHAMUT: Yeah, go ahead. DR. RIDDELL: Mr. Commissioner, I won't comment on the 5 monetary, but I think one other thing that we 6 should identify that did take some time to 7 discuss, and this is really part of why I 8 suggested putting the chronology together, is keep 9 in mind, also, SARA was coming about at the time. 10 There was a concern about biodiversity generally, 11 and that, and we spent quite a bit of time talking 12 with people in Ottawa about why you need to 13 conserve biological diversity. I mean, there's 14 lots of examples where people would say, "Well, 15 why would you need a Cultus Lake sockeye? that's just one of 230, why do you care," and 16 17 that. So there was an educational process. 18 was a fundamental change. I mean, Pat, yesterday, 19 referred to it as transformational. There's no 20 question for people outside understanding salmon, 21 this policy was transformational and the concept 22 of conservation units, as opposed to what you referred to as stocks in the Slaney paper, that 23 24 individual streams, and that. And so their 25 concept was, "Well, how could you possibly need all that diversity?" And this is a -- it's a 26 problem that people struggled with in the United 27 28 States, under the ESA, and it's a problem that we 29 had to educate people to when we were starting to 30 talk about a completely different type of policy 31 for Pacific Salmon. 32 So is that biologists in Ottawa you're having to 33

So is that biologists in Ottawa you're having to -- you're having this debate with, or is it fishery managers, or is it people who've got backgrounds in pharmacy?

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- DR. RIDDELL: Well, I don't know all their backgrounds so I don't think I can answer that, but it's a wide variation of people, but all with positions of authority that we needed to educate to why we were presenting a new policy.
- Q Do you know that it was biologists that that -- the group of Ottawa sceptics included biologists?
- DR. RIDDELL: Well, I only know a few biologists that were involved. I don't know the background of the others so I really can't comment.
- Q But some of the people who were sceptical were biologists?

DR. RIDDELL: Some were, yes.

- Q How -- Mr. Chamut, how many times did the policy bounce backwards and forwards between the Region and Ottawa?
- MR. CHAMUT: Four times. Once in 2000, when the first draft came up. The second time was, I believe, in 2002. The third time was in about November of 2004, and then a final time in -- I believe it was April. I could be proven wrong, but it was just probably within a month of it being approved by the Minister in 2005.
- Q And what changes were there either in the policy or in Ottawa that caused the policy to be finally approved?
- MR. CHAMUT: Well, if you go and look at the final policy and compare it to some of the early drafts, you'll see that it changed quite dramatically. was -- it added a number of different elements. It was written in a manner that was clear. provided -- obviously, it was a commitment to conserve genetic diversity, was one of the fundamental commitments that was made in the policy, but added to it were -- was the understanding that the notion of sustainable use was also an important consideration to make, and it included a process by which some of those determinations could be made where social and economic considerations could be brought in to issues such as harvest management, enhancement, and a variety of other things associated with resource management.

So it was, in my opinion, a wholesale change, something that more properly reflected the broad mandate of the Department, and it did obviously have an awful lot more support because I think it was clearer and one could start to appreciate how it would be implemented based on the presentations that were made, and based on the document, itself.

- Q And that's what I'm trying to get to is what were the factors that made it now acceptable?
- MR. CHAMUT: Well, I think if you look at -- I, really, am not in a position where I can go through each and every change, but I think the important thing was that it provided a much broader appreciation of the -- that reflected the broader mandate, the mandate of the Department. I think the early drafts that came up focussed on -- more on the

Science perspective without necessarily including some of the issues associated with socio-economic considerations and how that might be introduced into the policy while still maintaining its fundamental focus on preserving genetic diversity. Because all the time that this was going on, life wasn't standing still, there were a variety of other things that had happened. And Brian had mentioned the Species at Risk legislation and the -- I think that, in particular, was -- certainly heightened the importance of the Department adopting a policy on wild salmon and a policy that, more importantly, would protect genetic diversity because it became quite clear that in the event that we ignored some of these smaller populations of sockeye that were in decline, it became very clear that those populations would, at some point, become considered under the Species at **Risk** legislation and that does introduce a whole bunch of additional complications to resource management that would have quite considerable effects on departmental programming, but I think, more importantly, could have had quite important implications for harvest management, as well.

So there was no question that the basic goal of protecting genetic diversity was one that did need to be embraced and did need to be the cornerstone of the policy. And a lot of the work that went on from 2003 through to the finalization of the policy was how to actually build a policy that contained that fundamental cornerstone, but at the same time, allowed some consideration of socio-economic considerations. And I think the policy that you've got before you is what we were — what we had put together and it was one that found favour within the broad department, but more importantly, was one that was approved by the Minister, which was — and adopted in 2005.

- Q So out of all of that answer, I think I heard two specific points. One was a desire to avoid **SARA** intervention, if I can use that word; is that fair?
- MR. CHAMUT: I'm not -- your context of your question is a little puzzling. You're -- I mean, I had suggested that one of the factors that had become quite important was the **Species at Risk** legislation and it was one consideration, and it

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did reinforce the importance of the protection of genetic diversity, which has been discussed here quite extensively this morning. And if you can go back to the Wild Salmon Policy,

please, Exhibit 8, page 14, Objective 3, and the very first paragraph. Here -- and I'm asking if this is the other change that allowed it to be accepted by Ottawa, because you started telling us about the socio-economic factors. And here the policy says:

The conservation of wild salmon and their habitat is the highest priority in this policy. However, a policy that failed to consider the values that harvesting of Pacific salmon provide to people would be incomplete. While everyone supports conservation, many people depend on salmon for their social and economic needs and insist on a balanced policy that provides for sustainable use of wild salmon.

Is that an expression of the need to recognize what you described as the broad mandate of the Department?

MR. CHAMUT: I think that's part of it. The recognition that we do have a responsibility for resource management and that there needs to be an opportunity for consideration of social and economic values to go into resource management decisions and Strategy 4 was the way in which that would be achieved. And I think that concept plus the fourth strategy was one that I think found favour in Ottawa because it did embrace the broader mandate of the Department.

And did Ottawa sense that that balance was not there in the earlier drafts?

MR. CHAMUT: You're using the term, "Ottawa" as it being some sort of a monolith, and I think what I'd have to say is there were -- as one of the members around the Policy Committee, I was probably the one that was most concerned about how the initial drafts would be implemented and how it would impact on resource management because that was my basic overall responsibility. So I had a number of questions that I directed back to the Region.

The were other questions that came in from various people, but I really can't remember exactly what they were and so when you -- when I talk about -- when you talk about Ottawa, I think I'd like to prefer -- talk about something that I do know about and that is what I said, rather than what the broad monolith might have directed.

- Well, rather than referring to a city in the frozen north, we'll refer maybe to the Policy Committee of the Department of Fisheries and Oceans, would that be a better phrase?
- MR. CHAMUT: That's fair. I mean, you've -- I think the Policy Committee would speak -- would have a record. It would speak with -- it would provide direction back to the Region, and that direction was pretty much as you read out of my witness statement.
- Q I actually jumped ahead a bit in the chronology, Dr. Riddell. Yesterday, you were taken to a number of documents that talked about the conflicts or the tensions that arose between Science and Fisheries Management in the Region, and I would like to just try to get a better sense of what they were and who the protagonists were on either side.
- DR. RIDDELL: Well, let me speak just very broadly about this because you're talking about lots and lots of different people, and lots and lots of different meetings, and that. I mean, I think the fundamental change that and Pat has referred to this, number one, it is a change and we are talking about, in the minds of Fisheries managers, we were adding a new dimension that they had to account for, in which case it was diversity, that they no longer would be held accountable on the management of a single large population and its production, they were looking at the total production and the diversity of the fish throughout a CU.

There was an uncertainty in their mind about how they were going to do that. How were they going to manage with these conservation units that had not yet been defined? So I mean, I think you can see from in the early 2000s, if you're responsible for implementing what turned out to be Strategy 5, if you, annually, are responsible for managing a fishery, then change is something that

challenges you to think about, "What's it going to do to me? How am I going to be able to explain this to user groups? How am I going to implement this in an in-season management process."

So I don't know that anyone fundamentally

So I don't know that anyone fundamentally disagreed with the direction of the policy. They definitely had concerns about how it would be implemented and instead of being focussed only on the large production stocks, they were now going to be accountable for diversity within the conservation units and all of the conservation units, in total, and that. Not really all that different, in Fraser sockeye, from the way that they had seen management for a number of years, for a long period of time, but new terminology, new expectation, new uncertainty.

- Q And who were those fishery managers?
- DR. RIDDELL: Well, they probably changed through time.

 I mean, I'd have to think a bit. I mean,

 currently -- the current manager is Barry --
- No, I'm interested in that period of time, when there was tension between Science and Fishery Management because, at the moment, we're only hearing from the Science side of this debate. So who were the people involved on the Fishery Management side of it?
- MR. SAUNDERS: I don't have a strong recollection, I'd have to think about it a bit more, but in terms of the -- at the time of the policy development, Sandy Fraser was the lead on the team from -- and brought forward and took back sentiments with Fisheries management, and I -- beyond that, I have difficulty recollecting who would have been the actual managers.
- Q Mr. Riddell and Mr. Chamut, I see you conferring. Are you able to identify these people now?
- DR. RIDDELL: We're just trying to recall who were the actual managers directly in the Fraser. I mean, the people that came to mind, Sandy Fraser's name was brought up, in Fish Management and Policy, Steven Wright was in Policy and had effect on Fisheries Management, but the people actually doing the assessments, some of those people have simply changed. Who was the director for Lower Fraser is what I was trying to think about. Francis Dickson (phonetic), in the late '90s. There has probably been, literally, four or five

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46 47 managers in the Lower Fraser, is what I'm struggling with.

Mr. Commissioner, I've got about 10 or 15 minutes more. I see it's 12:30. Perhaps the panel could confer, maybe with counsel, over the lunch break, and provide us with some answers to that question. THE COMMISSIONER: All right. Then we'll adjourn until

two o'clock, Mr. Wallace. THE REGISTRAR: The hearing is now adjourned until 2:00 p.m.

> (PROCEEDINGS ADJOURNED FOR NOON RECESS) (PROCEEDINGS RECONVENED)

THE REGISTRAR: The hearing is now resumed. MR. BUTCHER: It's David Butcher continuing. Mr. Commissioner, I've asked Mr. Lunn to put up Exhibit 85, as one of the many documents put to

the panel yesterday, to illustrate the tension that was being documented by the managers. Mr. Lunn, if you can just maybe highlight that a bit, yes.

CROSS-EXAMINATION BY MR. BUTCHER, continuing:

- Now, I've asked that to be brought up just to see if it would assist you in answering the question that I posed before lunch. Who are the people on the fishery management side that are on the other side of this tension? Do you have answers to that Dr. Irvine? now?
- Yeah, maybe I could speak to that, at DR. IRVINE: least initially, as I have had the most continuous involvement in the WSP throughout its development, and I essentially had the pan between about 2000 and 2002, somewhere in there, 2003.

As Brian and Pat indicated earlier, there's been a large number of people that have been involved in this process from the fishery management perspective. Admittedly, there has been tension, and we can talk about that. But there's also a lot of education, so a lot of the tensions that were felt by certain individuals was relieved somewhat with knowledge.

But if you really wanted to know names, the two names that I would provide would be Steven Wright and Sandy Fraser. Now, both of these

individuals represented Fisheries Management during a critical period. Now, Sandy was actually a member of the writing team and contributed a good portion of the strategy for text and really was responsible for being the go-between between the writing team and Fisheries Management.

But Steven Wright was also involved during the critical phase and was perhaps not in full agreement with those of us in Science, or in less agreement. So there was a bit of a tension going on there.

- Q And would Wayne Saito be another name that should be added to those two?
- DR. IRVINE: Well, I'm trying to remember when Wayne left the Department. You know, Wayne was involved, but he went, I believe, to the private sector and then to the province. I'm just not sure of what -- you know, when he left Fisheries and Oceans.
- Q And what happened to the other two gentlemen you mentioned?
- DR. IRVINE: Well, Sandy Fraser was retired from Fisheries and Oceans probably in 2006, 2005 or '06, '07, yeah, so he retired not long after the policy was finished. Steven Wright, as far as I know, is still within DFO.
- Q I want to turn for a moment, now, to the policy, and just to confirm that the Strategies 1, 2 and 3 are really fact or data-finding exercises; is that fair?
- DR. IRVINE: Well, I would say that they're information-gathering processes as well as methods, yes.
- Q And I presume -- and we're going to hear more about this, but as we understand it at this point, there has not been the expected progress in that information-gathering process.
- DR. IRVINE: Expected by whom?
- Q By the Department, by Mr. Chamut, for example.
- MR. WALLACE: Dr. Irvine will be here on the implementation panel.
- MR. BUTCHER:
- Q I'll just ask that question of Mr. Chamut. You'd expected more progress. You've already told us that.
- MR. CHAMUT: I've said in my witness statement that I would have expected more progress, but I also have

to -- said, and I think I said this yesterday,
that I have not had any sort of detailed briefing
or understanding of exactly what the Department
has done or has not done.
But, from what I have gathered, I was -- I
would say I expected that there would have been

more progress made on implementation by this time.

And what is envisaged is that ultimately all of that information, when gathered, would be utilized in Strategy 5 for the annual program delivery. I

see, Dr. Irvine, you're nodding your head.

- DR. IRVINE: Well, the Strategies 1, 2 and 3 are the information-gathering processes, right, and they're gathering the non-social and economic information. So they're put together with social and economic information in Strategy 4, which is where the detailed plans are developed. Strategy 4 is more about the annual operating programs.
- O Now --

- DR. IRVINE: No, I'm sorry, I have that confused. Strategy --
- Q Strategy 5 is the annual program delivery which includes the harvesting plan.
- DR. IRVINE: That's right, Strategy 5, yes. Strategy 4 is the integrated planning process.
- Now, you've generally given evidence that this document does not provide operational guidance, does not provide direction or directives to the Department. Have I understood that correctly?
- DR. IRVINE: No. It certainly provides operational guidance. It does not provide detailed operational guidelines.
- Q One place, though, where a very specific guideline is found is on page 29 where --
- MR. BUTCHER: This is Exhibit 8, Mr. Lunn, page 29.
- Q -- where you have set up this process for ministerial rejection of plans, and if I can read it --
- MR. WALLACE: Mr. Commissioner, this is Strategy 4, and it is the subject, after we have harvest management, of the next session on Wild Salmon Policy.
- MR. BUTCHER: All right.
- Q I'll ask this question: Maybe I'll direct it to Mr. Chamut because you've already commented on this. Why was the bar for ministerial intervention set so high, that is, exceptional

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circumstances where recommended management actions are assessed to be ineffective, or the social and economic costs will be extreme.

When so much of the information required had not been gathered at the time of the report, and in fact still hasn't been gathered, why was that test put in there?

- MR. CHAMUT: Well, I guess --
- Because -- and frankly, I'm getting the sense that when this policy was written, that test was put in, in an informational vacuum. So that's the question that I want to ask.
- MR. CHAMUT: Well, I can only say that I fundamentally disagree with that assertion. The nature -- have you read the policy? The nature of this policy, the specific requirement is that we're setting out to protect genetic diversity. That's the highest priority. We acknowledge that in the process we will also be looking at socio-economic considerations.

But fundamentally, what we're trying to do is we're establishing a conservation unit as the basic unit that we are going to protect, rehabilitate where required, and maintain.

- But they're all unknown.
- MR. CHAMUT: But there are going to be circumstances where we know that a conservation unit is going to be virtually impossible to rehabilitate or to maintain without going to very large economic and social costs.
- But again, with respect --
- MR. CHAMUT: Just -- but you're -- can I just continue, please?
- Well, I'm going to suggest for a moment --
- MR. WALLACE: Sorry, Mr. Butcher, please let the witness complete his answer.
- MR. BUTCHER: Certainly.
- Sorry, carry on, Mr. Chamut. And I have read the policy, thank you.
- MR. CHAMUT: Okay. The policy -- we needed to be clear that we were not necessarily -- that the policy did not oblige the Minister in every circumstance to protect or maintain a conservation unit where it was determined that to do so was going to be very costly or, in the alternative, was unlikely to be successful. Because it would be very poor public policy to have something that committed the

Minister to protect the genetic diversity of each and every CU when we knew there would be, there could be and likely will be situations where it's just not feasible to do it.

We didn't want to create a policy where the expectations were so excessively high that the Minister would be -- essentially his hands would be tied, or her hands would be tied, and we wanted to be clear that there would be some situations where we would not be able to protect a particular conservation unit. But we wanted it to be clear that it would likely be in exceptional circumstances, and that the process of doing so would involve a detailed study by the Department, consultation with various interests, recommendations to the Minister and a sign-off by the Minister. That's in exceptional circumstances, dealing with a CU that is not likely to be able to be preserved.

But the other point I want to make is that this is not the only point at which a Minister will have a decision-making capacity. Every year annual plans are put up. They are called integrated Fisheries Management plans, and the Minister signs off on all of those. So decisions that will be included in those plans will include things like harvest rates, escapement goals and target -- not target reference points, but there will be benchmarks there that he will approve as part of the annual planning process. That may not be spelled out in the policy, but it's very much the approach that is taken on a regular basis by the Department. So the Minister still has a role to play in approving all of those things.

- Q I'll put this slightly differently. Might it not have been more prudent to carry out all of the research in Strategies 1, 2, 3 and 4, and then write the policy? Have you done it all completely backwards, in other words?
- MR. CHAMUT: Well, my answer to that would be no. I think that having --
- Q That might be because you're the author of the policy, but carry on.
- MR. CHAMUT: I think it was really important for the Department to have a policy in place that started to answer some of the basic questions that have been around this business, this industry and the

whole fishery for many, many years, and that is: What are we trying to conserve, and how are we trying to do it?

I think, as I've explained, and I think other members of the panel have indicated, it was -- we were looking at a number of demands that had been made for the Department to have a policy. We had evidence led yesterday about the Commissioner for Sustainable Development and the Auditor General, and those were important considerations in getting a policy done.

I think the imminent implication of the species-at-risk legislation was another incentive that I'd mentioned earlier. And the Department was expected to have a Wild Salmon Policy, and I think the timing was right to do it. If we had waited till we had every ounce of information that could have been gathered, we still would not have a policy and I think that would be to the detriment of our management program and, indeed, to the resource.

That's my opinion.

- Q But if you've been getting the information back in 1999, you'd have had it all by 2005, wouldn't you? MR. CHAMUT: No. I don't --
- Q If you'd spent the money conducting Strategies 1, 2, 3 and 4 from the outset, wouldn't we have then been in a much better position to write a more informed policy? I see Dr. Riddell might want to answer that question, or one before.
- DR. RIDDELL: Well, probably a piece of each. Mr. Commissioner, I think -- and it's nice to look back and, yes, maybe if we'd had more information, maybe we could have done it more quickly, but -- and there are a couple of other points in terms of doing it backwards.

There were a number of pressures that were going to affect fisheries if the Department didn't take a more forward agenda and try to get in advance of things like SARA. If COSEWIC had proceeded with listings of populations, and if they had been listed under SARA, right -- and that's a big "if" because it has gone to Ottawa and the Minister -- particular council, I forget the name of it -- actually did not accept it.

But what if a number of those had been listed under SARA? They would have had immediate

restrictive developments on fishing and development in a number of things. A number of the decisions that have been taken really were conditioned by the development of the Wild Salmon Policy, a number of which related to MSC. I don't think you would have seen MSC certification for the Canadian fisheries if we did not have the Wild Salmon Policy as a forward-looking management framework and agenda.

So maybe things could have happened differently; that's certainly true. But I do not think it was inappropriate to proceed with the policy, because it did address a number of the challenges the Department was being faced with and a number of pressures that were definitely threatening fisheries, and that.

- Would you agree now, with hindsight, that it would have been better to do the informational gathering and then write the policy?
- DR. RIDDELL: Well, I suppose you'd have to say yes, but I don't really understand too much -- what we -- you see, you're implying we were doing nothing in terms of enhancing the conservation units. I think we simply have to look at a number of things that are evident, such as the COSEWIC assessment of B.C. interior Coho. There was extensive work done before the Wild Salmon Policy there, and it really used the application of the idea of conservation units.

I wouldn't say that it was as evident with Sakinaw Coho and Cultus Lake Coho because, as we've said numerous times, sockeye become lakespecific. So the stock versus CU is a very much more direct relationship with sockeye.

But there are a number of analyses that show the Department was clearly proceeding in the manner of conservation units before the Wild Salmon Policy was there. It just wasn't phrased as a conversation unit.

- That answer leads into my next question. You've told us several times that this policy is transformational, but I'm going to suggest that it was just a codification of changes that DFO'd been making over the past 15 to 20 years, including dealing with things such as weak stock management and bycatch issues. Do you agree with that?
- DR. IRVINE: It's certainly true that the WSP was an

important step in the evolution of modern fisheries management. I agree with my colleagues it was transformational, but it wasn't the beginning and nor is it the end.

You know, we had a lot of discussion this morning about, you know, how much diversity should we protect, and I think with the Wild Salmon Policy is it makes a real significant contribution, is it defines how much diversity in terms of the conservation unit. And so this -you know, when you talk about diversity, you're talking about within-species diversity. Brian's seminal paper really was talking about how much diversity should we protect. The Wild Salmon Policy identifies that, and this wasn't done outside -- you know, this was done within the So it identifies the conservation unit as policy. that basic unit to protect.

There's still a lot of disagreement about how much diversity within a conservation unit, but to imply that this work would have been done outside or independent of the Wild Salmon Policy I think is a mistake.

- Are any of you, any four of you, prepared to accept the notion that the Wild Salmon Policy was, in large part, a codification of changes that DFO had been making over the previous 15 to 20 years? Dr. Riddell?
- DR. RIDDELL: I won't accept on whole, but I think you are correct that it was a codification of the aspect of stock-specific management, and the best case of that is probably the large ocean troll fisheries which, for many years, was not really considered to -- we all knew it had mixed-stock consequences. It was not managed on the basis of specific stocks and harvest grades. So it is a codification of a change that was occurring, and I think I noted this in my introductory talk about the change through 1980s -- or '80s and '90s.

But I think where the transformational notion comes in is it did identify the unit that we will use. It went away from single populations. It is the first time that you would have a single policy and management framework that integrates the fish, the habitat and the ecosystems. It's the first that commits us to what we wanted to be, a transparent regional-based governance where you

incorporate ecosystem-based management really in management. I'm sorry, I didn't say that well. Where you apply ecosystem-based management in the development of long-term management plans.

This is where communities should have had input into if you have populations or CU's of mixed status, the Wild Salmon Policy does not require you to manage all fisheries to achieve a particular goal for the weakest stock. It says develop a management plan across those units, taking into account the socioeconomic effects as long as you can recover the weaker conservation units through time, so it's not continue that risk of loss.

So there actually is quite a bit of flexibility when you look at the package as a whole. That is what's transformational, is that we're trying to give very specific management framework for a future-looking document, how to conserve Pacific salmon for future use and evolution.

- And what I was trying to suggest to you in the question was that that had been going on within DFO for many years and, in fact, was undertaken by the IPFSC for 30 or 40 years before that. That's why I was taking issue with this transformational concept.
- DR. RIDDELL: Well, I wouldn't agree that it had been going on.
- Q Now, we've heard that the -- at one point \$1 million was directed to the WSP when it was first introduced, and that that wasn't actually new money at all. It was money that was diverted from other sources within the Department.

Has anybody calculated how much it cost during the six years to draft the WSP, either in dollars or in person-years?

- DR. SAUNDERS: I'm not aware of any such calculation. Q Would it be far more than the \$1.1 million that
 - was allocated to actually put it into effect?
- DR. IRVINE: Perhaps, but these are difficult questions to answer because our salaries are not really included even in that \$1.1 million, so it's that's kind of new money for operating expenses. Because there's a lot more than the Wild Salmon Policy within Fisheries and Oceans Canada, obviously, so it's quite difficult to sort of say,

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PANEL No. 6
Cross-exam by Mr. Butcher (SGAHC)

- well, how much of your time is spent on WSP versus something else, so -- it's an interesting question. I don't know.

 So is your answer to the Commission and to the
 - Q So is your answer to the Commission and to the people of Canada at large, we've no idea how much money we spent developing these 50 pages in six or seven years?
 - DR. IRVINE: No, I don't think that's the answer at all. I just --
 - Q Well, can you give us an answer?
 - DR. IRVINE: We don't -- I haven't actually thought about that very much. I'm sure that a person could develop and estimate, but I don't think we could do it this afternoon.
 - Q Mr. Chamut or Dr. Riddell, do you have -- can you shed any light on that question?
 - MR. CHAMUT: I can't add anything to what Dr. Irvine has said. Obviously there was a number of people involved, and if you added up all their salaries plus some travel costs, that would basically be the bulk of the expenditure. And over five or six years, it's quite conceivable that it could amount to \$1 million in total, but no one has done that calculation. That's not to say it couldn't be done, but we didn't particularly see the need to do that as part of the normal budgetary process.
 - Any concept of the number of person hours involved? And they're all very senior people hours as well, aren't they? They're all senior managers, senior biologist hours. Firstly, is that correct, that it's senior people involved in the process?
 - MR. CHAMUT: I'm not sure what you mean by senior. I mean, there were people like you see sitting in front of you here. There were people I would generally term as middle-management, by and large.
 - Q And would you agree it's hundreds of hours of their time?
 - MR. CHAMUT: Undoubtedly, yes.
 - Q Would you agree it's thousands of hours?
- 41 MR. CHAMUT: I'd say probably.
 - MR. BUTCHER: Thank you. Those are my questions.
 - MR. WALLACE: Thank you. Mr. Commissioner, the next participant on the list is the West Coast Trollers Area G Association, United Fisherman and Allied Workers' Union.
 - MR. HARVEY: Yes. Thank you. It's Chris Harvey. I'm

over here on this side because I represent the West Coast Trollers, way off in left field.

CROSS-EXAMINATION BY MR. HARVEY:

- Q Dr. Riddell, you mentioned Dr. Walters once or twice in your testimony and it sounded to me like he's highly regarded in the scientific community; is that fair to say?
- DR. RIDDELL: Yes, he certainly is.
- Q Yes. But do I understand from your answers that your training is more focused on genetics, your training and experience, work experience?
- DR. RIDDELL: Thank you for that clarification, actually, because my training is population genetics which has quite a bit of statistics and analysis, and when I took over my job in September of '79, as I said, I continued to work in genetics, but I was also asked to set up the salmon production and analysis program where I worked much more extensively in stock assessment analysis and modelling.
- Q I see. Has Dr. Walters worked more in the field of fish population dynamics?
- DR. RIDDELL: Dr. Walters is a world-renowned leader in fish population dynamics.
- I see. Thank you. Now, to clarify precisely what is meant by the conversation units -- because I gather this is the major contribution of the Wild Salmon Policy. It identified the conservation units as the unit to be protected. Is that a fair generalization?
- DR. RIDDELL: The definition of the units; the establishment of two benchmarks, not one; the requirement for an assessment framework per conservation unit and the integration of habitat and ecosystems and then into the framework. It is a full package. The conservation units is probably the one that, I would say, is most innovative in application and development.
- Yes. All right. And that unit is intended to represent what would be irreplaceable, genetically irreplaceable -- no, I'm sorry. A unit, a stock that would be irreplaceable if that genetic basis for it were lost; is that the correct way to put it?
- DR. RIDDELL: Yes. One of the slides that I used had

the definition, and basically it's a genetic lineage that would -- if it was lost, it was irreplaceable, and that.

Q Yes.

- DR. RIDDELL: Now, the genetic aspect of lineage is emphasized because in species other than sockeye salmon, you could probably get other lineages of Chinook or Coho or pink or chum to go in and restore production from a habitat, but it would not be the same genetic material, and that, so you could restore production but not the genetic diversity, yes.
- And with sockeye, you can't even restore production because the genetic material in the sockeye is developed for a specific lake system; is that correct?
- MR. RIDDELL: That definitely is most of the evidence. We just heard an example of where one stock was very depressed and it has managed to recover, it recovered, as far as we know, from the same genetic material, and that.

Q Yes.

- DR. RIDDELL: Where we have lost the material, we have been unsuccessful in transferring other sockeye populations into them, and that, and so, yes, that's the serious concern that if you lose a sockeye CU, you not only lose the genetic material, but you're going to lose some level of production as well.
- Yes. But the level of concern is not the same within the CU; is that correct? Because within the CU, if you -- and I think that comes back to that Quesnel or Horsefly example. Within the CU, the stock can be restored.
- DR. RIDDELL: Yes, and that's one of the fundamental changes from getting away from a single stream by species, that what you're doing in terms of defining a spatial unit as a conservation unit is you're allowing for multiple populations in there to if you want to act as an insurance policy. If you lost the animal spawning in a particular stream, then similar genetic material from around it would allow it to recover and restore production.
- Yes. And I think you said, if I got your evidence right, that there have been examples where the genetic material in a specific stream has been

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 lost, but there have not been examples where the genetic material in respect of a complete CU has been lost; is that correct?

- DR. RIDDELL: If you're referring to sockeye salmon again, yes, that's correct.
- Yes, yeah. So -- yes. So when you were emphasizing adaptability as the important reason for maintaining genetic diversity, am I right in thinking you were speaking more generally because you cannot apply that to sockeye? In other words, they're not adaptable inter-CU, from one CU to another?
- DR. RIDDELL: Yes, that's partially correct. The adaptability implies a process where you have multiple populations that can mix and recover from themselves, but it's an issue of having a wide distribution of the salmon within their conservation units so that they can adapt through time.

But when you get to sockeye salmon, the critical element is that you tend to have relatively -- unless there's a very big CU, you tend to have a limited number of spawning sites where the genetic diversity actually starts from. It actually starts from individual pairs of salmon, obviously, and that. And so the loss with sockeye salmon is much more -- much greater impact in the sense that you can't replace it with animals that are likely to provide you production.

- Q Yes. That's if you lose the genetic basis for the whole CU.
- DR. RIDDELL: Yes.
- Q Yeah. So when the Wild Policy -- Wild Salmon Policy is drafted, you would -- you would have wanted that distinction to be made clear, would you not, the distinction between protecting the biodiversity of a CU as opposed to protecting the diversity within a CU with respect to a particular stream, for example, within the CU.
- DR. RIDDELL: Well, not quite. No, you need both levels of diversity. You need both elements of the distribution of the animals, because the biological diversity consists of both what we call intra-specific or inter-CU, 'cause there'll be multiple spawning populations. That's a level of diversity. It has less genetic difference within it than between CU's. But across the whole

province or a larger geographic landscape, 1 multiple CU's provide even more genetic diversity. 3 But in terms of the insurance policy, if you want, that I talked about, the real importance of 5 that is that it can restore production within a 6 CU --7 Yes. DR. RIDDELL: -- more quickly than between. 8 9 Yes. So the adaptability value is -- the 10 insurance policy value is more important within 11 the CU. DR. RIDDELL: 12 Yes. 13 Yes, all right. I don't think that's made clear 14 in the wording of the Wild Salmon Policy, is it, 15 that distinction? DR. RIDDELL: I'd have to check various pieces, to be 16 17 honest, about that. That was definitely part of the assessment framework that you'll be hearing 18 19 about in implementation. It's equally important 20 that we look at production and distribution of 21 fish between spawning sites. 22 Yes. No, I don't want to get into implementation, 23 but I'm looking at it from the point of view of a document that someone has to be able read and 24 25 apply in accordance with its intent. 26 MR. HARVEY: I wonder if, Mr. Lunn, we could have the 27 policy which is Exhibit 8, page 3. So the top 28 left-hand paragraph on page 3 recounts, more or 29 less in a historic way: 30 31 Concern for diversity in Pacific salmon 32 emerged as a significant issue during the 33 1990s, along with Canada's support for the 34 1992 UN Convention on Biological Diversity. 35 36 Then it goes on to say: 37 38 ... southwestern BC, one-third of the spawning 39 locations (a species in a stream) known since 40 the 1950s had been lost or diminished... 41 42 And the final sentence in that paragraph says 43 that: 44

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These declines in diversity are one impetus for a new management approach for wild salmon.

But there's -- it doesn't say anywhere here that we haven't lost an entire CU, nor does it make any statement that we were not at risk of losing an entire CU through the century or so of mixed-stock fishing that had occurred prior to this. Would you agree with that comment?

- DR. RIDDELL: Well, I'd say, again, that it doesn't reference CU's, because it was something that was in development and it's not something that people were -- really understood in the jargon at that time. We did point out that even in the Slaney paper that there were a number of populations of sockeye that had gone extinct. Many of those, though, as we said, were related to developmental things such as dams, and that, but do we have CU's that would have gone extinct in this number? Yes, there would have been a few, but they are the ones that we talked about earlier for sockeye, probably in the Lower Mainland and in the Fraser.
 - Yes. I thought you said there hadn't been an entire CU that had gone extinct.
- DR. RIDDELL: You have to consider the lake-specific populations of sockeye would almost certainly have been CU's, and that, so we talk about Coquitlam, Alouette -- what was the other one? Oh, and then we had the Upper Adams River we referred to.
- Q Yes.
- DR. RIDDELL: Upper Adams being a dam effect, however. Q
 Yes. Well, the Alouette and Coquitlam were also habitat-related issues, were they not?
- DR. RIDDELL: Yes, they were, yes.
- All right. Well, let me ask you this, and I think you've covered it. The context in which the Wild Salmon Policy was developed is that, as you've said, we've had a commercial fishery since the late 1800s. Now, you used the terminology "noncommercial" -- sorry, "non-Native commercial fishery", but you didn't mean to exclude our -- the Native commercial fishermen from the concept of the commercial fishery, did you?
- DR. RIDDELL: No.
- Q I mean there's -- it would be historically inaccurate to speak of our commercial fishery as being non-Native, correct?
- DR. RIDDELL: Yes. There's always this, I suppose, a nuance of words in the sense that they talk about

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commercial fisheries. It doesn't go both ways.

Of course, if we say that, then other people don't think you're including the First Nation fisheries.

So we tend to try to refer to them specifically.

Yes. But historically, they're -- and to this day, commercial fishermen may be Native or non-
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- Native or from any other origin fishing under the same rules. Isn't that as you understand it?

 DR. RIDDELL: Well, I mean, they are -- there are some
- elements of commercial fishing, but they are not fishing all under the same rules, no. I mean, we do have food, social, ceremonial fisheries.
- Q Oh, yeah, I'm sorry. I'm sorry. I was restricting my questions to the commercial fishery.
- MR. RIDDELL: Oh. Yes.

- Q Yeah. And the commercial fishery --
- MR. WALLACE: Mr. Commissioner, I'm not sure that this is the right panel to have this discussion with. I'm not sure how it relates --
- MR. HARVEY: All right.
- MR. WALLACE: -- to Wild Salmon Policy.
 - MR. HARVEY: Well, I wanted to give Dr. Riddell the opportunity to correct the impression that there was such a thing as a non-Native commercial fishery as he had mentioned it. So I think we've done that.
 - Q As the -- now, as the -- again, continuing in the context for the Wild Salmon Policy, you describe the growing awareness of the importance of biodiversity starting -- well, one of the things you mentioned, I think, was 1978, University of California conference on conservation biology. There were a number of things through the '80s and early '90s that raised the profile of biological diversity; is that correct?
 - DR. RIDDELL: Yes, and around the world and not just salmon, by any means.
 - Yes. And whether the Wild Salmon Policy is a codification or not - and you've explained that, I won't go over that again - it is part of an evolution that developed from the awareness of the importance of protecting biodiversity. Is that fair to say?
- DR. RIDDELL: Yes, I hope that would be the message of my introductory talk.
- Q Yes. Yes. Now, you were asked a few moments

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ago, by Mr. Butcher, the line of questions as to whether it was a codification or not. Correct me if I'm wrong, but I got the impression that what the Wild Salmon Policy did, as you explained it, was that it allowed for a greater flexibility in the way it has adopted conservation units as the genetic or diverse -- biodiversity basis for fisheries management. Is that -- would that be a fair interpretation?

DR. RIDDELL: Well, I mean, each species is different, as we've discussed. So the flexibility exists outside of sockeye because they tend to have broader geographic areas with multiple populations. There are some Chinook populations that one population is one CU, so there's no additional flexibility there. They're one and the same.

I think the example I gave on Monday was the Harrison white Chinook.

Yes.

- DR. RIDDELL: But, in general, your statement is true outside of sockeye.
- Q All right. No, but I'm -- I want to restrict it to sockeye, because I think -- you made a comment and I haven't got the exact words about with respect to weak stock management. There was -- there was quite an attention and controversy about the move to what some people called weak stock management. Do you follow me? That's -- that's management that focuses on a particular weak stock. Is that a fair description of what we're talking about?
- DR. RIDDELL: Well, it is, but weak stock is a commonly misused terminology. Is a weak stock a very small stock, or is a weak stock a relatively large but unproductive stock? It could be either. They actually have very different sort of consequences in fishing, and that.

So commonly people talk about weak stocks being very small, right? But a weak stock that's very small can actually be very productive and have good recovery potential. I believe that's why many small stocks along the central coast exist today, and that.

Q Yes.

DR. RIDDELL: So, as I say, it really depends on what you refer to as being weak.

- Q Well, I'm trying to determine what it is that was changed, if anything, in the Wild Salmon Policy with respect to protecting biodiversity, and you have explained that in adopting the conservation units, one has kind of boundaries for the biodiversity that you're protecting in that there needn't be such a focus on biodiversity within the CU, but what is significant and important is to maintain the CU and avoid extirpation of the entire CU.
- DR. RIDDELL: Yes, but it's not just the CU's. As I tried to just say before, it's -- also in the policy is you have the two benchmarks. So for the first time, we have a management goal or, if you want, a biological goal that is at the lower value as well.

O Yes.

DR. RIDDELL: So when does the population start to become threatened? So a significant — that was actually a point that was asked earlier. One of the big disagreements with Ottawa, as the "Big Brother" term was used, it had to do with how the policy was integrating precaution. The point we had to get across is that the two benchmarks, instead of having just a single benchmark, was the really significant change in implementing precaution under the Wild Salmon Policy.

So it's the CU and it's benchmarks for management.

- Q All right. At any rate, the process in -- in the context for the development of the policy included the initiatives started in 1987, I think, referred to as the rebuilding strategy; is that correct? There was a rebuilding strategy adopted in about 1987 which reduced the commercial harvest for the purpose of rebuilding the stocks. Maybe Mr. Chamut would be better able to answer that.
- DR. RIDDELL: Well, I'm sorry, we were just trying to clarify. In 1987, are you talking about the rebuilding strategy for Fraser sockeye, or are you talking generically for salmon in B.C.?
- Q I think -- no, this is a -- this is Fraser River sockeye, 1987, rebuilding strategy. I think I'm correct in that.
- DR. RIDDELL: Yes, there was a science review -- well, I think science and management review at that time looking at the question about cyclic dominance and

whether you needed to sustain cyclic dominance in management which had always been a very strong belief of the IPFSC, and that.

And that group then looked at how you would

actually develop a management plan that would

effect of that biologically in the systems and

whether or not you could have a long-term gain in

production from Fraser sockeye by changing how we

probe for larger escapements and look at the

managed them in terms of the escapement goals.

Yes, yes.

DR. RIDDELL: So that was the objective of the '87 program.

MR. HARVEY: All right. And you showed a -- there was a graph. I think it's in Exhibit 98, Mr. Lunn, if we could have that. Exhibit 98.

MR. LUNN: Oh, the PowerPoint presentation?

 MR. HARVEY: Well, the graph's in both. It could be the PowerPoint presentation if we have that. I think it's about the third page of the PowerPoint presentation. Yes, there we are.

22 23

Now, that graph shows dramatically what happened around about the '88 to '92 time period, does it not? Or, I guess, actually starting more like the mid-'80s, of increased escapement.

DR. RIDDELL: Yes, that's right. I included that to show that within this time period, the 1980s to '90s, we actually went from the highest landings in the commercial sector to the lowest.

Q Yes.

 DR. RIDDELL: And at the same time, we also had in the early '90s, we had the highest production of B.C. salmon in escapement and fishing.

 Yes. Well, I mean, those two lines don't show total production, I don't think, do they? They seem to me they, the way I've interpreted it, show escapement and they show harvest.

DR. RIDDELL: That's right. The two lines are escapement, spawners and catch.

Yes.

 DR. RIDDELL: The combination would be a measure of production, but because of the interception of U.S. and Canadian fish, if you look at Canadian production, it's actually much more complicated to do. That's why I just use a simple trend analysis.

Q Yes. Well, I'm not concerned with harvest so much

- here. But the escapement levels, they seem to have been more or less consistent under the old Salmon Commission from about 1960 through to 1980 at a certain level, 0.08. What is that meant to indicate?

 DR. RIDDELL: That's why I gave the text in the writter
 - DR. RIDDELL: That's why I gave the text in the written material, that these are smooth trends because -- Q Oh, yes.
 - DR. RIDDELL: -- the best estimate for commercial landings is total weight. The escapements are done in fish, and so you really look at the long-term values and average them, and then show the trend over time.
 - Q All right.

- DR. RIDDELL: They are an index of the relative change over time, and that.
- Q Is it correct to interpret this that the escapement roughly doubled from the early '80s to the early '90s?
- DR. RIDDELL: Yes, it is true to look at the escapement there, but I should clarify we're not looking at just Fraser sockeye. This is all B.C. salmon, all right? So this is pink and chum and Skeena sockeye and Fraser sockeye, everything combined, Chinook and Coho as well.
- But we'd have a similar graph, would we not, for Fraser sockeye showing dramatically increased escapement levels?
- DR. RIDDELL: You would find a similar trend in that period 'cause we had very strong marine production.
- Q Yes. But also cutting back on commercial fishing.
- DR. RIDDELL: Yes, you would see some response there, and that was part of the initial plan.
- Yes. And am I right in thinking that -- well, this would have been a hugely increased biomass of material on the -- of fish material on the spawning grounds in the Fraser River. Am I correct in that?
- MR. WALLACE: Mr. Commissioner, I appreciate that this graph was produced by this witness as part of the presentation on the Wild Salmon Policy, but I think that Mr. Harvey is straying well beyond its application for that purpose now, and is well into harvest management.
- MR. HARVEY: Well, the purpose of the question is to develop a question relating to the drafting and

 the context for the Wild Salmon Policy, because I'll be asking in a minute what provisions there are in the policy for escapement levels and what information was available with respect to escapement levels.

But I first want to be sure that, as this graph was introduced earlier, that we understand what it is. That's the purpose of the question as to whether there was, in this period that forms the context for drafting the Wild Salmon Policy, a dramatically increased biomass placed on the spawning grounds.

Is that a permissible question, Mr.

14 Commissioner?

THE COMMISSIONER: It is, Mr. Harvey.

MR. HARVEY: Yes, thank you.

Q Can you answer that, Dr. Riddell?

- DR. RIDDELL: Well, I mean, there were -- as the plot shows there, there were definitely increases in the number of fish put on the spawning grounds. At the same time, the harvest rates through the early '90s were sustained as being quite high, right, so now -- I forget the exact adjective we used about how much it increased, and that, but that would easily be seen in any of the historical data plots we could provide.
- Yeah. There was a question earlier, and I think it was directed to Dr. Irvine, with respect to the bears and eagles and other creatures in the ecosystem depending on the biomass of salmon. The import of the answer, as I understood it, was that there's very little known about the interaction of fish carcasses and fish fry, et cetera, on the complete ecosystem. Is that a fair generalization?
- DR. IRVINE: No, that isn't what I meant to imply.
 What I really meant is that it's an area of active research.
- Q All right.
- DR. IRVINE: So there's lots more to learn. But I would like to point out that the New Directions Policy that was released in 1998 was really the stimulus within DFO for the development of the Wild Salmon Policy. So it's -- I mean, there obviously was work going on prior to that, that contributed to the Wild Salmon Policy, but it was really post-1998 that the real emphasis on the

development of the policy was initiated.

Right. Let me ask you, Dr. Irvine, while you're on the subject, are you aware of any research which would indicate -- or indicated in advance what the effect of the increased biomass on the spawning grounds of the sockeye lake systems would be during the time the Wild Salmon Policy was being developed?

DR. IRVINE: Well, I mean, this again, this is an active area of research. And the thing one has to remember is that the environment isn't constant. So as Dr. Riddell pointed out, this period of increasing productivity in the 1980s was the result of higher production in the ocean environment.

There's, you know, there are these things called regime shifts that you're probably aware of where you have major changes in the ability of the environment to produce salmon in the ocean. So it's not a constant playing field.

So certainly in systems like Chilko Lake where people have looked at density-dependent effects in fresh water, there's been a lot of active research on that in there. There's been fertilization experiments, nutrient enrichment. It's a very complicated field.

Yes. Dr. Riddell, would you like to add something to that?

DR. RIDDELL: Well, just to put it in the -- you're going through a time period here, and I think that to address your question, I'd have to say honestly that ecosystem-based management was developing. Ecosystem-based management was not really part -- -- you know, it was not front and centre in the discussion the late '80s and early '90s. It was very much sort of a known. It's always been known that marine-drive nutrients are a very important ecological value of salmon.

But it was not integrated into resource management of salmon at that time. So if you're speaking to the rebuilding program and the deliberate effort to increase escapements to assess the long-term productivity and production from Fraser sockeye lakes, right, then you did see the significant build-up from management and ocean survival, and that, and then there was a continuation of monitoring, largely in the three

major lakes, to look at what the product was, what was the smolt production that was resulting from the increased numbers of spawners that were allocated to the lake. Yes. All right? But you definitely are DR. RIDDELL: getting into the harvest management and assessment realm. I mean, that was going on independent of the Wild Salmon Policy development, but that type of fishing pressure continued to have the notion

the Wild Salmon Policy development, but that type of fishing pressure continued to have the notion of biodiversity become increasingly higher profile, because there are a number of small lakes through the Fraser where — that do have First Nations and do have other people's concerns about what was causing the limitation to the number of spawners returning to those specific lakes.

As previous cross-examination, I quess,

As previous cross-examination, I guess, pointed out, you have very few lakes that are by far the majority of production in Fraser sockeye. You have a number of smaller lakes that really are riding along, but they are harvested in those fisheries that are exploiting those large lake productions at the same time.

- Yes. All right. Well, let me put it this way. You accept the concept of a limited carrying capacity in the lakes, do you not?
- DR. RIDDELL: Yes, there is a limited carrying capacity in any limited environment like that.
- Yes. And this graph shows that the -- well, this graph and the history of the productivity levels shows that there is a time coincidence between the vast spawning numbers on the spawning grounds and the drop in productivity rates of those spawners.

I don't have the graph. I was looking for it, but I don't have it. But earlier on in the session, we had a graph that showed productivity rates just dropping off dramatically in the '90s.

- DR. RIDDELL: Well, Mr. Commissioner, I think your choice of terms is very apropos here that it is a coincidence in that we have monitoring of the smolts in the lake. In two lakes, it's the fall fry; and another lake, it's the smolt. And so we can look at the number of spawners that returned to the spawning grounds, and then we can look at the juveniles that they produce, right?

 O Yes.
- DR. RIDDELL: What you will find is that the carrying

capacity you talked about, that there isn't evidence that at the very high levels that the number of juveniles produced crash. They do not. They continue to be produced at fairly substantial numbers, but the rate of production, where you put a very large number of fish on the spawning grounds and you've got a limited number of smolts coming back, then the rate per adult is less. There's no question about that.

But the number of smolts leaving the lake have not crashed, and a very interesting question that we have to sort out is at Chilko Lake where we can count the smolts, we have some of the biggest and biggest numbers of smolts leaving now, and yet we're not seeing the return. We continue to see the reduction in total productivity.

The inference is that the loss in productivity is occurring either down river or in the marine environment.

- Q All right. So you're saying it's a coincidence rather that a cause-and-effect relationship?
- DR. RIDDELL: Yes, I am. Thank you.
- Q All right. Is anyone doing any work on that, any research work to determine whether - that you're aware of --
- MR. WALLACE: Mr. Commissioner, this -- I understood this line of questioning was to go to -- had a relationship with the development with the Wild Salmon Policy, and that was five or ten minutes ago, and I haven't heard the connection.
- MR. HARVEY: Point's well taken.
- What I'm leading up to and I'll get to it what -- is there anything in the Wild Salmon Policy that would assist, if it turns out that we've been putting, in recent years, too many fish on the spawning grounds and we've been oversupplying the spawning grounds, leading to weakened -- smaller and weakened smolts, increase in disease, a depletion of the food resources in the lakes, and an increase in the predators feeding on vast numbers of fry? Is there anything in the Wild Salmon Policy which, if that is the cause of a loss of productivity and a decrease, a declining return, if that is the cause of it, is there anything in the Wild Salmon Policy that addresses it?
- DR. RIDDELL: Yes. The Wild Salmon Policy requires two

benchmarks for every conservation unit. If we have the information to demonstrate that you are putting too many fish on the grounds, then there's no question that you can modify the upper benchmark, and that should then be part of the long-term management planning that is part of Strategy 4.

- But those benchmarks are something different than the optimum escapement levels that were utilized by the former Salmon Commission, are they not?
- DR. RIDDELL: The former Salmon Commission does not determine the escapement goals for Canadian resources. The Department of Fisheries and Oceans sets the escapement goals for Fraser sockeye salmon and has since 1985.
- Q Yeah, but by "former", I meant prior to 1985.
- DR. RIDDELL: Okay, yes. And the benchmarks may not be any different at all. That is yet to be determined, and that is the paper that one of you referred to as 194 pages long and was just being reviewed now. I would expect that when that comes through that you will see changes in the upper benchmarks. The author of that will be on your panel tomorrow.
- Q All right. As the Wild Salmon Policy was developed, was it -- well, no, let's put it this way: During the 1990s when these changes began to take place, were the optimum escapement levels that have been developed over decades by the former Salmon Commission, were they put to one side, and a completely new regime put in place with regard to escapement?
- DR. RIDDELL: No. The Salmon Commission was involved in every annual review of forecasting and escapement goals that were submitted through PSARC and so the people with that time history and the same set of data that were collected by them and then continued by DFO, all people involved with Fraser sockeye were involved in determining those.

Then there was a very extensive discussion -- not before the Wild Salmon. It was after 2005 for the looking at the appropriate escapement goals and harvest rates, right?

But all the ones -- all people that are involved in the assessment of Fraser sockeye, including the Pacific Salmon Commission staff that you've met, they are involved as well.

Q All right. So what you're saying is you continue to make use of the knowledge base that was developed over the decades prior to 1985?

DR. RIDDELL: Yes.

1 2

- All right. Let me -- we'll now move on to this. This is perhaps a question for Mr. Saunders. The implementation work plan that you referred to, am I right in thinking that that is -- is not really -- sorry.
- MR. WALLACE: The magic words were "implementation work plan". Mr. Saunders will be addressing that tomorrow.
- MR. HARVEY: I see. So my question is whether there's been any assessment of the results of the Wild Salmon Policy, and that's going to be dealt with tomorrow or should I ask that now?
- MR. WALLACE: That strikes me as an implementation question.
- MR. HARVEY: All right.
- On the question of development of the policy, it was developed at a time when returns of salmon were declining. They've been declining since the early 1990s. That's correct, Dr. Riddell?
- DR. RIDDELL: Greatest decline since the mid-1990s, really, '93, '94, '95.
- Q All right. Am I right in thinking that would have been an impetus for the Wild Salmon Policy?
- DR. RIDDELL: It was certainly a driver because the net result of that is a reduction in the productivity that we're referred to. And so if you're looking at productivity in terms of adult spawners to mature animals that return that could either be harvested or to put on the spawning grounds, if that productivity goes down, then harvest managers have to reduce the exploitation rate to sustain the spawning populations.

At the same time, if the productivity is going down and you sustain fishing, then you'll have a greater impact on the smaller populations again. So there is this -- there's no question it was an impetus for it, and that, but fishing at the rates -- when the harvest rates are going down, they were not as big a threat as they had been, say, in the mid '80s when the harvest rates were higher.

Q But the record shows, does it not, that it was not fishing that caused the decline in harvest -- 80
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 decline in return rates of salmon, sockeye salmon in the Fraser.

DR. RIDDELL: No, I believe you're correct. What we understood is the reduction in productivity is, in many people's assessment, related to marine survival firstly, and now, as there was continued analysis, there seems to be an indication of reduced productivity in maybe intergenerational effects. But the primary effect through the mid-1990s was marine survival or marine productivity, and that.

The harvest rates had been correctly adjusted as the runs returned lower -- at lower numbers. And you see a really strong expression of that on your figure here.

- Q So we're back to whether this graph showing double the escapement is coincidental rather than cause and effect, and that, you say, will be determined by the 194-page report and the research behind that and, I think you said -- is that the subject that Dr. Walters is looking into too, that you mentioned?
- MR. WALLACE: Dr. Wallace will be appearing on harvest management as, I anticipate, will Dr. Riddell.
- MR. HARVEY: And that's -- I'm sorry, just so I understand, that's the session starting January 17th?
- MR. WALLACE: That's when harvest management starts.

 I'm not sure what piece of it they will be involved in, but they'll be here, I anticipate.
- MR. HARVEY: All right. Well, I'll reserve my questions to that. Thank you, those are my questions.
- MR. WALLACE: Mr. Lowes. Maybe as a matter of convenience, Mr. Commissioner --
- MR. LOWES: I'll probably be about 15 minutes, so I'm happy to do it either way. I hope.

J.K. Lowes for the B.C. Wildlife Federation and the B.C. Federation of Drift Fishers. In case it hasn't been made clear previously, Mr. Commissioner, that does not refer to driftnets. These -- that federation are anglers like the B.C.

Federation.

CROSS-EXAMINATION BY MR. LOWES:

Q I want to cover two areas and my questions will be

primarily directed, I think, to Mr. Chamut. The first is to try to put the Wild Salmon Policy, as a whole, into a broader context. First of all, a conceptual context, and then secondly, flesh out the historical context. And then I'd like to ask some questions about the role and the design of Strategy 4. Keeping in mind the distinction between implementation and development, in answering my questions, if you could essentially answer them from the perspective of designing the policy.

Mr. Chamut, you've mentioned in the course of your evidence a couple of times the word "mandate" and you were mentioning that in reference to the Department of Fisheries and Oceans. Both you and the other witnesses have used the word "resource". Would it be accurate to describe the mandate of the Department as managing as a steward for the public a resource, the fisheries resource?

- MR. CHAMUT: Yeah, I think that's -- I mean, I'm not sure exactly what words are used these days, but it is management and conservation of the resource.

 Q Of a public resource.
- MR. CHAMUT: Of a public resource, yes.
- Q That captures the essence of it. And would you agree that these words are an accurate description of the resource as you conceive of it [as read]?

The fisheries resource includes the animals that inhabit the seas, but it also embraces commercial and economic interests, aboriginal rights and interests, and the public interest in sport and recreation.

Is that an accurate description of what you would...?

MR. CHAMUT: Yeah, I think so. I'm just sitting here thinking if there was anything that you didn't mention. I think you've pretty well covered it.

Yes. Well, it wasn't me, it was Chief Justice McLachlin, actually.

Now, conceptually, then, the Wild Salmon Policy as a whole is a part of the carrying out of the -- or it's a design for part of the carrying out of that mandate, of managing that public resource; is that correct?

MR. CHAMUT: I see it as a policy that assists the

Department in meeting its mandate. It basically describes the objective and how we're going to go about doing it.

Yes. And I'll get to this in a moment, but in

- Q Yes. And I'll get to this in a moment, but in essence, it is a policy directed at creating and ultimately managing, if I might call it, biological environmental inputs into that management process.
- MR. CHAMUT: I think that's part of it. Biological inputs obviously are a key part of it, but I think the policy also deals with how we interject some of the other interests that obviously need to be taken account of: First Nations, social and economic considerations and the like.
- Yeah, that'll be the thrust of my questions on Strategy 4. That's essentially what that was.

Now, having dealt with the conceptual context of the Wild Salmon Policy, I want to go through a little bit of the history of the management of the Pacific salmon, and particularly the Fraser River sockeye fishery during the period when you were an active manager from the mid-'80s to about 2000, and see if that captures some of what's been called the social and economic issues.

It's so, isn't it, that in 1985, with the Pacific Salmon Treaty, some of the responsibilities or former responsibilities of the International Pacific Salmon Commission devolved upon DFO?

- MR. CHAMUT: Yes, that's correct.
- Q And that was essentially stock assessment and escapement goals.
- MR. CHAMUT: Yeah, I mean, in a nutshell, Canada reassumed responsibility for management of the Fraser.
- Q Right.

- MR. CHAMUT: As Dr. Riddell has talked about, in conjunction with the Pacific Salmon Commission.
- Q Absolutely.
 - MR. CHAMUT: Right.
 - Q But it was the Department that assumed the responsibility.
- MR. CHAMUT: Yes.
- Q So that was one thing that you had on your plate.
 I'm not being tricky here, Mr. Chamut.

Around 1990, you had to deal with -- and when I say "you", I mean the region -- had to deal with

- 1 the impacts of the Sparrow decision. 2 MR. CHAMUT: Yes, that's correct. 3 Yeah. And that had significant impact, first of 4 all, in how you're going to deal with a 5 prioritized fishery? 6 Yes, it did. MR. CHAMUT: 7 And how you're going to deal with a communal 8 right? 9 MR. CHAMUT: Yes, correct. 10 And to what extent there ought to be or was to be 11 an economic component to the fishery, the 12 aboriginal fishery? 13 MR. CHAMUT: Yes. That was one of the things that 14 obviously we did work on. 15 And there were two branches to that working on it. 16 There was the separated aboriginal fishery, if I 17 could put it that way, the pilot sales fishery; is 18 that right? 19 MR. CHAMUT: Yes, that's one side, and the other was 20 aboriginal participation in the commercial 21 fishery. 22 What you might call the integrated part of the 23 strategy. 24 MR. CHAMUT: Yes, that's right. 25 And there was also on your plate the whole issue 26 of what you might call industry restructuring 27 following on the Pearce report (phonetic) in 1982? 28 MR. CHAMUT: A lot of that was done just as I was 29 arriving. I think most of the industry's 30 restructuring had probably been completed by the 31 time I arrived in 1985. There was still some 32 elements of Pearce that was carried on, but I 33 think most of it was complete in terms of industry 34 restructuring in '85. All right. Well, perhaps I can just shift a 35 36 little bit, then: the fleet restructuring. 37 referring to the Mifflin plan and the Anderson 38 plan and the buy-backs. 39 MR. CHAMUT: Oh, okay. I was thinking specifically 40 about 1985. But, yes, clearly there was a period 41 of industry restructuring in the early '90s.
 - MR. LOWES: I see my friend is rising, and really, the -- where I want to go with this, Mr. Commissioner, especially with Mr. Chamut, is how these considerations at this level get plugged into the

Fleet reduction, area licensing and things of that

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nature.

Strategy 4 process, and in what terms they get plugged in, what terms are -- are trends like this 3 described in as the social and economic components 4 of the decisions? 5 THE COMMISSIONER: You're talking in terms of the Wild 6 Salmon Policy. 7 MR. LOWES: Wild Salmon Policy. THE COMMISSIONER: Yes. 8 9 MR. LOWES: 10 There was also change in the relative importance 11 and demands of the recreational fishery. 12 MR. CHAMUT: Yes, that was something else that was 13 growing and evolving over those years. 14 And also shifting their target, if I can put it 15 that way, away from Chinook and Coho and into sockeye because of Chinook and Coho conservation 16 17 problems? 18 MR. CHAMUT: To some extent, but that was much later. 19 It was more towards the probably mid to late '90s. 20 All right. And you also experienced some 21 substantial political and public pressure from, 22 you might call it, the environmental movement? 23 MR. CHAMUT: Yes, that's right. And they got some substantial impetus from the 24 25 Honourable John Fraser around 1994? You remember 26 the "12 hours from disaster" statement? MR. CHAMUT: Oh, yes, I do recall, if that's the 27 28 Yeah, Mr. Fraser did in fact do a reference. 29 report on Fraser sockeye at that time. 30 Right. And he indicated that in his impression 31 the Johnstone Strait fishery had fished that to 32 within 12 hours of disaster. 33 MR. CHAMUT: That was a phrase that he did use, yes. And you ultimately refuted that? 34 35 MR. CHAMUT: I ultimately reviewed it? 36 Refuted it. 37 MR. CHAMUT: Well, I think it was somewhat of -- a bit 38 of hyperbole. 39 Yes. Q 40 MR. CHAMUT: But clearly, there was a problem. 41 was -- we were fishing in a way that probably was 42 not prudent at that time, and I won't go into the

No, and I don't want to go into the merits of who

was right and who was wrong. It's just that was

the atmosphere that you were working in, in the mid to late '90s. There was a substantial amount

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of flak given to the Department from the environmental movement.

- MR. CHAMUT: Actually, I think that in my recollection, foggy though it may be, there was a significant amount of flak coming to the Department from virtually every direction.
- Maybe that was the greater point that I was trying to make. You had a lot on your plate. There were a lot of what we've called social and economic factors throughout the '90s that had to be dealt with by the Department; is that correct?
- MR. CHAMUT: Yes, that's correct.
- Right. And as I understand it, the Wild Salmon Policy and, in particular Strategy 4, deals with how the conservation and biological and biodiversity issues that we've been discussing are going to be integrated into those kinds of social and economic issues; is that correct?
- MR. CHAMUT: Yes, that's its purpose.
- Q Now, I have a difficulty, quite frankly, Mr. Chamut in figuring out whether Strategy 4 describes a decision--making process, or whether it describes a process for designing a decision-making process. Do you understand the distinction?
- MR. CHAMUT: I think I do. Do you want me to respond? Yeah, tell me which one it is.
- MR. CHAMUT: I don't think and my colleagues actually may want to jump in where I misspeak but I think in this business, the ultimate decision is inevitably made by the Minister, so everything that is being done will be with the expectation that the Minister -- that it will be provided to the Minister for his or her endorsement or a decision.

But I would happen to think that if there is consensus within these regional watershed planning groups as to what to do in terms of a strategic long-term plan for management of a series of conservation units in a geographic area, if consensus is reached, I would think that that would be sufficient reason for the Minister to want to -- very, very rarely, if ever -- to intervene and reject that particular advice.

Q Well, yes, and this is -- I guess this is the real question that I have, is that the decision about what to do with a particular conservation unit,

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which presumably has taken into account as well as the biodiversity and ecological factors that underlie the protection problem, have taken in the social and economic factors, where does that happen and how?

I understand that's the question that Strategy 4 is trying to answer, but I quite frankly can't find that answer.

MR. CHAMUT: Well, Strategy 4 -- I mean, you're right, that is where that discussion is going to take place, and I think a lot of the considerations that will go in there will be over matters such as looking -- you look at a particular conservation unit. Let's say, for example, it's depressed. It's close to the lower benchmark. Then the discussion will focus on the issues such as how high do we want to rebuild that conservation unit? What are the means by which it will be rebuilt? What is the time scale within which it will be rebuilt? All of these factors have social and economic implications.

In fact, you could easily see a situation where you could, in the simplest situation, a CU needs to be rebuilt. The easiest solution, many might think, would be to say "no commercial fishing". But around that table, there will be others who will point out, quite validly, that that will have high social and economic costs, and there are other ways of achieving the objective of rebuilding that through things like habitat mitigation or through possibly some form of enhancement or by phasing it out over a period of I think it's those sorts of considerations that will be made in that particular forum. Where there is a consensus reached about the speed of rebuilding, the extent of rebuilding, the means to rebuild, I'm reasonably confident that those, if they're -- if a recommendation does come out, it would be approved by the Minister without question.

- Q Okay. So I guess the nuts of my question is, is what does that table look like? Where is it in the process and who's sitting there?
- MR. CHAMUT: Well, I think this is why I said earlier in my testimony that I thought it would be really valuable to have some pilots to demonstrate those sorts of questions. Because I don't think there's

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a single answer that will apply universally in every geographic area. I think you need to have a variety of groups. The province needs to be there, First Nations very definitely need to be There will undoubtedly be local interests, there. rod and gun clubs, representatives of B.C. Wildlife Federation, commercial fishermen, all of whom need to be around that table providing a perspective on what needs to be done and the best means by which objectives can be achieved. So it's going to be, I think, quite varied in

different areas, depending on the interests that are going to be -- that would wish to be consulted about a particular fishery in a particular area, or a conservation unit in a particular area. Okay. So my question really is, is the strategy for discussion one about what is the decision about this CU or is it about, as I think you're saying, how do we make decisions? Is it a

discussion about how we make decisions about what we do about CU's when we have to make the decisions?

So is the Strategy 4 discussion one like the one we're having about what is the decision-making process, or is it in effect the decision-making process itself? That's really my question.

- MR. SAUNDERS: Mr. Commissioner, I would take the approach that it's both. I mean, the strategies -- the action steps that we're going to be discussing when we get to Strategy 4 acknowledge the fact that there's an -- interim measures that are going to need to be taken in that the process will utilize the existing processes that we have and try to accomplish the intention of Strategy 4 within those existing ones, given we don't have an ultimate decision-making process that we envisioned with this.
- All right.
- MR. SAUNDERS: So I think it is both. We've tried to include, as I spoke to the Appendix 2 in the Wild Salmon Policy several days ago. That was to give us some advice on how we might conduct that business.
- Okay. So to perhaps personalize it, and I'll finish with this question, can my clients expect an invitation under Strategy 4 to a discussion about how we make decisions around CU's once

they're defined and inventoried?

MR. SAUNDERS: I think that's a fair

MR. SAUNDERS: I think that's a fair -- I suggest it might -- would happen, yes.

MR. LOWES: Yes. Thank you.

MR. WALLACE: Mr. Commissioner, would this be a convenient time to break?

THE COMMISSIONER: Thank you.

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

(PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS) (PROCEEDINGS RECONVENED)

MR. WALLACE: Ms. Gaertner.

MS. GAERTNER: Commissioner Cohen, Brenda Gaertner, for the First Nations Fisheries Coalition, and with me is Ms. Leah Pence. And for the benefit of the panel, I know that in most fisheries meetings that I've been attending, we often spend our time introducing each other so that we know who we speak from, so I want to let you know who I'm speaking for.

I represent the Haida, three of the Douglas Treaty communities, and then from a title and rights perspective, I pick up on the Fraser at Chehalis, and I move from Chehalis up to the Secwepemc, and the Northern Secwepemc to both the Secwepemc and the Shuswap Tribal Council, the Northern Secwepemc Tribal Council in Adams Lake, and then all the Upper Fraser, including the Carrier Sekani. And then I also represent the First Nations Coalition, which is the large provincial organization, and the Fraser River Aboriginal Fishing Secretariat, which is the secretariat on the Fraser River that provides technical support to the watershed, and the Fraser River aboriginal Fisheries Society, which is in the lower Fraser, and is responsible for the catch monitoring in the lower Fraser.

So that will give you a little bit of help on who I'm representing. And so far, to date, my instructions really are to participate in this inquiry in a way that facilitates dialogue about where we are, now, in the challenges around fisheries, and what we can help Commissioner Cohen learn so that his recommendations can help all of us move forward.

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And so my focus, today, will be to have you help develop a little bit of the knowledge that you are working with as you went into the development of the policy, from a First Nations perspective, and my understanding on your panel is that Mark Saunders and Mr. Chamut will be the two that I will ask questions around the process issues and what you did to create dialogue and reach, and then I've got some questions for both Dr. Irvine and Dr. Riddell about some of the substantive issues within the policy and how they I'm not going to use too many documents; apply. I've only got three or four that I'm going to use, and then we'll -- and I have been allotted a whole hour; I hope I'll use less time than that.

But I wanted to also mention, and I struggle with this in this inquiry, and so I just wanted to say, I was sitting here over the last two days, listening to the dialogue, of course, as you all were, and I was reminded of many of the fisheries meetings that I've been to, and I think many of you have been in fisheries meetings in the communities, and often there's a lot of long discussions and they take a long time and they're often very positional and sometimes more and more we're getting into interest-based discussions.

And then the women stand up at the end and it gets quiet. And I was thinking, today, how hard that must have been all the time for them, and I know that I'm in training, you know, that at the last two days, you know, because in the communities, as many of you know, the discussion will go on for hours and hours and hours, and then something will happen at the end that will push and change the discussions. And I believe this inquiry, Commissioner Cohen, is going to have that effect; we're going to have to sit and listen to each other for a long time, and at the end we're going to get to the meat and grist.

And so what I'd like to do with all of you is also use your experience in the development of this policy to help think about the types of recommendations going forward that will be useful to all of us, and I'm going to lead you there from the perspective that I've been trained in.

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CROSS-EXAMINATION BY MS. GAERTNER:

- 4 And so I want to start, and Mr. Chamut, I'm going 5 to start with you, and Mr. Saunders, if I may, and 6 I'm going to try and set the stage for what was 7 occurring in 2003, 2004, around the time in which 8 the dialogue got a little bit more active with the First Nations, if I may say so. It's my 9 10 observation that the earlier drafts that were 11 produced by science were a little bit thin on 12 First Nations issues. In fact, I didn't see them 13 in those first drafts at all, and I think you 14 might share that observation. And it really took 15 the work of getting it onto the ground and into 16 the dialogues that were happening in 2003 and 2004 for those issues to start seeing some space in the 17
 - MR. SAUNDERS: Yes, in terms of seeing some incorporation of First Nations concerns in the policy; is that your question?
 - Q Right, directly into the words, yes.

actual policy; is that correct?

- MR. SAUNDERS: Directly into the words, yes, I think when I arrived in 2003, Mr. Commissioner, I think I was involved in some very long meetings with the policy committee of the B.C. Aboriginal Fisheries Commission that was in play at the time, and there was a tremendous amount of concern around the lack of words, but a willingness to work with us on providing those.
- Q And I just want to pick up on a question that was raised earlier, and I found it a little bit challenging, the suggestion that you should have done all the research first -- oh, sorry, Dr. Irvine?
- DR. IRVINE: I was just going to point out that there were a lot of changes also made in last six months; in fact, in the last two or three months where there was specific acknowledgment of First Nations concerns.
- Yeah. And we're going to get to some of those for sure, thank you. But I also wanted to pick up the sentiment that was raised earlier, the suggestion, which I think is fair to say that most of my clients would disagree with very strongly, the idea that we should do all the research first before we move into policy development, because

it's my experience, and perhaps those that have been in policy development for a long time, any one of you on this panel might see whether you agree with it, it is rarely in contentious issues or in issues in which we need to effect change, that we're going to wait until all the information is in place but, rather, the public policy needs to be the impetus to help those that are going to be applying it understand the nature of the change and how that might be applied on the ground; is that a fair characterization of one of the goals of public policy?

- MR. CHAMUT: Yeah, I think so. I mean, in an ideal world it would be nice to be able to craft a policy with everything that all of the information that you need, all the research done, but it's very rare that you would ever have that circumstance, and I think the -- clearly the position that we had taken was that it was important to get a policy in place that laid out a framework so that we could at least begin to start discussions and move forward from that point to develop and finalize the policy.
- Q Thank you. And the other expression that I've heard a lot, and I think I'm -- I would like to see whether or not any one of you gentlemen would agree with me, or all of you, that a lot of this policy is about managing people, it's not really about managing fish. The policy is intended to figure out how people are going to come together and make decisions about fish and that that type of policy needs to actually be proactive when you want to effect change?
- MR. CHAMUT: Yeah, I've been involved in managing -- we talk in the department -- I'll start again. We talk, in the department, about managing fish, but the reality is what we're doing is managing human activities around fish, and it is -- I, personally, sometimes prefer dealing with fish, because they're -- inevitably we're dealing with a large amount of conflicting interest, and trying to find a way to bring people together to come to some sort of a decision that represents a consensus and that is in the best interest of that public resource is the real challenge that the department has. So this policy, I think, I'd say it's -- it is obviously about managing people and

about managing the interests around fish, but there is an important element there, too, of the first three strategies that do deal with fish, and that's sort of the scientific foundation of it, and a lot of the remaining strategies do deal with how to manage the human dimensions of managing fish.

- Q Thank you. All right, now, turning specifically to what you knew already and what you learnt during the development around First Nations concerns. I'm going to say it was a pretty open door, talking to most First Nations around an ecosystem holistic approach. This is something that they've been pushing for, for decades, it's something that the ethic of their relationship to fisheries is most comfortable with. And so when we say it's new in science or it's new for "us", it's not really new for First Nations; would you agree with me?
- MR. SAUNDERS: I don't think I'd be qualified to say whether it would be new to First Nations, but I think I would say, yes, it was new to -- new to the department heading down this road.
- Q But what I'm going to say is, okay, you won't have to speak on behalf of First Nations, but I want you to speak on what you knew in terms of representing the department in relationship to First Nations. And Mr. Chamut, I'll speak to you directly on this, because we've had these discussions in other places before and I know you know this experience, but First Nations have been, for decades, promoting a broader perspective that's holistic in nature, ecosystem-based using a scientific language; is that correct?
- MR. CHAMUT: Yes, that's correct. I've been to many of those meetings and certainly heard, very often, the plea for department to take up a broader perspective, because often times we come in with a very narrow perspective dealing with management of a particular fish stock without reference, necessarily, in the view of First Nations to the broader picture that, you know, is something that they see as being particularly important. So yes, I've had a lot of experience and listened to many of those sorts of comments quite often.
- Q And you'll also agree with me that when the policy work began, and with your work in it, Mr. Chamut,

and Mark I want to include you in these discussions - Pat's been asked a lot of questions over the last few days and I think you shared a lot of the on the ground work in terms of working with the First Nations, so I'm not bent on who answers these questions - that in 2002 or 2003 or 2004, when you came back to the region, Mr. Chamut, you were all, at the department, quite aware that First Nations had been very much pressing for clarity regarding what the word "conservation" meant and how practically that was going to be applied as it related to the fisheries; you will agree with me?

MR. CHAMUT: Absolutely, yeah.

- Q And there were very strong concerns for a number of reasons, one of which is that ethically that's extremely important in their communities and that that's something that's been communicated over the years; is that correct?
- MR. CHAMUT: Yes, that's certainly one dimension of it, and I'm sure you'll raise the second one, now.
- Q And the second I hate to be predictable the second very important aspect is that as their rights and their relationships to the fisheries have been confirmed in Canadian courts, the one prior -- or the one restriction, if one were to call it that, or agreement amongst all, is that conservation is higher than their ability to harvest for food, social and ceremonial in their communities; is that correct?
- MR. CHAMUT: That's correct.
- Q And as that law became confirmed, there became increasing and more discussions with the department on what conservation meant to the department and how different First Nations often felt about that; is that correct?
- MR. CHAMUT: Yes, that's correct. And I think I've said in my previous testimony that one of the things that I thought was really important was that this policy does, in fact design -- define, rather, what we mean by "conservation", rather than talking broadly about our responsibility and our mandate being conversation, it's meaningless without actually defining what that -- what it is you're trying to conserve and at what level you're trying to conserve it, because it has all sorts of implications for the department. But more

important, as you pointed out, for First Nations, and I think that's one of the things, when I talked about this policy being transformative, it's one of the things that I think is probably one of the most important parts of it.

- And one of the forward thinking parts about it. You had to take a very complex fisheries and state of fisheries and say, "Where do we want to go with conservation? How can we take the scientific information? How can we take the management information? How can we take the different stakeholders and First Nations perspectives and move forward in the context of conservation?" is that correct?
- MR. CHAMUT: Yes, I think that's correct.
- Now, I also want to perhaps point out something that's somewhat obviously, but I need to do this in order to establish it in the evidence, is it also at the same time and continuing, there is a lack of confidence and there is a somewhat amount of cynicism and distrust between the relationship of First Nations and the Department of Fisheries and Oceans; is that correct?
- MR. CHAMUT: Yes, regrettably, but I think it is correct, yes.
- And that one of the places that they experience this, and I don't want any of the scientists on this panel to take offence by it individually, is that often science or technical information had been used to justify decisions that they felt infringed their rights and so that they are cautious and careful about the use of science as the only determining factor in making decisions around the management of the fisheries; is that correct?
- MR. CHAMUT: I don't know if I'm the right person to answer that.
- Q Mark, could you speak to that? Did you hear in the meetings going on the development of the policy how important it was that in addition to scientific information you needed to take information from the First Nations communities, including technical -- what's sometimes called traditional ecological knowledge, but also other information that they would be carrying in their communities and that they would not be comfortable only relying on DFO scientists; is that correct?

MR. SAUNDERS: Yes, yes. Yeah.

MS. GAERTNER: Now, could I have Exhibit 83, and I want to go to page 39.

And Exhibit 83, Mr. Chamut, is your review in 2002, and I want to take you to page 39, because I find it a useful summary of some of the key issues that were facing the fisheries here and common themes, and in particular, conservation and what we've just talked about in terms of trying to develop conservation and a common understanding amongst the groups around conservation, that was an important part, and then the Wild Salmon Policy, and I want to go, again, to the last sentence of the Wild Salmon Policy:

First Nations and stakeholders have unanimously called for the finalization...in order to clarify how conservation should be implemented and, by implication, -

- -- and I think that's the most important part --
 - how fisheries should be managed.

Is that correct?

MR. CHAMUT: Yes, it is.

- Q And you'll agree with me that First Nations are, by and large, not just interested in the theory of conservation, they're going to measure success by how that's going to affect and be real in their own communities and in their territories, and that's often the measurement that they're going to use with DFO on a typical basis?
- MR. CHAMUT: Yes, that's right. It's what happens around home that's most important to everybody.
- Q Thank you. And in addition, the species at risk legislation that was going on and the work that many First Nations and concerns that people had around species that were actually coming very close to being extinct, and then I turn, again, to the consultative processes that you mentioned at the last -- as the second to last item and the need to develop more transparent processes and dialogues amongst the parties; is that correct? And that was something that, in 2002, DFO clearly saw as a way forward for better governance; is that correct?

- MR. CHAMUT: Yes, that's correct. If you look at the New Directions paper, one of the items that I think was included under that general heading was something called, Improved Decision-Making, and I know there was work under way within the region to try and develop a better consultative process that would ensure that all interests are able to sit around the table and feel represented.
- Q Okay. And we're going to dive into that one a little bit more in this next hour because I think it's one of the challenging places, but we'll get there. And then, finally, I want to take you to the last item that you used as a common theme in the fisheries at that time, and something as challenging as in-season decision-making; is that correct? That's on the next page, sorry.
- MR. CHAMUT: Okay, I haven't seen the well, I've seen the next page but -- there we go.
- Q There you go. Sorry.

- MR. CHAMUT: Yeah, I'm -- there was a whole host of issues that came up in 2002 associated with decision-making within the timing of the fishery, and that was one of the key points that was made by virtually everybody that had an interest in the development of this report.
- And it's fair to say that in-season management and in-season decision-making is probably the most challenging part about collaborative government decisions, because they are quick and have to be made immediately; is that fair to say?
- MR. CHAMUT: Yes, that's true. And oftentimes decisions don't necessarily -- or you don't have the benefit of having all the information you need to make the decisions, so it is challenging.
- Q And that one of the goals of the Wild Salmon Policy was to inform all of those components of fisheries management?
- MR. CHAMUT: Yeah, I think that's true.
- Now, Mr. Chamut, I'm going to start my next area of questions with you, and then I'm going to ask Mark some specific questions on this. In your will say and in your evidence, you -- and I'm just going to quote it, I don't think you need to see it that the Wild Salmon Policy was not just a conservation policy, it was expected to make changes in how Pacific salmon fisheries were managed and empower DFO to make those changes.

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PANEL NO. 6
Cross-exam by Ms. Gaertner (First Nations)

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And in particular I'm interested, what kinds of changes would you have expected and would have been discussed with First Nations representatives, as we were developing this policy, that they could look forward to? What kinds of changes were they —— was the incentive?

Well, in making that statement, I mean, I MR. CHAMUT: was anticipating, with the Wild Salmon Policy, that it would definitely not be the status quo when it comes to managing the resource on an annual basis, that we would end up with challenges to rebuild weaker - sorry, I shouldn't use that phrase anymore - but to rebuild conservation units that are at low abundance, and that would require changes to the way in which fisheries are conducted, and I thought it would probably mean things like some seasonal closures in certain fisheries. I thought it might mean moving some fisheries from outer areas of the coast into more terminal areas, and particularly finding ways to fish more selectively. Now, with sockeye that's obviously a very difficult thing to do, because all sockeye look the same, so it's not likely that you can have a selective fishery and just catch, say, Adams River sockeye.

But there are those sorts of things that I saw as being likely in the future to try and deal with the need to rebuild some of the stocks that were in need of much more care and attention. Thank you, Mr. Chamut. And Mr. Saunders, is it fair to say that for some of the First Nations that participated in the dialogues that were occurring in order to finalize the policy, that they anticipated and raised discussions around a decrease in marine fisheries and an increase in terminal fisheries would be one of the likely results of this policy once it was implemented, that they would anticipate seeing changes in management so that the mixed stocks, if I'm going to call them that, that include the low abundance conservation units, would be left to separate out so that we could leave the low abundance conservation units so that they could only be harvested later and in a manner that was more cautionary?

MR. SAUNDERS: Honestly, I don't -- I expect that that's true, but I don't -- my recollections are

somewhat mixed with -- at the very same time, the PICFI initiative was announced very shortly around the same time, which was dedicated to this notion of shifting effort into more terminal areas. And so how explicitly that was discussed in the Wild Salmon Policy dialogues, I don't -- I can't recall off the top of my head, but I would expect that was the case.

Q All right, I'm going to take you, now, to the Wild Salmon Policy, itself, which is Exhibit 8, and I'm going to go to page 14 of the hard copy. One of my observations and knowledge, as a result of discussions with my clients with respect to this — the evolution of this policy, is that as we went from the more prescriptive and into the more flexible, that there were a number of things that were of extreme importance to them, one of which was ensuring that the Crown's obligations to meaningfully consult with them throughout was clearly understood; would you agree with me on that?

MR. SAUNDERS: I would.

- Q And that that was something they wanted to see right in the policy and not anywhere else? They wanted to ensure that those who were reading the policy, who were working with it on the ground, saw and understood that this policy would require consultation with First Nations on the ground as it was being implemented; is that correct?
- MR. SAUNDERS: That's correct.
- Q And that that was one of the comforts that they took when we moved from a less prescriptive and amore general approach?
- MR. SAUNDERS: I couldn't judge their level of comfort. Q All right. And you'll agree with me that right in the policy, itself, and I'm turning to page 14, and on the second -- on the second column on the right-hand side, beginning with the words "Making the best decisions" and I'm not going to read them, I'd just like you to read those two paragraphs and confirm with me that the goal in these paragraphs is to make it clear that structured processes that establish both the objectives and priorities and allowed for the biological, social and economic consequences would be necessary and that those -- that that was a commitment in this policy?

MR. CHAMUT: Yeah, it is very definitely, and I think the particular paragraphs that you've identified here do certainly make it clear that the First Nations are a key part of that process. But I think you'd also want to look elsewhere in the document. I think there are some fairly clear statements in -- with respect to Action Step 4.2 as part of Strategy 4 that make it quite clear that the government -- the department has intentions to consult in areas where -- with First Nations who have treaties, as well as to consult with First Nations with respect to the exercise of their Aboriginal rights.

So it's not just in the paragraphs you've mentioned; there are other references scattered through, and I know it's very clear in that Action Step 4.2 that First Nations are key -- is -- First Nations represent a key group for us to work with in implementing that particular strategy.

- Q All right. I am going to take you to a couple more examples, but I want to make this distinction, and I don't know if you'll know this or not, but there were two -- I read the policy and my discussions with my clients see them involved in two different types of ways under this policy. One, is as part of those structured dialogues and as a way -- as part of the, shall I say, interest groups that are needing to be represented in part of that, and the other is the provision of information into the decisions in Strategies 1,2, and 3, or throughout it. And those are distinct roles; would you agree with me?
- MR. CHAMUT: Yes, let me just answer that, and Mark, you can add if you want, because I think this is a really important part of it. One of the things that you've undoubtedly seen, but it's on page 36, that talks about what we need to do, it's sort of a concluding comment, and it talks about requirement for successful policy implementation. It says the department must adopt better partnership with First Nations governments, volunteer stakeholder, et cetera, et cetera, because it's clear that DFO cannot and should not attempt to do it all. And I think the focus here is in ensuring that we are working in a more integrated way with particularly First Nations, but other groups that have information and have

management capability, it is essential for this -for that to happen in order for this policy to be
implemented effectively, because there is -- in
last decade, there has been an enormous growth of
capacity in First Nations communities to deal with
issues like this. I mean, more than 10 years, but
certainly it's become quite pronounced in the last
10 or 20 years, and it's important for the
department to feed into that and use that
information, because without it I don't think that
the policy will be able to be implemented nearly
as effectively, and that's one of the concluding
remarks in this policy that I thought was really
important and does reflect, I think, the point
that you're making here.

- Thank you. I need to take you to two specific Q The first one is one that is not yet documents. in as an exhibit. It's document 13 on our November 22nd letter, and it's -- I need to also put in a document with it, it's just the routing sheet, as I understand it. So it wasn't on my list for all of you, but it's just -- I think it'll help Mr. Saunders identify the document. I couldn't figure out who the author of this memo to the deputy minister was until I found the routing sheet. And so if you could also bring forward ringtail 80 -- or Canada 080093. Do you have that?
- Mr. Saunders, do you see that at the bottom of that you'll see that you're the drafting officer of that document, and would that help you confirm that the document 80094 is a document you're familiar with?
- MR. SAUNDERS: I --
- MR. WALLACE: Mr. Commissioner, this is squarely within Mr. Saunders' purview as a witness on implementation. I'm not sure if this is just a general question, but we will be -- it's among the documents that we will be entering tomorrow and there are questions relating to it.
- MS. GAERTNER:

- Q As I understand, this document was a memo that was placed before the deputy minister before the policy was finalized; is that correct? Have I missed that? Have I read the dates wrong?
- MR. SAUNDERS: No, I think that -- no I think this is after -- oh. No, I think that's an error. June

1 24, 2004 should read 2005. 2 Yes, that's correct. 3 MR. SAUNDERS: Yeah, so this is post-release of the 4 policy --5 Oh, it's one month after the release? 6 MR. SAUNDERS: After the release of the policy. 7 All right. So if I may, this is information that 8 was based on the drafting of the policy? You've 9 just passed the policy and information in here 10 would have all been obtained through the 11 experience of drafting the policy; is that 12 correct? 13 MR. SAUNDERS: The --14 MS. GAERTNER: May I have this document marked as an 15 exhibit, please? 16 THE REGISTRAR: Exhibit number 123. 17 18 EXHIBIT 123A: Memorandum for the Deputy 19 Minister, Update on First Nations 20 Participation in Wild Salmon Policy 21 Implementation 22 23 MS. GAERTNER: 24 And I would like to take you, Mr. Saunders, to 25 page 2, under the Analysis/DFO Comment, in 26 particular, and I would like you to confirm that 27 the three areas that you absolutely learnt about during the development of the policy, that First 28 29 Nations wanted to be involved, is the development 30 of the implementation plan, the identification of 31 conservation units and the determination of their 32 status, and the development of the strategic 33 planning process for CU's, which would be the Strategy 4 section; is that correct? 34 35 MR. SAUNDERS: That's correct. 36 Thank you. 37 MR. WALLACE: Just for clarification, Mr. Commissioner, 38 did you intend to mark the cover sheet as part of 39 that --40 MS. GAERTNER: Sorry. 41 MR. WALLACE: -- exhibit? 42 MS. GAERTNER: I think it would be useful to --43 MR. WALLACE: I think it would be helpful, as well.

if the exhibit could include the memo and the

THE REGISTRAR: The memo will be marked as 123A and the

transmittal slip, please.

transmittal slip 123B.

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EXHIBIT 123B: Government of Canada Fisheries 1 2 and Oceans Transmittal cover sheet to Larry 3 Murray, Deputy Minister, Object: Update on 4 First Nations Participation in Wild Salmon 5 Policy Implementation, dated July 29, 2005 6 7 And I apologize if this felt more like MS. GAERTNER: 8 implementation, but I think it was important for 9 you, Commissioner Cohen, to understand that at the 10 time of the passage of the policy there were three 11 very key areas that the First Nations had already 12 identified as wanting -- that they needed to be 13 involved in. 14 And then I need, now, to take you to Exhibit 15 93, which is the briefing to the minister. Mr. 16 Chamut, you'll be familiar with this briefing, it's been brought to your attention a number of 17 18 times. And I want to specifically raise what's 19 found again at page 4 of that exhibit. 20 MR. LUNN: Could that be 94? 21 MS. GAERTNER: I have it marked as Exhibit 93. 22 the Minister's Briefing, dating May 16/05. 23 MR. LUNN: Okay. 24 MS. GAERTNER: It looks like this. 25 MR. LUNN: Okay, I guess I did have it. Sorry. 26 MS. GAERTNER: 27 And at page 4 it was clear that you brought to the 28 attention of the minister this briefing note and 29 the material that went to the minister at the time 30 of passage was that the First Nations role in 31 policy implementation hade to be clarified; that's 32 correct? 33 MR. CHAMUT: I'd like to see the context of that --34 MS. GAERTNER: Oh, I'm sorry. 35 MR. CHAMUT: -- particular --36 MS. GAERTNER: It's page 4. I didn't check. 37 sorry. 38 MR. LUNN: I apologize. 39 MS. GAERTNER: I wasn't looking at the screen; I was 40 looking at my material. 41 It's the very last bullet under number 1. 42 MR. CHAMUT: Yes, that was -- I'm trying to put this in 43 This would be after we had the -- we had a time. 44 forum -- our meeting with First Nations in early 45 April, I believe, and I think that was one of the 46 comments that was strongly expressed at that time. 47 And then at page 11 of same document, and this is Q

the more detailed component of it. It was clear
-- and again, Mr. Chamut, were you at the meetings
with the First Nations at that time, or was it Mr.
Saunders that was responsible for that?
MR. CHAMUT: I don't believe that I attended those

- MR. CHAMUT: I don't believe that I attended those
 meetings --
- Q Right.

- MR. CHAMUT: -- that particular meeting.
- Q That was my understanding, that Mr. Saunders had that, if I'm right, you were in attendance at those meetings and that was part of your responsibility at that time?
- MR. SAUNDERS: Yes, it was.
- Q All right. What I want to stress here is that it was confirmed for the minister and you understood that what -- First Nations needed confirmation is that not only would they be involved in implementation, but that it would be a bottom-up process and that "bottom-up process" for them meant bilateral processes in their communities around conservation units and what conservation units would mean to them in their communities, habitat units and what habitat units would mean in their communities and how decisions would be made about that, would need to leave the provincial forum, if I was to say that, and had to get into the territories; is that correct?
- MR. SAUNDERS: I think that's a reasonable characterization of it, yes.
- Thank you. And that that was something that was brought to the minister's attention as being something that was important to First Nations in the active implementation of this policy?
- MR. SAUNDERS: Yes.
- Q Thank you.
- MR. CHAMUT: Yeah, I just want to be clear. On this deck, what you took me through, first, was a summary for the minister of some of the concerns that had been raised, and at this meeting I was explaining, "Here are the concerns and here is how we have addressed them," and the page that is particularly up in front of us right now, Item V, The Final Policy, provides the minister with a summary of the specific revisions that have been incorporated in the document that was basically pretty near the final document, subject to any comments the minister might make.

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PANEL NO. 6
Cross-exam by Ms. Gaertner (First Nations)

Q Okay, so now I'm just going to finish this area of questioning around the process to emphasize some of the things that went well in the process and what we learnt by that process, vis-à-vis First Nations, and how to move forward, because I think this is important for Commissioner Cohen, as he looks at some of the challenges around management.

The first one is that, as I understand it, as of 2004 and leading to the conclusion of the passage, it was an iterative process with First Nations. You met with them, you met again with them, you considered their concerns, you brought back materials that actually showed the changes in the policy that reflected their concerns, and that that was a trusting -- or that built trust between you and the First Nations; is that correct?

MR. SAUNDERS: Yes. And I would add that at the time DFO, I think, had recognized the need for improved consultative methods and had formed a consultation secretariat within the department, and that was led by Ms. Jay Hartling, who was an absolute leader in terms of -- it takes a -- can take a lot of the credit for the guidance that we received in how to move forward with this.

But I would agree completely that the require -- demonstration of a willingness to not just meet but listen and come back and articulate, and we took great pain in the development of this policy - I don't know if "pain" is the right word - we went to great lengths to make sure that we included -- that when we came back we noted for every detail that was requested -- changes that were requested, that we acknowledged their need -- or the request and whether or not we had accommodated it or not and our rationale behind that. And I was always very amazed at the willingness of a very large group at these forum meetings to sit through almost punctuation changes, right to that level of detail.

But I believe that by the end of the process of two years, that not just First Nations, but also the -- we had evolved into sort of a, I think, a trusting community of practice that spilled over into - we'll talk about this more in implementation - but that trust, that willingness to work, helped in bringing First Nations together with DFO, but also the other interests that were

around the table in the development of the policy, so...

- Q And I'm going to take you just to that point, next, Mr. Saunders, that it's fair to say that you're familiar with the distinctions between Tie 1, Tier 2 and Tie 3?
- MR. SAUNDERS: Yes.

- Q And it's fair to say that what you put into practice was a Tier 2/Tier 3 example; is that correct, where you brought First Nations together at a Tier 2 level, you dialogued with them, you found out their concerns, you responded to them, and then you moved into dialogue with the broader stakeholders; is that correct?
- MR. SAUNDERS: That's true, yes.
- Q And that that was effectively a good way of building trust and collaboration amongst the groups?
- MR. SAUNDERS: Yes. And, in fact, we made an offer -we always included an offer for Tier 1 -- or,
 sorry, maybe that's not the correct tier. I
 always get confused with the starting -- but
 nation to nation, we always made an offer, but I
 think there was always, on both sides, there
 wasn't enough capacity to sort of always meet at
 that level, so the forums, I think, did a good job
 at the Tier 2 level in bringing us together.
- And it's accurate to say that First Nations became comfortable developing policy at a Tier 2 level, but that they wanted to ensure that when you implemented that policy we were going back to the bilateral, as I've mentioned earlier; that's correct?
- MR. SAUNDERS: That's correct, yes.
- Q And that also during this new way of doing business I actually don't think it's a new; I think it was an evolving, but we were learning as we went along and that by the time this policy came into place, you had a policy that First Nations cared very much about and that you had learnt from a lot of mistakes along the way; is that a fair analysis?
- MR. SAUNDERS: I think that's absolutely fair, yes.

 Q All right. And so then another lesson learned through the development of this policy is that it was clear that First Nations were very concerned about the ability to implement this policy and

- that they were going to measure the success of this policy through the implementation process; is that correct? I'm not going to get into the content of the implementation, I --
 - MR. WALLACE: Sorry, Mr. Commissioner, my concern with the question is slightly different and it's not -- and that is you're asking -- Ms. Gaertner is asking the witness to comment on the position or reaction or feelings of someone with whom he is dealing, which I don't think is a fair question to put to the witness.
 - MS. GAERTNER: No, I can be more accurate with my question.
 - I think it was very clear First Nations raised very specifically with the Department of Fisheries and Oceans their concerns that this policy was strong -- you know, could be strong and it was great words, but that they wanted to make sure that you could implement it on the ground and that that was how they were going to test it; is that correct?
 - MR. SAUNDERS: Yeah, that's certainly my understanding. That was -- they liked the policy, but I think they obviously were concerned about implementation, and I think their final satisfaction would depend upon the degree to which implementation was achieved.
 - And that another lesson learnt in the development of this policy was that collaborative processes take time; they're not fast, are they?
 - MR. SAUNDERS: I think this will -- subject of the implementation and some of the discussion we've had to this point, I would agree completely with that, that a large part of the concern around for delay has not -- has been around the notion that collaboration is built with relationships and does take time, so I think that's a big factor, yes.
 - Q And that it takes human resources, which also means that it takes financial resources for people to adequately participate; is that another lesson learnt?
 - MR. SAUNDERS: I think we knew that, but that is a fact, yes, it does take resources to do that.
 - Q All right. I just want to summarize, so that it's clear, from my understanding, the three areas at the completion of the policy that First Nations were particularly concerned about, was appropriate

governance structures and decision-making structures in the implementation, ensuring that 3 the Wild Salmon Policy would honour the obligations of the Crown and not infringe their 5 rights, and that there would be adequate capacity 6 for the implementation. You had reached 7 agreement, they were comfortable with the word -8 I'm going to use the word "quickly" - trade-offs that occurred in the language, and that these were 9 10 the three primary concerns at the end of 11 development of the policy; is that correct? 12 MR. CHAMUT: That's my recollection, yeah. 13 you've summarized them quite well. 14 MR. SAUNDERS: I wonder if you could give me, again, 15 your first point about governance, what your --16 Well, that appropriate governance structures or 17 decision-making structures would need to be in 18 place for the implementation to be successful. 19 That was one of their first concerns. The second 20 concern would be ensuring that the Wild Salmon 21 Policy would honour the obligations of the Crown 22 and ensure that both, I'm going to say, I can 23 summarize them quickly, the food, social and 24 ceremonial and the obligations to consult were two 25 of the primary, that this Wild Salmon Policy would 26 honour those obligations and not infringe them; 27 and, thirdly, that capacity would be necessary 28 both in human and financial capacities for 29 adequate implementation; is that fair? 30 MR. SAUNDERS: Yes, that's fair. 31 Thank you. Now, I want to venture into some of 32 the more details -- than, you gentlemen. I am 33 going to turn my questions, now, to Dr. Riddell 34 and Dr. Irvine, because I want to understand, 35 again - and I'm going to pick up Mr. Lowes' 36 distinction - the structure of the policy, not so 37 much the implementation - I'll leave those questions, as best I can - but how it was 38 39 understood, perhaps, at the time in which it was 40 developed. And in particular, I'm going to start 41 with the relationship amongst conservation units. 42 And Dr. Riddell, at page 3 of your witness 43 statement - I'm just going to read it to you, and 44 you can take a look at it if you want - but one 45 way to understand the Wild Salmon Policy is that 46 it directs DFO to sustain all conservation units 47 above the lower benchmarks. However, the

abundance level need not be the same for different conservation units. "He will," that will be you, will say that DFO is obliged under the Wild Salmon Policy, to prevent a conservation unit from declining below the lower benchmark, including due to finishing, absent a ministerial decision to the contrary.

And I want to start by asking you if that type of statement is, in part, informed by the notion that conservation units are quite distinct, depending on which stock we're talking about, depending on where we are, geographically, and also they're -- well, I'm going to stay with geography, that's the one that's most comfortable for me, but there are lots of differences amongst the conservation units and how they're grouped and how they're structured, and that that's something that First Nations have concerns around, given their potential implications to their food, social and ceremonial fisheries; would you agree with me?

- DR. RIDDELL: Well, I certainly agree that the conservation units can be very different, and that's why we showed the various examples, that you can have very large conservation units, if there's limited genetic diversity, or limited genetic difference between local populations and the ecological zones are fairly large. The example was the pink salmon on the coast, and that. And the other extreme, of course, are the sockeye-specific lakes that we've referred to. So yes, conservation units can be very different.
- Q And again, I'm not sure which, between the two of you, should be answering these questions, so please, make those decisions amongst yourselves or add to it.

You're also familiar or understand that sub populations within a conservation unit and their strength or abundance is critical from a First Nations perspective also, it's not just the conservation units themselves, but there are villages, there are areas that are dependent on sub populations within those conservation units; would you agree with me on that?

DR. RIDDELL: Yes, and that is one of the -- well, that is one of the primary reasons why we have the joint obligation of managing for production levels or abundance, and the distribution of fish amongst

spawning streams. And the particular example you've just brought up was discussed extensively during the stakeholder dialogues. And in those dialogues we did mention that when you do get to Strategy 4 there is nothing that prohibits the development of additional management direction being given to the department to try and address, you called them sub populations, that's fine --Sorry.

DR. RIDDELL: -- to provide fish to specific locations in those larger geographic CU's, all right? So you're talking about something that we wanted to have a consistent, reputable way of defining the conservation units, but that in no way limited that you could have additional direction within a CU.

Q Thank you. And that --

DR. IRVINE: And I might just add to that. That's actually covered fairly clearly on page 16 on the second column, the middle of the second paragraph, there's some reference to that specifically. So it's the printed page 16, so the sentence that begins, "Since the requirements and needs of First Nations and others".

Q I'm on page 16 -- oh, sorry, gotcha. Thank you. That's particularly helpful, because you'll see that those concerns and that commitment is made in Action Step 1.1 in the identification of the conservation units; is that correct?

And where I'm going to - and maybe I'll just get there and I'll try not to do all the lead-up -I heard in the evidence yesterday, and I wasn't sure I heard this correctly, that conservation units was an information -- the work around Step 1 and 2 and 3 was an information-gathering and primarily scientific in nature, and especially with respect to Strategy 1, and I was confused about that. And you would easily understand why some of my clients would be confused about that, because it was our understanding that there was quite a commitment in the development of this strategy that their involvement would begin in Strategy 1 and that they had very strong concerns on how conservation units would be defined and how they would be assessed. And would you agree with

me on that?
DR. IRVINE: Well, I think certainly we acknowledge the

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value of ATK or TEK in the identification of conservation units and, as we'll probably discuss tomorrow in the implementation, there were a series of meetings with First Nations, you know, to try to gather some of that information. But I think that sentence that I referred to on page 16 is quite important as well, because it's not only the conservation units, it's the sub populations, as you called it, it's the components within a conservation unit that may be of more importance to a particular First Nations . And as Dr. Riddell has pointed out, in some of these species, like, you know, Chum and pink salmon, but also Chinook and, to an extent, Coho salmon, the size of the geographic distribution of fish within freshwater within a conservation unit can extend over multiple watersheds, so often the unit that's of interest to a First Nations group will be a sub component of a conservation unit, but that doesn't make it a conservation unit. So that was where we sometimes had some discussion, you know, simply because a unit is -- or a group of fish is important to a particular First Nations, that does not make it a conservation unit, but it does make it an important component of the population that may need to be managed specifically.

- Q Dr. Riddell, is there anything you'd like to add to that?
- DR. RIDDELL: Well, I mean, I'm just thinking in terms of you're implying in the process of the development of the conservation units, and let me just comment that our objective in the -- from the science branch in developing the methodology and using something that's readily available and something that could take into account all levels of knowledge, so you have Step 1, which is largely ecological and that, and really benefits from the work of other groups and that, and then, in Step 2, we come down to the diversity of salmon and how they use their habitats on a geographic scale. our intention was to develop a consistently applied and reputable methodology that everybody understood and approved in the process, and then we put it out to a couple of rounds of consultation -- not consultation, but review, saying, "These are the conservation units in this particular area, this is why." If there was a

conservation unit that deviated from the strict application of the method, we explained why, and that, and we got extensive comments back from First Nations groups and from our own area biologists from other user groups, and those were all taken into account in terms of fine-tuning the method, looking at why we didn't capture that diversity, if it's something that we missed, or providing feedback in terms of like Jim is saying, if there's strong evidence, for example, that a conservation unit includes two or three areas where there are clearly First Nations fishing interests, is there a basis for defining them as conservation units and that, and if not, then they're certainly recognized as a management objective within the conservation unit. So they in no way --

- Q Thank you. SO then it would become part of the benchmark, or the --
- DR. RIDDELL: That is exactly what happens.
- Q -- assessments for the benchmarks; is that correct?
- DR. RIDDELL: That is exactly what happens, because the Interior Coho that Jim worked on is a prime example of this, because it's five geographic areas in the Interior of the Fraser and that, and really what they discovered in their assessments is that as the total number of Coho returning to the Interior Fraser declines, there are particular areas that no longer seem to get as many fish. So it was a very non random return, if you want, right? And so what they did is they developed a methodology to keep the lower benchmark in that terminology quite high and that, and so they raised the bar so that you would get a good distribution of fish everywhere.
- Q Right.

- DR. RIDDELL: Now, there's not a lot of Interior fishing of Coho salmon, except for very local streams, but the same methodology would apply everywhere.
- Q And, in particular, to sockeye?
- DR. RIDDELL: And sockeye, absolutely.
- Q Yeah. And as I understand it, the thinking around developing how you're going to assess the benchmarks sort of falls into three general categories. Now, this isn't my expertise, so I'll

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PANEL NO. 6
Cross-exam by Ms. Gaertner (First Nations)

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46 47 be careful with this, but abundance is one of them, and the rate of change within a particular CU, whether or not it's reacting well to evolutionary changes, and geographical distribution, and that all three of those are something that First Nations have a direct interest when considering the potential impacts of decisions made under benchmarks; is that correct?

DR. RIDDELL: Well, you're now touching on truly the implementation, and you have a younger, better analyst here tomorrow to tell you all about how to do that, and that, but those are the criteria that we looked at, initially, in trying to develop what's the best analytical methods to define that status.

And your comment about rate is very important, because you can be faced with something that looks quite stable over time, and suddenly it's changing rapidly, in which case you do not have time to redefine something; you must respond if you want to protect that CU if it's a sockeye.

- And I guess I'm -- I'm going to stop there, so you don't have to worry, I'll try to leave my further questions on that to the implementation panel. But what I'm trying to emphasize, and I want to seek your assistance with, is to help us understand, when you're pressed to move forward and you've got a difficult task of talking and working with a lot of First Nations, and I'm going to suggest that as much as we have abundance in the Fraser River watershed of sockeye or salmon and all the different things we have an abundance of First Nations in this watershed and that that's a challenging task, especially with limited budgets, that these types of tasks shouldn't -- we have to take care to not move too quickly with science when we've made commitments to First Nations to talk to them and to engage them in developing Strategies 1, 2, and 3; would you agree with the importance of that caution and the importance of the he tension that's created between needing to produce and wanting to produce and the time that it takes to collaboratively develop that?
- MR. SAUNDERS: Yes, I agree, you need to take -- it takes time. And I also have -- we've learned, I think, over the course of the policy, that you

need to engage not only the First Nations but all of the interests at the outset of the development of any of these pieces and keep them informed and engaged

I think, with the First Nations, that while

I think, with the First Nations, that while Mr. Chamut is quite right that the capacity has increased quite dramatically over the last five to 10 years, there is still a limited technical capacity, but I think we have very effective, you know, organizations across the province to engage technical experts that work on behalf and with First Nations, that I think we've got a very, I think, a fairly -- a very efficient ability to engage First Nations on technical issues. I think the next step around decisions - and we'll get into this later in Strategy 4 and fisheries management, I think - we struggle with the next step around if potential trade-offs and political decisions are required.

- Q Thank you. I'm going to move fast forward into lessons learnt, or challenges ahead of us, and take a few minutes on that. I was a bit surprised, I guess I'm going to use the word, Dr. Irvine, that you thought it was relative easy, I think is your evidence yesterday, to implement the Wild Salmon Policy at a scientific level. That was your -- that was your -- it's relatively easy to do from a scientific perspective; do you recall that?
- DR. IRVINE: You might have to put that in context. I suspect I was talking about Strategy 1 rather than WSP implementation.
- Q You might have.
- DR. IRVINE: And perhaps it was Action Step 1.1, but I'd prefer to see --
- Q So what you were actually saying is that developing the science around conservation unit is a relatively easy task, and that applying it to the Fraser in the complexity of the decision-making structures may not be that easy; is that a fairer way of depicting what you might have been saying yesterday?
- DR. IRVINE: I think what I was trying to say I'm a little bit lost for when I said that but I think I was probably trying to say that it's more the incorporation of the non -- the social and economic considerations in developing management

recommendations. I think that's where it's really difficult, because it's more -- it's easier to determine whether a population is at biological risk of extinction or whether it's healthy or not healthy, but then actually making difficult decisions on what to do in terms of managing that particular type population, that's where you have to bring in other types of non natural science information, and that's, I think, what I was talking about, and that I would regard as more difficult. All right. Could you help me with this, then,

- All right. Could you help me with this, then, because I must say, when I was studying to stand up in front of you and ask questions of you, I was imagining how to divide this policy for the Fraser watershed, and I have all the conservation units for sockeye alone, never mind all the other salmon that go through this watershed, I have the geographical distribution from way out in the -- up in the headwaters all the out to the marine and back, which I have no idea whether we've even counted the ecosystems that would be included in that, and then I have all the habitat challenges. So even from a scientific perspective, are you sure you're suggesting that it's relatively easy?
- DR. IRVINE: No, maybe I've been misquoted or maybe I misspoke. I guess "relative" is a relative term, but...
- I'm not trying to -- the reason why I'm going with this, and I make no judgment about this from a declining budget perspective, for the idea that we're going to take the complexity of the Fraser watershed and the complexity of this plan and implement it with no new money, I find quite amazing. And particularly what I find amazing is it's not only no new money for DFO, there is no new money in the budget for First Nations to engage with DFO on this new policy. You're completely going to be relying on already existing funds, and that was the thinking at the time in which the commitments were made. Do you agree with me that that's a challenging situation?
- DR. IRVINE: Yes, that's a challenging situation.
- MR. WALLACE: There was some evidence of implementation, some strategy 4, I'm --
- MS. GAERTNER: Mr. Wallace, this is not just Strategy 4. This is Strategy 1, 2, 3 and 4 in its

 implementation and what people were thinking at the time. And with all due respect, it's important, because I don't want to set people up for failure. I don't want to set up First Nations for failure and I don't want to set up the people that are working on it for failure.

- Now, I'm going to just finish with what we knew when we completed the policy, and I know we're going to get into this in implementation, so the details of which I will leave, but I'd like you to confirm for me that some of that distrust that First Nations had around DFO's ability to implement this policy, particularly with respect to funding and in particular with the challenges that would be associated in management, was they relied on the commitment for an independent assessment within five years in order to -- and that was part of the changes that occurred near the end of the drafting so that they could ensure that somebody was watching DFO in terms of their ability and their commitment to implement this policy; is that correct?
- MR. CHAMUT: Yeah, I mean, we talked earlier about the scepticism and that many different groups, not just First Nations, had about the ability of the department to implement, and so the idea of essentially a five-year review was one of the last things that we included, because it was probably one of the most strongly held views that came out of the very last forums that we had just before finalizing the policy. So it's -- I think it's included as a sixth strategy, whereas previous versions had only had the five, so it was added as a -- very late, but a very, very important component to the policy.
 - Thank you. And finally, Mr. Chamut, I have a question for -- a series of -- just a few questions for you, and it's an observation about process. Each one of your hardworking team members have commented either in their will say or otherwise about how important it was to have somebody from Ottawa that was tasked to do a difficult job and that that was part of the way that we moved from a policy that was struggling to a completed policy. You'll agree with me, all of you, that that was something that you've commented on and that that was an important part of getting

this work done?

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- MR. SAUNDERS: I would agree that having someone with -- in a position of authority was there. I wouldn't use the phrase, "someone from Ottawa" as being important.
- All right. Thank you. That's a great improvement to my question, yeah. I'm curious, because it's often difficult for First Nations to understand the decision-making processes within the department. How was it that you came about to be appointed? Was it because of your interest in this material, or because it was important from Ottawa to make sure it was finished? I'm just curious on how that decision was made.
- MR. CHAMUT: I think the decision was made for a number of reasons. We've talked earlier, and I don't want to repeat them, but there was a number of reports that all urged the department to get on with getting a Wild Salmon Policy in place, and throughout 2003 it seemed that there was definitely very little progress being made, it was stuck, and the deputy was concerned. And, I mean, I don't need to go into all the details about how things eventually happened, but I had indicated that I was intending to retire, and the deputy said, "Would you like to do one more thing before you retire?" and it was something that I've always had a very strong persona interest in the activities of this region, and Pacific salmon in particular, and I actually -- I did think about it, but I did realize it was a great opportunity for me to end a career on doing something that I thought was important, and so I was -- I came out largely because of the deputy's view that it would -- that he thought that I could come out and try to provide the not so much knowledge or anything other than just a little bit of focused attention, and with my experience and background of working both in the region and Ottawa, I think he felt that I would be a credible person to come out here and provide the assistance to the region to get it done.

But the one comment I would like to make is that Mark has talked about me coming out with authority. And the interesting thing, the hardest thing I found when I came out here, was that I had none. Realistically, I came only with my

reputation and personal credibility. I had no authority other than, I guess, the ability to pick 3 up the phone and talk to the deputy on occasion, but I didn't have any authority to, you know, to 5 knock heads or beat up people, it was just simply 6 trying to provide the cohesion between people with 7 very good ideas but they just needed a little bit 8 of lubrication to kind of come together. And I 9 think my experience in dealing with policies like 10 this in Ottawa also helped, and I think that was 11 probably the reason why it eventually happened the 12 But I think I attribute Larry Murray way it did. 13 and his willingness to assign me or give me the 14 opportunity to do this as being the key thing. 15 All right. I'm going to move you away from the need for authority and ask whether or not you'll 16 17 agree with me that if you're going to do 18 collaborative government with as many interest 19

All right. I'm going to move you away from the need for authority and ask whether or not you'll agree with me that if you're going to do collaborative government with as many interest groups and First Nations and struggling within the department to reach consensus, that you do actually need people that carry experience and carry commitment and carry sometimes a single portfolio, to make sure that it's something that they can stay focused on and are committed to and keep the team moving; is that fair to say, in modern government, that that's a useful thing to have?

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- MR. CHAMUT: Well, from my experience, I mean, yes, it is. It's -- oftentimes in the department there's a thousand things competing for your attention, and it's really, from my perspective, it was really nice just to have, essentially, the one responsibility and to be able to dedicate all the time and effort to it. And there was a very excellent team of people that provided, you know, a lot of the work, a lot of the ideas, and it was -- but, to me, what was really important was being the focal point and making sure that it, you know, people were doing the work that they agreed to, that we were having regular meetings, and the energy level was kept very high and people were not given the opportunity to be diverted to other activities, and I think if we hadn't done it that way we probably still wouldn't have a Wild Salmon Policy.
- Q And so, generally speaking, on a number of the matters that Commissioner Cohen is going to have

to consider, not only implementation of the Wild Salmon Policy, and we'll get to those issues in addition, but that as he looks at areas that might be difficult to implement or difficult to change, going forward, the kind of model that you've used to develop the Wild Salmon Policy, could be a very useful model, going forward, for fisheries management on this coast; is that correct?

- MR. CHAMUT: Yeah, I think it is, but I think and this maybe sounds a little pretentious, and I apologize in advance - but I think it's really important that if someone is assigned to sort of play that role of being the, I won't say mediator, but to be the lead hand in pushing it forward, the choice of that person is really important, because if -- sometimes if it's a person without -someone who's unknown, it may be a harder role to play than if it's someone who has had some experience in working with the department and some sort of credibility going in. I think that's -- I think, to me, that would be an important part of it. These gentlemen may have an entirely different view, but think it sometimes -- I mean, the choice of person is really important, I think, to making sure it's going to work.
 - Q Gentlemen, do you have a different view, or is that something that you can share with them as we finish this discussion?
- MR. SAUNDERS: I won't take long, but I think there's two components to it. There is the -- within a government department where I think the model works, but then we've got this governance model, I think for Strategy 4, and the level of partnership that's going to be required on all of the strategies that demands a different -- a collaborate model, and I think that's another subject for later discussion, but I think the two are somewhat distinct.
- Q Well, let me just finish with this, and we will pick this up tomorrow in implementation, but we're moving away from policy development, which requires headquarters' approval, and into implementation, and you've already heard, and we've confirmed that from a First Nations' perspective that implementation is very much on the ground, so I would suggest that what the policy would then benefit from, as it was

1 modelled, is teams of people with those skills on 2 the ground; do you agree with me?

- MR. SAUNDERS: Well, I'm not sure what you mean by "on the ground," but, I mean, it's --
- In the region and in the areas, if you were going to -- if I was going to use DFO's division. So you're going to need teams of people at the regional level and teams of people in the areas that are actually going to work on looking at the actual conservation units, looking at the habitat, looking at its interactions, but moving into change?
- MR. SAUNDERS: Yes. And again, I think we're getting into the implementation, but I think to a degree we'll talk about that tomorrow but we've done that in terms of the development of the conservation units, et cetera, we've initiated those types of arrangements where it is more focused on the area, but there is always going to be that need to understand the relationship between the centre and the sort of external areas and how we manage that, I agree.
- MS. GAERTNER: Just one moment. Those are my questions.
- THE COMMISSIONER: Thank you, Ms. Gaertner.
- MR. WALLACE: Thank you. Mr. Commissioner, it's five to 5:00. Canada has a right of re-examination at this point, and I have a couple of questions.
- THE COMMISSIONER: I don't mind if we finish right at 5:00, Mr. Wallace. If we can't finish right at 5:00, then we're going to have to make arrangements to do that at another time.
- MR. WALLACE: Well, let's just see what we can do, then.
- MR. TIMBERG: Tim Timberg, T-i-m-b-e-r-g, counsel for Canada. I have -- I've reduced it down to four questions for re-direct.
- THE COMMISSIONER: I don't want to cut you off right at 5:00, Mr. Timberg, I know it's important, but we're going to adjourn within about two minutes. If you can do it all in two minutes, I'm content. If not, you're going to have to arrange with Mr. Wallace to do it another time.
- MR. TIMBERG: I see. I don't think I can do it in two minutes, yeah.
- THE COMMISSIONER: All right, then. Then we'll adjourn until ten o'clock tomorrow morning, thank you.

THE REGISTRAR: This hearing is now adjourned until 10:00 a.m. tomorrow morning.

MR. WALLACE: Thank you.

(PROCEEDINGS ADJOURNED TO DECEMBER 2, 2010 AT 10:00 A.M.)

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

Pat Neumann

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.

Irene Lim

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.

Diane Rochfort

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.

Karen Hefferland