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



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

**Public Hearings** 

**Audience publique** 

Commissioner

L'Honorable juge / The Honourable Justice Bruce Cohen

Commissaire

Held at:

Tenue à :

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

Thursday, June 2, 2011

le jeudi 2 juin 2011

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THE REGISTRAR: The hearing is now resumed.

THE COMMISSIONER: Mr. Leadem and counsel and hearing staff and witnesses, my sincere apologies for the delay. I spent a long session with a dentist this morning. At least there you get freezing.

- MR. LEADEM: My condolences, Mr. Commissioner. Sometimes I feel my brain has been frozen.
- MR. ROSENBLOOM: Thank you for telling us. I think it's advisable none of us bring applications this morning.
- MR. LEADEM: Mr. Commissioner, it's Leadem, initial T., appearing as counsel for the Conservation Coalition. As you heard yesterday, Mr. Young, who's on the panel, is an aquatic biologist with the David Suzuki Foundation, and the David Suzuki Foundation is one of the members of the coalition for whom I act, so I will treat him as my witness and limit my questions to ones of direct examination and not lead the witness.

I'm not going to leave you out in the lurch there, Dr. Riddell, as if I could. By all means, if I ask a question that would prompt something that you would like to say, by all means please jump in.

JEFFERY YOUNG, recalled.

BRIAN RIDDELL, recalled.

#### CROSS-EXAMINATION BY MR. LEADEM:

- Q I want to begin by examining with you, Mr. Young, what we've now marked as Exhibit 937 in these proceedings. It's a report entitled "Returning Salmon Integrated Planning and the Wild Salmon Policy in B.C." How did this report come into being?
- MR. YOUNG: So we were quite closely engaged at that point with the implementation of the Wild Salmon Policy and so it was kind of a key strategy to improving conservation of salmon in B.C., and beyond that, we recognized that the integrated planning component of that, or the strategic

planning component of that policy was a key challenge, something that we thought the Department could use some support and advice around. We knew that there was some good experts out there in terms of looking at these types of questions around planning, and so we worked with ESSA Technology. I particularly worked with Mark Nelitz and we commissioned this report to evaluate essentially some of the practical ways in which we could undertake integrated planning under the Wild Salmon Policy.

- And, Dr. Riddell, in your experience, in your past experience as a DFO scientist, was it common that environmental groups and outside groups would often do this, would retain a contractor and provide advice to the DFO in this mechanism?
- DR. RIDDELL: I think that in the last sort of ten years of my career, it became much more common. David Suzuki Foundation probably led the way, but Watershed Watch, Ecotrust, a number of groups would submit papers on particular topics at the time.
- Q And how generally are these received by the Department?
- DR. RIDDELL: I believe thoughtfully. How much was there interaction with the sort of authors and the organizations? That varied quite a bit on the topic.

This particular one that you're referring to, it got a fairly wide read. It came in as I was actually leaving, so I can't comment too much on the Department, but it was really tackling an area of the coast that we saw as an omission in the Department at the time 'cause we had a pilot program in the Fraser and Barclay Sound and the Skeena through PSF, but we didn't have a lot going on in the central coast although there'd been a lot of work done there.

So this was actually a kind of a timely document.

All right. Mr. Young, if I could ask you to turn to page 2 of this report under the heading, "Recommendations", and there's a bold section with some bullets after it. The bullet section reads:

The David Suzuki Foundation is asking the federal government to:

1 Have you had an opportunity to review those recommendations?

MR. YOUNG: Yes, I have.

- Q And are they still consistent today? I note that the report was authored back in 2008.
- MR. YOUNG: I would say they're still consistent, and perhaps slightly more urgent.
- I'll now ask you to turn, in that same document, to Table 1 which begins on page 11, Mr. Lunn and this runs on for several pages in the document. Can you describe for the Commissioner what this table represents or what it purports to show?
- MR. YOUNG: I think this is an attempt to break down the strategies and activities of the Wild Salmon Policy into some practical recommendations around actually getting the work done, who to work with potentially, and some of the key activities that need to be undertaken. So I think it was an attempt to really codify and practically identify what sort of work we needed to do, and make that as reasonable and realistic as possible.
- The action steps that I find in the left-most column start with 1.1 and then 1.2. Do they correspond to something?
- MR. YOUNG: Yeah, I believe they correspond to the actual action steps identified in the Wild Salmon Policy.
- MR. LEADEM: All right. So if I could just quickly pull up Exhibit 8, page 16, Mr. Lunn, just so we can get confirmation of that.
- Q There's a Table 1 from the Wild Salmon Policy is now being shown on your screen. So is that what you mean by the strategies and action steps that are now depicted in Table 1 of this particular Exhibit 937?
- MR. YOUNG: Yes, that's correct.
- Q And I'm going to ask you -- I'm not going to go through any of these chapter and verse, Mr. Commissioner. They obviously are many strategies and much information is contained in them.

In the interest of time I'm going to move on and ask you to turn to Table 2, Mr. Young, which is at page 19. This one should be entitled, "Synthesis of challenges (see Table 1) associated with implementing Strategies 1, 2 and 3." What does this purport to show?

- MR. YOUNG: This table is attempting to identify some of the key challenges that were being faced with Wild Salmon Policy implementation, categorizing them into different areas, decision-making authorities' state of knowledge and so on, and as a means to really try to break down where some of the key barriers were to implementing the policy as a way to encourage and try to evaluate options for overcoming them.
  - I'm just going to reflect on two of these. The first one refers to decision-making authority and begins by saying:

Working with other government agencies, ENGOs, First Nations, and communities will be essential for successful WSP implementation...

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19 How essential is that in your view?

- MR. YOUNG: It's absolutely essential. I think as we've heard throughout the Commission, the role of the province is quite significant particularly around habitat. As also identified in Strategy 4 under the Policy through integrated planning, working with different communities and First Nations and ENGOs is a key element of implementing a policy. So identifying and working through those relationship is a key requirement.
- Q The authors of this go on and say:

WSP was not developed in partnership with any of these groups...

I'm just going to stop there. Although there wasn't any partnership, was there consultation

- with some of the groups in the making of the WSP? MR. YOUNG: Actually, I'd ask Brian to see if he has a perspective on that.
- DR. RIDDELL: Well, this was a line that stuck out to me in reviewing the document. It's true that there weren't formal partnerships. I would say, though, that the Department at the time did make sincere efforts to be in consultation with as many groups as possible. Various groups made various efforts. Unfortunately we didn't all have equally good consultation in all areas of the coast.

But it is true the statement, if we refer to

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partnerships, I think that there was a serious effort to involve people through consultation. It goes on to say:

 $\dots$  there are no formal agreements to jointly implement the WSP.

Would it be helpful to have joint agreements between Department of Fisheries and Oceans and some of the stakeholders to have a joint implementation of WSP? Would that help to further the process along? Either one of you.

- DR. RIDDELL: I can start. I referred to this yesterday. Basically, that some of the efforts are now working with the Department with members of working teams, but there is certainly involvement of more groups outside of DFO specifically now. So I'd say, yes, that we can use other people's expertise and availability and effort.
- MR. YOUNG: I'll just add to that quickly. So I agree, I would just emphasize to you that particularly the relationship with the province is quite critical, and I think further work could probably be done there in terms of clear collaboration on Wild Salmon Policy implementation.

I'd also like to just mention quickly around decision-making authority, although it's not specifically referenced in this part of the table. My view is that some of the -- looking at challenges within the implementation of the policy that some decision-making authority and integration of the Wild Salmon Policy within the Department of Fisheries and Oceans is quite critical and a key challenge as well, and it is reflected in other parts of this document.

Q And the last part of this table that I wanted to reflect on or get your reflections on is on the next page, on page 20, under the heading, "Communication and awareness", I find these words:

There has been more outreach regarding the WSP to outside groups than within DFO, resulting in a lack of clarity within the Department about the WSP intent and content and about how it will play out on the ground (e.g. what does the policy mean for general

fishing exploitation levels?).

I wonder if you can expand on that, Mr. Young?
MR. YOUNG: I think this is partly what I was alluding
to. So, for example, I think it's clear,
actually, within the policy that ultimately the
information, the outcomes from evaluating CUs and
monitoring their status, needs to feed indirectly
to the management decisions of the Department
including fisheries and habitat. And that it
seems we're still in a state where habitat
management and fisheries management are still not
fully integrating the Wild Salmon Policy
components where necessary, and that perhaps there
is some challenges in terms of integrating across
the Department, and communication may be one of
those factors contributing to that.

Q Did you want to add anything to that, Dr. Riddell? DR. RIDDELL: Well, I don't fully disagree with it, but I don't really fully agree with it either in the sense that there's definitely, as in any large bureaucracy, communication is a challenge. We definitely talked about a Wild Salmon Policy culture, that it was a change of thinking that needed to be spread throughout the Department.

There were many efforts made to distribute the information and get people onside, but I don't think it's unfair to say that there are some areas and some individuals who have not bought in fully and so I can see people believing that.

Q We heard a lot of evidence back in November when we met to initially discuss the Wild Salmon Policy about how the actual drafting of the policy had bogged down, and it needed someone like Pat Chamut to actually come in and to take the reins and to bring it home.

Are we at that state now where we really do need a champion, or need someone to actually come in to re-jumpstart the Wild Salmon Policy?

DR. RIDDELL: Well, you may be at a different state. It mean, I think it's a very different argument. What you were referring to is really in the early 2000s when there was quite a debate about whether you're conserving fisheries or conserving fish, and there was a fundamental disagreement within the Department.

Now, really, we're looking at a commitment to

implement and put it on the ground even in the annual fisheries management planning. Would a dedicated effort help? I think I said that yesterday; absolutely. A single champion? I think it's more like a small dedicated group of experts that would drive this forward.

But it's still a big task in a sense, because as you just referred to in a previous question, there is the whole involvement of ENGOs and First Nations. Consultation is still a very big effort. But you've got to do the technical work that you can go out and actually present to people and have a fruitful conversation.

MR. YOUNG: Actually, I'll add quickly to that. I agree with Brian's point that a core group with dedicated support would be necessary to get a lot of the elements moving forward more quickly. But I still think, though, of the idea of a champion, someone with kind of a dedicated effort just around the policy and its implementation would be useful.

But in addition to that, or at least in concert with that, ensuring that the accountability and authority to make this a priority implementation would be necessary as well, and I think at this point, at the RDG level, that would probably be where it would have to come down from.

- Do you see that that champion, as you described it, Mr. Young, would have to come from within the Department, or would it be possible for somebody to parachute in and to seize that role?
- MR. YOUNG: I'm not quite sure. I think that there needs to be someone within the Department to take on that role. Where they come from, I'm not sure how important that is, although clearly it would have to be someone with the capacity and ability to champion and lead something like this, and that would require some knowledge clearly of the issues that the Wild Salmon Policy addresses.
- And ultimately would that person also have authority as you mentioned yesterday, back in Ottawa, to make sure that some of the decisions can actually be funded and be implemented in a timely manner?
- MR. YOUNG: Yeah, that's my view. I think that either this champion clearly has to have a strong level

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of authority and ability to delegate that authority where necessary, or at least that the authority is somehow vested appropriately within the Department to ensure that this moves forward.

- MR. LEADEM: I'm going to move away from this document now, Mr. Commissioner. I'm going to show Mr. Young another document. It's document number 2 in Canada's list of documents.
- This is a report from the David Suzuki Foundation entitled, "An Upstream Battle: Declines in 10 Pacific salmon stocks and solutions for their survival." Are you familiar with this report, Mr. Young?
- MR. YOUNG: Yes, I am.
- MR. LEADEM: And I'll ask you just to turn to the index, Mr. Lunn. I'm not going to spend a lot of time with this, but -- back one page -- there it This looks at ten units or -- they call it stocks back then. Number 4 I note is Cultus Lake sockeye salmon. Obviously, then, one of the stocks of concern at the time of that report was the Cultus Lake sockeye salmon.
- MR. YOUNG: Yeah, that's correct, and I'll just indicate quickly the ten stocks, as they were chosen, was not simply to say these are the ten most at-risk stocks, or the only at-risk stocks. We wanted to get a bit of a cross-section of where we're seeing some challenges for salmon across species and geographies to best undertake some case studies to understand what the common challenges were to better understand how best to work through those.
- MR. LEADEM: Might this be marked as the next exhibit, please, Mr. Registrar. THE REGISTRAR: Exhibit 939.

EXHIBIT 939: An Upstream Battle-Declines in 10 Pacific Salmon Stocks and Solutions for their Survival, 2008

## MR. LEADEM:

Now, my last questions or series of questions is to you, Dr. Riddell, because we're going to be discussing implementation of the Wild Salmon Policy in the panel that's coming up afterwards and, as I understand it, you're not going to be a member of that panel, are you?

DR. RIDDELL: Not to my knowledge.

Q You say that with a smile.

- DR. RIDDELL: Actually, it would have been a good one, I think.
- O I think so.

- DR. RIDDELL: (Indiscernible overlapping voices) members.
- I'm going to take advantage of the fact that you are here and that it is an important topic. Just ask you just generally how you see the implementation playing out in the context of the existing structure where we have integrated fisheries management plans and integrated harvest management committees, things of that nature. How do you see the concept of conservation units playing out in implementation of the Wild Salmon Policy?
- DR. RIDDELL: I think there's a couple of points better than that. The conservation units are the new stocks. These are the units of geographic production of salmon that need to be at the basis of all the integrated harvest planning discussions. Within that, then, of course you have your management goals which would be defined by your benchmarks, and you'll have your annual monitoring programs upon which you would base your annual assessments.

How does it integrate with the Integrated Harvest Planning Committee? I see that as actually only a component of implementing the policy because the next panel that we're referring to really gets to the heart of involving people that would be affected by these decisions and involving ecosystem-based management in real time. That means that there are groups, the provincial government, municipal governments in there, First Nations, community groups. There are many groups that probably want to have an input into what the long-term strategic plans are for salmon in their area.

Decisions made that are solely based on salmon are very likely to limit opportunities for logging or for development in the community and so on. So there are inherently other environmental conflicts.

That was the intention of Strategy 4 is to have a broader discussion about what the

commitment to salmon is in particular geographic areas. So I really see the Integrated Harvest Planning is just really addressing that, that it's the harvest component. It's critical to implementing Strategy 5, which is the annual delivery. But hopefully when we do the review of Strategy 6, or in Strategy 6, people will look at whether or not there's any willingness of people in geographic areas to take on the challenge in Strategy 4 and to unify into an advisory group that would then provide advice to government, including to the Department of Fisheries and Oceans, about salmon in those areas.

- Q Thank you for that answer and for your thoughts on it. It comes back to something that we've heard already, that if you look at the Fraser River, it's a pretty vast geographic area that we're discussing, and the conservation units are in different parts of that geographic area. So I like your concept that it may come down to some very localized planning in terms of the protection of the conservation unit on a very localized level. Do I have that right? Is that what you seem to be suggesting there?
- DR. RIDDELL: Yes, and within the Department we struggled with how many of these geographic areas you'd have, because they probably would require some core funding to have an effective consultation, you know, management of all the interest groups.

We were thinking one model would be along the lines of the First Nations Linguistic Groups which would define between 11 and 14 regions of British Columbia. In the Fraser River, you might have sort of three fairly large geographic areas and, of course, when it's nested like that, you ultimately have to have a common voice somehow.

So, really, you'd have to look at how many of these you have to have to have people feel that they are involved and people are listening. We were thinking very much that it would come down to maybe something in the range of 11 to 14 of these — call them a council for lack of a better name yet — to represent all the interests in those groups.

Q And what role would the Department of Fisheries and Oceans play in that scheme that you've been

 outlining to us? . RIDDELL: They woul

- DR. RIDDELL: They would be advisory to the council. It's a bit of a circle, I'm afraid, though, because the people doing the assessments and doing the work in the habitat and so on, they would keep the people in the councils up to date in current information and current assessments. The advice coming out of the councils would then come back into the Department as recommendations to -- well, probably down through the Minister's office and back to the Regional Director General, down to the fisheries managers. So I'm not sure that would be the perfect circle, but it's sort of like a circle.
- MR. LEADEM: Thank you for that. I'll wait to ask you, Mr. Young, when you reappear in a reincarnation on the next panel.
- THE COMMISSIONER: Thank you very much, Mr. Leadem.
  MR. WALLACE: Thank you, Mr. Leadem. Next in order,
  Canada has no questions which then takes us to the
  Salmon Farmers Association -- oh, yes, Salmon
  Farmers Association.
- MR. HOPKINS-UTTER: Good morning, Mr. Commissioner. Shane Hopkins-Utter, H-o-p-k-i-n-s-hyphen-U-t-t-e-r for the B.C. Salmon Farmers Association.

### CROSS-EXAMINATION BY MR. HOPKINS-UTTER:

- I just have a few questions arising from the testimony given yesterday by Dr. Riddell.

  Unfortunately I don't have the benefit of the transcript so I'm just going to be going on the notes that I was taking down yesterday, so please forgive me if I've written anything down wrong, and feel free to correct me.
  - I just wanted to ask you about the Gordon and Betty Moore Foundation that you were talking about yesterday as one of the funders of the Pacific Salmon Foundation. That's an American Foundation, isn't it?
- DR. RIDDELL: That's correct.
- Q And that Foundation lists all the grants that they award on their website. Did you know that?
- DR. RIDDELL: Yes, I did.
- Q I went online last night. I just wanted to actually have a look at the funding that you've received and the website - please feel free to

correct me, I just want a general estimate - the grants that they list seem to total approximately \$3,700,000 between 2008 and March of this year to the Pacific Salmon Foundation. Does that number sound about right?

added it up, but it's for three major activities

in the Skeena Basin, and it has been going for

I haven't actually

about three years, so I think it would be in that range, yes.

DR. RIDDELL:

Q That actually seems like quite a lot of funding. DR. RIDDELL: Yes.

It could be correct.

Is that money that was not otherwise available through the Government of Canada, then?

DR. RIDDELL: That magnitude of money was certainly not available for one area. Maybe I should just clarify. The use of those funds is really broken down into a governance allocation, and that's where we are trying to get an example of a Strategy 4 working group for the Skeena Basin. That pays for people's involvement. There's a very regular set of meetings. Regrettably it has taken quite a bit of time to get people moving forward in agreement.

A large chunk of the money annually goes directly to new science programs, many of them targeted at the need for information on habitat quality, habitat mapping. We've had programs looking at by-catch in fisheries to address concerns of the upper river First Nations. We've had a number of large programs looking at chinook assessments, DNA analysis and population estimates, and significant sum into steelhead management.

Then there's basically an administration overhead to the Foundation that pays for our staff and travel time to implement those programs.

Does any of that money go towards marketing and education?

DR. RIDDELL: It would go to education. It does not go to marketing.

Q Okay. Are you aware of Gordon and Betty Moore grants to other groups that may include marketing? DR. RIDDELL: Yes, I am.

And are those groups also located in British Columbia?

DR. RIDDELL: Some of them are, yes.

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- Thank you. MR. HOPKINGS-UTTER: Those are my questions.
- MR. WALLACE: Mr. Commissioner, next on the list, Mr. Rosenbloom.
- MR. ROSENBLOOM: Yes. Don Rosenbloom. I appear on behalf of Area D Gillnet, Area B Seiner. Mr. Lunn, if you'd be good enough to put Exhibit 939 back on the screen, and the index page that was there previously.

### CROSS-EXAMINATION BY MR. ROSENBLOOM:

- I understand, Mr. Young, that the 1 to 10 species as listed there are not necessarily the David Suzuki Foundation's list of the most aggravated situations in terms of stock health; is that correct?
- MR. YOUNG: Yeah, that's correct. I indicated how we had chosen those stocks. That's not to say that some of them be what we consider the most significant stocks are concerned, but that wasn't the intent of the list was to identify the ten most egregious declines.
- But they are ten stock that the Foundation feels should be closely monitored?
- I think inherently, given the situation MR. YOUNG: with these stocks, yes, but I would generally say as well that one of the benefits of the Wild Salmon Policy is that ultimately, I think, it's of benefit to get to a point where we have a good understanding of the status of CUs in this case across the province, including ones that are doing quite well, so that we can understand how to maintain those benefits.
- Q When you look at this list, is it correct to say only Cultus is within the Fraser watershed? No, I'd be wrong about that, wouldn't I? Oh, obviously wrong about that. How many of the ten would be within the watershed of the Fraser?
- MR. YOUNG: Well, with respect to sockeye, Cultus is the only one. But the North Thompson coho, Brunette River coho are the others that would be from the Fraser watershed.
- We're so single-focused at this inquiry for obvious reasons, and relates to the terms of reference imposed upon the Commission. But can you give us a general sense whether the Cultus

Lake sockeye would, from your perspective, be the most advanced in terms of implementation of WSP? I want to get a sense, because I think the Commission should get a sense, whether the WSP has been primarily focused, in terms of implementation, within Barclay Sound and the Fraser watershed, or whether indeed what we're hearing about in respect to our focus would be applied across the board in terms of the degree of implementation anywhere else in the province.

MR. YOUNG: Ultimately, that's actually a fairly complicated question. I would say that, at a broad level there's been a certain amount of

MR. YOUNG: Ultimately, that's actually a fairly complicated question. I would say that, at a broad level, there's been a certain amount of progress with respect to Strategies 1, 2 and 3 in terms of getting the basic science completed that would apply to all salmon within B.C. I think that there have been some unique efforts undertaken in Cultus Lake and Barclay Sound and Skeena, for example. Probably Barclay Sound, and to some extent Skeena, are the closest to being identified as something that was at least partly or said to be an attempt to implement the Wild Salmon Policy. However, they're also kind of missing some of those key first elements.

I think the Cultus sockeye situation, I think that was borne out of issues predating the Wild Salmon Policy, driven a lot by the COSEWIC listing. I think there's some lessons that we could learn from that process that we could definitely use to help our understanding of how to implement the Wild Salmon Policy.

- Would you say Cultus is the most implemented of the WSP program of those ten?
- MR. YOUNG: I struggle with really being able to say that one of these stocks or another has the most implementation of the Wild Salmon Policy. I mean, for example, we don't have benchmarks for Cultus sockeye explicitly under the Wild Salmon Policy which I see as kind of a key early element of WSP implementation. So, at that level, no, it's not.

In terms of having taken some efforts that involve different stakeholders and evaluation information, I guess you could say that Cultus Lake may be in a better position to be able to proceed with WSP implementation.

Q Dr. Riddell, do you have anything to add in terms of responding to my question?

DR. RIDDELL: Well, I think a direct answer to your question would be that probably the greatest focused attention has been on Cultus Lake. Is it the greatest implementation of the policy? Of those ten, I don't think there'd be any question that it has proceeded the furthest, but I would point out that there have been a number of the stock assessment review documents including a lower benchmark, which was defined a few years ago so that we had a lower level where we could, if we had to, we would have to shut down fisheries to avoid getting down to extremely small population sizes that would have long-term genetic impacts in the stock as well. That work was done, I think in about 2005.

So there's also the habitat monitoring going on. There are issues in the lake and in the downstream area that people are paying attention to. I think you've probably heard a lot of this in the previous few days. So I think Jeff is correct in the sense that it's not being managed directly on the Wild Salmon Policy, but it certainly has gone the furthest in terms of what's going to be required to implement the policy there.

Dr. Riddell, you and I have had numerous exchanges during the life of this inquiry regarding fiscal capacity of DFO to pull off the Wild Salmon Policy with full implementation. You'll recall testimony you gave some time ago regarding more recent budgetary restrictions imposed upon the Department by Treasury Board. You'll recall testimony you gave about the five percent reduction and you educated us that from your perspective, because it was a five percent reduction of overall budget of the Department, and because salaries obviously could not be tampered with based upon collective agreements, the five percent really represented, I believe from your testimony, approximately 15 percent reduction on the operational side. remember giving that evidence?

DR. RIDDELL: Yes, I do.

Right. Now, what I don't believe has been elicited from you or anyone else at this inquiry, unless I missed it on a day I wasn't here, is when the Department is facing down these difficult budgetary problems, and when the Department is

obligated by international agreement to focus on certain areas of the province because of those international obligations, it is at the expense obviously of other areas that are under-funded because there's a transfer of money from one program to another. Is that fair to say?

DR. RIDDELL: It's fair to say, and I think we did have a fairly extensive discussion on material like that at one point when I was giving testimony, because the Fraser sockeye is clearly seen as the priority for management and conservation within DFO on the west coast.

Q Right.

DR. RIDDELL: As a program manager, there were many, many discussions with staff about we have to fund the key program. Under the Pacific Salmon Treaty there are obligations that must be met there. So there are consequences to other assessment programs 'cause there's a limited budget.

What that really has done, over time, you try to find money in many ways and many different agreements and we sometimes would have things from B-based budgets where there was soft short-term allocations, or you had partnerships with other groups on a temporary basis. So one of the things I always tried to limit was how this made our assessment sort of a piecemeal -- 'cause a consistent assessment through the province is kind of the legacy of information that you leave behind. But there's no question that what you're discussing is an impact that we've dealt with for a number of years.

Q There may be a gap in the evidentiary base at this inquiry up to this point in time, and what I want to solicit from you is what expense is there in transferring money from programs outside of the sockeye of the Fraser River and the watershed? You probably, better than anybody, can speak to the province-wide situation. What are some of the other critical areas in terms of requiring significant financial resources by Department to sustain a healthy resource, be it with sockeye specie or any other specie?

The point I'm really asking is, at the end of the day, should the Commission not be mindful of what are the consequences when there is a financial shortage and where government is trading

monies from programs outside of the sockeye of the Fraser, and what is the prejudice to those other programs?

DR. RIDDELL: Well, I think you had a discussion on stock assessment priorization and how the budget process functions. I think the best way to answer your question is sort of examples. I think I also recall describing that the sockeye issue really depends on the year of the four-year cycle, and so you have one year where you have the Adams returning, you have the big Summer returns and so you have a bad year where they -- it costs a lot of money. I think the budget going into the Fraser varied by about twofold, and so that was basically about \$1 million that you had to find from other programs outside.

But the best case example is that in the early 2000s, because it limited fishing demand at the time and because there was no real perceived conservation concern, we actually stopped enumerating pink salmon. So in recent years where we've had extremely good returns of pink salmon in the Fraser, there's not a quantitative assessment.

The second one that would take a reduction in costs is really chum coast-wide. Chum hasn't had a cost. To really understand chum, you need to do age-structured analysis, so that has taken a back seat. Now we have a problem where there are certain areas where chum are a conservation concern and we have very limited data.

After chum comes coho. So there's a very -- Coastwide?

DR. RIDDELL: No. We very much would try to maintain the indicator stocks in southern B.C. All of these things through time became kind of a hierarchy of what's the least impact and what needs to be required, because a number of government priorities from the Pacific Salmon Treaty through agreements with First Nations and so on down the list.

So the particular area that you're talking about, northern B.C., if the stocks are particularly healthy then, you know, the primary assessment was the Babine fence sockeye. So now in that area, where we talk about looking at benchmarks, we are looking at how you're using a fairly weak information base for a number of small

sockeye stocks.

So there's an effect of not having these resources through time. I mean, really, all we did at the time was try to get the best allocation we could to meet most of the priorities for the money we had.

- And these stock that you mention, the list of, I believe four, are obviously stock of consequence in terms of the commercial fishery.
- DR. RIDDELL: Many of them will be, yes.
- Yes. And is it your evidence that, as a result of this budgetary shortfall, that those stock have suffered in terms of the fiscal attention that should be given to them?
- DR. RIDDELL: Well, I'm not sure that I would be able to really say that. I mean, if the fisheries are managed in a conservative manner -- like many pink and chum fisheries in central and northern B.C. are limited to around 50 percent harvest rate, in most cases that's not going to be a significant impact on the stock. Until recent years with marine survival we hadn't really seen a major problem.

David Peacock, a manager in the north, was just telling me the other day, though, that we are seeing recent declines that are significantly limiting fisheries on the central coast for pink and chum. So these things kind of come and go, but depending on the sort of level of impact historically, I don't now if you could say that across the board.

Q All right. Mr. Young, do you wish to have any input in response to my question?

MR. YOUNG: No.

Thank you. Yesterday you both spoke of the kind of monies that you believe are necessary to get the WSP into full implementation if I understood your testimony correctly. Assume for a moment, Dr. Riddell, that those monies are not forthcoming; in other words, that we are going to carry on into the future and near future with continuing budgetary restrictions, that DFO's budget will either remain neutral or will be diminished by Treasury Board over the next four or five years. Just accept that for a moment.

What is the prognosis for the WSP implementation if indeed we carry on with what has

been the history financially over the last two or three years with the Department?

DR. RIDDELL: Well, I'm not sure that I can really speak for the Department anymore. I'm only really knowing what you're hearing in the paper in terms of reductions. If there are further reductions in capacity, then I don't think it would be a surprise that we'd have a slower implementation, even from what we've seen. But I think that we have made enough progress in some of the implementation steps that the Department would be much more willing to start working with external groups, as we've just talked about, in terms of really getting the analyses done, implementing some monitoring programs through stewardship groups, looking for sort of a more widely dispersed implementation process to put this in place.

Now, I think that puts the overall process a bit at risk in the sense that you do need to try and ensure that everything is done fairly across the board and that people are using the same standards and so on. So there is definitely what you call an overall management responsibility that the Department has to pick up if it becomes much more diversified like that.

- Isn't it dangerous when government becomes dependent, in part, on ENGOs, being funded by foundations, outside foundations? Isn't there a danger when you become dependent upon that kind of relationship for what surely you would consider public interest initiatives by DFO?
- DR. RIDDELL: Well, I've struggled with that question quite a bit in the last two years. I think there's a pro and a con for it. Let me say the pro, to start with, is that as I'm continuing to see reductions being pressured on government and knowing, the way I do, what another five or ten percent cut means to stock assessment, I've kind of changed my thinking on this in the sense that if we can find money in other ways to do short-term technical work that can be reviewed through independent peer assessment so that it's credible, and people can verify it, then I think we should try and use as much money from other places as we can to deliver on these programs.

Where I think we need to be very careful,

though, is that the money that is left in government is directed to continued maintaining a stock assessment basis that we can depend on for doing the annual assessments. My concern now is that you leave the responsibility solely with government, that they will have to continue to divert funds into getting more people doing work in these evaluations, and maybe will do less monitoring of fisheries or will do less enforcement. 

I would rather see government focus that money in having a legacy of good quality data for assessment, appropriate sort of management and monitoring of fisheries, and the other environmental impacts, and other groups could provide the money to do the short-term technical assessments. I think we've seen very good work done through the examples that you've shown by David Suzuki Foundation going out to people locally that can write reports and provide advice back to government.

We can do the same thing with our local university. We have some people that the rest of the world comes to for advice. We can have people at these schools doing some of the analyses. I'm working with a graduate of UBC right now in the Skeena. So there are very good people that can address some of the issues that are limiting progress in the WSP.

Yes, some of the money is likely to come maybe from the Moore Foundation or from other foundations. I don't really see that as a big threat as long as it's worked out as a specific objective to be done, that it can be peer-reviewed and people can discuss it and agree with whether the analyses is correct or not.

- Most of the significant money from foundations to Canadian environmental groups is American, isn't it?
- DR. RIDDELL: Yes, I think pretty much everything that I'm aware of, although there are some Japanese foundations. I don't think there's any money here, though, for that.
- Q Yes. I'd like to just deal with one other brief area of focus. We've talked about enhancement programs, the hatchery programs, and I believe both of you spoke yesterday, or one of you did,

about some issues and I just want to explore them briefly.

You're a geneticist by background, are you not, Dr. Riddell?

DR. RIDDELL: Yes.

- Q Do you have concern as to the degree of the percentage of stock that is a hatchery-based stock as opposed to wild stock?
- DR. RIDDELL: Percentage of stocks? No, I don't have a particular concern on that. I have concerns in particular areas, but in terms of the big picture, in terms of the number of populations in British Columbia that have extensive enhancement on them, it's not a very large percentage of the total population at all.
- Do you have any idea, just off the top of your head, about what percentage of, for example, sockeye of our coast is enhanced?
- DR. RIDDELL: Well, you see, the sockeye number in the north is going to be large, because you'd have to determine how much of the Babine Development Program you want to count as enhanced. Enhanced, there is the spawning channels. A substantial number of the smolts coming out of Babine Lake, probably 50 percent plus, are from the spawning channels. And then put that in the context of the total Skeena.

So I think when they actually look at returns, it could easily be 50 to 60 percent of the Skeena sockeye return are from spawning channels. But, now, spawning channels are not ones that people really focus a lot of attention genetically because you do allow mate selection to proceed in the artificial rivers that you built. Yes.

- DR. RIDDELL: They're not the hatchery analogy.
- Q What about the south coast?
- DR. RIDDELL: South coast, you get small numbers in the Fraser, probably under five percent, and may vary in a particularly low year. So if you have the low cycle four-year, and then you had a good Weaver return, you could find that your population numbers could come up to 10 to 20 percent I would think.

The bigger numbers, though, are things like coho salmon where you have very large hatchery programs in the past. We have had years where

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coho catch in the Strait of Georgia has been 50 to 60 percent from the local hatcheries in the lower Fraser and around the Strait of Georgia. So it varies by area and species.

- Q And am I correct that there is no real scientific work done on the resilience of the hatchery fish as opposed to the wild fish in terms of their cycle and their return and recruits per spawner?
- DR. RIDDELL: No, I don't think so. We do have wild stock monitoring for coho and we do have hatchery monitoring. You do find that the hatchery fish are surviving less than the wild fish, so that's an element of resilience.

There is a number of programs, particularly very intensive studies in recent years and mostly in the northwest States, that hatchery fish are surviving more poorly than wild and their genetic fitness is less.

But if you're talking about sockeye salmon, there's very little work that's been done on that. It's largely been work done on coho salmon and steelhead and some chinook.

- Q My last question is: As a geneticist, does that concern you that there is so little knowledge of the disparity in health - sorry, that's not a good term - the difference in survival of the hatchery fish as opposed to the wild fish? Is this a matter that should concern us?
- DR. RIDDELL: Well, since it's my particular bias, I'd have to say yes. But, really, in terms of the big picture, I don't think there's any question that we needed to do more in understanding the effect of the hatcheries through time. I think people have come to an awareness now that you really have to be cautious about what the major hatcheries are doing.

For example, ask yourself a simple question: that we continue to limit fisheries in the Strait of Georgia, but we still have full output of coho smolts from our major hatcheries, right? What is causing that? Is that really cost-effective to continue those programs like that, or should we put that money into restoration of natural habitats?

Q Thank you. Any comment, Mr. Young?

MR. YOUNG: I generally agree with what Brian said. I just want to add one element around sockeye. In

the Fraser -- and that's looking at it not as a total amount of sockeye, but as separate CUs. 3 Clearly we've heard a bit about how Cultus sockeye itself has been enhanced. I do have some concerns 5 about how that may develop although I do think 6 they're looking fairly closely at some of those 7 genetic issues, and I hope we do learn as much as 8 we can about how we're using enhancement in Cultus 9 as a means to deal with issues there as well as 10 understanding how we're going to approach 11 enhancement moving forward. 12

MR. ROSENBLOOM: Thank you.

MR. WALLACE: Mr. Harvey.

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MR. HARVEY: Thank you. Gentlemen, it's Chris Harvey representing the Area G Trollers and the United Fishermen and Allied Workers Union.

### CROSS-EXAMINATION BY MR. HARVEY:

I'm going to be taking the advantage of your presence here, Dr. Riddell, to clarify some things that arose out of your earlier testimony. On December 1st, you gave evidence - and perhaps Mr. Lunn could get the transcript ready in case we have to refer to it - December 1st transcript, page 64.

I had asked you some questions about the major contribution of the Wild Salmon Policy. mentioned early on the establishment of two benchmarks, not just one, and you mentioned that a bit later in the transcript as well. to me that you place some importance on the establishment of not just a lower benchmark, which we've heard a lot about, but the upper benchmark; is that correct?

- DR. RIDDELL: Yes, but the context of my comment would have been actually opposite of that because we always had a target escapement goal which was defined by the spawners providing the maximum sustained yield, and that would actually be the target reference point. We very -- well, we never had a specified lower benchmark for any salmon stocks. That was the significant addition in the policy.
- Yes. But is the Wild Salmon Policy, though, not meant to have two benchmarks in the sense of, one, that it's undesirable to go below, and another

that it's undesirable to go above.

DR. RIDDELL: I mean, the undesirable above is not as critical as the lower, but yes, you could state it that way.

Q Perhaps not as undesirable, but it is undesirable

in two senses, is it not, that it yet, of course, impacts on the harvests and the users whether commercial, aboriginal or sports, and also, if it gets to such a level, it will impact on the ecosystem that the sockeye fry rely on for their survival during their freshwater stage, correct?

DR. RIDDELL: Well, I think in that same day, we were discussing about how far above, and I think that the consensus from a number of people seem to be about two times the target reference point, so that's substantially above. So I don't disagree with the way you're stating it in the sense that, yes, it's less desirable to be far above the target because you clearly are taking away from other opportunities of use.

But all I was trying to say there is how critical it is to be -- you know, what is the impact of going far above? Well, far above is quite a ways above. A little bit above -- I mean, the target for management might be plus or minus 25 percent, would be how a manager might think about trying to achieve that target. So if you got to 125 percent of goal, that's not going to be anything comparable to the risk of going below the limit reference point.

- Q No. But it is going to begin to present a risk provided the scientific basis for the benchmark is correct. It may present a risk to the ecosystem that supports the sockeye during their freshwater phase.
- DR. RIDDELL: Not if it's within about 100 percent.
  O That's --
- DR. RIDDELL: As I said, it's about people that are talking about -- and I think you were referring to the Alaskan paper that referred to this as well -- and people looking at, "Where is Over-spawning" was the topic. Where is this really becoming a problem or could have a significant effect? And they're thinking twice the MSY value.
- Q Yes.
- DR. RIDDELL: Right? We have had examples, however, where it's been well above twice recently.

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- DR. RIDDELL: And clearly that's what generates many of these concerns.
- Yes. All right, yes, and I'm going to ask you something about that.
- MR. HARVEY: But at page 78, if we could look at that, Mr. Lunn, December 1st transcript, page 78. I asked you a question about the upper benchmark. Suppose just to get the full passage of it, I'll start at page 77 towards line 32. I said:

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?

And you said:

Yes. The Wild Salmon Policy requires two benchmarks --

- MR. WALLACE: Mr. Commissioner, I hesitate to interrupt, but I'm not sure of the utility here off putting a question and answer that has already been put by this questioner to this witness before.
- MR. HARVEY: All right. Well, I was just trying to establish the context.
- Q But, at any rate, at page 78, when you're asked about the upper benchmarks, you referred to a paper, and you said -- this is at line 17 (sic).

And the benchmarks may not be any different at all.

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That's from the historic benchmarks.

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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 [to]in the upper benchmarks.

MR. HARVEY: Now, that paper, I don't -- I wasn't able to see that it was identified in connection with this, so I'd like Mr. Lunn to pull up Exhibit -was it 182?

MR. LUNN: Exhibit 184, I think.

MR. HARVEY: One-eighty-four. This is -- Mr. Lunn, is this 194 pages long?

MR. LUNN: It is, yes.

DR. RIDDELL: That's good, eh?

MR. HARVEY: Yes.

Dr. Riddell, is this the paper that you were referring to?

DR. RIDDELL: Yes, it is.

All right. Now, in this paper, I'd just like to make reference to a few things to see whether this is what you had in mind.

First of all, page 12 -- I'm sorry. page 12 has these two graphs, one showing productivity declining, one showing effective total spawners increasing, more or less mirroring one another. I think you said last time that may be a coincidence. It is either cause and effect or coincidence or a combination of the two, I suppose. Would you -- could you say that, or can you say anything more precise?

- DR. RIDDELL: Well, the reason I put it in those terms is that there have been a number of management actions taken for particular stocks of concern. You spent time talking about Cultus in particular. Yes.
- One of the things that you're looking at DR. RIDDELL: in effective total spawners in the mid-'90s on is a significant increase, because we have limited fisheries to allow increased escapements to protect weaker populations and that has, in some cases, resulted in large escapements to a couple of stocks, notably to Quesnel and to the Adams in two years -- two cycles.

- Q Yes. And the intent of the Wild Salmon Policy is to somehow balance things in the socioeconomic analysis and also in the ecosystem-based management analysis, to do a balancing. Basically that's correct, isn't it?
  - DR. RIDDELL: Well, it's correct in intent, but I don't try to use "balance" much anymore because it's either sort of on or off in people's minds. What is really missing in the discussion of Wild Salmon Policy is that Strategy 4 should be a fuller discussion than just simply talking about balance. Yes.
  - DR. RIDDELL: I mean, you can talk, when you have the CUs defined, what is the state of the CU? Does it limit fishing in particular times? What are your opportunities to restore the productivity of that CU? It doesn't have to mean that fisheries have to be shut down immediately because something is in the red zone.
  - O No.

- DR. RIDDELL: But we have to get to the point of having the CUs defined, the status assessed and having a process to have that dialogue, and that is what I referred to earlier. I think your conversation in the next few days will be important with Strategy 4
- Yes. But the intent of the policy, though, is to get to the stage where that dialogue can take place in an informed basis, informed by socioeconomic data, but informed also by ecosystem data including the risk of declining productivity which results from large escapements.
- DR. RIDDELL: Correct.
- O Yes.
- DR. RIDDELL: Actually, in the previous page, as you flipped through there, is the wild salmon document diagram of the three zones. In dealing with the Skeena work that we were just talking about, we've had an interesting discussion that -- well, maybe I'm wrong. I thought it had right above it there was the red, amber, green.

To address what you're talking about, it's quite possible that above the green you have another amber, which really addresses what you're referring to. At some point in time, it's of less value to put those fish on the spawning grounds. There's no question about that.

- 1 Q Yes. But I'm going to come to the terms of the
  2 Wild Salmon Policy in a moment, but generally, the
  3 Wild Salmon Policy is very weak on that score,
  4 isn't it? It doesn't ever identify what you've
  5 just mentioned, that there might be an amber zone
  6 above the green, doesn't ever identify the
  7 detrimental effects of exceeding the upper
  8 benchmark.
  9 DR. RIDDELL: Well, that's true, but the reason for
  - DR. RIDDELL: Well, that's true, but the reason for that is when you really look at reference points around the world, many people refer to the upper as the management target. The reason for doing that is that is where there should be a more fulsome dialogue about what are the objectives within a particular management scenario.
  - Q Yes.

- DR. RIDDELL: And it's those objectives that you're referring to, the biological, the social and the economic.
- Yes. Now, the biological objective is meant to take into account the carrying capacity of the freshwater system; is that correct?
- DR. RIDDELL: Yes.
- Q And there's a discussion in this paper at page 32 on that.
- MR. HARVEY: If Mr. Lunn could turn is to that.
- Q There's a carrying capacity discussion that goes on for several pages. The second page has a graph of the carrying capacity of various lakes. For example, if we look in the green section, the Quesnel system average has got a one million spawner carrying capacity, Shuswap 1.5, et cetera. Is this part of the information that you had in mind when you said that when this paper is published and analyzed, you expect it would lead to changes in upper benchmarks?
- DR. RIDDELL: That would be part of the data that would be considered in defining the upper benchmark.
- All right. Also, I think, if we could turn to page 155, there's another graph more or less the same, somewhat more refined, I think, with all these various numbers. Again, Quesnel is in the one million range and Shuswap in the 1.8 or 1.7 million range.

That compares -- well, I guess I don't have to go through the record with you. But this paper, I've read it and I've read these analyses.

They're somewhat complex; fair to say?

DR. RIDDELL: That's why you need the dialogue.

Q Yes. But you can't have dialogue with members of

- the public on a subject like that, can you? That may be a good subject for scientific dialogue, but if you expect these matters to be resolved on a consensus basis with non-scientifically trained members of the public, you're not going to get a very good answer, are you?
- DR. RIDDELL: I wouldn't agree with that, actually. My experience, and this has been in a number of very public and open forums and through the Pacific Salmon Treaty work as well, probably some of the most complicated analyses done on the entire coast is with chinook salmon, and the coast-wide chinook model.
- Q Yes.
- DR. RIDDELL: And you can make substantial progress if you take the time to build it from A to Z so people understand the logic.
- Q Yes.
- DR. RIDDELL: Really, what you want to do with all this information is look at the consequence of actually using any of these particular benchmarks.
- Q Yes.
- DR. RIDDELL: That's where the trade-off analyses that Dr. Walters refers to at the time, where you can actually look at what are the consequences of a range of target escapement goals. I think it's by going through that dialogue, well, people will see that a few hundred thousand sockeye here in terms of the upper benchmark or the target reference point, it actually doesn't have a great deal of effect in the future projection. It can have a very big effect when you're talking about the lower benchmark.
- O Yes.
- DR. RIDDELL: So you can do things to show people how these analyses are conducted and what the tradeoffs mean to them in real numbers and fish.
- Q We've had some other evidence since you were last here. Dr. Peterman gave evidence. Now, every time I refer to it, Mr. Timberg stands up and objects. So he's not here to object, so this time I'd like to put the page number so that there's no doubt about what Dr. Peterman did say.

It's April 20th, page 95. This follows a

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PANEL NO. 38
Cross-exam by Mr. Harvey (TWCTUFA)

discussion about a paper. I think it was entitled something like, "Does Over-escapement Cause Stock Collapse." And if we could start reading just where the -- about halfway down the final paragraph that's quoted there from a previous report. It said:

The Panel's opinions about the effect of delayed density dependence on the long-term decline in Fraser sockeye productivity ranged from **likely** to **possible** to **unlikely** as a contributing factor.

Could I ask where you stand on that continuum?

### Dr. Peterman says:

Where do I stand on that continuum? Well, depends on the stock. I guess our analyses that I reported on this morning would suggest that delayed density dependence has played a role in the Quesnel for the long-term decline in productivity.

But we have not seen evidence of that for the other Fraser Sockeye stocks.

So, and I think - I haven't got it in front of me - but I think one of the mandates of this Commission is to find as a fact the reasons for the 2009 failure - I'm paraphrasing. You would support, as a finding of fact, that the high escapement levels in the Quesnel led to the substantial and serious declines of the Quesnel 2009 return...

No, I'm afraid I can't speak specifically to 2009.

All right. At any rate, [do you] you do say that delayed density dependence is a likely cause contributing to the long-term decline of the Quesnel run?

In the Brigitte Dorner and Peterman report?

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Well, I thought that's what you just said a minute ago.

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That --MR. WALLACE: Excuse me, Mr. Commissioner. Just a note that Mr. Harvey has run the clock out.

He says, "Yes." That's one of the passages.

MR. HARVEY: I see. I think -- well, perhaps this is a good time for a break, because I'm not finished and Mr. Eidsvik goes next. Perhaps I could cut into some of his time if he consents.

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All right. THE COMMISSIONER:

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

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(PROCEEDINGS ADJOURNED FOR MORNING RECESS) (PROCEEDINGS RECONVENED)

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THE REGISTRAR: Order. The hearing is now resumed. MR. WALLACE: Mr. Commissioner, for the record, because Mr. Harvey began referring to some transcript references, Commission Counsel provided Dr. Riddell with the transcript in the same context that surrounded the quote that Mr. Harvey put to him.

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MR. HARVEY: Thank you.

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# CROSS-EXAMINATION BY MR. HARVEY, continuing:

Dr. Riddell, I certainly give you time to comment, but I would like to go as quickly as I can. Eidsvik and I have agreed that I'll leave him what I can, but he'll permit me to eat into his time, as it were.

We've had Dr. Peterman's evidence, and we've also had evidence of Jeremy Hume describing the impacts on the food web of a large number of fry in the freshwater system, and I expect you're probably familiar with that.

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What I would like to ask, unless you have anything else to comment, Dr. Riddell, on that, I'd like to ask Mr. Young if you agree, Mr. Young, that conservation of sockeye must necessarily include conservation of the food web and the other elements in the ecosystem that sockeye rely on?

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MR. YOUNG: Yes, I'd agree with that. If possible, I wouldn't mind commenting on the topic at hand, as

well.

Q All right.

MR. YOUNG: Yeah, just to say that just with respect to the over spawning discussion, that my best interpretation of the information so far is that there are identifications of density dependent issues with some Fraser sockeye CUs. I don't know that it's clearly applied in the same way across I think it's also been fairly well all CUs. demonstrated that high escapement levels that do need density dependence don't actually put that CU at risk, itself, of a conservation issue or of extinction. But that I do fully support the idea of working -- actually, reaching a point where we're working to maintain all of our CUs at a target reference point level, and that I look forward to getting to that place.

I just want to also say that exploiting CUs that are at their target reference point or higher is something that I think is useful to work towards as much as we can. Selectivity of our fisheries is one of the opportunities to do so.

I also want to say one other thing, especially within the context of ecosystems and benefits to ecosystems, although yes, there can be some density dependent effects at high escapement levels potentially for some CUs, there's also some ecosystem benefits to those high levels of abundance as well. It's a strong nutrient input or else it provides some adaptive and selection opportunities for the sockeye, themselves.

- Mr. Young, do you accept that there are any benefits at all to cropping sockeye, any benefits to the population?
- MR. YOUNG: Well, firstly, I'm going to have to accept the term "cropping". I'm not sure exactly how I want to interpret that. But I would say that for the -- purely for looking at the short-term productivity of a CU, clearly there are places for at least some CUs where a high level of return reduces the number of spawners produced per -- sorry, recruits per spawner. I think, then, you could say that there may be some benefits in terms of maintaining stocks near a target reference point in terms of producing the most number of fish available to the fishery from that CU.

In terms of the benefit to the actual CU, I'm

not sure that I've really seen any evidence that there's a specific ecosystem or CU benefit in a sense of -- in a conservation sense, in a sense of maintaining that CU going forward.
All right. Dr. Riddell, I'd like to ask you,

finally, about the Wild Salmon Policy, itself, and this will be -- assist us, I think, in moving into the next panel. Exhibit 8 is the Wild Salmon Policy, and with respect to -- and I just wanted to say, I went looking through it to see, as best I could, how the upper benchmarks are meant to be determined and applied. There's a reference on page 18, this is in the course of Strategy 1, and I'd like you to explain, if we can bring it up, it's the upper right-hand quadrant of this, if that could be -- that's it.

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As with the lower benchmark, the upper benchmark will also be determined on a caseby-case basis depending on the species and types of information available, and may apply:

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 A proportion of the number of spawners (S) estimated necessary to provide maximum sustainable yield (MSY) on an average annual basis given existing environmental conditions.

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Can you explain that for us?

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DR. RIDDELL: Yeah, that example came from some work that had actually been done in Alaska, and you referred to a type of that analysis in previous testimonies. As a target, you don't necessarily have to fix the target at the number of spawners that would give you a maximum sustained yield. For example, if you did that, you'd say, "Well, we want to achieve 100 percent of Smsy." Alaska has a target acknowledging that there's uncertainty in the data, and their target is, I believe, down to 80 percent of the Smsy. And so all they're really acknowledging is that with the uncertainty of the quality of the data that we deal with, that if you've got 80 percent of msy or you've 100 percent of msy, you probably couldn't tell the difference in subsequent production of the progeny.

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With respect to Alaska, is that for the purpose of setting their upper reference limit?

- DR. RIDDELL: They only speak about a target reference. They have, well, some people argue that it's not in their constitution, but the state biologist for fisheries have a requirement to basically achieve 80 percent of their Smsy. Below that, they actually try to shut down the fishing.
  - All right. Is there anything equivalent here in the sense of giving guidance to the fisheries managers as to whether they should be operating on 80 percent msy or 100 percent msy or 75 percent or whatever?
- DR. RIDDELL: There's nothing in the policy, now, because that's part of the, as I described a little bit before the break, that's part of the management target discussion that should go on in preparation of the annual fishing plans. I mean, right now, implicitly it's 100 percent of Smsy, but that doesn't have to be the case once you have a fuller discussion on, as you started out, the biological, the social and the economic discussions.
- When you say "as it stands now it should be 100 percent," is that the upper benchmark you're talking about?
- DR. RIDDELL: Yes, it is.
- Q But it doesn't say that anywhere in the Wild Salmon Policy, does it?
- DR. RIDDELL: It's not in the policy. In the absence of actually defining the upper benchmark, the, if you want, the default understanding, now, in management would be that your management target is as it has been in the past, the maximum sustained yield spawners for sockeye.
- Q Yes.

- DR. RIDDELL: All right? But that can change as you define the benchmarks that you just pointed out, Susan Grant's recent paper, and that has a number of various benchmarks identified in it.
- Yes. Well, let's, just for the purpose of argument, take 1.7 million for the Shuswap capacity that's mentioned in the Grant paper. Is that what you mean by msy?
- DR. RIDDELL: Well, you'd have to be careful to compare it. If you're looking at habitat capacity, that's frequently a maximum production, right?
- 46 Q Yes.
  - DR. RIDDELL: If you have very good conditions you can

find years where you get higher than that. But the expected maximum value would be the 1.7 million spawners would fill the habitat, right? If the analyses that is most commonly done really is the stock recruitment analysis, using the Ricker curves, and they may or may not actually determine the exact same values. So it depends on what you're really basing the upper benchmark on. Because you can sustain a maximum yield at less

than the carrying capacity determined by Sue Grant and others, can you not?

DR. RIDDELL: You probably could, within the biological

 limits of how many fry could be produced, yes, you could fill a habitat with less numbers of fish than required for the Smsy.

MR. HARVEY: Yes, thank you. Those are my questions.
MR. WALLACE: Thank you, Mr. Commissioner. I have 10
minutes remaining for Mr. Eidsvik.

MR. EIDSVIK: Good morning, gentlemen. Good morning, Mr. Commissioner. Philip Eidsvik for the Area E Gillnetters and the B.C. Fisheries Coalition.

## CROSS-EXAMINATION BY MR. EIDSVIK:

Q Funding for WSP is an interesting one. About how many salmon streams are there in the Fraser Watershed, if you had to guess a number? More than 100? More than 1,000?

DR. RIDDELL: Sockeye streams? Two hundred and -- Q I'm just saying, "in general".

DR. RIDDELL: In general?

 Yes. Coho, sockeye, pink, chums?

 DR. RIDDELL: I think you would be getting upwards of 500.

 Upwards of 500. Do we have data on the escapements so that you could set benchmarks for those streams?

DR. RIDDELL: Well, part of the policy is that you don't need to. You need to for looking at distribution, but you don't need to have hard numbers in all. You do have numbers in almost all 257 Fraser sockeye streams, because they're very well known over a very long period of monitoring, but the conservation units need to have a way of evaluating the production from all of the streams within a conservation unit and then it requires the Department to define a way of evaluating the

distribution between the streams. 1 Okay. That helps me a little bit. So let's look 3 at the Stuart-Takla. I think there's 37 streams. 4 DR. RIDDELL: Eighty-seven. 5 Eighty-seven streams with spawners more than 100? 6 DR. RIDDELL: More than 100 spawners? 7 Yeah, per stream. Or are you just saying the 87 8 streams within --9 DR. RIDDELL: Eighty-seven streams is the number of 10 streams that I know in a number of our assessments 11 for the Stuart-Takla system for sockeye, and they 12 will vary widely in the number of spawners. you're saying -- I don't honestly know if your 13 14 number is correct, if you exclude below 100 or 15 not. 16 Okay. 17 DR. RIDDELL: But it's in that range. 18 And you're confident that you've got good data on 19 a year to year basis for those 87? 20 DR. RIDDELL: We used to have very good data on a wide 21 number of those streams, and in recent years I 22 understand that the number of streams being surveyed has dropped quite substantially. The 23 24 primary spawning streams are being regularly 25 monitored and they are doing aerial surveys for 26 the distribution amongst other streams. 27 And this is one of the things that our industry 28 was interested in, is 87 streams. What happens if 29 a landslide comes out and wipes out one of the 30 streams and it wipes out all the stock in a year, 31 then the ice melts and then you have the stream 32 opens up again, but you've wiped out the stock in 33 a one-year basis. DR. RIDDELL: See, this is the -- well --34 35 How do you manage that CU? 36 DR. RIDDELL: That is not a CU; that is a stream. 37 CU concept is designed to address exactly what you 38 have just described. So there are two CUs in the Stuart-Takla system, I believe, for run timing 39 40 differences. Within that CU we can tell very, 41 very little difference between many of the stocks,

genetically. And so the value of the CU is if you

do have a landslide, because many of the areas are

in a particular stream. Once we get a freshet and we clean up that stream and you get lots of the

locked, right, so we do lose the return spawners

dirt transferred to the lake, the populations in

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the streams around it will eventually allow re-1 colonization of the stream to provide productive 3 habitat again. 4 That is one of the primary reasons for 5 defining spatial units, called conservation units. 6 So you manage by the conservation unit and not by 7 the streams within the conservation unit? 8 DR. RIDDELL: Absolutely. That's the difference. 9 Now, right now we manage by four aggregate stocks; 10 have I got that correct, in terms of --11 DR. RIDDELL: Well not quite. People describe it that 12 way. There are four run-timing groups of multiple 13 stocks. 14 Right. 15 DR. RIDDELL: And where the debate comes in is whether or not within any run-timing group all stocks 16 17 within a run-timing group are given equal 18 attention, and that tends not to be the case. 19 course, there are very large productive stocks for 20 the summertime Fraser sockeye. For example, there 21 are two or three very, very productive 22 populations, but there are a variety of smaller 23 ones that, under the Wild Salmon Policy, we'll 24 have to also monitor to make sure that none of the 25 CUs are being driven to extinction through 26 management. That's really the bottom line. 27 And perhaps it's a question for tomorrow, but if 28 you could answer it quickly, I'd be interested: 29 Given the difficulties we have managing the four 30 aggregate stocks and some individual stocks 31 within, how are we going to manage for 39? 32 DR. RIDDELL: I'm sorry, what was that? 33 How would we manage for 39 CUs, given the 34 difficulties we have sometimes with Summer run 35 interacting with Late run, the Early Stuart 36 interacting with Early Summer, and so on; how do 37 you manage for 39? 38 DR. RIDDELL: You're going to manage for 39 the exact 39 same way you've been managing four. Your 40 assessment criteria is more spatially resolved, 41 You're not, as I just said, your bottom line

requirement is that you can't directly manage the

The reason that wording was chosen is

events, and so you really didn't want to strap

analogous to your description before about a

landslide. We can't look after catastrophic

conservation unit to extinction.

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yourself into a situation where if you lost something that you had no control over. But really what we're talking about, now, and this is really part of the discussion you're talking about in the next few days, how do you make these decisions about how much you fish at what time during the season and what stocks are limiting the opportunities to fish within that run-timing.

And that will depend largely on absolute size of the fish within a conservation unit, and the driving factor, really, will be their productivity, because the sustainable rate of harvest in any fishery is driven by the productivity parameter in a conservation unit, largely, until it gets very, very small. If it's very small it just becomes at risk of loss by random events, even.

- Yes. We know some streams you have highly productive streams, some are low, even within a CU. Pitt River, for example, has always been kind of a tough one, because of the nature of the gravel and the freshet and everything else, compared to, say, Harrison or Cultus. That's, again, you say, "I'm going to treat the CU differently than that CU"?
- DR. RIDDELL: Yeah, and that's part of this full discussion, because we actually can measure -- you have expectations of how productive a lake is going to be, using some of the stuff that Mr. Harvey referred to. We do have a Fraser Lakes program that is expert in using these productivity models where you just assess the quality of the lake ecosystem. That can give you a value of productivity for that sockeye stock that you can start from.

If a population is depressed or if the productivity is low, you may do things through habitat restoration, or you may do things through a temporary spawning facility to increase the number of fish.

- What happens, and I know we have some of these problems not so much in the Fraser but elsewhere on stocks, where we have sea lions in the mouth of a river eating our coho stocks; do we shoot the sea lions?
- DR. RIDDELL: We have shot the sea -- well, not sea lions --

Q For fish farmers we have, I think. DR. RIDDELL: Yes, maybe. We haven't shot a lot of sea

lions that I'm aware of. We have shot seals.
These are part of the bigger ecosystem. I mean, I think, now, we're really talking about outside of our lakes. We definitely have seals in the Lower River, and that has an impact on some of our assessment capacities, actually.

But when you're talking about seals as a major source of mortality, now we're talking about more of our marine ecosystems and other types of studies.

- Now, I was interested in your comment that some people in DFO haven't bought into the WSP or have concerns about it. I'm wondering, where are those voices?
- DR. RIDDELL: Well, I mean, I don't --
- Q I don't see them reflected in the WSP or public discourse or this Commission. Maybe you can help me on that one. Where are they?
- DR. RIDDELL: Well, I think in terms of the departmental and public discourse, we're past that. We had achieved this national policy, and it is their requirement, now, to implement this policy. I wouldn't want to say, now, that we have people that are in disagreement or not implementing, but in the absence of what they see as additional resources to implement it under if they perceive it to be a more difficult task, then they're certainly not making extra efforts to do that or something.
- Q One quick last question, and it was about funding from NGOs and American foundations and some of the work, and you thought that on a short term it didn't matter. Some of the work they're doing right now is quite long-term, though, isn't it, advocating for PNCIMA, advocating for WSP and how it's implemented. Those are long-term objectives? DR. RIDDELL: Yeah, no, I wasn't answering for all --
- DR. RIDDELL: Yeah, no, I wasn't answering for all -- Q Okay.
- DR. RIDDELL: -- sort of activities. I mean, I think that an appropriate use, from my perspective, is where we can use other sources of work to do these short-term. They can be verified by sort of typical or public and academic peer review, so we can evaluate the outcome of the work.
- Q Okay.

- DR. RIDDELL: But I'm sure that they do have other agendas and other activities.
  - Yeah. And my last question, when an NGO sets up a process, they would pick who attends and who gets paid, they would pick the scientist that attends and who gets paid, they would pick what papers to publish. Isn't it better to have an independent science authority looking after salmon in British Columbia, somebody that's not driven by an NGO? And I can see I'm getting (indiscernible overlapping speakers) --
  - MR. WALLACE: I was concerned about the way the question was framed, which included some hypothesis which he wasn't putting to the witness. He simply was asking him to accept that --
  - MR. EIDSVIK: I'm sorry, Mr. Wallace, I know the point you're getting at, because I was trying to shorten my question.
  - Q If an NGO runs the process, they get to choose who comes and attends?
  - DR. RIDDELL: Well, ultimately, I suppose you're correct, but, you know, if you're referring to my particular case with the Pacific Salmon Foundation, it's a very wide involvement of people throughout the Skeena, because we know that if we eliminate any one group that that's not to our betterment in the long term. We are trying to have a totally open and transparent process, as the policy requires. The objective that the people involved has set for the Skeena Watershed Initiative in this sense is to implement the Wild Salmon Policy and to meet the obligations of the -- or the conditions of the MSC, so we try to make sure that everybody who has a stake in this is involved so that we don't have any stumbling blocks down the road.
  - Q Do you report to the Minister of Fisheries through parliament?
  - DR. RIDDELL: We do not. But any recommendation from -- will go back to the Department. I mean, it's an advisory process as the Wild Salmon Policy describes.
  - MR. EIDSVIK: Thank you for your questions (sic). Thank you, Mr. Commissioner.
  - MR. WALLACE: Thank you.
  - MS. GAERTNER: Mr. Commissioner, Brenda Gaertner, and with me, Leah Pence, for the First Nations

Coalition. Just for your information, Commissioner, and for the benefit of the panel, my questions, which I believe I have 30 minutes to deliver or engage with you on, are going to be more strategic in nature. They're not going to be as specific as we've had. I've got a couple questions on specific.

## CROSS-EXAMINATION BY MS. GAERTNER:

Q But as we've heard a lot of evidence of, and Dr. Davis spoke about, some of the challenges associated with fisheries management towards the sustainable fish and perhaps sustainable fisheries is the challenge of managing people, not managing fish. And you're both nodding on that one. That's something you're very familiar with.

I want to move to some of the challenges associated with getting people to work together and the different knowledge basis and all those types of things and talk about that with you, and then move into some specific questions around the implementation of the Wild Salmon Policy.

I'm going to start with Exhibit 224. And Mr. Young, once that gets called up, you'll see that's a paper that was partly sponsored by the David Suzuki Foundation, and it's a paper on Knowledge Integration and Salmon Conservation and Sustainability Planning. You're familiar with that paper?

MR. YOUNG: Yes, I am.

- Q And perhaps you could give the Commissioner a sense of why it was that the David Suzuki Foundation thought it was important to have a paper like that produced and made available to the public and the Department of Fisheries and Oceans?
- MR. YOUNG: As I mentioned earlier, I think Strategy 4 is a key element of the policy and its implementation. I also think it was potentially the most challenging for the -- one of the most challenging for the Department to fully implement and required the most input from other groups.

We saw an opportunity to try to get some advice, bring an expert on board, to look at how best to potentially bring together different perspectives and stakeholders and interests around the issue of integrated planning as required under

the Wild Salmon Policy. Some of the outputs from this work really did identify how important it was to appropriately present information, for example, ensure that enough technical support was provided to participants and that information was communicated and presented in a way that people understood.

And you'll agree with me that that's of importance

- And you'll agree with me that that's of importance not only for Strategy 4 but, in fact, for all of the strategies, given the commitment under the Wild Salmon Policy to integrate and address things like First Nations and at the multiple sector interests, all of those things in the development of the benchmarks and the setting of conservation units, it was to be a collaborative effort all the way from the beginning, correct?
- MR. YOUNG: Yeah, I would agree, with one just slight caveat, and that's that with Strategies 1 through 3 there is a very strong technical biological basis to a lot of that work that could still integrate traditional knowledge and aboriginal traditional knowledge, and should, and therefore requires that sort of communication and integration. But I just wanted to reiterate the point that a lot of the core elements of Strategies 1 through 3 still really depend on having a strong understanding of the biology and the nature of the fish.
- Or. Riddell, is there anything you want to add at this point of time? I'm going to take Mr. Young through the paper a bit and then turn to you on a couple of matters, but just on any of this? Are you familiar with this paper?
- DR. RIDDELL: Yes, I am.
- Q All right.

- DR. RIDDELL: I don't think I have anything to add right now, though.
- Q All right. I want to take you to pages vi through to xii of the summary, which is ringtail pages 7 through to 13. And maybe I should just back up. This paper was written by Julie Gardner. Mr. Young, you're familiar with Julie Gardner?
- MR. YOUNG: Yes, I am.
- Q And you're aware that some of her areas of specialization include marine conservation protected areas and policy and governance matters and land use planning issues and community-based

stewardship?

MR. YOUNG: Yes.

And she's also done a fair bit of work in public participation and collaborative processes and the her work is used by both NGOs and the Department

- participation and collaborative processes and that her work is used by both NGOs and the Department of Fisheries and Oceans to provide broader understandings and ideas as it relates to those matters?
- MR. YOUNG: I agree. That's why we commissioned her. Q And Dr. Riddell, you're also very familiar with Ms. Gardner's work?
- DR. RIDDELL: Yes, I am, and we've co-authored a few papers.
- Q All right. I want to turn, then, to those pages that I've referenced, and starting on page 6 with the recommendations. Now, she goes through these recommendations in quite a bit of detail in the report. I don't have time, today, to take you to them, and I would suggest that they're definitely useful for the considerations we have here.

But let's start with the first one, recognizing different knowledge frames and, in particular, recognizing those without placing them in a hierarchy. Would you agree with me that one of the challenges going forward in some of the implementation of this is that there is a tendency for scientists to place their information in a slightly higher hierarchy than some of the local knowledge and the traditional ecological knowledge, and that we've got some work going forward to integrate that in a way in that we're not always placing hierarchies, but recognizing a complimentary basis on which this knowledge can be used and put to work?

MR. YOUNG: I would generally agree with that. I think that there's definitely some nuance to it. I think often it's not intentional, I think, on behalf of the scientists. I do think there's a typical approach that DFO often takes to the way they present information that could be problematic for users, and that may be a part of the culture of that organization. So I think there's a layered component to that.

I would also just like to acknowledge that the -- a lot of the challenge may also be in terms of understanding when we're talking about different -- what types of information we're

talking about. So there's a whole -- yeah, and I
think this paper really goes into it in more
detail, a whole number of layers that kind of make
this up, but I do generally agree with your point.
And at the bottom of that same page she makes the
suggestion that not all knowledge sources need to
be brought to bear in a multi-party process at
every turn. And would you agree with me that's

- every turn. And would you agree with me that's also a challenge in implementation? For example, many of my clients feel because they have been left of the process before that they have to be involved at all of the processes, and that we've really got to get an education process going on to see how that knowledge can best be used at the right time, from your own experiences?
- MR. YOUNG: Yes, I would agree, and just generally to add that for this type of integrated planning to work, clearly all participants have to feel that they're meaningfully contributing and able to contribute.
- Q And then if we were to jump over the next page, I'm just going to highlight certain areas and then we're going to have to move from there, but the next comment she talks about, which I think is extremely useful in some of these processes in determining what information is needed, and she talks about collaborating early on what information is needed, and then clearly stating the problem and the objectives and agreeing on the indicators and agreeing on the research that would be required. You'll agree with me that that's something that she concluded?
- MR. YOUNG: I agree with you that that's how she concluded. I also, personally, think that that's actually the key, one of the key elements to all of this.
- And Dr. Riddell, do you have any comments on this, as based on your Skeena experience and otherwise, how important it is to make sure that those are going to have -- those people that are going to have to rely on the information are involved early in determining what information is going to be needed and what the problems are and how we're going to measure them and what research we're going to take?
- DR. RIDDELL: Yeah, I would agree. I think one thing we're maybe missing in here, too, is that there is

a time element in the sense that the amount of effort -- I think something that's holding up the Skeena Watershed, as a particular example, is we tend to go up for particular meetings, but there isn't a regular interaction with some groups, because some people really need more time to really understand what we're building on.

- In particular, First Nations need more time often, don't they? They often need a lot more capacity and more time to figure out how that type of technical information is going to influence their decisions and impact the exercise of their rights; would you agree with that?
- DR. RIDDELL: Yes. And I mean, I think that, in fairness, sometimes we present issues that they don't agree with, and ultimately we're going to have to talk that through, and if we don't take the time to do that I think the outcome is one, now, that we're finding that they're not participating, and that's a serious setback for us, if we lose the participants.
- Q Then the next topic she turns to is collecting and processing information, and there I found it interesting that she talks about throughout the process the assembly and the use of information, but then she talked about consider participatory research and the need to make sure that —— or the benefits of ensuring that more than one interest group, or that more than one perspective is used right from the get-go in doing the research. Would you agree with me as being a useful approach to more streamlining the nature of the work that needs to go on in something as complex as the implementation of the Wild Salmon Policy?
- MR. YOUNG: Yes, I'd agree. I think it comes back to one thing I said about ensuring everyone feels that they're participating fully and that everyone's got an equal understanding of what the challenges, objectives, problems are. I think that's the way to do that. It also helps build the trust between the participants.
- Q Dr. Riddell?
- DR. RIDDELL: Well, I would agree, with a caveat that there are different levels of involvement in research programs. Some of the very technical, very specialized equipment type of thing, we try to involve First Nations to the extent we can, but

they tend to become -- there's a long learning 1 process in how to apply some of these things. But 3 there are other activities where they're the lead programs, and habitat monitoring, habitat mapping, 5 some of these groups are quite expert in this, 6 So I agree, but there are different levels 7 of involvement in many of the examples. 8 And would you also agree that time upfront to 9 understand that division of tasks and how they'll 10 integrate and how there'll be an iterative of 11 process between them, so that different 12 information is all equally used in the process, is 13 also very useful from the get-go? 14 DR. RIDDELL: I think that your latter point's proven 15 to be very important, that they are contributing to the information that is used in moving forward. 16 17 All right, she moves, then, onto her fourth 18 recommendation, which is providing access to 19 information in a transparent way and equity in the 20 access to that information. Now, we've just, 21 well, you'd agree with me that that's extremely 22 important, to make sure that the information is 23 easily accessible as it comes in, that parties 24 don't seem to hold onto that information until it 25 serves a particular interest as to when that 26 information is provided? 27 MR. YOUNG: Yes, I would agree. 28 Dr. Riddell? 29 DR. RIDDELL: Well, I agree with the statement, but I, 30 in all honesty, would have to point out that it's 31 a two-way street in this case. In the Skeena, in 32 particular, there are severe limitations we're 33 encountering, because we're not given the 34 information back from First Nation groups that 35 have collected it. I'm sure that we're guilty of 36 the opposite, as well, but we find that this is 37 something that is -- there is a proprietary sense when people collect data, and we need to get by 38 39 that in these larger watershed sort of processes. 40 I'm going to turn to that because of the 41 complexities around traditional ecological 42 knowledge, in a second, and the author does a 43 pretty good job of outlining some of those 44 concerns, so let's get to that.

Finally, she speaks about addressing

uncertainties and, in particular, she notes that

we can't expect uncertainties to be eliminated by

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models or otherwise, and that what we really need to be doing is working towards describing that uncertainty and sharing the risk assessment roles around that and making sure we understand the different perceptions on those risks. That's pretty straightforward as it comes in terms of moving forward; is that correct? In both of your experiences, that's going to be necessary and useful in the implementation of the Wild Salmon Policy?

MR. YOUNG: Yes, I'd agree.

DR. RIDDELL: Yes.

Now, the next component I found to be useful, particularly, which is improving communication across knowledge frames, and I want to take you to the body of the document on that, and in particular, let's start with page 24, which is where she begins to look at aboriginal, local, and fishermen's knowledge, and she describes the nature of that knowledge, and then she goes on to describe the relevance of that knowledge.

And then I want you to take specific note of page 27, where she talks about limitations on the integration of that knowledge into this work and some of the challenges associated with that. And the first is that there's often concerns around the accuracy and verification that, from a scientific perspective, you like clear data that's observed in a particular way, and you like a standardization and a scale, and that often when you move between that and traditional ecological knowledge there's a fair bit of work that needs to go on to understand the traditional ecological knowledge.

Do you appreciate that dynamic and have you experienced that dynamic at the tables that you work at?

- MR. YOUNG: Yes, definitely.
- O Dr. Riddell?
- DR. RIDDELL: Yes. Although I would say my experience is more limited than many of the people working directly in the areas.
- Q And then she goes on to talk about the challenges associated with the proprietary nature of the traditional knowledge and the concerns that First Nations have around injustices to the holders of that knowledge, depending on how that's used.

 Dr. Riddell, you just talked a bit about your Skeena experience, about how there's a reluctance sometimes by First Nations to provide that information, Do you agree that that's partly in response to how it's going to be used, who's going to use it, how we're going to see that data used now, 20 years from now, 15 years from now, that there's a real trust issue that's going on that has to be worked out between the different holders of these different knowledge basis; is that correct?

- DR. RIDDELL: I don't think there's any question that there's a trust element. The particular example I was referring to probably doesn't even get this deep into it, though, because we weren't even talking about aboriginal traditional knowledges. We were talking about programs that have been funded by the Skeena Watershed Initiative, and that the information is not being processed and returned openly so that the entire group working, all the parties in the Skeena Watershed Initiative, can benefit from the investment in the research, basically. So it's a slightly different --
- Q All right.
- DR. RIDDELL: -- example here.
- All right, then I want to take you to page 29. In particular, at the bullets under the paragraph reading:

Underappreciation of [traditional local knowledge] in relation to the science frame in fisheries management leads to the following impacts:

And there's a list there. Mr. Young, from the work that you've done at various tables and in various places, do you agree that those are the types of concerns that are often raised at tables when we're integrating knowledge?

- MR. YOUNG: Yes, I think I have seen this. I'll kind of add the statement that Brian did as well, that although I have worked at different tables like this I don't have extensive experience, but I do think that these are valid.
- DR. RIDDELL: Could I just add, I think, in all -- this is probably true, but I think that people are

moving past this. I think that there are examples where, clearly, the traditional knowledge comes from long experience living in particular areas and living with the various animals, and I think that people are seeing -- there's more of this comes out, I think there is a learning process on the side of the sort of western science element, that there is some meaning behind these and that they commonly do have good ecosystem-type messages in them.

So there's a learning that goes on once this comes out as well, and so you will stimulate the trust going the other way as well.

Q Great. That's always good to hear. But I want to perhaps point out her last recommendation, then, is what she suggests is that you use structured approaches for applying that knowledge and be very clear on how those structured approaches are implemented.

Would you agree that that is one of the ways in which we're improving the trust, we've actually — you developed the models and you develop how the decision—making processes are going to work, people see how that knowledge is going to be applied, they understand that structure and, therefore, they can, I'm going to say, trust the structure as distinct from trusting the people, necessarily, or the interests around the table to actually ensure that better decisions are going to be made at the end of the day?

- DR. RIDDELL: I'm trying to think of how it's unfolding within my experience. I think what you say is true, but I think that if you're waiting till the last moment you're probably minimizing the potential importance of getting that information out, is the unfortunate part.
- Q No, sorry, you misunderstood my question, then.
  You wouldn't wait till the last moment; you'd
  structure the approach from the beginning --

DR. RIDDELL: Oh, okay.

- Q -- so you know how that knowledge and how that information will be used and how decisions will be made based on that, is what her suggestion is.
- DR. RIDDELL: I don't think there's any question that that's true, that we definitely have to have more both efficient and effective ways of getting this information available so we can benefit from

it. Q All right. So now I want to go specifically to the Wild Salmon Policy. And Dr. Davis talked about the challenges associated with getting past traditional behaviour and moving into new ways of doing things. And Dr. Riddell, you were with the Department for a very long time, and now you're working for an organization that, as I understood your evidence yesterday, is working very closely with local groups and trying to effect real change on the ground. And that's the difference between the Department and local groups, is an issue my clients have been challenged with for a long time. How do local groups and the work that happens in local ecosystems or environments actually effect senior policy decision-making that will make -that drives the implementation of something like the Wild Salmon Policy?

So I'd like to have your observations on what we can do to improve behaviours of the Department of Fisheries and Oceans as it relates to making local work more effective in policy decisions, in socioeconomic decisions, in all kinds of decisions that need to happen under the Wild Salmon Policy.

DR. RIDDELL: Well, what you're describing is exactly why we wanted to include the Strategy 4. In all the time I was involved with the Department, you always have the annual time constraint; you must make decisions to manage the fisheries. And frequently you were making decisions in the field that you knew was ripe with conflict.

So when we were doing the policy and reestablishing that you've got to work from the diversity up, so basically you're working from the landscape up, we wanted to include the communities that have the sort of local knowledge and local understanding about what their long-term needs are going to be in particular areas, and you really build from the bottom up.

And the Strategy 4 intention is to provide advice to the Department that represents what people see in the regions about long-term aspirations for salmon in a particular area, what's the rate of logging? We were thinking, really, a much more holistic environmental advice to the government. Now, DFO would have to deal with the salmon, and I think there was a great

deal of concern about whether or not the
Department's ever going to take that advice to
heart.

But what the wording was trying to present

the advice coming from a consultative process on a regional basis and that they would take that to heart within the bounds of, you know, you can't limit the discretion of the minister, as they say. All right. But I want to pick that up. I mean, you said that that was the words, that's the policy, but you also just noted that there is discouragement or at least an open question at the local level whether this is going to make any difference at all. And the Commissioner's just heard two days of the Cultus example, where that

working group and the recovery team expressed very

was a message that the Department would listen to

much exactly that problem. DR. RIDDELL: Yeah.

- All right. So we've got that problem. What do you recommend, as a way of trying to ensure that the work that's done at the local level, even at the regional level, is going to make a difference when it comes to very difficult socioeconomic decisions that are going to need to be made as it relates to the implementation of this policy?
- DR. RIDDELL: Well, that's sort of the heart of the question. My experience with the Pacific Fisheries Resource Conservation Council maybe is an interesting model. I very much think that some independent advisory council could aid the Department in making these hard decisions, in that is the information that's been acquired and is the advice coming through credible, does it have strong technical basis, does it have the community support. And I think we might actually look at a —— in the past there's also been the Ministry's Advisory Council for Fisheries.

An independent council that maybe is like the Pacific Fisheries, the PFRCC, that could give advice back to the Department, could go a long way to strengthening the advice that goes forward to Ottawa. And if it had a stronger and broader consensus then it probably has a stronger opportunity to succeed.

Q Would you also need a commitment by government to actually take those recommendations to heart and

would you suggest that that be something that either be statutorily or policy firm by some either policy or statutory commitment to such an independent body?

- DR. RIDDELL: I don't think I could go as far as to say statutory in the sense that we definitely ran up against the issue of fettering the discretion of government, but I don't think there's any question that there should be some obligation to consult on this and to take that advice to heart. If you don't do that, I don't think you can make these independent councils work very long. They will have to grapple with very difficult decisions, and if they're going to put that time and effort in, then there should be due consideration of that advice.
- And would you agree with me that given where we are with the implementation of the Wild Salmon Policy, that we're also going to need a commitment from government that they're actually serious about implementing this and that they need to start showing that commitment on the ground by doing things?
- DR. RIDDELL: Well, I don't think there's any question that government's committed to doing it. I think, as I said yesterday, a stronger commitment to really bring this to fruition over the next couple of years I think is really due. I'm quite concerned if we continue to go along without making progress and actually showing benefits to some of the discussions like we had this morning, that people will lose interest and they will not believe that the policy has any strength.

So I think there really is an issue that we have to do. And there are benefits from doing it. I just find this very hard to understand, talking to various groups, that the fishing industry, in particular, here, has worked quite hard to get the sockeye certification. There were a strong set of conditions, and now we're discussing the pink certifications, and much of it relies on implementing the Wild Salmon Policy and better monitoring of the condition of the salmon resource.

So those are very strong benefits that we could get by succeeding in implementing this policy.

Q And you'll agree with me that it will be critical to have a strong and clear voice from aboriginal people on such an independent group --

DR. RIDDELL: I would think.

- Q -- without such we won't be able to actually implement this in a meaningful way?
- DR. RIDDELL: Yes, I don't think there's any question the way the treaties are evolving through time, maybe not as quickly as desired, but there's no question that in the future you'll have to have full representation through the First Nations in some way.
- We won't have to wait till treaty, we need that now; is that correct?
- DR. RIDDELL: Well, hopefully, yes.
- Q Mr. Young, I didn't mean to keep you out of this conversation. I know I'm going to have a little bit more time with you in the next panel. Is there anything you'd like to specifically respond to, at this point in time?
- MR. YOUNG: I generally agree with what's been said. I just wanted to emphasize two key elements. One, is that, yeah, the commitment and the implementation of the policy is one of the key elements I think we need to pursue to get this done, and, yes, Strategy 4 is one of the ways we viewed linking the local and independent components with upper levels within DFO, and if that needs to be done.

In terms of the responsibilities or empowering of independent groups, whether it's scientists within the department, or whether it's an independent integrated planning body, at minimum what we need is greater transparency of what recommendations and information they're providing to the Department.

So using the Cultus example from the last couple of days, one element that I think would have at least improved that situation more was the opportunity for that Cultus Recovery Team to make their recommendations known in public and that, therefore, the government would have to be much clear about why they're making the decision they are and how it is counter to the recommendations of that team.

Q If you take that example right there, it would be extremely useful if there was also a significant

strategic oversight committee that was aware of 1 those recommendations and had a direct line to 3 people in Ottawa who are responsible to listening 4 to them? 5

MR. YOUNG: Yes.

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46 47 All right. I have very little time and I have quite a bit of things that I still had hoped to cover with you, so I'm going to just ask some broad questions and see if I can get done in five minutes. I understand there's at least one question in re-direct.

One of the concerns that my clients often have, and I definitely get it as I'm sitting in this room, is that we talk about ecosystem-based management, it's a great phrase, and yet when I look at the Wild Salmon Policy, what we're doing is that in order to implement we're dissecting everything again. We're dissecting conservation units, we're dissecting benchmarks. I'm not saying there's anything wrong with that in terms of implementation, but what I wanted to ask you is: How are we going to take a multi-species ecosystem approach to wild salmon management? What are we going to do or what should we be looking at? I mean, I get Strategy 4, but that Strategy 4 isn't ecosystem-based management. need to understand what your thoughts are on how we're really, truly, going to get to a holistic approach to multi-species management.

MR. YOUNG: I can't answer the question fully, but I would say that it's my view, and I think it's implicit, or actually explicit, within the policy that having the full range of information that the Wild Salmon Policy is supposed to provide would take us a long way there. So having a clear identification of the conservation units, their benchmarks, their status relative to the benchmarks, and an understanding of the habitat status around them for each of the species lined up and available for these integrated planning bodies to then go through and say, "Okay, we've got these CUs of concern, these habitat issues of concern," I think that's going to be a much better place to be able to identify objectives for these groups, for example, to come to a common understanding around what priorities might be. And with all that information together at least in a place where we've got a much more comprehensive set of information that we're working from that's at least closer to a broader kind of ecosystem perspective.

- Q Can I just follow up with you, Mr. Young, on that, and don't forget your thought there, Dr. Riddell, I want to go there. Just on that habitat issue, on April 4th and 5th the Commissioner heard a fair bit of information about the Environmental Process Modernization Plan. You're familiar with that, Mr. Young?
- MR. YOUNG: Yes, I am.

- Do you have concerns with how that implementation of that plan is going to effect the ability to do habitat status reports and the collection of the information that's going to be necessary for habitat status reports?
- MR. YOUNG: Well, I guess connected in my understanding to the EPMP is potentially reduction in habitat monitoring and staff, and so that would create that challenge. I think it also potentially creates the challenge where there's ultimately less influence and control by DFO in a way that may ultimately limit the ability to use the habitat status information for the WSP to proactively influence or have effect on the environmental assessment planning process as well as the enforcement side of the equation.
- Thank you. Dr. Riddell, back to my earlier question around ecosystem management and the challenges of implementing a holistic approach when we're dissecting the system?
- DR. RIDDELL: The point I was going to make in Strategy 3 is I think you should think of ecosystem-based management as both sort of within the conservation unit and part of Strategy 4. For example, we were talking about Quesnel Lake sockeye recently in the cross-examination here, and there are ecosystem issues there in terms of effects on rainbow trout and kokanee and so on. There are provincial interests that had conflict with how many sockeye salmon were there. So that's an example where there is an ecosystem-based issue you want to look at within Quesnel Lake.

But the example that we use on the other side is you need to have the sort of bigger picture look of the ecosystem issues. They're not all

specific to a single CU, and I would go back to explaining the loss of sockeye in 2009. And the reason for that is a lot of that, we think, is likely occurring in the marine environment, right? So what is currently limiting production of salmon from the Fraser in the Strait of Georgia and in coastal ecosystems, all right?

There's extremely little work that has been done at the grassroots of the Strait of Georgia ecosystem. There's been nothing done, essentially, on forage fish, other than herring. There's been nothing done on why the marine plan and algaes have changed so much in the last 20 years.

So there's an extraordinary amount of work that needs to be done in the bigger ecosystem issues, and that can then bolster how we can proceed to manager Fraser wild salmon down the future. Plus, there's the ecosystem issues of hatchery-wild interactions.

- Q All right. So just picking up one more thing on the role of habitat and how we're looking at habitat to improve ecosystem management, Dr. Riddell, yesterday you used the words "different levels of monitoring" and "tiered monitoring" approach or structure, and I didn't know what you meant, and I don't know if the Commissioner knew what you meant, but I didn't know what you meant. I wonder if you could explain that?
- DR. RIDDELL: In Strategy 1, in the Wild Salmon Policy that you have up there, and I'm sorry, I don't know the page off by hand, there was a reference in there to levels of monitoring for salmon. We talk about indicator stocks and that we have extensive indicators and intensive indicators. And the reason for this is that the indicator stocks are specific streams and species that are monitored very, very carefully, so fences to count fish in, tagging of juveniles out so you can measure marine survival. You can't afford to do that widely, but that's the indicator standard. That's the sort of top of the tier.

Intensive sampling is a distributed number of streams with a regularized annual survey that's conducted as first priority of expense in that area, and you use that more for things like pink and chum salmon, they're more widely distributed.

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 Because there are many areas where there are hundreds of these streams, you can't do that intensive survey every year, all the time, and so the extensive, then, is we'll likely cover them by airplanes and helicopters, because what you're looking for is the distribution of fish through the habitat, you're looking for new blockages you didn't know about, you're looking for developments that are maybe impeding or losing estuary habitat that you're not aware of, right?

And so it's the levels of information you get and if you have to cover huge areas, then you need to focus it down and really optimize the money you have to get the best data.

- Q All right. Thank you very much. I do have two more questions, Mr. Commissioner, if I may? They're --
- MR. WALLACE: Mr. Commissioner, I have one question in re-examination, so it'll run us a bit over the 12:30.

#### MS. GAERTNER:

- Q So my first of two questions is to specifically look at what type of recommendations might assist in implementing the Wild Salmon Policy in fisheries management decisions, and specifically I wonder if, Dr. Riddell, you could comment on whether it would be useful, as a recommendation from this Commission that we make strong efforts to move out of aggregate management at both the Pacific Salmon Treaty level, at the Fraser River Panel level, and at the IFMP level to assist in the implementation of the Wild Salmon Policy?
- DR. RIDDELL: I'm sorry to delay, but I'm not sure I understand what you're -- you're saying to move away from aggregates?
- Q Aggregate management. So we're looking at aggregates of the Fraser River Panel, we're still looking at aggregates as it relates to the IFMP. If we're actually trying to move fisheries --
- DR. RIDDELL: Yeah.
- Q -- would you agree that as a recommendation we should be moving out of those aggregates and moving directly into conservation units' management at that level?
- DR. RIDDELL: You should be doing the assessments at the conservation unit, but it's not practical to avoid fishing on the aggregate. The fishing on

the aggregate really is a matter of how hard you fish, and so if there's a mixed stock aggregate with a population that is going to limit access, then the fisheries shouldn't be barring these broader discussions about time of recovery and so on under Strategy 4. That's going to limit how hard you fish in the aggregate. But it's really not possible, in the marine environment, to avoid fishing on aggregates totally. I'm talking about -- I won't do follow-up questions, because I want -- do you have anything to add on that specific topic, Mr. Young? MR. YOUNG: I would say that, generally, yes, there is I think, though, that there is opportunities to manage at aggregates, but that the Wild Salmon 

- some need to move away from aggregate management. I think, though, that there is opportunities to manage at aggregates, but that the Wild Salmon Policy really does require us, firstly, to review whether we're appropriately using aggregates, that the component CU is in an aggregate, or adequately similar so that fishing pressure at the aggregate level can be said to be the same across those CUs, and that if we are fishing at an aggregate level or in a mixed stock area, that we're clearly fishing at a level that is adequately protecting the component CU. So, for example, at exploitation rates low enough to support the recovery of a CU in the red zone.
- I suppose, gentlemen, I'm going to need to ask this follow-up question, and I know that's going to annoy Mr. Wallace, but the issue that I have, or the question that I have is: You're jumping to the outcome of the management decision, i.e. What fisheries are going to be opened or not. But before we get that, we need the collection of data, we need to understand the implications of decisions, we need to consider the risks associated with those decisions, we need to gather that information and have all of that information available to those that are making decisions. And if we're still doing that at the aggregate, they're not considering the implications at a conservation unit; you'd agree with me on that?
- DR. RIDDELL: Well, I mean, they should not be doing that at the aggregate, if that was the question. That dialogue is to be conducted at the conservation unit, and that is why you have to

have the dialogue of Strategy 4, and you have to have the methods developed so you can look at the consequences of fishing on aggregates at different levels, because the component conservation units will respond differently to different fishing pressures.

- And that's going to be necessary at the Fraser River Panel level, as well as the IFMP level; is that correct?
- DR. RIDDELL: Well, I mean, I think sequencing, of course, is that it's going to come through the IFMP within the constraints of the Pacific Salmon Treaty and that it has to be, you know, the opportunities within the IFMP are limited by how much you have to provide to the Americans. So they sort of go hand-in-hand. It's not one or the other.
- Q Thank you. My last question is a question of clarification. Yesterday, in your evidence, Dr. Riddell, you talked about 2.5 million per year for two years as the necessary first step in funding. Mr. Young, you talked about three million per year for five years. And yet, in the paper that your counsel took you to, today, you had five million dollars for five years.

Two questions: Does any of these costs or suggestions for costs in any way consider the First Nation processes and the development of capacity that will be necessary to participate in this material, or are you talking about DFO costs for DFO's work in these matters?

DR. RIDDELL: Well, I can only speak for myself, but I came up with that number because of talking to other people about substantially putting together a very concerted and short-term effort to implement the Strategies 1, 2, 3, or at least aid the department in making substantial progress, and there would be involvement of First Nation peoples with that. I'm thinking very much more at kind of a technical level. But there are a number of people working with First Nations that provide the sort of feedback from, if you want, the western science down to the sort of more local involvement and understanding. So that could all be covered within it.

But it would be a few people with the resources that you could get a really focused

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effort to get all this together, so you can have these discussions that you talked about in terms 3 of how do you manage the aggregates.

- Mr. Young, the difference between your recommendation of five million dollars per year for five years to three million dollars; could you explain that?
- MR. YOUNG: So I think the three million dollars really was close to what Brian was just describing, ensuring that the core capacity within the Department was there, that some of that money was also probably necessary to facilitate, for example, the creation of some of these integrated planning bodies, including potentially technical support of those bodies and some flow through for participation.

The difference between three and five is likely kind of more of a recognition of all the other pieces that are going to be necessary, so, for example, the likely increased funding needed to support stock status and habitat monitoring, and potentially, ultimately, to support the full range of activities that would be necessary to participate in integrated planning, including by First Nations.

- MS. GAERTNER: Thank you, Mr. Commissioner, I don't think I can take anymore time.
- THE COMMISSIONER: Thank you very much.
- MR. WALLACE: Mr. Commissioner, Ms. Gaertner's last question was my re-examination question, so I have no further re-exam.
- THE COMMISSIONER: Thank you very much. We're adjourned, then, until two o'clock? I'm sorry, Mr. Wallace, and I'm also sorry to the reporter, I didn't have my microphone on. I take it that concludes the evidence of Mr. Young and Dr. Riddell?
- MR. WALLACE: It does.
- THE COMMISSIONER: I want to thank them both, not only for the last day and a half of their testimony, but also for the fact that they were willing to come here on more than just this occasion to provide this Commission with the benefit of their knowledge and to answer the questions of counsel. Thank you very much.
- MR. WALLACE: You're not quite through with --
- THE COMMISSIONER: I think Mr. Young is coming back on

another panel. But I'll thank him after that's over, Mr. Wallace.

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

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(PROCEEDINGS ADJOURNED FOR NOON RECESS) (PROCEEDINGS RECONVENED)

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THE REGISTRAR: The hearing is now resumed.

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PAUL RYALL, recalled.

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MARK SAUNDERS, recalled.

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ROB MORLEY, recalled.

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MR. WALLACE: Good afternoon, Commissioner Cohen. For the record, Brian Wallace, Commission counsel, and Lara Tessaro is with me.

Mr. Commissioner, this afternoon we start with a panel on Strategy 4 under the Wild Salmon Policy, Integrated Strategic Planning. We have four members of the panel, all of whom have testified before. But just for the record, Paul Ryall is here, he is the Lead of the Salmon Team at DFO. His c.v. is Exhibit 365, for the record. Also from DFO we have Mark Saunders, who is the Manager of SAFE, I think -- is that correct? His c.v. is marked as Exhibit 180. Rob Morley is here, he is Vice President of Canadian Fishing Company and a member of the Fraser River Panel. He wins for having had his c.v. around the longest. His is Exhibit 7. And also back this afternoon we have Jeffery Young, who we heard from earlier today and yesterday, from the David Suzuki Foundation, and his c.v. was marked as Exhibit 423.

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## EXAMINATION IN CHIEF BY MR. WALLACE:

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Q I wonder, gentlemen, if I could just very briefly ask you each to describe your --

MR. TIMBERG: Mr. Wallace, I'm sorry to interrupt you. Just for clarification on the record, I believe that Paul Ryall is no longer the Lead of the

Salmon Team. He stepped down approximately two years ago, and that Jeff Grout is the present Lead of the Salmon Team; is that correct?

- MR. RYALL: Well, we're constantly under reorganization in our Department, so I am back in the Lead of the Salmon Team.
- MR. TIMBERG: You can't win.
- THE COMMISSIONER: And I'm still Commissioner, Mr. Timberg.
- MR. RYALL: But the reason that Tim didn't know that is because I didn't tell him, and that is really relatively recently.
- MR. WALLACE: That interjection did remind me, though, that I should say also for the record that all these gentlemen have been reminded that their affirmations from their previous appearances are still in effect.
- So, perhaps starting with you, Mr. Ryall, I am seeking a very brief description of your experience with the Strategy 4 of the Wild Salmon Policy.
- MR. RYALL: My experience with the Wild Salmon Policy, I guess, started back in 2004/2005 when the Policy in 2004 was still being developed. I had some role in its development. I wasn't playing a dayto-day activity in its development, but I was working in Fish Management at that time and I was Lead of the Salmon Team and was inputting. And we also had a member from Fish Management that was on the team, Sandy Fraser, and so there was a lot of conversations between Sandy and I, and others on the team about what we were looking for in the Wild Salmon Policy.

Since that time I have been involved in implementation of the Wild Salmon Policy as far as Strategy 4 goes in a variety of ways. One was a program known as FRSSI, Fraser River Sockeye Spawning Initiative. I also was involved in the Barkley Sound pilot, as well.

So my involvement has spanned from, I guess, 2004 up to about 2009.

- Q Thank you, Mr. Ryall. The same question for you, Mr. Saunders.
- MR. SAUNDERS: Yes, Mr. Commissioner. My involvement in the Wild Salmon Policy, and in particular Strategy 4, goes back to 2003, when I started with an assignment with Policy Branch within Department

of Fisheries and Oceans to work as a coordinator on the development of the Wild Salmon Policy. So it was I was part of the team that was building the Policy. And I think the Strategy 4, the Integrated Planning piece, was one area that I had a very active hand in. Sandy Fraser was a large part of that, as was Jay Hartling, who is no longer with the Department, who had considerable experience and was heading up the Consultation Secretariat. So the principles and a lot of the approaches that were put forward around Strategy 4 were a lot of her thinking, and others that had gone before. But it was one area where I had an active role.

And as I move forward on the implementation, despite being away for several years, it's still an area that I remain very active in and committed to as I see a critical part of the implementation. And I have a specific interest in the Science/Management interface, and the role, how Science's role needs to evolve as we go into these collaborative processes. So I think I have a pretty active involvement in Strategy 4.

Q Thank you. Mr. Morley?

MR. MORLEY: Mr. Commissioner, I think perhaps Commission counsel's reference to the length of my c.v. being around was some crack about the fact that I'm the oldest member of the panel. But my involvement in the Wild Salmon Policy Strategy 4, other than being one of the stakeholders commenting on the development of the Policy, like many others, my direct involvement has really been through participating in what the Department has referred to as the sort of pilot implementation of Strategy 4 in two areas, one being as a member of the Skeena Watershed Initiative since its inception, and the other one being as part of the FRSSI process, and my experience in dealing with Strategy 4 in both those areas.

Q Thank you. Mr. Young?

MR. YOUNG: I'd say I've been involved with work related to the Policy since 2005, including just prior to its release. Early on we identified the -- our view was that the importance of Strategy 4 was quite high, and that we emphasized that as a key element of getting implementation completed. As a result, we provided a couple of reports that

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implementing Strategy 4. I've also been fairly involved with a range of different consultations, stakeholder discussions and meetings with DFO around the Policy and Strategy 4. Thank you. I wonder, Mr. Lunn, if I could have

tried to look at practical means and ways of

Exhibit 8 on the screen, please, and particularly page 24. Just a little grounding context for the questions that will follow, I just want to record the Strategy 4 in the Wild Salmon Policy, and in particular that it is stated in the first sentence that it is to follow the life cycle of the salmon throughout. And then partway down the page it, I think, has a pretty succinct summary of how it I'll just read that: works.

> Strategies 1, 2 and 3 will provide information on the --

- this is in the middle of the paragraph on the screen -
  - -- status of the CUs, their habitat and the ecosystem as inputs to the planning process. However, strategic plans need to integrate this information and:
    - Specify long-term biological targets for CUs and groups of CUs that ensure conservation and sustainable use;
    - Identify recommended resource management actions to protect or restore Pacific salmon, their habitats, and ecosystems in order to achieve these targets; and
    - Establish timeframes and priorities for actions.

And that I take to be the nub of what Strategy 4 is intended to do.

It's divided into two steps, the first being Action Step 4.1, described on page 25, being for the establishment of an interim process, and 4.2, development of a new integrated planning structure for the long term. And it's in that context I just wanted to set that out.

If I may go to the heading "Action Step 4.1" on page 25:

Action Step 4.1:

Implement an interim process for management of priority CUs.

The identification of priority CUs is an issue which has come up, and I'd like to just refer, and I have a couple of questions relating to the identification of priority CUs. And for that purpose, I would take you, please, Mr. Commissioner and witnesses, to the middle of page 26. The paragraph starting "Interim procedures will build on". So this is how the narrative that relates to Strategy 4.1, as I read it:

Interim procedures will build on and expand the approach now used to develop IFMP's for salmon. The biological status of a CU or group of CUs vulnerable to fisheries in an area will be reviewed. CUs in the Red zone and those that could significantly limit fishing and other activities will be identified as management priorities. The protection and restoration of these CUs will be primary drivers for harvest, habitat, and enhancement planning.

So my question is whether there has yet been any priority CU identified. Mr. Saunders?

MR. SAUNDERS: Mr. Commissioner, I think the notion of priorities, conservation units, is two ways to approach this. To ask us if they have been identified specifically in the context of the WSP as it states, will identify priority CUs. I would say that work has been done on several occasions to bring forward to our Operations Committee and senior managers an approach to identifying priority conservation units. And I would say that specific activity, as indicated in the Policy, has not been done or taken through to final completion.

What has been done, though, is the Department does recognize in the development of its Integrated Fisheries Management Plans and longerterm plans, research and otherwise, takes into account stocks of concern that are identified through another vehicle called the Outlook. And

so stocks of concern receive specific attention, and detailed actions to deal with those conservation issues articulated in the IFMP.

So do we prioritize work and actions related to CUs? Yes, we do. Have we specifically identified priority CUs as identified in the Policy? No, we have not.

- Q I take it it's your intention to do so?
- MR. SAUNDERS: Yes, absolutely.
- Q And I wonder if you could advise, Mr. Saunders, what criteria, in your view, should be used to identify or determine priority CUs?
- MR. SAUNDERS: Yes, Mr. Commissioner. I'd also ask my colleague, Mr. Ryall. He may wish to comment on this, as well. But there are, and I certainly don't have the exhaustive list of some of the items that we've considered on priority. certainly conservation status would be one of the indicators that we would be looking at driving priority. But there would also be a wide range of social and economic considerations, importance to commercial, recreational and First Nations fisheries, a more general importance to First Nations cultural needs, and there are a number, I think, probably a number of other factors that escape me right now, but a lot of different factors that would roll into determining a priority conservation unit.

Q Mr. Ryall?

MR. RYALL: Yeah, well, I would add, as well, when we were looking at some possibilities for identifying priority CUs, some of the consideration criteria were also international impacts, was one of the other ones that I recall. As well, also the scale and the scope of the particular CU. Meaning by that, how large it might be, of what importance it might be to First Nations, what importance it might be to commercial and recreational, were some of the other criteria that we were looking at as far as identifying priority CUs.

So, you know, you can categorize the priorities into the biological, which would be the status, whether they were in the Red zone, for example, and also looking at some of these other impacts. So those were some of the criteria that we were looking at.

Q Mr. Young, do you agree with those criteria?

- MR. YOUNG: Partly. I think I interpret the Policy and particularly the section up here to suggest that any CU identified to be in the Red zone must be a priority CU. I think there is potential for there to be additional CUs to be considered, based on some of those other factors, but that ultimately CUs in the Red zone, as a result of being in the Red zone automatically are priority CUs.
- Q Thank you. Mr. Morley?
- MR. MORLEY: I don't have anything to add.
- Thank you. Now, Mr. Saunders, I wonder if we could go back to 2006, and if I could take you to Tab 1, Mr. Lunn, of the Commission's authorities. This is an email from you, and scrolling through it, you appear to be here identifying a number of priority CUs in 2006. I wonder if you could just describe for us that exercise and what happened to it. So back in 2006 it looked as though you were beginning to describe priority CUs, and yet today you can't say that they have been identified.
- MR. SAUNDERS: Yes, Mr. Commissioner. I don't recognize, or -- I remember going through several exercises on priority, development of priority conservation units. I don't recall this particular exchange. About all I can say is that we brought forward a number of proposals on how we might identify priority conservation units and were never able to land on a satisfactory methodology that got senior management approval.
- Q Okay. And this was reflective of an early attempt at your trying to get the process going in 2006?
- MR. SAUNDERS: I believe that's the case, yes.
- MR. WALLACE: Yes. Mr. Commissioner, may this document, Mr. Saunders' email of June 26th, 2006 be marked as the next exhibit, please.

THE REGISTRAR: Exhibit 940.

EXHIBIT 940: Email from Mark Saunders dated June 26, 2006

## MR. WALLACE:

- Q Now, you say that these were brought forward, but not approved by management. So the question of priority CUs was considered by the Operations Committee in 2007; is that correct?
- MR. SAUNDERS: I believe so, yes.

- And if I may take you to Tab 2 of the Commission's book of documents. I think if you could just tell us how the consideration of this issue developed. MR. SAUNDERS: Can you give me a little more on what you mean by how it was developed? Well, Tab 2 is an email with an attachment. email attaches the Ops Committee BN and the spreadsheet used to develop the table of priority
  - email attaches the Ops Committee BN and the spreadsheet used to develop the table of priority CUs. Does that -- it says there that it went to the Ops Committee but was not referred to the Regional Management Committee. Is that what happened there?
  - MR. SAUNDERS: I'm just trying to refresh myself with this. But it looks like we were working on a decision note that did not -- we did not receive approval, that we were looking at -- we had some direction to build, to elaborate further on the planning template and test it on one CU. So I think we received general, you know, support for the type of work we were doing, but weren't prepared to see a blanket implementation of it, wanted more testing to go forward on it.
  - Q Okay. And that, for that Ops Committee meeting consideration you prepared the briefing note that's attached to that email?
  - MR. SAUNDERS: I don't recall if I was the author on this or not.
  - MR. RYALL: So maybe I could help out, as well.
  - Q Thank you, Mr. Ryall.
  - MR. RYALL: This is going back to 2004, is it, or '06? Q 2006.
  - MR. RYALL: It's 2006, so my recollection is, is we were working on this document, a number of us.

    And I'm referring here to the briefing note.

    O Yes.
  - MR. RYALL: Along with the table that's attached to it, that shows what these criteria are that we consider to identify priority CUs, and it was presented at Ops Committee. And as Mark has indicated, it was not agreed that this was quite the right mix of criteria, and further work needed to be done to undertake to identify priority CUs.

And coming out of that Ops Committee meeting was the direction that we should embark upon a pilot in Barkley Sound to gather more information to better understand and to learn about how we create additional criteria for generating priority

1 CUs. And do you recall the genesis of this briefing 3 note which has your name on the bottom of it? MR. RYALL: Of the briefing note? 5 Yes. 6 MR. RYALL: Yeah, I was involved in drafting it, but as 7 I said, there was a number of us, as well. 8 Right. And that was when it was decided to go 9 with the pilot project instead. 10 MR. RYALL: Yeah, that's correct. There was concern 11 about, okay, this is not quite the right criteria, and also what sort of scale do we want to 12 13 undertake on generating these kind of strategic 14 plans and let's try it, test drive it on a 15 particular area, and Barkley Sound was chosen. 16 MR. WALLACE: Mr. Commissioner, may this briefing note 17 then be marked as the next exhibit, please. 18 THE REGISTRAR: Mr. Wallace, there's three documents 19 there. Do you want them all in one, or can you 20 specify the one CAN number? 21 MR. WALLACE: It's simply the briefing note. 22 THE REGISTRAR: Just the briefing note. That will be 23 the --24 MR. WALLACE: The briefing note includes the -- the 25 briefing note and the spreadsheet which I think is 26 part of it. 27 MR. LUNN: But not the email. 28 MR. WALLACE: Not the email. 29 THE REGISTRAR: Okay. Exhibit 941 will have reference 30 to CAN 189142 and 143. 31 32 EXHIBIT 941: Approval of Approach to 33 Planning for Priority Conservation Units, Ops 34 Committee note and Table 1 35 36 MR. WALLACE: Thank you. 37 So in the year or two following the adoption of 38 the Wild Salmon Policy - and this is for you, Mr. 39 Saunders or Mr. Ryall - did the Policy Branch ever 40 create a discussion paper on integrated strategic 41 planning for salmon conservation? 42 I don't know if you're referring to a MR. RYALL: 43 particular document, but there were a couple of 44 documents that were created on Integrated 45 Strategic Planning that Sandy Fraser was the 46 author of, and I don't know if you're referring to 47 those or others.

Q When were they prepared?

- MR. RYALL: One was created in 2007, and then there was another in 2009.
- We're going to come back to that. Earlier this afternoon we were at page 26 of the Wild Salmon Policy and we were talking about the reference in the middle of that page to what

it is, is to determine priority CUs and it seems pretty clear that the status of the CU, those in the Red zone, are the key to that. At page 2 of the exhibit just marked, the issue of status does not seem to be mentioned at all, Mr. Ryall. Can

you explain why?

- MR. RYALL: I'm sorry, in which document?
- At page 2 you propose three equally weighted criteria for determining priority CUs, habitat status, profile and planning capacity, as opposed to page 26 of the Wild Salmon Policy which talks about the biological status of a CU or group of CUs as being the key criteria. My question is, is that consistent with -- is your memo, in your view, consistent with the Wild Salmon Policy?
- MR. RYALL: I'm just taking a look at the actual table that's attached to this, as well.
- MR. SAUNDERS: I'm just trying to -- we're just having a look at the table here. But I believe that Outlook status was a large part of the --
- Q That's the spreadsheet?
- MR. SAUNDERS: It says under "Analysis" it says -- under the second line it says under "Analysis", "Identification of Priority CUs" it says:

• The Stock of Concern designation...in the DFO 2007 OUTLOOK was used as a proxy to delimit the RED ZONE and identify Priority CUs.

So I think the list that you've got there in the table, those are all -- lists all CUs that have been identified Red. As Jeffery pointed out, if you've got a Red designation, then we list it or prioritize it. Then the remainder of the table addresses the other items that you might use to prioritize work on that.

- Q So you're now -- can you just point out where in the exhibit you're --
- MR. SAUNDERS: Sorry, I'm in the decision note that describes the analysis.

MR. RYALL: In page 1. MR. SAUNDERS: Page 1

MR. SAUNDERS: Page 1 of that. I'm also talking -yes, so if you're under "Analysis",
"Identification of priority CUs" and then the
second bullet, "The Stock of Concern designation
provided" --

Yes.

- MR. SAUNDERS: -- "in the DFO 2007", et cetera. That line is indicating that we're using that as a proxy, because at this point we hadn't identified, really fully identified the CUs, and the work on the benchmarks was underway.
- MR. RYALL: So maybe just to expand upon that, this was a two-tier approach.

MR. SAUNDERS: Right.

- MR. RYALL: First identify them, which ones are in the Red zone, and then once they're identified in the Red zone, they're in this table, Table 1 that's in the decision note, and these other considerations that are listed, and equal weighting was applied to those is what that note is talking about. And I do recall as we were going through this we talked about different sorts of weighting to the second-tier evaluation, but...
- MR. SAUNDERS: So the last bullet there, you can go back, it says -- or the second-to-last bullet:
  - Appendix Table 1 attached lists the twenty Stocks of Concern/Priority CUs.

So we had used that criteria above from the Outlook to determine that these were the priority CUs and then we've got some ranking within those priority CUs --

Q Thank you.

MR. SAUNDERS: -- in the table.

- Now you referred to this as a decision note, but in fact I have said this was a briefing note. We have not seen a decision note from the Ops Committee, from this, although we have requested all of those. Is there -- are you aware whether there is a decision note in fact from this meeting?
- MR. RYALL: Are we -- I'm not aware that beyond this note that there was anything else generated as far as a decision note. And as we indicated earlier, this approach was not approved.

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- Q Thank you. In the -- since the Wild Salmon Policy has been adopted in 2005, has DFO Policy staff or other DFO staff ever developed any social and economic framework to be used in Integrated Strategic Planning under WSP, Mr. Ryall?
- MR. RYALL: I have seen a national policy that was drafted, I think it was from 2008, that listed three tiers of social and economic analysis. would be a very low level type of analysis, basically an evaluation of economic status within a fishery, and that's what's been incorporated currently within the IFMP in various stages across the region. Another level would be a more comprehensive and undertaken economic analysis, and the most comprehensive social and economic impact would look at various options. And the intent of that Policy was in that final stage could be used for more comprehensive problems, and it could be for dealing with things that -- stocks of concern or potentially SARA-listed, I think was one of the intents. But that was the last I saw was the 2008 draft Policy.
- Q And that was a draft?
- MR. RYALL: Yes.
  - Q But there's been no Policy adopted, to your knowledge, for this framework?
- MR. RYALL: Not to my knowledge.
- I understand that DFO has an internal working group developing a draft governance framework for Strategy 4, back in 2008. Am I correct on that?
- MR. RYALL: I was not involved in that.
- Q Exhibit 192, Mr. Lunn. Tab 19. This was referred to in 2008. I guess the question really is what has happened to that framework. Was it ever finalized and put in effect?
- MR. SAUNDERS: Mr. Commissioner, I was -- I didn't return to the Department, I had been away until late January, February, really, starting my position back in DFO in 2009. So I'm not sure what you're referring to as the framework.
- Q Page 20 of 41 in that deck.
- 42 MR. SAUNDERS: Slide 20?
  - Yes. Page 20, slide 7 and 8. It's a slide. The centre box on the "Strategy 4 Integrated Strategic Planning":
    - Internal Working group developing draft

governance framework

And do either of you know whether or not anything ever transpired out of that work?

- MR. SAUNDERS: I'm not aware of anything in that regard.
- Q Mr. Ryall?
- MR. RYALL: No, I'm not.
- Q Have any response teams been brought together under Strategy 4 as contemplated in the Action Step 4.1?
- MR. RYALL: Well, that's been one of our ongoing challenges, I would say, within the implementation of the Wild Salmon Policy, and so in various forms the answer, to me, would be yes. And so going back to the Fraser River Sockeye Spawning Initiative, the intent of that was to develop a team, so that was undertaken. And also with the Barkley Sound pilot there has been a team that has been put together, and that started back in 2008, I think it was. And more recently there's more work underway within the Barkley Sound pilot, as well.
- Mr. Young, are you aware of whether or not there have been any response teams, and what would be your response to the reference to FRSSI?
- MR. YOUNG: My interpretation of a response team from Strategy 4 in the Policy is to deal specifically with CUs of concern, if I understood it correctly, and therefore I don't -- I don't really see FRSSI or the Barkley Sound pilot groups that were formed, or the Skeena Watershed Initiative groups being kind of consistent with the definition of a response team. I think the closest thing to that would be some of the elements that came together around Cultus, although that wasn't really a Wild Salmon Policy-based initiative, and it also doesn't really fully meet the definition of response team.
- Q Mr. Morley did you have any involvement with response teams in the Skeena initiative?
- MR. MORLEY: I would totally agree with Jeffery's characterization of the response teams, and I wouldn't call the Skeena Watershed process or FRSSI a, quote, response team. I think Cultus could be looked at that way, but again nothing formal with respect to the Strategy 4 of the Wild

Salmon Policy, for sure.

A Thank you.

MR. RYALL: Could I just add to that?

O Sure.

MR. RYALL: So, I mean, there's different formulations of a response team. There's 420 conservation units within -- salmon within B.C. roughly, give or take. And I would argue that a number of those would be identified as priority CUs. And we talked earlier about a list of them that was not approved. But, you know, if we went back and took a look within the IFMP, there's a chapter that identifies stocks of concern. Some of those are groups of CUs and some of them are CUs by their own rank.

So I think whatever our challenge is within implementing a Strategy 4, is on what sort of scale are you going to develop these response teams. And I have a hard time envisioning that we're going to develop response teams for each individual CUs, given what resources are available both internally and externally, but to me that's only one aspect of consideration, resources. The important one is these stocks do not migrate individually. They migrate at the same time, across the same geography for a good part of them.

And so, to me, when you're going to develop a response team, you're going to need to consider a number of factors to take into account how you're going to develop these response teams, and one of the papers that's in our binders is what sort of scale would you develop and develop integrated strategic plans around?. And that scale, while I would say that it's not finalized, was presented at Ops Committee back in 2009, and was, I would say, tentatively approved. It wasn't outright endorsement, but it took that scale of conservation units from 420 down to a range of 20 to 25.

And the thinking was rather than formally saying that's the right number, the thinking was that you're on the right track by taking into account biological impacts, which is the status, but also is where do these fish migrate and who's impacted, as well, meaning people. And when I say people, I mean First Nations that are harvesting these, recreational and commercial, and also the

ecosystem.

 And so it's a bit of a longwinded answer. But I think one of the critical pieces here is really around what sort of scale are we going to develop response teams around.

So, I think, was the FRSSI process a response team on one particular CU? No, it wasn't. It was — to me it was dealing with a particular aspect around harvest management, which is only one part of the strategic plan. And it did deal with Fraser sockeye, which are 36 conservation units. And I would argue that's a much better way to develop response teams than to develop individual response teams for each CU. Because each one of these things are not isolated. They impact across the board, whether biologically or impacts upon people, and part of the WSP is social and economic impacts, as well, which is highlighted.

And so that's why my answer was the FRSSI was a response team. Was it perfect? Probably not. I think personally that it was a pretty good start.

My other part of the answer around Barkley Sound sockeye was going back to why our priority tables were not endorsed, was that we needed to learn some more and let's do it in a pilot. And I know when we first started on the Barkley one, my actual thinking was that the Barkley might not even be the right scale either, and probably should be larger. Because there's CUs that cut across the borders of the Barkley Sound. And I think if I had to rethink that, going back now, I probably would make it broader than Barkley Sound and probably make it the West Coast.

But at least within that one, it was all salmon species, and because there's not just one thing happening here. And what was interesting to me within Barkley is that it's not just wild salmon, there's a significant hatchery within Barkley Sound on chinook. And that was another piece of information that we needed to factor into our thinking around implementation of strategic plans.

Q Mr. Young, do you have a response to that? MR. YOUNG: I agree generally with the point that we should find efficiencies where possible, so I think that that's ideal and necessary. And I

think, though, that that -- those types of efforts should in no way diminish what the point of identifying a priority CU is, and the critical issue that's being -- coming out of identifying a CU in the Red zone.

For example, I think to be able to properly characterize anything as a response team, it would at least have to put first and foremost it's priority being the recovery of a CU of concern, or a CU below the Red zone. I don't think FRSSI was about that, and it definitely did not involve the full range of people that would be affected in particular by a CU in the red zone.

So I think there's a number of issues there, but not to lose the point that efficiency's important, but I think it's really critical to emphasize that the whole point of priority CUs and the Red zone ranking shouldn't be lost in terms of identifying an appropriate, efficient response. Mr. Morley, or Mr. Saunders, do you have anything to add?

MR. SAUNDERS: Yes, Mr. Commissioner, I agree in part with both Jeff and Paul, and I don't think there's a single right answer around this question of whether or not FRSSI and processes like it constitute a response process. I think it's, yeah, there's absolutely, you know, key point is that there are, if we look at some of the processes, answering this question of scale is really critical, and I think that's what the senior management was questioning when they asked us to go back with this notion of priority CUs, and what a planning template looked like, and asked us to conduct work to help them understand exactly what the size of this piece, what it would entail.

So I think a lot of this work went into what we call pilots. So it went into Somass, and as Paul says, then when you start to work on the ground, you come to these issues of where do the -- where are the boundaries of the CUs, where are the geopolitical boundaries that the human influences on these various conservation units, where do they reside, and how do you get people around the table.

And I think that to get to the outcome that you ultimately want to get to, that if you don't

arrive at the right scale, I think it limits the options that you might have. For instance, if you're looking at the Fraser, if you focus on Cultus in general, there's a context of a fishery that's right across the Canadian and into U.S. waters that are fisheries issues that are impacted, as much as there are local issues. So if the process -- and as well there are impacts on other species and other fisheries.

So if you were trying to arrive at options and approaches to move forward around Cultus, a more effective planning table might -- or recovery response team might include looking at all of the species. If I was looking at social and economic objectives related to the commercial and recreational and First Nations, I would be wanting to think about the Fraser in its every -- the entire breadbasket, or, you know, that's at play in terms of the economic engine and looking at options that would cross, go beyond just the impact of perceived actions that we could take for Cultus.

So I think this question is a complicated one, but a real key piece of trying to design and get so that we don't lose our accountability, as Jeffery's pointing to, for each of the conservation units, but looking for solutions that we've got an appropriate scale to give you the right context to find solutions that are optimal.

And I think one of my key interests in this, understanding the subtleties that may not be well-articulated in the Wild Salmon Policy is that this is about sustainable development. This is looking for options that meet social, economic and conservation objectives concurrently.

- Q Mr. Ryall, Mr. Saunders, has DFO ever created a template for a strategic plan for Strategy 4?
- MR. RYALL: Within some of the work that I had contracted Sandy Fraser to undertake, he did put together a template that's included in the 2009 report that Sandy did.
- Q And these reports then for the record, these are found at Tab 4, 5 and 6 of the Commission binder. if I could look at the -- to see which one, the March of 2009 or October, "Identifying Planning Units and Prioritizing Integrated Strategic Planning Initiatives Under the Wild Salmon

1 Policy"? 2 THE COMMISSIONER: Mr. Wallace, when you don't speak 3 into the mike, we can't hear what you're saying. 4 MR. WALLACE: I'm sorry. Thank you, Mr. Commissioner. 5 Is it Tab 6? 6 The one I'm referring to is under Tab 4. MR. RYALL: 7 That's a December 2007 --8 MR. RYALL: That's correct. 9 -- Discussion Paper. 10 MR. RYALL: And in particular in that, starting on page 11 18, "Documenting the Plan" section 6.0, it 12 outlines a template that could be used. 13 This was advice to DFO from a consultant, correct? 14 MR. RYALL: Well, it was a contract undertaken by 15 direction of myself that had contracted Sandy 16 Fraser. 17 And has it found its way into a plan adopted by 18 DFO for strategic planning? 19 MR. RYALL: At this point, no. The Barkley Sound 20 document that's also included in here was another 21 way -- another template that could be used, as 22 well. I think, to me, what the work that Mr. 23 Fraser undertook in 2007 of documenting the plan 24 was a good start of a template. Other work that's 25 underway within the Department right now actually 26 is another Policy document around a rebuilding 27 That is another piece of Policy work that's 28 being undertaken nationally that's not yet 29 complete, but I expect within 2011 it will be 30 complete. So I think there's a couple of 31 templates that are available that one could use 32 for developing integrated strategic plan. 33 But, you know, if I had to -- to me, to boil 34 it down to the simplest thing is that what we're 35 looking for is a plan that's going to set long-36 term direction, and it's going to have certain sections in it that will set long-term direction 37 on harvest management, habitat and enhancement. 38 39 And it will lay out those objectives and goals 40 that one will want to undertake in each one of 41 those pieces. And I would expect that there would 42 be a status report included in that template, 43 but --44 Yes. Sorry, Mr. Ryall, sorry to cut you off. 45 MR. RYALL: Sure. 46 But we have -- we have very limited time.

wanted to identify the fact that this reflects

advice received by DFO but it has not yet found its way into any plan that's been accepted or a template that's been adopted for Strategy 4 by DFO; is that correct?

MR. RYALL: I would agree that this has not worked in the strategy 4 by DFO; is that correct?

- MR. RYALL: I would agree that this has not worked its way into a --
- Q And the other documents that you -- the other templates that are available, likewise have not been adopted by DFO.
- MR. RYALL: Yes, I would agree with that. The other one is a work in progress.
- MR. WALLACE: Thank you. Mr. Commissioner, I wonder if the 2007 paper of Mr. Fraser could be marked as the next exhibit, please.
- MR. TIMBERG: Mr. Wallace, I'm wondering if Mr. Ryall could be permitted to answer the question that he started to answer.
- MR. WALLACE: Did you have an opportunity to complete your answer, Mr. Ryall?
- MR. RYALL: Well, the only other point I would add and thanks very much is that we've worked on a variety of templates. I would say that some of the pieces have worked in, and various formats. And what I was thinking as far as moving forward, really was where I was going, is what are we looking for into an integrated strategic plan? And to me it's setting the long-term goals and objectives that are going to work themselves into the Integrated Fishery Management Plans which are currently on an annual basis, but as I think I might have testified earlier, is that we're looking at making those multi-year, to make them broader in scope, as well.
- MR. WALLACE: I don't think we managed to get the 2007 document from Mr. Fraser marked.
- THE REGISTRAR: We did not, it's Exhibit 942.
- MR. WALLACE: Thank you.

EXHIBIT 942: Discussion Paper, Interim Guidance for the Development of Strategic Plans under Canada's Policy for the Conservation of Wild Pacific Salmon, 2007, Fraser

THE COMMISSIONER: Mr. Wallace, I don't mean to interrupt. I know you are on a tight timetable, and I know that Commission counsel have allocated

to themselves an amount of time. Has that time 1 now expired, or is it still running? 3 MR. WALLACE: Yes. But my hope is that if I may have a few minutes more, Mr. Commissioner, I may have cut 5 down on work that Mr. Timberg will undoubtedly 6 wish to do. 7 THE COMMISSIONER: Well, I'm sorry, I didn't hear your 8 last comment, but I just wanted you to keep 9 your... 10 MR. WALLACE: Thank you. 11 THE COMMISSIONER: Be mindful of your friends' time 12 allocations. 13 MR. WALLACE: I am cognizant of those. 14 THE COMMISSIONER: All right, thank you. 15 MR. WALLACE: 16 I have one question following up on this, Mr. 17 Commissioner, for Mr. Morley. Have you seen any 18 such -- any template for strategic planning from 19 DFO, under Strategy 4? 20 MR. MORLEY: Mr. Commissioner, actually, to me, the 21 best template for strategic planning is attached 22 in the Wild Salmon Policy under Appendix 2, "A 23 Structured Five-Step Planning Procedure", and I 24 think it actually is fairly straightforward, it's 25 succinct, and that is really what, where I think 26 they should be going in this area, and so that, to 27 me, is the best template I've seen. 28 Thank you. Would this be a convenient MR. WALLACE: 29 time to take the break? I'm in your hands, Mr. 30 Commissioner. I do have more that I wish to 31 cover. I have been unsuccessful in getting this 32 done as efficiently as I would have liked. But 33 with a break, I think it would give us an 34 opportunity to make us as efficient as possible 35 and not leave out something fundamental. 36 THE COMMISSIONER: If it will help, Mr. Wallace, I'm 37 prepared to do that. Thank you. 38 MR. WALLACE: Thank you. 39 THE COMMISSIONER: We'll take a ten-minute break, then. 40 MR. WALLACE: Thank you. 41 42 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS) 43 (PROCEEDINGS RECONVENED) 44 45 THE REGISTRAR: Order. The hearing is now resumed. 46 MR. WALLACE: Mr. Commissioner, I've been granted some 47 dispensation from some of my friends in the room

so I think I can do this without encroaching on anyone who hasn't voluntarily offered their time.

I have six points I'd like to just quickly go to, if I may. And I'd start with Tab 3, please, which is a deck which was prepared for the operations committee on WSP Strategy 4 Integrated Planning June 25th, 2009.

EXAMINATION IN CHIEF BY MR. WALLACE, continuing:

Q Mr. Ryall, were you involved in that meeting? MR. RYALL: Yes, I was.

MR. WALLACE: May this be marked, please, as the next exhibit?

THE REGISTRAR: Exhibit 943.

EXHIBIT 943: Operations Committee - WSP Strategy 4 Update: Integrated Planning June 25, 2009

#### MR. WALLACE:

- Q Mr. Ryall, can you tell us, please, what was decided at that meeting on Strategy 4?
- MR. RYALL: Well, just looking through the deck here, there was three pieces in it. One was the identification of planning units in what was the appropriate scale. And my recollection was that this approach was generally endorsed but it wasn't going to be a hard-and-fast rule. And I think in our document there is a listing of the outcome of this meeting. I saw it somewhere earlier. And then the second was a proposal for establishing priority planning conservation units, the rapid screening process.

I think that at that time that this process similarly had some support but needed more work is my recollection of it. And the third piece was a work plan update on different aspects that were being undertaken around the region. I think as far as the rapid screening process, and Mark might want to add some more on this as well, is that I think since that time we've moved on to coming up with an approach to undertake this type of work. There was a workshop that was undertaken - I think it was in the fall of 2009, I think it was internal, but anyhow, regardless, I think it was what sort of screening process could be

1 undertaken. And Mr. Holtby presented an idea of how a rapid screening process could be undertaken. 3 And since that time, there's been some more work 4 that, Mark, you might want to add some as well. 5 Is the decision record that you're referring to, 6 Mr. Ryall, at Tab 21? 7 MR. WALLACE: That's Exhibit 240, for the record. 8 MR. RYALL: Yes, that's what I was referring to. 9 Thank you. Mr. Saunders or Mr. Ryall, if one of 10 you could answer the question. There's a 11 reference on page 26 of the Wild Salmon Policy 12 that once priority CUs are identified, DFO is to consult with First Nations. Can you describe what 13 14 consultation DFO has had with First Nations with 15 respect to priority CUs or steps to establish a process for identifying them? 16 17 MR. RYALL: Well, there's two parts to your question. 18 Yes. 19 MR. RYALL: So if we could address the second one, 20 which is steps of identifying priority CUs and that was the piece that Mark was going to fill in 21 22 and I can come back to talk about some 23 consultation, if that's okay? 24 Okay. Mr. Saunders? 25 MR. SAUNDERS: Regarding the identification of a rapid 26 screening approach, I'm not sure that it answers 27 entirely your question. But yes, we have a 28 process to develop a tool to rapidly assess the 29 conservation status, which is not entirely a match 30 with the benchmarks proposed under the Wild Salmon 31 Policy but certainly anything under the rapid 32 screening that we determine to be at risk would 33 logically be in the red zone. So Dr. Holtby's 34 been working on an approach to analyzing available 35 data for which we don't have a complete dataset 36 for all 400 conservation units, probably roughly 37 two-thirds to three-quarters. But the method that he is proposing will be reviewed at our peer 38 39 review process, CSAS, during this month. And the 40 final document, presuming it receives approval 41 through the peer review process, would be 42 available in or would be finalized in the fall. 43 So that's a piece around the synoptic assessment. 44 And that would be part of forming the priority. 45 Mr. Ryall, you had something to add?

MR. RYALL: You were asking about what sort of

consultations had occurred with First Nations?

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1 Yes. 2 MR. RYALL: Specifically? 3 Yes. 4 MR. RYALL: Or just generally? 5 No, with respect to identifying priority CUs or 6 the process for identifying, what consultation 7 with respect to Strategy 4 has gone on with First 8 Nations? 9 MR. RYALL: Well, I think what I would refer to is 10 within the IFMP process, there is a chapter. 11 has moved around in different headings. But 12 regardless, the intent is that conservation stocks 13 of concern are identified in that chapter and 14 there's been quite a discussion around those 15 stocks that are included in there and what the 16 objectives are. There is also, within discussions 17 between Department and First Nations, a variety of 18 forms where this occurs. One of the places is a 19 committee that's known as the Conservation and 20 Harvest Planning Committee where there's 21 discussion around stocks of concern between Department and First Nations. I could also add as 22 23 well that this is not directly on a bilateral but 24 through a tier three process through the IHPC that 25 there's discussions with First Nations as well. 26 They're involved. But you had asked specifically 27 between DFO and First Nations. 28 Yes, I did. 29 MR. WALLACE: Mr. Commissioner, I think I failed to 30 mark the deck, which is Tab 3 in the Commission's 31 book of documents for the June 25th, 2009, Ops 32 Committee meeting and I would ask that be marked. 33 THE REGISTRAR: Yes, you did. That was 943. 34 MR. WALLACE: Thank you. 35 Mr. Young, you've had some questions on the 36 subject of your recommendations arising from the 37 Suzuki Foundation's report returning salmon and 38 integrated planning and Wild Salmon Policy. 39 you have any other recommendations specifically 40 related to Strategy 4? 41 MR. YOUNG: Well, firstly, I'll support Rob Morley's 42 earlier comment that there is a good framework or template, I guess, provided within the Wild Salmon 43 44 Policy and I think there's also really clear quidance about the role of that planning in terms 45 46 of the objectives it may have. So I think there's 47 a lot of guidance there and I guess one

recommendation would be to revisit those elements and ensure that efforts being undertaken are consistent with them. But I do think the recommendations in that report, as well as the one we published with Watershed Watch are ones I still support and are fairly comprehensive.

Q Thank you, Mr. Young. Mr. Morley, from your experience in the Skeena watershed initiative, what challenges and lessons do you see for implementing the Strategy 4?

MR. MORLEY: Mr. Commissioner, I actually have several issues and concerns and recommendations coming out of that. And if I may, they relate to the number of planning units that DFO was intending to try to operate here under the policy. And I've seen it change from the initial draft to the -- or the published policy talks about 40 to 60 planning units and I heard earlier this afternoon from the testimony that they're now reducing that down to 20 to 25. But I would suggest that the capacity the Department again was in some of those notes is that under the current way they are going about integrate a strategic planning, I don't believe that that is at all possible in the next 20 or 25 years for them to accomplish that.

I think the way that they have gone about this is doomed to failure and to take much more time and many more resources than anybody has available. And I'll go into the detail in terms of my experience at the Skeena watershed. And part of that, and this is going to go against a fair amount of sort of collective wisdom that seems to be coming from many participants around here where we're hearing from a lot of people saying that they want to participate at every step of the process in some kind of multi-stakeholder forum.

And my experience in the ones I've been in is that whenever you try to establish a multi-stakeholder forum that believes that in some way they are going to influence a long-term strategic plan that it takes years to get it off the ground to simply go through the process of deciding on the shape of the table, deciding on representation, deciding on who the members should be, is the group going to be decision-making or advisory only. Should we only have local people

 or should we actually allow outsiders into this group? And trying to develop some kind of agenda for going forward takes a very, very long. And even after you've gone through all that, you end up with groups disappearing and new ones arriving and it just becomes a very difficult process. And to think that you're going to have those kinds of groups involved in even 20 to 25 plans going on in a short period of time, I don't think that there's enough people around with the knowledge and expertise and the interest in this to accomplish that both within and outside the Department. I think we need to re-think that approach.

And in fact, you are seeing that what happens when you get these groups together because many of the people are the same people that sit down every year or two, discuss and argue about annual fishing plans, that you find it very difficult to separate those discussions and people want to get into the fray of what's actually going to happen this year rather than focusing on what's a long-term strategic plan for either this conservation unit or this group of conservation units.

So you know, if you really want to look at the kind of in-depth sort of planning that's involved, I think the closest example is one that's there that, if you have a conservation unit and you really want to look at all of the potential threats to it and all of the potential issues that need to be addressed and if we look at how many people were involved and how long it took through various iterations of committees on Cultus and we never actually go to step 4 of the Wild Salmon Policy in Cultus. So I just think that we're going at this all wrong.

And to a certain extent, my view is that if we want to move forward in this integrated strategic plan that we need to, in fact, have very focused, largely technical-based teams that would do all of the grunt work in developing the five-step planning process in Appendix 2 and would only seek input from outside people, as necessary, and you wouldn't bring together this group to look at alternatives and consequences until you were well down the process. And at that point, they would have some meat to discuss and I think it would be far more efficient and enable us to actually get

to dealing with some plans in a quicker fashion. And so those are really -- the groups, when you get them together too early, they stumble over steps one, two and three. And when the technical information isn't in front of them, they get frustrated.

We are now in a situation where the Skeena watershed initiative is, in fact, about to fall apart because several groups have withdrawn their participation due to the frustrations of some of the issues I talked about and First Nations, some being at the table, some not being there, whether or not you've got First Nations technical people or political people involved. And it's just the multi-stakeholder process is very difficult and I think you need to pick and choose when that kind of group is involved in this process. And, frankly, the way DFO is going about it right now, I don't think we'll ever get there.

- Q Thank you. Mr. Morley, if I could just direct you to Tab 10. This is my last question.
- MR. WALLACE: And in particular, just to go to the cover, if I may, Mr. Lunn, first?
- Q Are you familiar with this report, a report of the Skeena Independent Science Review Panel by Walters, Lichatowich, Peterman, Reynolds?
- MR. MORLEY: Yes, Mr. Commissioner, I am.
- Q And I wonder if I could take you to page 90, ringtail number 92, 91 of the document, to the first recommendation of this report?

There is a need to confront the major tradeoff decisions that are implied by the Wild Salmon Policy and the impacts of mixed stock ocean fisheries on Skeena stocks. There should be an explicit public decision about the loss of biodiversity (number of weak stocks allowed to remain overfished or at risk of extinction) that is deemed acceptable and changes required to fisheries in order to achieve particular harvest objectives. Such a decision should be based on tradeoff relationships that can now be estimated from historical data, escapement trends and exploitation rates, as shown by the examples provided in this report.

1 Do you agree with that recommendation? MR. MORLEY: Yes, I certainly do. 3 Mr. Young? MR. YOUNG: I partly do. I think that there's a couple 5 of key elements here. One is understanding what 6 it means to make a public decision and who that 7 would involve. I think that that would extend well beyond, say, the participants in the Skeena 8 9 watershed initiative or the members of this group, 10 or the people that were involved in it. I think 11 also that we have to be a bit careful about 12 identifying what a trade-off means in the Wild 13 Salmon Policy. 14 I think that the Wild Salmon Policy 15 explicitly identifies conservation units, not only 16 for the benefits of salmon but also essentially to 17 define the minimum unit of diversity that needs to 18 be protected, not just for their ongoing existence 19 but also to support sustainable use and benefits 20 from them. And therefore, I think the 21 conservation unit actually represents, to some 22 extent, a trade-off where clearly we could manage 23 to a lower level of diversity that would ensure we 24 had salmon in every stream and there could very 25 well be benefits to that. But the conservation 26 unit is at a higher level, which I think implies 27 some of those trade-offs and that it is intended 28 to be the minimum irreplaceable unit of diversity 29 necessary to maintain the long term sustainability 30 and productivity of salmon. But in general, yes, 31 I agree with the recommendation. 32 MR. WALLACE: Thank you. Mr. Commissioner, those are 33 my questions. Could we mark Tab 10, please, the 34 Lichatowich...? 35 THE REGISTRAR: Exhibit 944. 36 MR. WALLACE: Thank you. 37 38 EXHIBIT 944: Report of the Skeena 39 Independent Science Review Panel submitted 40 May 15, 2008 41 42 THE COMMISSIONER: Just one quick question, Mr. Ryall. 43 Mr. Ryall, who is the operations committee and 44 does it still exist? 45 MR. RYALL: The operations committee, yes, still does 46 exist.

THE COMMISSIONER: And as with your earlier testimony,

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Cross-exam by Mr. Timberg (CAN)

is it changing personalities all the time or is it the same people throughout?

MR. RYALL: Well, it's the same positions all the time. It's chaired by the RDG and regional directors are members of the operations committee. But it's the same membership as far as those positions go.

THE COMMISSIONER: And do I understand correctly it's all DFO personnel?

MR. RYALL: It is a DFO committee.

THE COMMISSIONER: Thank you very much.

MR. WALLACE: Mr. Timberg?

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MR. TIMBERG: Yes, Mr. Commissioner, Tim Timberg and my colleague, Geneva Grande-McNeill, for Canada. We have one hour and 15 minutes and I note it's 3:30. Oh, Mr. Lunn, is it possible to get from Canada's list of documents Tab 30 up?

MR. LUNN: Yes, I have an entire folder dedicated to that so if you know specifically which -- MR. TIMBERG: 38-1.

## CROSS-EXAMINATION BY MR. TIMBERG:

Q And Mr. Ryall, while we wait for the document to come up, can you describe for the benefit of the Commissioner the work that you commissioned Gottfried Pestal to do with respect to compiling information on Wild Salmon Policy implementation meetings?

- This goes back a few months now. MR. RYALL: Yes. had become aware from previous discussions through the Cohen Inquiry that there was questions about how much consultation had occurred around Wild Salmon Policy in various forms. And while I had some in my possession, I knew that quite a number of other people in the Department had their own files and I thought the best way to figure out just how much consultation had been undertaken around the Wild Salmon Policy was to let a contract to someone to pull all that information together. And it wasn't just to answer this as a one-time question. My thinking was that we should really be doing this on an ongoing basis. So who did we meet with? What was discussed? And what material was supplied at those meetings?
- Q All right. And this document before us, this sets out the description of this project that you retained Gottfried Pestal to do?

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MR. RYALL: Yes, that's right. And as noted on here,
          Amy Mar was part of that and also in discussion in
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          setting this up between Amy, myself and Deborah
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          Phelan, we put together this project.
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And Deborah Phelan is a consultation secretariat?

That's right. MR. RYALL:

And Amy Mar is Policy?

MR. RYALL: Amy works in Policy Branch, yes.

- MR. TIMBERG: Thank you. And I'll ask that this be marked as the next exhibit and the following documents under Tab 30 be marked consecutively. There's Tab 31 through dash Tab 30. So it's 30-Is that possible?
- MR. LUNN: I'm just going to bring up what I have in front of me, which is a little unusual. I know I don't have any of these sub-numberings that you are referring to. I have all of these subfolders.
- MR. TIMBERG: Oh, okay. So for the clarity of the record then perhaps what we have prepared, Mr. Commissioner, is one document which is an Excel spreadsheet that lists all of this information. And we'll just let that one document with the Excel spreadsheets be marked as one exhibit and I think that will be sufficient.

THE REGISTRAR: That will be Exhibit 945.

> EXHIBIT 945: Excel spreadsheet - Inventory of Meetings Related to Fraser Sockeye Planning and WSP implementation

32 MR. TIMBERG:

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- And so, Mr. Ryall, if you could just turn to the tab in front of you.
- MR. TIMBERG: And Mr. Commissioner, to Tab 30-2. That's Volume 2 of the green binder of Canada's. And this is a summary page. And Mr. Lunn, you are unable to bring this up then?
- MR. LUNN: I just don't know what document you're referring to. I'm sorry.
- MR. TIMBERG: Okay.
  - If you have a description, I might be able MR. LUNN: to find it.
- 44 MR. TIMBERG: It's the second Excel sheet. And so it's 45 Volume 2 of Canada's binders. Oh, yeah, there we 46 go.
  - And so Mr. Ryall, can you --

MR. TIMBERG: Oh, that's going the wrong direction. 1 2

MR. LUNN: Let me try that again.

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- If we can scroll down? Let's go to the MR. TIMBERG: bottom number first.
- And what does the "meeting days and inventory 516" represent?
- Well, Gottfried had collected this MR. RYALL: information from all sorts of sources within the Department of Fisheries and Oceans at our office in Vancouver and our area offices, Kamloops, lower Fraser, the Island and the Secretariat and et And the point was to see what sort of cetera. discussions had happened around WSP. And I'm not saying that all these meetings that are incorporated within this inventory were solely focused on WSP but some part thereof was on WSP in consultation. And this represents how many meeting days occurred from what Gottfried pulled together over the timeframe we had the contract in place.
- And that was the last five? It was from...? MR. RYALL: 2005 until present. And my view of this is that it's an incomplete number meaning that there's more meetings that were captured in this database. And the database doesn't reflect the amount of time that was, you know, put in my staff into developing and in preparation for these meetings so that's not captured.
- But these are actual meetings with stakeholders or First Nations where one of the topics was WSP implementation?
- MR. RYALL: That's correct.
- And just for the assistance of the participants in the room and the Commissioner, if we could just scroll up, could you just describe what these categories are so people can understand this report a bit and then I'll move?
- So under WSP implementation, we had MR. RYALL: Sure. a variety of WSP workshops that occurred in various locations in the province. And the DFO contact is listed there. In this case it was Amy The next is the Fraser River sockeye initiative and the contact, myself. And so that covers the period from, in that case, 2005 to 2009. Multi-interest advisory process, captured Integrated Harvest Planning Committee. We did not capture, in this case, for example, area harvest

committees where I know that there have been meetings that occurred but I don't see those reflected here.

There's sector-specific engagement, Fraser River Aboriginal Fisheries Secretariat, First Nations Fishery Council, the Upper Fraser Fishery Conservation Alliance, other individual First Nation meetings, the Commercial Salmon Advisory Board, Central Coast Advisory Board, Sport Fishery Advisory Board, meetings with the Marine Conservation Caucus, which is captured under the Environmental NGOs and also at Salmon Enhancement and Habitat Advisory Boards.

And then also, there's area meetings that occurred as well. So area staff had undertaken these and bilaterals. You'll note in this case there's only one identified in this particular section. But I know from myself that more than that occurred just from talking to staff and just because of the duration of the contract that those are not all incorporated in here.

- Q Because Gottfried could only summarize the ones that he could find minutes of?
- MR. RYALL: Well, given the timeframe that we provided for Gottfried and this was over a period of time when we were developing IFMPs and staff were. That was a higher priority is to get that done than to develop this database.
- MR. TIMBERG: Okay. Thank you. So for the assistance of the participants, that's a hyperlink document. They can click on there and then they can find all of the minute meetings. So we've got a complete record of the minutes in the hyperlink.
- Q So I'll move on then to a question for you, Mr. Saunders. During testimony of the Predation Panel on May the 5th, 2011, the Commissioner asked a question of Dr. Ford with respect to a question of science planning. And I'll read out the question and I'll ask you can perhaps provide an answer to that.

I'm trying to get a sense of if this is a scrambled situation in our world of research or is there actually some game plan here now in 2011 and going forward that takes advantage of all this work that's been done and tries to get a sense for the politicians

and bureaucrats and managers? Where should they be going forward? Where should they be assigning the resources to go forward?

Commissioner with an answer to that question?
MR. SAUNDERS: Yes, Mr. Commissioner. I think the question can be answered on a couple of different levels around the game plan for Science. If we look specifically at the questions that are in front of the Commission and the decline in Fraser sockeye, I think I can explain an overall Science process that we've been using within Science to address the question. With the Department of Fisheries and Oceans starting in 2009, we undertook a process to try to understand what had taken place.

So I'm wondering if you could provide the

- Q And when you say "what has taken place", you're referring to...?
- MR. SAUNDERS: In terms of the decline in Fraser sockeye.
- Q Thank you.
- MR. SAUNDERS: So as an issue coming in front of the Science community, an approach was taken to arrive to try to understand the scientific underpinnings of what had taken place. And I think it's fair to say that through the Department we engaged about 45 of our staff scientists with expertise ranging from understanding ocean processes, disease and stock dynamics, freshwater processes, et cetera, met in September of 2009 and established a number of hypothesis that we felt may have been contributing and have worked since that point to coming back together again. We've conducted research, reassigned priorities of staff and worked with outside organizations to continue a Science process to understand what has gone on.

I think in terms of our most recent meeting was in middle of May where we again came together to look at the outcome of various projects that we're pulling together. So I think there's an internal approach to allocation of resources but we also work very closely with the Pacific Salmon Commission in the design of the workshop that was held in June of 2010, which was a major point where we coalesced and devised an approach to try and assign a weight of scientific evidence to go

along with that. At the same time, we've also been looking at the priorities that we've got within Science and in these areas where there are still questions, start trying to understand what we could be doing, what other research we could be doing and going in each of the areas of potential influence on Fraser sockeye starting to move ahead.

I think that would be a specific process that we've been using over the last two years within Science. I think in terms of a question about whether there's an overarching assignment of a group or an individual to analyze everything that we're seeing out there, I think a broader scientific process is out there to identify issues as they arise and then the organization, I should say actually organizations, Science organizations then react. I can give you examples of that. instance, you would be familiar with the various papers that are produced like the Grant paper that are doing assessments of the status of stocks and forecasts. All of those come forward through Canadian scientific advice secretariat and are in a peer-reviewed process which the salmon subcommittee includes our senior scientists. anything of interest and concern coming out would be vetted against our scientists who would say, you know, that may be something we need to explore further.

There's an underlying issue here that needs examination. That would come forward through our various processes to influence how decision-makers like myself and the other members of the Science executive provide resources back to the scientific work that gets done. The Pacific Salmon Commission were engaged in that and I sit, as does Dr. Laura Richards, on a committee for scientific cooperation that makes sure that Science is taking action in the case of issues that are developing in front of as we manage the salmon resource.

We also produce annually a document called "State of the Ocean" where researchers from both the ocean sciences, as well as fisheries-related researchers come together with observations about what's been seen in a particular year. And a lot of synergies and understanding of long-term trends get vetted through that and provide the basis for

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providing priorities going forward. Also, a series of workshops and conferences that will take place within the Science community raise these issues both domestically and internationally. So while some of that may sound fairly organic in terms of the way issues come forward, it's fairly effective at bringing forward the key issues.

We have people, the senior scientists that I referred to earlier typically, Kim Hyatt, who's been in front of this organization, would be of the calibre that would take these overarching observations and start to develop synthesis papers that would go across, start to understand these broader processes that are taking place. are working in the context of moving forward on this, the development of new methods that are out there for bringing these very complex issues that are multidisciplinary in nature such as models that are based on what are called Bayesian belief networks that are trying to bring together the complexity and allow researchers, as well as laypersons to understand how these broader processes are working. So I think, is there a broad plan in terms of one that I can put on the table? No, but there is an approach that's robust enough to bring forward and help understand these complex issues and make sure that the Science organization responds appropriately to them.

- MR. WALLACE: Mr. Commissioner, I may be wrong but it appears to me that Mr. Saunders is reading from notes and it might be easier just to file the notes or perhaps quicker if he simply answered questions from his knowledge.
- MR. TIMBERG: Perhaps I could address that over the break and get back to you tomorrow morning on that, Mr. Commissioner. Mr. Lunn, could we have Exhibit 795, please?
- Q And Mr. Saunders, is this the document you're referring to, the DFO Synthesis Workshop on the Decline of Fraser River Sockeye that you just referred to?
- MR. SAUNDERS: That's correct.
- Q Thank you. And before we move off this topic, who are the senior scientists that lead Science in the Pacific region so the Commissioner understands the flow?
- MR. SAUNDERS: Senior scientists, well, there are

managers, myself, Denis D'Amours who's listed there as one of the meeting chair. He's the manager for hydrography. Also, Robin Brown heads up Ocean Sciences and Dr. Laura Brown is the head of Marine Ecosystems and Aquaculture Division. Ourselves. Those four division managers report to the regional director of Science, Dr. Laura Richards. And we would have the responsibility ultimately for designing the ongoing plan and direction in the DFO Science organization. But there are also, and as you scroll down you'll see that there are a number of scientists some of which would have an actual designation as a senior scientist like Dr. Dick Beamish who's been in front of this Commission, but others that would be, you know, like Dr. Mike Bradford, Dr. Terry Beacham, et cetera, that are senior within the Science ranks of the Department.

MR. TIMBERG: Okay. Thank you. Mr. Commissioner, do you have any questions of Mr. Saunders with respect to Science direction?

THE COMMISSIONER: Well, not at the moment, no.

MR. TIMBERG: Okay. Thank you.

- Q Mr. Ryall, turning to some questions for yourself, I've got a series of fairly broad questions regarding implementation of the Wild Salmon Policy. How will the IFMP work under the Wild Salmon Policy when it's fully implemented?
- MR. RYALL: How will the IFMP work under the Wild Salmon Policy?
- Q Yeah.

- MR. RYALL: Well, I think it will work much like it is currently meaning that within the IFMP we'll identify stocks of concern. And as I mentioned earlier, some of those are conservation units, not all. Many are groups of stocks of concern and it will implement Harvest management decision rules that will provide protection for those stocks of concern.
- Q And how would it work then, for example, with the Cultus Lake Conservation Unit?
- MR. RYALL: Well, in particular, with the Cultus Lake Conservation Unit, it's identified within that chapter that I'm referring to and outlines a limit that would be allowed for exploitation around Cultus Lake sockeye and where some of those management actions would be implemented within the

IFMP. That's been in place now since probably 2004 IFMP. It's not been consistent over the years as far as what the management actions are. They have varied across the years but the intent is to provide protection to Cultus Lake. MR. TIMBERG: All right. And perhaps then we should

turn, Mr. Lunn, to Tab 28 of Canada's documents. And this is the 2011/2012 IFMP. I don't believe this has been marked as an exhibit yet, so this should be marked, I think.

THE REGISTRAR: Exhibit 946.

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EXHIBIT 946: Pacific Region Integrated Fisheries Management Plan Salmon Southern B.C. June 1, 2011 to May 31, 2012

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- MR. TIMBERG: And if we could turn to page 48 of this document?
- And so Mr. Ryall, can you explain then how the IFMP treats the Cultus Lake Late-Run sockeye?
- Yes, certainly. I should point out, too, MR. RYALL: that this IFMP, the normal process is that this is for 2011/2012, that this has not been formally adopted yet by the Department and the Minister would approve this and so there could be changes to this document. So in this section, Cultus Lake and Late-Run sockeye, it lays out what the decision rule is to provide protection to Cultus Lake sockeye and that would be managed within a constraint of the exploitation rate identified for the Late-Run aggregate. As I said, this has not always been consistent language across the years. As we learn more, the language has changed across the years but there's always been a section that included in the annual IFMP to provide direction and protection for Cultus Lake sockeye as far as harvest impacts.
  - So here, the exploitation rate is proposed at 20 percent?
- MR. RYALL: Well, it's proposed that:

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a) the exploitation rate floor identified for Late Run Sockeye (currently set at 20%), or

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b) the exploitation rate that is consistent with recovery objectives based on in-season information on returns and potential numbers

of effective spawners.

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So one of the big pieces of information around Cultus is the pre-spawn mortality. And you go into the season and you make some assumptions about what that level is to decide what sort of exploitation rates.

So that's if this summer's run is low then you would obviously follow the in-season approach?

MR. RYALL: Well, the part b) provides some flexibility for some in-season decision-making the way this is So if you have some improved information worded. in-season you might be able to adjust the exploitation rate. But it needs to be consistent with the recovery objectives that are included within the plan. And I think further down in this page, if I'm not mistaken, that those recovery objectives are identified. It might be the next page actually.

> The recovery objectives as outlined in the National Conservation Strategy for Cultus Lake Sockeye Salmon are as follows...

And I won't read them all but that's what part b) is referring to, that if you're going to make changes in-season they need to be consistent with these objectives.

- All right. Thank you.
- MR. RYALL: And this is what the Cultus Sockeye Recovery Team drafted and this is what we are using as far as, you know, here's what we need to do to protect Cultus and these are the objectives we're going to use.
- And what are the complexities involved in operating the IFMP and the Wild Salmon Policy?
- MR. RYALL: Well, I think we've touched on a number of them today and the testimony of the panel. We're talked about the complexities of salmon in general and it's biology. To me, the complexity is that these fish migrate over great distances and there's a number of fisheries along the way. all the status of those are not equal all the time meaning that some could be in the Cultus, for example, in a red zone and need to recover but it's co-migrating with other stocks. And so one of the challenges is what sort of protection are

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you going to provide to recover that stock, rebuild it and over what timeframe and what are the implications of undertaking those recovery objectives?

Generally, that means if there's other stocks co-migrating you'll be foregoing that harvest where those mixed stock fisheries occur. And that's been what's happened in recent years where the harvest rate has generally decreased from historic levels, if we go back a decade or so where it was 70 to 80 percent. In more recent years, it's ranged anywhere from 20 to 35 percent. And I'm meaning overall. If you parse that down into some of the management groups, you're going to get even lower amounts.

- Q So that that change has been happening?
- MR. RYALL: That change has been happening and those types of changes have impacts on people. And they have impacts obviously on the fish as well, meaning that we're trying to recover these stocks. But they also have impacts on First Nations that want to harvest for FSC and also people that are recreational and commercial.
- So as WSP is implemented, how will DFO deal with weak stocks or priority CUs in mixed stock fisheries?
- MR. RYALL: Well, I think we've been doing that over time and there's a number of ways of doing that. We have reduced harvest rates and, for the most part, those harvest rate reductions have occurred in rain waters but they've also occurred in the lower Fraser as well. These stocks are still mixed stock for the most part until they start to migrate further up the Fraser River. And so we've reduced harvest rates. We have set, I think clear decision rules within the annual IFMP what those decision rules will be.

We have negotiated treaties with the U.S. to minimize their impact and that's an ongoing challenge. They have a slightly different view than Canada as far as what a Wild Salmon Policy would look like. I don't think they necessarily totally agree with our view of what the conservation units are. But setting that aside, I think that that's another sort of complexity that one has to deal with. Another country is impacting upon these stocks as well.

Okay. And how will the WSP impact, if at all, 1 activities of the Fraser panel and the Pacific 3 Salmon Treaty? MR. RYALL: Some of that's a little hard to judge since 5 this is still a work-in-progress. But it's 6 Canada's responsibilities to provide what the 7 conservation objectives are to the Fraser panel. 8 And the bilateral Fraser panel then implements 9 that and develops an in-season management plan to 10 stay within those. So it's really Canada's 11 obligation to set those conservation objectives, 12 transmit those to the Fraser panel and it's up to 13 the Fraser panel to stay within that. Within the 14 annex that guides the Fraser panel, it's Annex 4, 15 There's objectives that are laid out. Chapter 4. 16 The first one is conservation. And after 17 that is international and then domestic is the way 18 it's worded, to my recollection. And so as it's 19 Canada's obligation to set the conservation 20 objectives, that's the first priority for that 21 panel to meet. Now, that means that we need to 22 work with the U.S. to accomplish that and my view 23 over the years of when I was on the panel and 24 chairing that panel is I think we have a good 25 working relationship with the U.S. but we don't 26 always see eye-to-eye on the objectives. But I 27 think that we do have a good working relationship 28 and the fisheries have been managed appropriately. 29 Generally, how will you deal with the uncertainty 30 associated with a given return each year? There's 31 an uncertainty as to how many fish will come back. 32 MR. RYALL: Well, we still do make pre-season forecasts 33 and within the 2011/2012 IFMP there are forecasts 34 and there are two tables actually in the 2011 35 IFMP. One is to base a forecast on recent 36 activity and there's a second table that creates a 37 forecast over the long term. And within those forecasts there's probabilities for both those 38 39 tables. But that's only the pre-season portion of 40 it. And really it's around what you do in-season. 41 And we collect a lot of information in-season to 42 update those run sizes and manage the fisheries 43 accordingly. 44 And we manage them according to meeting the 45 conservation objectives and First Nations FSC

requirements and the allocation policy that Canada

has in place currently. Now, typically what

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Cross-exam by Mr. Timberg (CAN)

happens in-season, we also, I would say, start fisheries that have low impact. High-risk fish but have generally low impact. So once we're assured that we're going to meet our conservation objectives and put enough fish into the river to meet First Nations requirements, there will be decisions made about the recreational and the commercial fishery and the commercial fishery on sockeye has the priority over the recreational. But we will commence with some lower impact fisheries and this has generally been the openings for troll fisheries and gillnets. And we're still collecting information.

And after that, other fisheries per se will start to have a higher impact. When I say that, other things that we've been doing in recent years is having demonstration fisheries. So the history has been a competitive fishery where you open for a duration of time, identify some days or hours that the fishery will open in a particular area. You have some idea of how much will be caught and how many boats will show up and catch that. that's not an exact science. And one of the things that we've been working on is the demonstration fisheries that have had ITQs, individual transferrable quotas. And you can set a quota for the week and go out and harvest that amount that would help to reduce that uncertainty as well. It's another tool that could be used. MR. TIMBERG: All right. We've run out of time today, Mr. Ryall. We'll continue tomorrow morning with

there on the various options. THE COMMISSIONER: Thank you.

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

taking you to the IFMP and those descriptions

(PROCEEDINGS ADJOURNED TO JUNE 3, 2011, 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.

## 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

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.

## Karen Acaster