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.)

Friday, September 23, 2011

le vendredi 23 septembre 2011



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

## Errata for the Transcripts of Hearings on September 23, 26, 27 and 28, 2011

| Page | Line | Error                         | Correction |
|------|------|-------------------------------|------------|
| ii   |      | Counsel for BCSFA to be added | Alan Blair |

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No appearance Musgamagw Tsawataineuk Tribal

Council ("MTTC")

Ming Song Heiltsuk Tribal Council ("HTC")

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Vancouver, B.C./Vancouver
(C.-B.)
September 23, 2011/le 23
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THE REGISTRAR: The hearing is now resumed.

LAURA RICHARDS, recalled.

DAVID BEVAN, recalled.

CLAIRE DANSEREAU, recalled.

SUSAN FARLINGER, recalled.

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MR. WALLACE: Good morning, Commissioner Cohen. For the record, Brian Wallace, Senior Commission Counsel, and with me are Patrick McGowan and Jennifer Chan.

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#### EXAMINATION IN CHIEF BY MR. WALLACE, continuing:

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Yesterday we ended talking about the costs associated with regulating the aquaculture industry, and this is in the context of continuing testimony about the financial pressures on DFO. And I'm not sure I have an answer to this question. Perhaps, Ms. Dansereau, you could tell me the answer. Is there or will there be a cost charged to members of the aquaculture industry for aquaculture licences?

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MS. DANSEREAU: That is something that we're currently working on.

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Q What order of magnitude are these licences going to cost?

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MS. DANSEREAU: As I said, that's something that we're working on right now. We don't have an answer.

38 39 Q When will you have an answer?
MS DANSERFAU: Within the next -- well w

40 41 MS. DANSEREAU: Within the next -- well, within the next year or two.

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Q is it the intention of DFO that the cost of regulating aquaculture will be covered by the cost of licences?

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46 47 MS. DANSEREAU: We are in fact looking at, I think everybody knows, the entire structure of our licence fees for all of our fisheries, and those are the kinds of questions that we're asking for

the wild fishery as much as we would be asking for the aquaculture side.

- Q So you're looking at this in connection with what you charge for licences for commercial fishing, for example.
- MS. DANSEREAU: Yes.

- Q Thank you. We've had some questions in the aquaculture hearings about the perception that DFO may be in a position of divided loyalties between its obligations and its to the aquaculture industry and its obligations to the wild fishery. And in particular the question is whether the promotion of the aquaculture industry is in conflict with the obligations to the wild salmon fishery. So my question for you, Ms. Dansereau, as Deputy Minister, do you agree with that perception that there is there are divided loyalties between those two obligations?
- MS. DANSEREAU: The perception exists. I recognize that. I don't agree that we have divided loyalties. I believe that we are doing our job as regulators, both of the wild fishery and of the aquaculture fishery, that we view both as fisheries, as the courts have described, and it's our responsibility to both regulate and promote both of them.
- So in promoting -- and it's really the issue of promoting that's concerned. I understand why you regulate the aquaculture industry, and my interest is more about the promotion of that industry. And I understand that DFO has spent some money, substantial amounts of money recently to promote that industry internationally, to seek international investment in it. Has comparable promotion been done in the commercial salmon fishery?
- MS. DANSEREAU: We don't seek international investment. We do not -- we are not an arm of the industry, but we do attend international seafood shows, either in Boston or in Brussels, in other places, to assist the industry showcase its products. We do that for both the wild fishery and the aquaculture fishery, yes. We believe our responsibility on the issue of promotion has more to do with ensuring there is market access for Canadian products, and aquaculture products are Canadian products as much as the products of the

 wild fisheries are. So we treat both parts equally.

- Q has Canada considered the possibility of separating the promotion of both wild salmon and aquaculture from the regulation, and perhaps putting that in industry or trade?
- MS. DANSEREAU: We don't do I want to be careful with the language here we don't do marketing. We are not the marketing side of the industry. We provide market -- we assist with market access. We make sure that international doors are opened and that Canadian products have a way to move into other markets. So our work in that regard is quite minimal.

One area that some may say we are involved in promoting is by working with industry to ensure that our fisheries are MSC certified or third party certified in some way. That could be seen to be part of promotion. But in fact it's also part of management, and so sometimes the two go together.

- Yes. My question was has there been consideration of dividing these two functions?
- MS. DANSEREAU: Well, it depends, again it comes back to the definition of the functions. If the functions are if we're thinking about marketing, going out and doing advertising campaigns to buy Canada, we don't do that. That's already divided. Agriculture Canada has a program for that. But our job is to show the world that the Canadian products are safe, Canadian products are sustainable, and that's because we are the regulators that we can speak with a certain amount of authority on those areas, and that's the extent of our involvement.
- Another issue of priorities has been raised with respect to the nature of scientific research that the Department chooses to spend its limited resources on. And we've heard several times that when it comes to choosing what disease research to do, there's been a focus more on captive fish, farm fish, or hatchery fish than there has on wild fish. And this has been mentioned in one of our technical reports, Michael Kent's report on infectious diseases, where he says most research on salmonid diseases has been directed toward those affecting captive fish, either in government

hatcheries or private fish farms. Is it fair to say that DFO's research and monitoring efforts in terms of infectious disease continue to be weighted towards research on captive fish as opposed to wild fish?

- MS. DANSEREAU: I think that question is best addressed to Dr. Richards.
- Q Thank you. Dr. Richards.

DR. RICHARDS: Yes, good morning. In answer to that question, I'd have to say that our priorities for research are very much weighted by the need for us to provide advice. So in the context of working on fish disease, we are working together, and one of our major clients in terms of the provision of science advice is the Canadian Food Inspection Agency, who are the leaders in our National Aquatic Animal Health Program. And so we, you know, given that obviously we have limited resources to spend on things like research, we do look for direction and we work with them to identify priorities.

We also work with our clients or others in the Department, including those in Fisheries Management and those responsible for Aquaculture Management to help us identify the priorities.

So, yes, I think it's true that given the focus has really been on the issue around the fish which are caught in fisheries, and which we use in hatcheries, that that has been the focus of our research.

- Q I'm sorry, Dr. Richards, you said the focus is the fish that are caught in fisheries and the fish that are...?
- DR. RICHARDS: Our focus has been on the support of our fishery managers, and the fishery managers and aquaculture managers. So the fishery managers being largely responsible, interested in, you know, fish which are available to fisheries, and so that has been really the focus. I think more recently we've had, let's say, an expansion of our mandate into a broader ecosystem approach, and that's really, I think, raising much broader questions about the general health.

We have, in fact, started to do some studies on looking more generically at the health of fish. We do have funding, a project which was started last year in 2010 to look more synoptically at the

health of juvenile salmonids in the Strait of Georgia. And that was a project that we just started last year.

So we have realized, we are aware that there's a gap. We have taken what opportunities we have to try to address that through some, you know, additional opportunities when we have those opportunities.

But, yes, the focus has been on -- I think the focus as stated by Dr. Kent in his report is correct.

- Okay, thank you. I'd like to ask some questions, and, Dr. Richards, I think you're going to have a lot of these directed at you, and perhaps you, Ms. Farlinger, because it's a lot about science, but we certainly will hear, I'm sure, from the Deputy Minister and Associate Deputy Minister, as well. One of the issues that we've been -- we've heard about are the risk of Science programs because of lack of funds. And one of the at-risk issues is test fishing and the issue of expiration of Larocque funding in March of 2012. Paul Ryall testified in January that there are no plans or proposals in place, to his knowledge, for how test fishing would be funded once these funds are gone. Have you made a decision on whether or not they will carry on Larocque funding? And this is to you, Ms. Dansereau.
- MS. DANSEREAU: Thank you for the question. The answer is similar to the answer I gave yesterday on PICFI funding, which is five-year programs are not -- it's not determined at the outset whether or not they will end on a certain date or continue after the five years. We are in the process right now of an evaluation to determine whether or not all elements of the *Larocque* funding should be renewed, and therefore we would go seek renewal. We don't know if we would receive it or not. Or if some parts of it could be let go, and other parts continue to be funded.

So I don't have an answer. It's the same answer I gave yesterday.

Q Yes.

- MS. DANSEREAU: And we can't predict the outcome.
- Q And this is an event that will occur six months from now if there's no decision made to renew it? MS. DANSEREAU: Yes.

- Q And my questions are similar to the questions about PICFI.
  - MS. DANSEREAU: Yes. Yes.

- Q How are you going about evaluating this to make an appropriate decision, say, given that it has to be made within six months?
- MS. DANSEREAU: We have in the Department an Evaluation Team. We have both an Audit Team and an Evaluation Team, and they are practised at evaluating programs. There's a framework that they use, and there are modalities that they measure. And then that goes up through our Evaluation Committee and the Evaluation Committee will make some recommendations as to whether or not the program ought to be continued or not. That also then gets reviewed by an external Audit Committee that looks at -- they're not officially required to look at our evaluations, but they do take a look at them to determine whether or not the procedures and methodology were adequate. that's a standard process for us in all of our programs.
- Paul Ryall's evidence on this was pretty black and white. I'm wondering how difficult this decision really is. He says that the test fishing is "integral to gathering in-season information", and it was so important that:

Without this information we would be, I would not say totally blind, but we would be missing how we would conduct fisheries inseason and make decisions to manage [these] fisheries.

That's a pretty stark observation. How hard is this to make a decision on continuing it.

- MS. DANSEREAU: I can't -- I can't speak to that. I think that most people would say the test fishing is important, and I can't presuppose what the outcome of the evaluation will be. But evidence such as that would obviously be included, and but we need to get real evidence as to the value, and if the evidence is there, then we will do what we can to find ways to fund it.
- Q This, the *Larocque* decision was some time ago, and the funding was put in place, I think, for five years and here we are near the end. And I suppose

one might ask so close to the end this is left as a concern and no decision made yet.

- MS. DANSEREAU: It's standard process. The -- all sunsetting programs go through a Treasury Board approval process and that happens at the end of the five years. It's just standard government procedure, and the evaluation occurs in the final year because we can look back and determine what the value of the program or its subparts were.
- Q Will this determination be for a long-term funding, stable funding for the test fishery?
- MS. DANSEREAU: Sometimes it is, sometimes it isn't. Generally sunsetters carry on being sunsetting-type programs. Sometimes Ministers decide that the work itself is valuable enough that it should continue and become stable long-term funding. But the approach, as we discussed yesterday, of reviewing activities on a five-year basis is a reasonable approach for any organization. And so there's no harm really in taking a look every five years to see that the monies are being well spent and spent in the right places on the right priorities.
- Ms. Farlinger, will your advice to Head Office be that this funding should be continued and put on a long-term stable basis?
- MS. FARLINGER: We certainly participate in the evaluation process in the region, and it's certainly our view that in the absence of those test fisheries we would need to have strategies and alternatives in place to manage the fishery that will provide us with adequate information to manage it. But all of that information will be evaluated as part of the ongoing...
- So you would agree with Mr. Grout that this is a fundamental part of managing the fishery in British Columbia?
- MS. FARLINGER: As the fishery is managed today, the test fishery provides key information that feeds management decisions that support the management process approved by the Minister. So as the fishery is managed today, that information is very important to the day-to-day management of the fishery.
- Q And you mentioned a moment ago that if this funding wasn't continued, then an alternative plan for collecting this information will be required.

Do you have a sense of what that alternative might be?

- MS. FARLINGER: I think it would be fair to revert to the Deputy's comment that we're in the process of doing that evaluation, and looking at how the fishery will be managed for next year, and therefore what we would need to do to manage it. Whether we would need to find alternative sources or ongoing sources for this funding, or whether we need to make adjustments to the management of the fishery. So all of those things would be taken into consideration.
- So I take it at this point you have not made a recommendation as to how to proceed in the face of this sunsetting funding?
- MS. FARLINGER: We're participating in the evaluation.
- Q And you have not yet given your evaluation?
- MS. FARLINGER: We work with folks at National Headquarters and the Evaluation Team to provide advice that comes from all of us, which includes the advice of the Region about the practical nature of the test fishery.
- Q And what is your view as to how this should proceed?
- MS. FARLINGER: We're engaged in a process of looking at a variety of alternatives, as we do when we evaluate any program, and my ultimate view will be informed by the process that we're currently engaged in.
- So you have not yet formed a view, I take it then, on what to do about maintaining this important fishery, test fishery after March?
- MS. FARLINGER: All of us are contributing to the evaluation from which all of us will learn from each other and provide recommendations about going forward.
- Another funding issue on research relates to the Qualark fish enumeration site. I think the evidence we have is that this was another project which was not to be funded through 2012, but that the PSC, the Pacific Salmon Commission, has stepped in; is that correct?
- DR. RICHARDS: Yes, that's correct. We do have an agreement with the Pacific Salmon Commission that the Qualark site will be funded through the 2012 season.
- Q Yes. So that's the extent of the commitment from

the PSC?

- DR. RICHARDS: That's the extent of the discussions at this time.
- Yes. What is DFO doing for the long term, given the -- it seems to be a pretty much a pretty widely view that this facility is significant to being -- to in-season management.
- DR. RICHARDS: I think that that goes in the context of the longer-term discussions which Ms. Farlinger and Ms. Dansereau just raised. So I think I'd have to perhaps defer to them. But the issue is really about, I guess, the future here, and at this point we have a commitment through 2012.
- Q Ms. Dansereau or Ms. Farlinger?
- MS. FARLINGER: I'd just say that the Qualark program that was run by DFO, and in fact is run by DFO this year based on Salmon Commission funding, has been and continues to be an experimental program. By and large the views are that there are positive results from this program. We continue each and every year to review the evaluation of the escapement with the Mission program and with the Qualark program, and the long-term considerations have to take both those things into account.

The extension of the program this year was fundamentally based on the concept that that evaluation continues to need to be done, which is the contribution of Mission and the contribution of Qualark, and so that's one of the reasons the program was extended by the Pacific Salmon Commission this year.

- Q Now, you've had advice, I know this, we've heard here at the Commission from both Mike Lapointe from the Pacific Salmon Commission and Brian Riddell, who both described this as critical and an essential site for the in-season management of the sockeye. Do you accept that advice?
- MS. FARLINGER: There are a variety of views on the contributions of the Mission counting facility and Qualark, but it continues to evolve. The Qualark facility continues to evolve, and we will, as we have every year for the last four or five years, continue to take the best information from both of those and make a solution for the following years in terms of how we assess the escapement of stocks.
- Q Given the focus on the in-river conditions with

climate change and other changes, and the advice you're getting from people like Brian Riddell and 3 Mike Lapointe, what is your view about the importance of Qualark? 5 MS. FARLINGER: My view is that there are a wide

- variety of views, and there are still questions about Qualark and there are still questions about Mission, and each and every year we attempt to improve those things to make sure that we have the best possible escapement estimate. That is our objective in any given year. And we'll continue to use the methods, the best methods we can to make that escapement estimate.
- Do I understand, then, from the evidence this morning that the decision on what to do about Qualark into the future is in the same timeframe as the PICFI funding and the Larocque test fishery funding, that is, it's in consideration now for decision by March of 2012?
- MS. FARLINGER: With respect to the actual in-season estimation, it may go slightly later than March 2012. But we'll have to have, as we have every year, the escapement estimation procedures and the various components of the management system in place prior to the -- prior to the approval of the Integrated Fishery Management Plan, which occurs late in the year, June, about June it is, yes. I can't say specifically exactly when it will occur, but will need to have those in place in order to manage the fishery next year.

Brent Hargreaves testified before the Commission 0 that:

> ... selective fishing is one of the most critical things we can still do in the salmon fisheries in British Columbia.

He also said that:

There has...been a lot of research...

On selective fishing since DFO's selective fishing program terminated in 2002. Do you agree, Ms. Farlinger, that selective fishing is a critical tool for salmon fisheries in the Pacific Region? MS. FARLINGER: Yes, I do.

And do you agree that there should be further

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research done on it?

MS. FARLINGER: The research program that was initiated in the CFAR funding was focused on introducing and funding research. Since that time the Department has, in this Pacific Region, has focused on continuing those tests through the fishery management plans. So you will see, for example, the demonstration fisheries that have been conducted under the PICFI program. You will see very practical matters about the redistribution of allocation that results from non-selectivity of certain fisheries when weak stocks are passing. So it's very much a matter of practical implementation and continued testing through the fishery management regime at this point. My question, I misquoted Dr. Hargreaves, his quote

was that:

There has not been a lot of research...

In selective fishing since 2002. Are you suggesting that in fact there has been?

MS. FARLINGER: I am intending to demonstrate that we are testing selective fishery measures through the implementation of the Integrated Fishery Management Plan, so that work continues to test selective measures, and in fact the policy, Selective Fishing Policy, is implemented through the reallocation that occurs when selective fishing measures limit the ability of a particular sector of the salmon fishery to take their allocation.

So yes I am saying that work is continuing. Whether you define it as research, we are looking at methods to practically implement it in the fishery, whether fishermen can use different kinds of gear to avoid weak stocks, whether at the end of the season fish are reallocated to another gear sector because it is more selective than the original allocation, all of those things are very practical measures and work, focus very much on implementing the selective aspects of the salmon fishery.

But one of the issues where research is apparently not being done, according to Dr. Hargreaves, is the question of the long-term survival of by catch as opposed to short-term. Do you agree that that

research is not going on? 1 2 3

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- MS. FARLINGER: There have been some projects focused on bycatch. One I can think of specifically is the recreational fishery for sockeye in the Lower Fraser River, a project that looks specifically at release mortality. So I would say, no, that research has not stopped, or that work has not stopped. It's not always research. Sometimes it's projects, management projects, and I can't at this point give you an exhaustive list. But work does continue to evaluate selective measures for fishing, both in the commercial fishery and in the recreational fishery.
- On the specific issue of long-term survival of bycatch, is there research ongoing on that?
- MS. FARLINGER: I would have to, other than the project I just described to you, which looks at survival of sockeye after it's been released by recreational fishermen, I'd have to ask Dr. Richards.
- DR. RICHARDS: I am not aware of any projects at this time, but most of these projects, as has just been mentioned, have been done as management projects rather than as scientific research. I think you appreciate that the Department is a knowledge organization and there is work that could be called research which is done, which is outside of the Science Branch for which I'm responsible.
- Just coming back to the lines, the questions from yesterday, again this sounds like learning by doing, learning by osmosis, a little ad hoc gaining of information as opposed to a rigorous evaluative study of the issues that surround selective fishing; is that fair?
- MS. FARLINGER: No, I don't think it's fair. the project that I mentioned, for example, was rigorously evaluated. It's done by managers, carried out based on advice by Science staff about how to carry out the study, how to evaluate the Science staff and Resource Management staff, while they may not be focused on a specific research project, work together in-season to ensure that the kinds of studies we do are rigorous and can be evaluated.
- And the study you're referring to is the one in the recreational fishery?
- MS. FARLINGER: That's the one that came to mind at the

moment.

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- Q Are you aware of any similar projects in the commercial fishery?
- MS. FARLINGER: I did make reference earlier to some of the demonstration fisheries, and some of the management actions that are implemented and tested each year in the fishery. And I also made reference to the fact that fisheries which fundamentally implements the policy, fisheries are restricted because of the presence of weak stocks. And there are really a couple of different ways you avoid weak stocks and become selective, and one of those is to restrict the timing of the fishery to avoid the weak stocks. Another of those is to require the use of more selective gear, and there are different aspects of the commercial fishery and their gear that have been implemented and tested to reduce the catch of weak stocks, and those are evaluated. And the third thing, in fact, is to avoid the fishery that causes the interception at all, which is -- so that's a continuum of activities that go on to implement selectivity of a fishery.
- Is there someone in the Pacific Region who is tasked with coordinating all of these efforts around selectivity and correlating and bringing together and evaluating all of the information arising?
- MS. FARLINGER: I think it would be fair to say that Science staff and Management staff are involved in evaluating each of these measures and each of these projects, and evaluating how they can be implemented in following years, either over the long term or for the next annual management plan.
- Q Is there an individual who is a champion of this, or who is coordinating all of this activity?
- MS. FARLINGER: No.
- You mentioned, and Mr. Bevan mentioned also, that without selective fishing, opportunities for fishing will not be there. Can you give me some examples or any example of where the issue of selective fishing has influenced a decision to make a fishing opportunity available or not?
- MS. FARLINGER: I think if you look across the fishing opportunities that are provided to all the gears in the commercial fishery and also to the recreational fishery, and to the First Nations

food, social and ceremonial fishery, there are limitations in time and gear that specifically apply to the avoidance of weak stocks. I could point, perhaps, to Early Stuart sockeye, a stock that has been of concern for some time. Fisheries are avoided on that stock, and are only provided when it's estimated in-season that the escapement targets will be met, and the priorities of the allocation framework are then applied to that.

Chum fishing, for example, is curtailed in

Chum fishing, for example, is curtailed in the commercial fishery to avoid weak stocks, weak steelhead stocks from the Thompson River. There are numerous examples of the specific timing and allocation of fishing times and therefore curtailment of fishing opportunities that are driven by the presence of weak stocks. Yes, fisheries are changed constantly to adjust to that.

- Q The examples you've given are all for avoiding bycatch of weak stocks, and I perhaps naively had in my mind that selective fishing meant something different than simply fishing timing to avoid weak stocks, but rather a way to differentiate amongst stocks, fishing at the same time, through gear choices and that sort of thing. Those are the sorts of tests that I had in mind. Is there any examples of any fishery that's allowed if certain gear is being used, for example, as opposed to avoidance?
- MS. FARLINGER: Yes, there are, and I did talk about a continuum of measures up to -- that sort of range from changing timing, right through changing gear, right through to closure of fisheries. the measures I'm talking about are on that continuum. I think if you point to the example of, for example, in the Lower Fraser, beach seining of pink salmon to avoid stocks of concern, rather than gillnetting of pink salmon. I think you can look at gear changes or behaviour and methodology changes, in the same fishery, for example, that provide for either the release or avoidance of stocks of concern. I think in each and every fishery you can come up with examples. I think there are changes to gillnet gear that have to do with avoiding various stocks of concern when their fishery are prosecuted.

So there are a variety of changes inherent in

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the management of the fishery and are specifically required of each fishery. And in the case of the beach seine fishery that I referred to, we operate these both in the Skeena and in the Fraser River. They are intended to avoid stocks of concern.

Let me move now to another issue, and the issue of some areas of limited research that may be related to the decline of the Fraser sockeye, and we've heard a lot about research into the marine environment, and this I'd like to put to you, Ms. Dansereau, first. In 2009 the Fraser sockeye didn't return from the marine environment as expected, and a 2011 memorandum for you entitled "Update on Factors Affecting the 2009 Fraser Sockeye Return" says in its "Summary" that [as read]:

The poor return in 2009 was most likely related to poor conditions throughout the ocean migration of the sockeye and climate/ocean conditions are also thought to be the most likely factors associated with the longer term decline in Fraser sockeye.

Given DFO's view on the importance of the marine environment on sockeye survival, why have scientists told us that there is very little known and little research underway on Fraser sockeye marine survival? Ms. Dansereau.

- MS. DANSEREAU: I'm sorry, I missed the tail end of your question.
- We've heard from scientists throughout that little or nothing is being done in terms of research into marine survival, yet it's identified as both in the context of the 2009 serious decline and the overall decline over the last decade or so, 20 years.
- MS. DANSEREAU: I would -- I will defer to Dr. Richards to answer sort of on the priority setting of Science. But as we've discussed over the past day or so, and you've heard for the past year, science evolves, science changes as new information comes in, priorities shift, and so where we may have put our energies five years ago, we might put them in a different place now as more information becomes available. So it's all part of the priority-setting exercise and a recognition that we have

some ability to do research far off where the salmon go, but we also have very significant knowledge gaps as to even how to get that work started. But what I would do is take the advice of our scientists in terms of what the next best approach would be to start addressing some of those questions.

Q Dr. Richards.

DR. RICHARDS: Mr. Commissioner, I think I take objection to the statement. I think we have done a considerable amount of research in the marine environment. It is true we don't have a lot of answers, and it's true that work in this area is very, very difficult and very challenging. We're dealing with a very large ocean area. Access to work on that ocean area requires vessels.

We have one trawler that we have been using, and probably almost half the time of that trawler has been spent focusing — or maybe half to a third of the time of the use of that trawler over the last probably decade has been spent on projects related to salmon overall. And when I say "salmon", we don't design our studies to focus in the marine environment on Fraser sockeye. We have to look at this in the much broader context of all salmonids, where all salmonids go when they enter the marine environment.

But we have been spending I think a considerable amount of our ship resources on trying to answer that question and trying to get a better understanding, but it is very, very difficult and challenging to follow salmon at sea and to understand what -- and to understand where they're going, and to really try to answer these questions on survival.

In order to help us, we have been working internationally. We are part of the North Pacific Anadromous Fish Commission. In that context we would work with our colleagues in that Commission, and in particular with the U.S. in trying to understand this process. They have also been active in trying to look at this question by using factors like archival tagging, where you're able to put a tag on a salmon and then recapture that salmon at a later time and be able to then track and figure out its position in the ocean, in the North Pacific Ocean. So we are in contact with

them. We do have access to that information. We are also working in conjunction with others through PICES, North -- I'm silent here... It's hard when it's not the actual acronym. ICHARDS: Yeah, I know, I know, but I do know this organization very well, North Pacific Marine DR. RICHARDS: Science Organization, and in the context of that organization there have been a number of studies that have been looking at the effect of climate changes in the North Pacific, on the ocean variability, how that then relates to salmon, as well as other fish. And so we have been very active in doing that, and there are some aspects of that organization right now where their focus for the next ten-year period is really going to be on how we can improve forecasting, how we can improve prediction of climate in the marine environment, and how that's going to then translate back into things like impacts on our fisheries resources. So while we have a lot, a lot of outstanding

So while we have a lot, a lot of outstanding questions on this issue, we have been active in trying to gain access to that information and we have been very active in that research area.

Yes, Mr. Bevan.

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MR. BEVAN: If I could just add a little bit to that. Similar problems also were found in the North Atlantic with respect to survival of salmon at sea, and there was collaborative work done there with all the members of the North Atlantic Salmon Conservation Organization to try and pool resources to get to ask the questions of why marine survival of Atlantic salmon in the Atlantic had also shown declines. That work is ongoing.

It's very expensive, as noted, to get ships at sea, so it's something that we have looked at as a collaborative international arrangement.

And I would also note that in light of the common experiences in the North Pacific and the North Atlantic, there was a symposia here in Vancouver of the various salmon commissions to compare their information at the time as to why we were all seeing the same patterns of marine survival changes throughout the northern hemisphere.

Q Thank you, Mr. Bevan. If I may come back, Dr. Richards, you've given us a rundown on some of the

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things that are going on. I just want to tick off a few areas and ask whether or not there's an research going on in them. is there any work going on currently at DFO to understand the timing entry into the Strait of Georgia for Fraser River stocks?

- DR. RICHARDS: Yes, and I quess I have to say that the particular way you phrased the question is it's not that we're doing a project with that particular focus on its research, but we certainly are doing projects which will help us try to address that information. I think I mentioned that we did initiate some work where we're looking at the health of juvenile salmonids in the Strait of Georgia, and as part of that project we are doing some repeat surveys, and that information along with some additional survey work in the lower river will give us some information on timing. But we're not having studies that are directed to answer specifically the timing, but we are doing work that will help us understand the timing as part of a broader research program.
- Is any work being done to understand which stocks migrate on the West Coast of Vancouver Island as opposed to the Strait of Georgia?
- DR. RICHARDS: Mr. Commissioner, the issue of where stocks, which stocks go when, I think is a very challenging research question. So I -- and I think there would be some interest in trying to --I mean, I think we appreciate the importance of getting some information on that topic. But again it's a very challenging question in order to try to design studies to do that precisely. Some of the work I just mentioned will indirectly give us information on that. We do have surveys going on where we are catching juvenile salmonids. We have stock identification tools which will allow us to then trace those and look at those samples, and try to figure out what stocks are in those specific samples, that we can then go back and infer that kind of information. But again we don't -- aren't planning studies to do that explicitly.

There is a little bit of work I think that's going on this year, and it has gone on in conjunction with the POST, which will give us some information on that. But again that's only for a

limited sample size of the fish that we were able 1 to, on which we were able to put tags. 3

And those are all hatchery fish, correct?

- DR. RICHARDS: I'm sorry, I don't know precisely. didn't think so. I don't think so, but I'm not familiar with the precise details.
- What work has been done on the life history of the Harrison River stock in the marine and estuary environment?
- DR. RICHARDS: Okay. Again, Mr. Commissioner, that's a very specific question, and we don't intend to do work on specific stocks of salmon. Obviously there's been quite a great interest in the Harrison because of its different life history, but we would be getting that in conjunction with a broader project that would be looking at all salmonids in the Strait of Georgia. And all salmonids, and not just sockeye, either.

Yes.

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DR. RICHARDS: Right.

- Is any work being done on where Fraser River stocks go once they leave the -- sockeye stocks, once they leave the north end of Vancouver Island?
- DR. RICHARDS: Again, that's part of the same answer. We do have some ongoing work that has been done under Marc Trudel who has been doing some repeated survey work that would go north of -- they would go along the West Coast of Vancouver Island, north into Queen Charlotte Sound, and further north. will be doing some samples and collecting some information, so and with that we will be able to again get the stock identification from those samples, and then have some of that information.
- Am I correct that Dr. Trudel's work is not directed at sockeye?
- DR. RICHARDS: Dr. Trudel's work is directed at more at salmonids in general, and I say all the work we're doing is looking at more than just Fraser sockeye. We're looking -- we're doing projects that look at salmon in general, and obviously we have interest in what's going on with stocks of sockeye other than the Fraser stocks.
- So to all of your answers on that work that's being done relates to salmonids in general, and I think a number of your answers suggest that some information may be indirectly obtained, but the research I've suggested isn't being specifically

directed.

- DR. RICHARDS: I think we have -- I mean, we are -- we need to do -- we need to do our work in a broad context. You know, obviously we're interested in what's going on with Fraser sockeye, but it's also very helpful if we can look at what's going on in Fraser sockeye in the context of what's going on with other stocks of sockeye and with other stocks of salmon in general, because the ability to compare and contrast is very powerful in science.
  - Is any work being done to understand where the stocks reside in their first year of marine life, whether they stay together and whether they reside in particular areas along the coast, mixed with other stocks or independently?
- DR. RICHARDS: Well, I think the studies that I just mentioned again will give us some of that information, give us some of that information indirectly. But we will be trying to get information on that. We'll also be getting information on their growth. And from the repeated samples we may be able to infer some information on survival, though that's a little less clear. But we will be looking at all of the information that we get from those, including the stock composition.
- Q Is Canada doing any research on the impacts of -on the Fraser stocks of hatchery-released fish in the Gulf of Alaska?
- DR. RICHARDS: So let me try to understand your question. I think your question is whether there's some kind of competition going on between hatchery stocks and other stocks of salmonids in the Gulf of Alaska, generally?
- Q Yes, that's been suggested.
- DR. RICHARDS: Certainly there has been a lot of interest in that question within the North Pacific Anadromous Fish Commission. In the past there have been I think a number of scientific symposia where that kind of theme has been raised. But again the North Pacific Ocean is an extremely challenging and difficult place to work and, you know, we would like to be doing more there, but we're really limited in what we physically can actually do in that area and how you can actually design those kinds of experiments. So, you know, if we're in there, in the North Pacific sampling,

we will collect samples. We may, again we'll be able to do the stock composition. So we will know whether those are wild or hatchery stocks from the stock identification information, you know, we hope. But -- and then it would have to more inferential from there.

But it's not a situation we're really able to do really direct experiments and, I mean, we know it's a question and we'd be interested in looking at it, but it's -- but these are really hard questions.

- I appreciate that. But the evidence that the Commissioner has heard is that this seems to be the area of most concern.
- DR. RICHARDS: It certainly is an issue that has been raised. It's an issue of which we're aware, but, you know, there are some of these questions where we just the answers, even though we would like to study them, to design an experiment, to be able to go there and actually look at that, is very, very difficult. Certainly we have tried to look at those kinds of questions and work with our international colleagues to try to answer those questions to the best we can with the data, but again, it's very, very difficult to really design an experiment or collect those data, because it's very, very difficult to do anything in the middle of the North Pacific Ocean.
- Q Let me just canvass for a minute the concept of just how hard it is and whether or not there are some avenues that have not been explored that might be. Dr. Tim Parsons testified, he's a Professor Emeritus at the Department of Earth and Ocean Sciences at UBC, and he testified that there are technologies available that might well be useful, and here's what he said:

There are new instruments, gliders, that go 1000 miles into the ocean and come back with all kinds of data. We've talked about satellites. There's electronic tagging, the Argo Float Program, and best of all for me would be a satellite that could measure the amount of --

- I never get this word right -

September 23, 2011

-- diatoms in the sea. If we have those data coming in, we can make a diagnosis that the ocean really does look good for salmon this year.

Are you aware of these technologies, have you looked into them to do some of this difficult atsea research?

DR. RICHARDS: Okay, that's a much more general
 question, and your previous question was a very
 specific question.
O Yes.

DR. RICHARDS: Okay. In terms of this more general question, absolutely, you know, we are very aware of these technologies, and we are working on some of those. In fact, Canada was one of the major promoters of the Argo Program, and was one of the major instigators to get that, and get set up. now have over 3,000 robotic floats peppered throughout the world's oceans. We've had that information now for a couple of years, and that's certainly a tremendous wealth, a tremendous wealth of data that we're getting on the physical properties of the -- of all oceans of the world, which will be very helpful for us in understanding things, well, feeding into questions on climate change and perhaps making longer term weather

forecasts more likely.

So we're very aware of that information and we are certainly wanting to, and in fact some of our scientists are in fact leading some of those projects. So, yes, we are very much aware of those technologies and using them to the extent that we can.

Q One of the issues which has been mentioned, and it came up again today, is the limited ability and the expense of dedicated ship time and trawlers, and I understand DFO has in the design work a research vessel which is the planning stage. What investigation has DFO done to see whether or not there are other ways of collecting data, for example, using people who are there in any event, volunteers or perhaps on a contract basis, ships that are travelling to an area where there's information that would be useful to you.

DR. RICHARDS: I mean, I think it very much depends on the kind of question that you're asking. If

you're asking about questions about more generic oceanography, and questions about what's out there in the food chain, we do have some other things. We are in fact using some ships of opportunity on one of the programs. We have a continuous plankton recorder program, where we have an installation that has been on sort of cargo ships that have been going back and forth across the Pacific Ocean. And we have been getting over -it's over a 10-year period now, information that is useful in looking at some of the plankton community in the surface layers of the North Pacific Ocean. And we're now at a point where we can start to analyze some of those data and look at some of the changes in both space and time changes within the plankton communities, which is part of the food chain that will be for salmon. So that is one place where we're able to do that in terms of the broader North Pacific Ocean.

We are very much through PICES, through the North Pacific Marine Science Organization, engaged with colleagues in the U.S. The U.S. obviously have a big interest in what's going on in the Gulf of Alaska, in the North Pacific Ocean, and also in the Bering Sea. And so we are certainly working with them in the various different working groups under different organizations so that we can stay current on some of this information, and that we can then -- and we use that in terms of our thinking and project design.

So there is a lot of work that's going on there, and we are using some of these tools. We're using satellite technologies, you know, satellites, does depend on the fact that we can actually see the surface of the ocean and clouds are a problem with satellites, and unfortunately the North Pacific tends to be cloudy a lot of the time so it is a bit limited. But we certainly are aware of those other technologies, and will use them to the extent that we can.

- Q Have you sought advice from your scientists as to the sort of opportunistic projects that might be available?
- DR. RICHARDS: Absolutely. Absolutely. I think scientists in general are very good at coming up with those kinds of ideas and finding examples of partnerships, and being aware of what else is

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going on in the scientific community so that they can engage, and that we have an opportunity to leverage some of the work that we're doing with work that other partners are doing.

- We've in the course of this Commission have asked researchers about their priorities in terms of marine area research, and some answers have been received. Dr. Beamish and David Welch prioritized estimating stock abundance juvenile salmon fish, leaving the Fraser Estuary. Dr. Beamish described as "invaluable" and his "highest priority". Have you asked your scientists for their priorities on marine research and been provided with advice?
- DR. RICHARDS: I have asked my scientists for their ideas on a lot of research areas and I have advice from them. And I do look at that advice. But I need to take that in conjunction with the kind of the management questions which my colleagues are going to pose to me, and then also -- and so it all needs to be prioritized.
- Q Indeed. And so between the advice from your scientists and the instructions or advice from management, what are your marine or your -- the Science's marine environment research priorities?
- DR. RICHARDS: Well, I think I can tell you, I mean, some of the work that we're currently doing, and we are -- and it's a little bit difficult for me to answer this question directly, because there's a lot of work that we are doing that which some might consider monitoring more than research. a lot of the work and a lot of the work that we do, is really perhaps more monitoring. So if I think of the work and the studies that Dr. Beamish and Dr. Trudel have done, they are collecting long-term survey data, and that information makes sense a lot of the time in the context of when you have a long-term data series so you can compare what happened, and as to this year with past years, give you a sequence and trend. So a lot of the work is really trying to get base monitoring data and then we try to leverage those opportunities with other kinds of more perhaps sort of research questions.

And so it's really, I think the point is, we have some ships that are out there doing this monitoring. We need to continue to do those monitoring projects to the extent that that's

practical. What else can we be doing, and can we be getting -- are there any other samples, should we be leveraging that with some other oceanographic data. Those are the kinds of things that we would be looking at.

Can you be more specific about what priorities

- Q Can you be more specific about what priorities you're pursuing in marine research? And I include monitoring in that.
- DR. RICHARDS: Okay. Well, I think our program on marine research is like everything else we do, is focused much more broadly than just Fraser sockeye. So we do have programs that are looking at, you know, the oceanography of the North Pacific Ocean. We do have some long-term survey series. For example, we have been going out to Line-P in the middle of the North Pacific Ocean, that's for over 50 years, and the fact that we've been able to maintain that program over that long period of time is now giving us a wealth of data that we're able to look and then compare with what's happening today, what are the water properties today, with what were the water properties 50 years ago. And then what is that perhaps then telling us about the future.

We are very involved in the Argo project that we just mentioned, that again is bringing us a wealth of scientific information. We would certainly intend to the extent possible continue some of the routine surveys that we're doing that provide us the base monitoring of salmon, and other similar surveys, where we're looking at monitoring of groundfish in different parts of the Coast. Because those sort of fundamentally fit into the kinds of advice that we will need to be providing to our fishery managers, and then we would use those as opportunities to do -- collect other data that could vary a little bit from time to time, depending on the priorities of the day.

- Q So are managers also telling you that more research and monitoring is required in the marine environment?
- DR. RICHARDS: The managers are more likely to ask us more sort of directed questions about providing advice on the status of stocks, and it's really the monitoring is a way that we are able to provide that information to them on the status of stocks.

Q And this is marine monitoring.

DR RICHARDS: Marine and -- marine

DR. RICHARDS: Marine and -- marine, and in the case of salmon that also would apply to the escapement enumeration and estimates on the spawning grounds, which are also extremely important in getting that information.

One of the issues that was identified in the memorandum in 2009 to the Minister and repeated in the 2011 advice to you, Ms. Dansereau, were harmful algal blooms, and that these toxic algal blooms was listed as a factor that could have been — could have led to the sockeye mortality at the level observed in 2009. Dr. Richards, that the 2011 memo continues to list the toxic algal blooms as a concern, however, we've heard that Pacific Region of DFO is not doing any research on this topic. Why is that?

DR. RICHARDS: Shall I answer -- okay.

Q Please, Dr. Richards.

DR. RICHARDS: Well, there was a decision that was made in one of our previous round of funding reductions that we would not continue to do research on some toxic algal work. So that, and in fact as we look at that back, I mean, we have to make choices as we go through, and we have to make choices about what to continue and not to continue. And this was a decision that was made in the context of the previous national review, that was about five years ago, that that would be one thing that we would not continue doing in terms of the pure research in that area. And, you know, all of these things have to be made and looked in the context of the risk, and what are the potential consequences.

Certainly our focus has been on fish, and we're not -- we have not been aware, you know -- certainly we're aware that there are toxic algal blooms, but we haven't been aware that there were concerns with toxic algal blooms related to wild fish populations. And I think the evidence that you did hear already, Mr. Commissioner, from Jack Rensel, would indicate that while that information's suggestive, it's not still, you know, definitive that there was a link.

So it's a possibility, but -- but the question was really related to research. There is still some monitoring that goes on, and there are

some things that we are doing. We are able to get some of that information from satellites. So we do have some satellite information, which we have been looking at, which has been following some blooms. So we're able to look at blooms, not just of toxic algae, but also of other algae blooms, because there's other kinds of diatom blooms that are also perhaps of interest. That is a bit limited, as I mentioned, by the fact it's often cloudy in the summer so we can't get precise information on that, but we do get some information on that.

Given this interest in this program, we were able to, I think, collect some samples this summer which will be analyzed by Vancouver Island University, so we are trying to collaborate and work in cooperation with others in trying to leverage some of our opportunities -- some of our sampling opportunities to work with others. So there is some information that we're getting, although we don't have a directed program.

- Q The decision not to fund research into toxic algal blooms was made, I think, in 2006; is that correct?
- DR. RICHARDS: I'm sorry, I don't recall the precise number but it was around that -- or the precise date, but it was around that time.
- Mr. Lunn, could we have Commission's document 22, please, which the 2009 memorandum, it's Exhibit 616A. And if could go, please, to page 2 of that document. At the bottom of the page it says:

The following factors could possibly have led to sockeye mortality at the scale observed:

And the first identified is:

Toxic algal blooms in the Strait of Georgia.

That was in 2009 that same heightened level of interest was in the memo of this year to the Deputy Minister. In that context, I guess I'm confused as to why this hasn't been increased in importance in things that DFO is studying.

DR. RICHARDS: I mean, I think it's in part, you know, a question of what is meant by additional work. Some of the work and some of the programs that

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have been done on toxic algae were really done in the context of human health, and concerns about -- related to human health. And so that is not an area that we -- is currently, you know, a consideration for us. That's really an avenue for other -- other Departments, not our Department. So that's -- that is what the old research had been, was really focused on that kind of topic. So I think it's a question that's really sort of what is meant by research in a research program specifically.

In this case we certainly were aware that others and particularly Jack Rensel had information on this topic. And I think, you know, we don't feel like we need to do everything ourselves within the Department where there are others who have data and working on that. You know, we will try to stay informed on this and try to work with them to the extent possible, but we don't really feel that it's really necessary for the Department to do absolutely everything.

- Q Dr. Rensel's work is not in the Strait of Georgia, is it?
- DR. RICHARDS: No, I think it was mostly in Puget Sound.
- Q So the issue -- here the issue has been identified, Strait of Georgia is right at hand. Why would you not have pursued it?
- DR. RICHARDS: Well, as I mentioned, this past summer we have collected some samples, and we are trying to work in conjunction with Vancouver Island University, and others. But again there are other -- I think it's a question of even if we pursue it in the context here, where would it really be going in terms of the management advice? What would we be doing? How would that -- I think this is really a question we're looking at feeding into how we would then provide advice back to management. I'm thinking that I think in our view that there are other avenues which would be more informative to our advice to management than this particular topic. It's not that it's not a possibility. It's just that even if it were a possibility, you know, what we could do about it is really more limited, rather than some of those other questions.
- Q Well, Dr. Rensel did testify that there may well

be mitigative measures that could be taken on 1 toxic algal blooms, so presumably there is some 3 management advice that could flow from this. DR. RICHARDS: That may be, but I think that would not 5 be the kind of work that we would be involved with 6 in terms of the Fisheries and Oceans Canada. 7 we need to be focused on the things that are 8 within, really within our control and mandate. 9 Okay. So nobody is studying this in British 10 Columbia at the moment, and do I take it that it's 11 not considered a priority, even though it was 12 identified as recently as a month or two ago as 13 being a significant possibility for the long-term 14 decline of the sockeye? 15 DR. RICHARDS: I think we are, as I mentioned, we are 16 still getting some information and it's not that 17 we're not doing -- we are doing some work here. 18 We are collecting some samples on this. 19 doing some monitoring. So we are collecting some It's just that we do not have a 20 information. 21 targeted research program on this particular 22 topic. But we are working with others. getting some information. 23 24 And how is this information being used? Is there 25 somebody responsible for coordinating this 26 research and advancing our level of knowledge on 27 this issue? 28 DR. RICHARDS: On toxic algae in particular? 29 Yes. 30 DR. RICHARDS: Well, I'm trying to -- I guess I'd have 31 to answer no, there's no specific person involved 32 with this, but we are -- there are certainly a 33 couple of people that I would use to direct 34 questions on this issue, one of which would be Mr. 35 Robin Brown, the other, Mr. Mark Saunders. 36 MR. WALLACE: Mr. Commissioner, it's 11:15. Would this 37 be a convenient time to break? 38 THE COMMISSIONER: And what time remaining do you have, Mr. Wallace? 39 40 MR. WALLACE: By my estimate, half an hour. 41 THE COMMISSIONER: All right, thank you. 42 THE REGISTRAR: The hearing will now recess for 15 43 minutes. 44

(PROCEEDINGS ADJOURNED FOR MORNING RECESS)

(PROCEEDINGS RECONVENED)

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THE REGISTRAR: The hearing is now resumed. 1 2 MR. WALLACE: Thank you, Mr. Commissioner. 3 4 EXAMINATION IN CHIEF BY MR. WALLACE, continuing: 5 6 It's become clear, I think, that dealing with 7 funding challenges in every area of DFO are 8 serious and Science seems to be one of the more 9 particularly serious. This was discussed in a 10 document which is Commission document 27. 11 MR. WALLACE: Can we go to the substantive document 12 which is beneath that further? It's the attachment. Oh, there we are, thank you. 13 14 Ms. Farlinger, can you identify this document? 15 seems to have come from your cache of documents. If I could respond, this was a document 16 DR. RICHARDS: 17 that I wrote. 18 Perfect. 19 DR. RICHARDS: So I am the author. 20 MR. WALLACE: May this be marked as the next exhibit, please? 21 22 THE REGISTRAR: Exhibit 1918 (sic). 2.3 EXHIBIT 1917: Email from L. Richards to S. 24 25 Mithani, Jun 13, 2010, with attachment: 26 Science Pacific Region: Budget Impacts 2010-27 2011 28 29 MR. WALLACE: Thank you. 30 This is a document entitled "Science Pacific 31 Region, Budget Impacts 2010-2011". It describes 32 the budget challenges faced by DFO Pacific. In the "Overview of Impacts" section, it says: 33 34 35 Some programs depend heavily on national 36 competitive or other non-A-base funds... 37 38 And that's at the bottom of page 1. The budget 39 impacts would be: 40 41 ...managed through general reductions... 42 43 As a result, it says: 44 45 Impacts will often materialize as lower 46 quality science advice in subsequent years. 47

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So this creates the need to manage with more scientific uncertainty and it looks as though you're preparing for more challenges in the future. So my question, Ms. Dansereau, for you, is it acceptable to cut scientific funding with the expectation that the quality of scientific advice relied upon by DFO managers will be eroded, they'll be managing with greater uncertainty in the future?

MS. DANSEREAU: As we've discussed earlier, it is acceptable for governments to look at their fundings, to look at the funding on a yearly basis all the time. Whether or not that results in lesser science or lesser quality science or reduced amounts of science I'm not sure it's always the case.

One of the areas that you'll notice in this document that's talked about is the request was to look at efficiencies, and that's always our first request. We don't go to priorities and ask for priorities. We ask -- clearly the Science group was asked to look at its priorities and to evaluate those against the amount of money available. So we try and protect the science and the information that we need within the budget amounts that we have, and we do everything we can to look for other types of efficiencies to find our savings.

We also, as we've said for all of our program areas, we need to constantly make sure that what we are doing is what is still required to be done and I would say in Science, as in everything else, there are sometimes projects that we are doing that no longer fit with what is absolutely required and sometimes those things could stop being done.

Now, there's a real caution on the part of scientists when their budgets are being cut, there's no question about that. There's a nervousness around the impacts that this will have on the quality of their work, but they are extremely professional and they will look into areas that don't have an impact on the quality of the science.

I appreciate that you try to manage the resources as best you can and you've described how you try to prioritize these things. I'm looking at this 32
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more as to whether or not we've gone as far as we can go, and maybe too far.

Just for a couple of contextual things, we've heard it said throughout that DFO is a science-based knowledge-based department, and we've heard a great deal about the inter-relationship between Science and management in DFO. You overlap on that the precautionary principle, a principle which is accepted in overall Canadian government policy and mentioned in a number of specific policies within DFO, and its connection to this is the less information you have, the less certainty you have, the less exploitation you can have, for example. You have to behave in a way that protects these things.

Given that context, is it good enough to simply allow this to erode? Once you've gone beyond your very careful prioritizing, and obviously governments have to do their very best with resources, but at some point don't you have to say this has gone too far?

MS. DANSEREAU: I suppose if we reach that point, yes.
But it is a constant exercise, or should be a
constant exercise, in government to review where
the monies are going. That should apply to all
programs so that Science should be ensuring that
the very best information is available, and
potentially stop doing certain things that are no
longer required. There will always be some of
that. There will always be a need for priorizing,
shifting areas, letting some things go, and that's
why we let Science itself tell us what they think
the priorities ought to be.

But it should be a matter of regular course. Whether or not it results in reductions or, as we've said before, in some cases it could result in increases. It's a normal part of doing business.

- Could we have Canada's document 23, please?
- THE REGISTRAR: Excuse me, Mr. Wallace --
  - MR. WALLACE: Oh, I'm sorry, could that last --
    - THE REGISTRAR: My apologies. That last document should have been marked as 1917.
    - MR. WALLACE: Thank you. This is document 23 from Canada's list of documents.
  - MR. TAYLOR: Just on 1920 -- 1917, is it the entire tab that's the exhibit?

- MR. WALLACE: Yes. It'll be the covering emails plus the attachment.
  - Ms. Dansereau, this is a document that describes you as the Deputy Minister, Champion of Science and Technology. It says here that you are charged with strengthening the capacity of federal science and technology in support of government priorities. So this is a government-wide obligation or opportunity that you have, correct?
  - MS. DANSEREAU: Yes.

- Q Given that, does that not even make more important, in your view, the needs of Science in DFO?
- MS. DANSEREAU: I have never said that the need for science in DFO is not of paramount importance. I think where there is a difference, perhaps, in the points of view, is that I don't necessarily equate constantly providing money as a solution. We need money, we need base funding, we need budgets, but for me, managing those budgets is as important as having the budgets in the first place, and that's what we're talking about here.

So to be the champion doesn't mean that I will be knocking on Treasury Board's door asking for more money for Science. It will mean that I'll work with scientists across the system to make sure that we have the tools and the abilities to properly priorize the work that is being done against the priorities that have been established by the government in the Speech from the Throne and/or in the budget speech.

So it's simply a matter of providing some support to the scientific community as opposed to being the champion that goes knocking on the door for more money.

- Q Are you knocking on the door for more money for Science in DFO?
- MS. DANSEREAU: No. No, we are currently in a budgetcutting exercise as you know.
- Q Are you seeking to preserve the status quo with funding for Science in DFO?
- MS. DANSEREAU: We function, as I think you know, from an outcomes focus, and we, as I said in -- when we talked about the Habitat Policy, what really matters is achieving the outcomes. We are given a certain number of resources with which to achieve those outcomes, so we have to organize ourselves

in such a way as to be able to do that. I don't start from a dollar figure. I start from a desire and the responsibility and a duty to achieve outcomes.

MR. WALLACE: If we may go back to Exhibit 1917 for a

moment, please, Mr. Lunn. Oh, thank you. Before we do that, could we mark Tab 23 in Canada's documents with respect to Ms. Dansereau's role as Deputy Minister, Champion of Science and Technology, as the next exhibit, please.

THE REGISTRAR: That will be marked as 1918.

EXHIBIT 1918: Role of the Deputy Minister Champion of Science

MR. WALLACE: Thank you.

And going back to 1917, I wonder, Ms. Richards (sic), if I could direct you to page 3 of that document. This is set out as your appreciation of what various goals, budgetary constraints would provide you for 2010/2011. So that's the current -- that's the last fiscal year.

DR. RICHARDS: Yes. This is not for the current fiscal year. This is written --

 This is the one immediately past.

 DR. RICHARDS: Yeah, yes.

And on page 3 under heading 5, there's an \$800,000 reduction which you then look at in the context of cancellation of salmon monitoring programs. Did in fact Science suffer that \$800,000 cut and were these monitoring programs cancelled?

DR. RICHARDS: I think I'd like to provide, if I might, just a little bit of context around this document. I mean, every year we always have some funding challenges, and every year we are asked to propose what we would do if our budgets were reduced by certain amounts.

So we go through these exercises, Mr. Commissioner, and I consult with my staff and we come up, as best we can, with -- taking into consideration the priorities, we come up as best we can with a list of proposals that we would put forward for consideration.

 In this case, we went to the group who was doing enumeration and we had a very formal process to rank all those programs and so we then looked at that ranking and then basically looked at the

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amount of money and then proposed cutting those programs that were deemed to be the lowest priority of that set.

Now, the process is we then go and then we develop these lists. I then submit that, we then have some discussion, I had some discussion with my national colleagues around these proposals and I think it was deemed last year that, in fact, these were not appropriate to be reduced and in fact there was some flexibility that was found through the Assistant Deputy Minister of Science and through my colleagues in national headquarters region, and who were able to provide me with funding which did offset this. So we did not have to take those cuts that were opposed (sic). So this was a proposal, but in fact we did not make these reductions.

- Q Have you given similar advice for the coming fiscal year?
- DR. RICHARDS: We go through similar exercises every year. I can't remember precisely whether I went through an exactly similar exercise this year, but we did go through some exercise and look again at some reductions that we might have to have because, you know, we always -- well, I think you very well know that Science can always spend more money than we have, and that's just the way that science is. So it's always a question of trying to prioritize and look at this.

We did go through a bit of an exercise this year and we did look at what we might need to reduce, given the initial budgets that we were under discussion, and we had a very similar discussion with our national headquarters region and said that in fact some of the reductions that we might need to take were more than were appropriate. So again, we did get some extra funds this year based on that consultation and the process that we underwent.

- Q Did a reduction or cancellation of salmon monitoring programs occur in this fiscal year?
- DR. RICHARDS: Well, in fact, because we have different programs each year because the different groups that come back are coming back in different proposed strengths so we don't tend to do exactly the same programs every year. So I don't think I've got a precise answer to that because we would

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normally plan a slightly different suite of programs in different years, depending on which runs were coming back and the various abundances projected for those different runs.

We have to do, I think as you've heard, we have to do different kinds of programs so we depend on the abundance of different stock groups come back and so those programs are not precisely the same year to year. So I think we were not looking at the same magnitude of issues that we had last year.

The issue that we were looking at in 2010 was because we had such a very, very large run and when we have an extremely large run -- well, in fact, the cost of monitoring is in some sense proportional to the size of the run. So when we had that extreme return and very large run, it cost more to monitor that run. We were not looking at the same magnitude of return this year and so the projected costs to monitor would be less.

- Were any salmon monitoring programs cancelled because of lack of funds in 2011?
- DR. RICHARDS: We always go through a prioritization process and I think staff would always, every year, like to do more monitoring than we do, so I think we were comfortable this year that we dealt with the highest priority programs, but there are always, every year, more programs that we could do for not just sockeye, but for all stocks of salmon.
- So I take it that there were some salmon programs that were cancelled this year.
- DR. RICHARDS: There is a longer list of programs every year than we actually deliver, but I think this year we felt comfortable that we dealt with the highest priority of the enumeration projects that we had to do.
- Q The last paragraph, the last bullet under section on page 3 is that this reduction would bring about limited or no assessment could -- sorry, a lack of an assessment:

...could impede implementation of the Wild Salmon Policy and the Sustainable Fisheries Framework. Fisheries may no longer be viable if exploitation rates are reduced due to

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1 higher uncertainty. 2 3 Did the cuts or the budget in 2011/2012 4 produce that same risk? 5 DR. RICHARDS: As I just mentioned, in fact, the 6 programs that we feel comfortable that we were 7 able to achieve this year the highest priority 8 programs. 9 Q But my question is quite specific. 10 specific programs you mention there, 11 implementation of the Wild Salmon Policy, 12 Sustainable Fisheries Framework, and the reference 13 to specific fisheries which may not any longer be 14 viable if exploitation rates are reduced to 15 greater uncertainty. Did any of those three 16 specific outcomes occur as a result of budget 17 constraints in 2011/2012? 18 DR. RICHARDS: Not to my knowledge. 19 But you're not sure? 20 DR. RICHARDS: Well, you're asking the scientist and 21 this is a management question about the outcomes 22 of the science, so to my knowledge that we 23 provided all the important information that was 24 requested by our management colleagues. 25 And again, this paragraph is written in the 26 context of not just Fraser sockeye, but we're 27 really thinking about some other programs on 28 chinook, coho and other species of salmon. 29 Ms. Farlinger? 30 MS. FARLINGER: The implementation of the Wild Salmon 31 Policy continued as planned, as did the 32 implementation of the Sustainable Fisheries 33 Framework. There were no exploitation rates 34 reduced due to higher uncertainty in this year. 35 Ms. Dansereau, do you agree that DFO should be 36 investing in long-term monitoring of factors that 37 may affect sockeye, whether it's pathogens, 38 contaminants or other things? 39 MS. DANSEREAU: I agree that I should be receiving 40 advice from our scientists and our program

Q Dr. Richards?

else.

basis.

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DR. RICHARDS: I mean, I think I certainly concur with

managers to make sure that we put our investments

the future, whether that's monitoring or something

That, I would look at on a case-by-case

in the right places to protect the fishery into

the answer that you just heard from Ms. Dansereau. We do need to look at things and continue to be challenging and making sure that we're doing the best we can. Just because we did this program this way in the past doesn't mean that we need to continue to do that program that way in the future. We do need to be cognizant about the priorities and also take into account changes in technologies as you already mentioned earlier today. 

- Q But you do agree, I take it, that it is DFO's role to build this baseline understanding over the long term.
- DR. RICHARDS: Well, I think it's DFO's role to continue with that baseline understanding, but not just on Fraser sockeye, but it's really more generally about the fisheries ecosystems in British Columbia and the Yukon.
- Ms. Dansereau, do you agree that this is part of DFO's role, to build this baseline understanding for sockeye and other species?
- MS. DANSEREAU: I agree that it's certainly our role to make sure that we know as much as we can about the species, again, whatever methodology is used depends on the era that we're in, and so science changes. Yes, we need the information.
- Thank you. Ms. Dansereau, moving onto something completely different, have you directed the Pacific Region to engage in a process with First Nations to develop a co-management structure that would involve First Nations with DFO in the management of Fraser sockeye?
- MS. DANSEREAU: The Region has been doing that kind of work, started long before I arrived. It didn't take my direction to do that, and it's ongoing piece of work as defined in the Wildlife (sic) Salmon Policy, but also as part of our regular way of doing business across the country.
- MR. WALLACE: Mr. Commissioner, I'm done except for two housekeeping matters. We have c.v.'s marked as exhibits for Dr. Richards and Ms. Farlinger, but not for Mr. Bevan or Ms. Dansereau. So I wonder, please, if you could bring Commission document number 3 on the screen, please?

Mr. Bevan, is this your curriculum vitae?

MR. BEVAN: That is correct.

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

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1 exhibit? THE REGISTRAR: Exhibit 1919. 3 4 EXHIBIT 1919: Curriculum vitae of David 5 Bevan 6 7 MR. WALLACE: And Commission document number 4, please? 8 Ms. Dansereau, the picture tells us, I think. 9 that your biography? 10 MS. DANSEREAU: I would say that it's a description of 11 my work in the past, but, if required, I can send 12 a more formal c.v. But yes, it is me. 13 I think this identifies you sufficiently. 14 MS. DANSEREAU: Yes. 15 MR. WALLACE: Thank you very much. May this be marked 16 as the next exhibit, please? 17 THE REGISTRAR: Exhibit 1920. 18 19 EXHIBIT 1920: Biography of Clair Dansereau 20 21 MR. WALLACE: Mr. Commissioner, that concludes my 22 examination. Canada is up next and I'm going to 23 turn the direction from hereon to Mr. McGowan. 24 THE COMMISSIONER: What is the --25 MR. WALLACE: Mr. Commissioner, Canada has 180 minutes, 26 three hours. 27 2.8 CROSS-EXAMINATION BY MR. TAYLOR: 29 30 Just picking up on the - I thought Mr. McGowan was 31 going to speak - just picking up on the last point 32 that Mr. Wallace put forward, your biography, 33 Deputy. 34 MR. TAYLOR: Can we just bring up 1920 again, please? 35 I understand from that, Deputy, that you have a 36 degree, a Bachelor of Science in Microbiology? 37 MS. DANSEREAU: That's correct. 38 All right. Thank you. I'd like to begin with 39 budget process questions. Can you, Ms. Dansereau, 40 provide a brief overview of the budget process 41 within the federal government? 42 MS. DANSEREAU: You'd need the CFO here to give you a 43 better answer, but the budget process is -- we 44 have what are called "mains", which are the main 45 estimates and they're tabled in the House of 46 Commons for all departments in February, usually.

This year was a little bit different because of

the election. They describe all of the approved expenditures for any government department.

Subsequent to that, and usually at approximately the same time, a budget is introduced in which governments have made announcements for additional sources of funds and those, then, need to go through their own approval process in the House of Commons and that happens through sups, what are called "supplementary estimates" a, b and c, and that happens three times in the course of the year.

So that's the overall government process which we then feed into each department that must develop its own estimates for the coming year to be voted on by Parliament.

- Q Now, this is an annual cycle, I take it.
- MS. DANSEREAU: Yes.
- Q And just backing up a bit, is the genesis of what would become the budget process the Speech from the Throne?
- MS. DANSEREAU: Yes.
- Q And that sets out the priorities of the government for that year and perhaps beyond, is it?
- MS. DANSEREAU: Usually beyond. It's not usually a one-year Speech from the Throne, but sometimes it is, yes.
- Q And then am I right that there's a budget that is introduced in the House of Commons by the Minister of Finance following the Speech from the Throne?
- MS. DANSEREAU: That's correct.
- Q And then I just wasn't sure in what you were saying are the main estimates you spoke of. Are they before that budget that the Minister of Finance brings in, or are they after that?
- MS. DANSEREAU: Usually before that.
- Q All right. And then ultimately the main estimates are approved, I take it, in some form or other.
- MS. DANSEREAU: That's right.
- Q And then, from there, does the information from that budgetary process reach Department of Fisheries, in your case, and then go into the Department to be worked through, if you like?
- MS. DANSEREAU: It does. At that point, though, we would have spent time the year before working on our priorities and making sure that the Department was lined up, both with the priorities of the government from the Speech from the Throne, and

against our own priorities as defined in what's called the -- no, the PAA, Program Activity 3 Architecture and the results process that we have which defines our strategic outcomes. Then all of 5 the activities that we undertake in the 6 Department, it's a fairly complicated system, but 7 there are activities and sub-activities against 8 which we put dollar amounts, and they then all 9 should roll up to show Canadians what we have done 10 or what we intend to do against our stated 11 strategic outcomes, and that's in the RPP. 12 All right. And if I may, Mr. Lunn, could MR. TAYLOR: we have what I'll call the new document we sent 13 14 yesterday which I believe is now Tab 50. 15 deck. Yes, thank you. 16 This is a deck that is said on its face to be May 17 26, 2011. Do you recognize that, Deputy? 18 MS. DANSEREAU: Yes, I do. 19 And what is that? 20

- MS. DANSEREAU: It's a document that I use to give a presentation to a workshop that was being held at the School of Public Service.
- MR. TAYLOR: All right. And if we go to slide 4, please, Mr. Lunn. It says -- the next slide.
- Q It says at the top, "One-Pass Planning at a Glance". I don't want to dwell on this, but what is that phraseology, "One-Pass Planning"?
- MS. DANSEREAU: It's a new planning process that we have in the Department that is designed to minimize the number of times we, from the centre, go to all of the various responsibility areas to seek information in order to prepare our reports, and so if we can do it once for the year, we can use the information for a variety of reports including our business plans, our report on plans and priorities.

If you see the outputs on the blue, the report on "Plans and Priorities", our "Corporate Business Plans" and so we have one set of inputs, which is information that we would have gathered from a number of different areas, the Speech from the Throne being one, Mandate Letters. Ministers receive mandate letters from the Prime Minister. The clerk establishes priorities. Our performance agreements are in here as well, and so we gather all of the information into business plans, and then from that, we are able to design our work for

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the year. Q All right

- Q All right. And this page we're looking at appears to be a graphic illustration of many of the things that you were describing a few moments ago. Is that what this is?
- MS. DANSEREAU: That is what this is.
- Q Can you just briefly describe what this is telling the reader as you move from left to right?
- MS. DANSEREAU: Well, as we move from left to right, we move from information sources that should be helping us determine what we will be doing through the course of the year and so we do an environmental scan at the start of -- at this point, we do it at the start of the fiscal year for the following fiscal year to determine what the factors are that we are facing, and that is we receive input from the whole of the Department and our planning folks look at the international realities as well. So that's one set of informations that we receive.

We look at evaluations from our various programs and analyze those. We have had many audits over the course of the year, so we get information from that as to commitments that we've made in the audits and what we need to do to address those commitments. We make sure that the information is attached to priority areas as defined in the Speech from the Throne because we are public servants and we are here to implement the direction of the Prime Minister and the government, and Parliament in fact, and so those priorities are defined in the Speech from the Throne, they're defined in the federal budget, they're defined in mandate letters.

So that's the information that we use in order to develop our own business plans. From there, we will develop plans for all of our units. Then we evaluate this partway through the year which is where we will get the information for our departmental performance document as well.

MR TAYLOR: All right. Thank you. Before I forget, may this deck, which is Tab 50 from Canada's book, be marked as the next exhibit, please.

THE REGISTRAR: Exhibit 1921.

EXHIBIT 1921: Integrated Planning Best Practices in Fisheries and Oceans, May 26 2011 [DFP PowerPoint to Federal Heads of Agencies Learning Day, v3]

## MR. TAYLOR:

- Just quickly, a couple of terms or three terms that are not completely self-evident, Deputy, I wonder if you could just briefly explain each. Over on the left side, which is the information inputs going in, towards the bottom left there's "Risk Profile", "Evaluations", and "MRRS". What are each of those?
- MS. DANSEREAU: The risk profile is a requirement and an absolutely logical requirement that all departments must have corporate risk profiles to determine in what area are they most likely -- or is there potential for them to not achieve their objectives? What is causing the department and the clients and/or other areas to be at risk, and the risk profile will also have mitigation measures in them and those need to be included in our business planning.

Evaluations, as I said, there are evaluations of our various programs and in evaluations, we will often identify activities that need to be done in the course of the year.

The MRRS is the results --

- MS. FARLINGER: Management results --
- Q Ms. Farlinger?
- MS. DANSEREAU: I'm sorry if we --
- That's okay if no one's got it at hand.
- MS. DANSEREAU: -- are using the acronym. But it's a very important document for us because that is where we first -- and that's an approved document by Treasury Board for us, that we work on through the year and it's where we define how we will be held accountable. It defines our strategic outcomes, it defines the indicators that we will use and how we will be measured.
- Q All right. Now, there's two other documents, I understand, that aren't on this chart. We're finished with deck.

One is "Report on Plans and Priorities", or RPP, and another is "Departmental Performance Report," DPR, and I think you referred or alluded to that one a moment ago. In brief, what are each

of those reports or documents? 1 The Report on Plans and Priorities is MS. DANSEREAU: 3 the document that the Minister -- or that is 4 tabled in the House of Commons in Parliament. 5 is a document that is in the Minister's name and 6 it is our summary of all of the plans that we have 7 for the coming year to inform Canadians on what we 8 intend to accomplish in the coming year. 9 The DPR is the performance, so it's an 10 analysis of the performance of the Department and 11 Treasury Board will feel that we have accomplished 12 against the RPP, against the Report on Plans and 13 Priorities, so one sets out the agenda and the 14 activities; the other does a review of our 15 performance against those. Thank you. Ms. Farlinger, because 16 All right. Q 17 we're in this inquiry most focused, of course, on 18 Fraser sockeye, we'll go to the Pacific Region 19 Budget, and in particular, we're of course 20 particularly concerned with British Columbia. 21 just to remind everything (sic), I understand the Pacific Region is British Columbia and the Yukon 22 23 Territory. 24 MS. FARLINGER: That's right. 25 And you are the Regional Director General for 26 Pacific Region, meaning both those political 27 jurisdictions. 28 MS. FARLINGER: That's true. 29 Can you briefly outline what processes you have 30 within the Pacific Region for the budgetary 31 process, what information or requirements are put 32 to you and then what you do as an organization in 33 British Columbia, and what comes out of that? MS. FARLINGER: As the Deputy mentioned yesterday, I'm 34 35 a member of the Departmental Management Board, and 36 that is the area where the various elements 37 mentioned on the input side of the slide we 38 recently focused on are discussed and clarified. 39 In that process, I provide regional input to all 40 of those pieces of information and I also take the 41 output of those pieces of information back out to 42 the region in terms of our planning process. 43 So our planning process is very much a 44 product of the national planning process with

identified priorities including regional

national priorities, and is very much an

priorities that have been incorporated into the

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operational plan for delivering all the programs of Fisheries and Oceans in Pacific Region.

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46 47 And who's involved in the development of the workup, if you like, for the Pacific Region budgetary process?

We have regional directors who are MS. FARLINGER: accountable for different program elements who work with the staff of the Assistant Deputy Minister of Ecosystem and Fisheries Management, and the staff of the ADM Program Policy to make sure the Pacific priorities and work are understood, and also to understand the national priorities and work.

So each of those regional directors, for example, the Regional Director accountable for Fisheries Management, the Regional Director accountable for Science --

- So that's Dr. Richards.
- MS. FARLINGER: Dr. Richards. And the Regional Director accountable for Ecosystems Management and a Regional Director for Small Craft Harbours, for example. Each of those individuals works with their national program area to develop the program priorities that relate to the larger departmental priorities that have been previously established in the process at the Departmental Management Board.

The national business plan then comes together with the individual program components that have been worked on with our regional staff and then we bring the national process and the regional allocation back together to resolve, at the operational level, to develop work plans following approval of the regional work plan as it fits into the national work plan.

All right. In terms of the budgets, the annual budgets, I want to see if we can get a ballpark number of national, regional, and then Science. You can pick what year you want, what you might have fresh to mind.

In terms of the national budget, Deputy, can you say roughly what is the budget of the Department and, in that, I appreciate that there's a Coast Guard component, so you can include or exclude that, however you think best.

MS. DANSEREAU: Thank you. The '11/'12 budget for the Department, including Coast Guard because that's

the number I work with the most, is \$1.82 billion.
All right. And do you know roughly of that what

is the Coast Guard component?

MS. DANSEREAU: No.

- Q Okay. And, Ms. Farlinger, your budget will be part of the number that the Deputy has just put forward. What's your budget?
- MS. FARLINGER: I'm going to talk about this in terms of expenditures for '09/'10 and '10/'11.

Q Okay.

MS. FARLINGER: In that regard, the total regional budget for 2009/'10, including Coast Guard, was \$404 million, the total expenditures. This was broken down as follows: 271 for the DFO activities, and 134 for the Coast Guard expenditures.

In 2010/'11 was roughly the same, 404 million overall. Pacific expenditures on the DFO side were in the order of \$284 million and on Coast Guard side, 126 million.

- All right. And I appreciate that you may not have the current year numbers right at hand. The Deputy was speaking in current year numbers as I understood her. Do you know whether your current year numbers are different from 2010/'11 or how much different they are?
- MS. FARLINGER: We're in the process of going through the year. The budget as allocated was in the same range as last year.
- All right. And then if we turn to Science, Dr. Richards, can you say approximately what the annual budget for Science in the Pacific Region is?
- DR. RICHARDS: I can tell you that our average expenditures over the last five years, from all sources, was about on the order of 55 million. And of that --
- Q That's per year, is it?
- DR. RICHARDS: Per year, yes. That was our average over the previous five years. I can also say that, of that, it's a little complicated because at the start of the year our budget tends to be around 41 million, and then we do get money coming in through the year, because a lot of the work that we do is through competitive national programs with directed funding that come in later in the year.

- So, in the end, as I mentioned, our year end expenditures average over the last five years were on the order of 55 million.

  All right. Now, is it correct that budgets,
  - Q All right. Now, is it correct that budgets, generally speaking, are created or determined by reference to activity or projects?
  - MS. DANSEREAU: They are measured or -- I guess you could say they're created -- but they are -- we talk about activities and sub-activities of the activity architecture, yes.
  - Q I should maybe put my question another way and maybe this will help. Is the budgetary process such that there are budget items allocated to Fraser sockeye?
  - MS. FARLINGER: The budget is generally allocated by program. For example, so, to Resource Management or Fisheries Management to the Habitat Program to the Small Craft Harbours Program to the Science Program as described.
  - Would it be right, then, that it's not a straightforward exercise to say what is the amount actually spent towards Fraser sockeye?
  - MS. FARLINGER: It is difficult because we are taking portions of programs. In preparation for the inquiry, the Department did have an analysis done, and our estimate over the five-year period from 5/6 to 9/10 ranged from 17.9 million to 23.3 million, that could be directly ascribed to Fraser sockeye.
  - Q And those numbers are per year, are they?
  - MS. FARLINGER: Yes, they are.
  - Q And do you have an approximation of the amount spent on salmon as a whole in the Pacific Region; that is, beyond Fraser and sockeye, or Fraser sockeye?
  - MS. FARLINGER: We have gone through that exercise also partly in preparation for this, but also as a matter of planning. We estimate that at least 50 million each year is spent in the management of salmon. 2010/'11, we estimate the base level was \$64 million spent on salmon directly, and that does not take into account portions of programs which were not attributed specifically to Pacific salmon.
    - So the base number for '10/'11 is 64 million, but we believe it is more than that.
- 47 MR. TAYLOR: All right. Thank you. If we may go to

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Tab 6 of Canada's book of documents, please. is a document that we spoke of earlier, "Report on 3 Plan and Priorities" which I think is going to 4 come up. 5 Yes, do you recognize this, Deputy? 6 MS. DANSEREAU: Yes, I do. 7 It is what it says it is by the title, I take it. 8 MS. DANSEREAU: It is. 9 MR. TAYLOR: Could this be the next exhibit, please? 10 THE REGISTRAR: Exhibit 1922. 11 12 EXHIBIT 1922: Report on Plans and Priorities 13 2011-12 14 15 MR. TAYLOR: Now, if you go to page 1? Thank you. You'll see there under "Highlights for 2011/12", 16 17 and this is a page where the Minister is providing 18 his overview of what the document contains, you'll 19 see highlights there. The first one is 20 "Modernizing Fisheries" as being a key priority 21 and initiative. Can you, Deputy, put in more 22 concrete terms than the words "Modernizing 23 Fisheries", what is being conveyed there or what 24 is it that is going to be done as a priority? 25 MS. DANSEREAU: This is an exercise the Department has been involved in for a number of years, and we 26 27 will continue to be involved in. It's ensuring 28 that we have the most up-to-date policies to allow 29 the people who fish and the people who live off 30 the fishery the best -- provide them with the best 31 policies to ensure that they can be economically 32 prosperous. 33 So that means a whole series of things, some of which you've heard David Bevan talk about 34 35 yesterday. It includes the policies, changing --36 the number of policies that we have, the types of 37 policies that we have, and it's just looking at a whole suite of activities inside the Department. 38 All right. And if you look at, I think it's the 39 Q 40 bottom, yes, the bottom bullet there.

partnerships, including renewal of the departmental consultation framework, especially its Aboriginal dimensions.

Strengthening engagement and key

Are you able to say what's encompassed in that in

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more concrete terms?

MS. DANSEREAU: Well, as you know, this is an important area for us. We are a partnership-based organization in all of the, I guess, client group or partner groups, whether that's in a commercial fishery or First Nations. We know, through experience over time, that the only way for us to do bullet number 1, modernizing the fishery, is to do it through proper consultation and partnership. So all of our regions and all of our areas are working actively and ensuring that we have the best engagement strategies and partnership relationship.

MR. TAYLOR: All right. Thank you. If you turn to page 3, please, Mr. Lunn?

You'll see there -- I may not have the right page. I'm looking for the "Strategic Outcomes" page. I'll move on, on that.

Well, let me do it this way: At some point in there, there's a strategic outcome that is economically prosperous maritime sectors and fisheries. Are you familiar with that, Deputy?

- MS. DANSEREAU: Yes, very much.
- Q Probably very familiar.
- MS. DANSEREAU: Yes, very.
- Q I think it's on pages 3 and 18, although I can't see it on page 3 when it came up there. What's meant by that?
- MS. DANSEREAU: It's actually on page 5.
- Q Okay, thank you.
- MS. DANSEREAU: Again, it's ensuring that the people who participate in the fisheries in Canada are in a position to be able to earn a good standard of living, and so against that, as I described earlier, we have -- so that is what we would call a strategic outcome. That is what we tell Canadians we are aiming to achieve. Then the activities will be in the green boxes, and that's a set of programs against which funds are placed, and then under that, would be sub-activities within those programs.

So each of those has an evaluation and measurement framework for us to determine whether or not we're achieving the outcomes to allow us to determine if we're helping our maritime sector to become economically prosperous or remaining economically prosperous if they are.

Given the uncertainties that we all know about, if there are no fish, then we can't possibly achieve that outcome.

If you scroll down the page a bit there, we come

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to "Sustainable Aquatic Ecosystems", and that's dealt with in more detail at page 32 and following. What is encompassed there? You can see some of the bullets beside the words there, but what's this all about?

MS. DANSEREAU: Well, again, this is a way of tracking our expenditures against what we think the key program areas are in order to achieve that outcome. So in order to, we think, achieve sustainable aquatic ecosystems, we need to have a good compliance and enforcement program.

We need to have, in this case, salmonid enhancement programs, habitat management, various big program areas against which our staff will be dedicated in the sub-program areas.

All right. And then the next one is "Safe and Secure Waters" which, as well as being there on page 5, is at page 41 and following. This appears to be, if you like, the infrastructure and some of the things that are done by your Department that are very important, although they're not directly on Fraser sockeye, such as search and rescue and whatnot, is it?

MS. DANSEREAU: That's right. A lot of the Coast Guard activities are captured here. We need to be able to define our investments in Coast Guard activities, but also other things such as the hydrographic projects which are critically important to mariners that come near Canadian waters, whatever those mariners may be doing. So, again, it's a critical responsibility of the Department, including the Coast Guard, to ensure, to the best of our ability, safe and secure waters.

MR. TAYLOR: All right. And if we turn to Tab 16 of Canada's book of documents, I'll just introduce this, perhaps, and then we'll get to the lunch break. I'm going to go into an area to deal with DFO policy making.

Tab 16 is a compendium of questions that are extracted from the transcript, and they're questions and comments that you, Mr. Commissioner, were asking and making on the dates that you'll

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note there. I propose that we mark this as a document for identification. I don't think we 3 need it as an exhibit proper, although if you want it, I'm not opposed to that. 5 THE COMMISSIONER: Identification. 6 Thank you. MR. TAYLOR: 7 THE REGISTRAR: It'll be marked for identification as 8 JJJ, triple J. 9 10 MARKED JJJ FOR IDENTIFICATION: List of 11 transcript references re Commissioner's 12 questions regarding policy 13 14 MR. TAYLOR: And then after the lunch break, I'll ask 15 the panellists if they could answer and comment on 16 the questions and comments you've got there, 17 because we think it's very important, of course, 18 that we give you what we hope is helpful on policy 19 and answering those questions. 20 THE COMMISSIONER: Thank you very much. 21 THE REGISTRAR: The hearing will now adjourn to 2:00 22 p.m. 2.3 24 (PROCEEDINGS ADJOURNED FOR NOON RECESS) 25 (PROCEEDINGS RECONVENED) 26 27 THE REGISTRAR: The hearing is now resumed. 2.8 29 CROSS-EXAMINATION BY MR. TAYLOR, continuing: 30 31 I'll move, if I may, to DFO policy, and just 32 before the break we marked as Exhibit JJJ, 33 document for identification, the transcription 34 that we've made of passages from the 35 Commissioner's questions about policy. 36 may, I'm going to draw the panel's attention, 37 mainly the Deputy and Ms. Farlinger, to portions here. I know you're familiar with some of this 38 39 but just to capsulize it. You'll see that under 40 what's called item 3, which is extract from March 41 2, 2011, the Commissioner said amongst other 42 things: 43 44

I've seen documents called "new

they're...acted upon...

directions"..."policies"..."vision

statements"..."reform". And in some cases,

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 Those are the Commissioner's words:

...a policy in the [form] of something called a "vision statement"...

And then this is the real question. The Commissioner is seeking some clarity:

What's a policy? What's a vision? What's a new direction? What's a reform package? Do they all have the same weight?

And then further down on March the 4th, the Commissioner, amongst other things said, "In other words", this is the middle of that quote:

In other words, in the application of those documents to the day-to-day operations of the DFO, what is the weight [to be] given to those documents in terms of their implementation and importance.

And he also asked:

[H]ow these things are tied together?

And finally, over under item 6 from the August 19th transcript, the Commissioner asked:

If there is a hierarchy of importance within the DFO structure, where does a framework fit, as opposed to a policy or a program?

Now, there's a host of questions in there, and good questions from the Commissioner, and I'll try to break it down. But with that backdrop, I'll start with you, if I may, Deputy Minister. Can you explain the distinction between a policy, a framework, a new direction, a vision statement, a discussion paper? You're smiling.

- MS. DANSEREAU: Well, I will do my best -- Q Thank you.
- MS. DANSEREAU: -- to explain, and Sue will be able to bring, I think, these documents to light. The New Directions document, I mean that's a title of a document that could have been applied to any number of things. It could have been applied as a

title to a program or a policy, or it would be a new direction. Often, though, it's a document like that will be an overarching piece to set the frame for where we intend to go over the next number of years, and then from that there could be a framework established within it. And I may be wrong, because I wasn't part of the New Directions document. And the policy, though becomes closer to the ground than either of those two. And then a program is really how we do our business.

So a policy should set out the broad principles, set out the direction, and a program will tell or describe how we do things and how we measure things.

- Q So if you like, did you say a framework's at the top of the pile?
- MS. DANSEREAU: In general a framework overall would be at the top of the pile.
- Q And then a policy under that?
- 20 MS. DANSEREAU: Yes.
  - Q And then a program is the operational side of things.
  - MS. DANSEREAU: In general, but we have to be careful because there can be smaller frameworks within an overall program.
  - Q All right.
  - MS. DANSEREAU: So really the two clearest distinctions, in my view, are policies and programs, and a program being the true operations and the delivery of a policy.
  - Q Okay. That's very helpful. And I think you might have said this, but I missed it. We've got framework, policy and program. And discussion paper, where does that fit into that hierarchy of sorts that you were outlining?
  - MS. DANSEREAU: A discussion paper would be used very often in the development of a policy, or even in the development of a program. So it would be something that we would generate or have generated for us to think about and talk about, or even for a committee to think about in the development of a program or policy.
  - Q Then if we look, or if we consider horizontally, we've been talking vertically, if you like, for the moment, if we move to the horizontal, how do policies tie together, one policy to another, or fit together?

MS. DANSEREAU: Unfortunately some of this has a little bit to do with the moment in time that we are in. And as I said yesterday, if I was to be the author today of the Wild Salmon Policy, I would not have drafted it the way it's currently drafted, because it has elements of a policy, and in my view it also has elements of a program. So and that was written in 2005, and the current thinking is a little bit different on a program versus a policy, and then the relationship between certain policies.

We in the Department are working towards as much integration as we possibly can in our policies, so to make sure that what we are establishing in policy, whether it's for habitat or for ecosystems or for fisheries, are linked together in a certain direction. Which is why we have the governance structure that we do, to make sure that even though a document will be -- even though a policy document will be specific to a topic, it should in fact be linked to other policies wherever possible.

- Q Okay. I think it's pretty clear on the evidence when a program ends, it ends when the funding stops, or it ends when the program says it ends, or when another program is replacing it. Is there a way to know when a policy ends?
- MS. DANSEREAU: And this is a big debate always in policy circles, but generally policies, unless defined in the policy itself, will be ongoing until replaced by a new policy.
- Q All right.
- MS. DANSEREAU: And so we have in the federal government what we call "policy shops", so we have centres of policy making. And they will consider whether or not a policy that's under development should be time-limited or should be ongoing. So as you know, the Habitat Policy that we currently have was written in 1986 and no one has changed it since. And so it is a live and active policy. If it gets changed, it will then be a historical policy and not applied.
- Q All right. Ms. Farlinger, the Deputy alluded to this at the beginning of her evidence in this portion, I think, that you might bring to life policy and program. Picking up on what the Deputy has said, are you able to bring to life, as one

might say, policy and program from a regional perspective, how they fit together, what they are and how they fit together?

MS. FARLINGER: Well, I can certainly try. The distinction between program and policy, as the Deputy said, is really the primary one. It's probably useful to know that policy comes in a number of forms, and it has sometimes come in the past as a form of ministerial announcement. It has come as a documented policy like the Habitat Policy, or like the Wild Salmon Policy. And more recently we have seen collectively the attempt to bring those policies together, update them and make them coherent.

So maybe I'll pick a couple of examples. If you were to look at the program we call PICFI, that is funding to implement certain activities, and the policy that backstopped that is Pacific Fisheries Renewal. And so then we understand that we use the programs in PICFI that are funded to advance the policies which are set out in terms of Pacific Fisheries Reform -- I'm sorry, it's a bit of a challenge in itself, getting the names right.

And on the same side if you look at Aboriginal programs, like the Aboriginal Fisheries Program, like the Allocation Transfer Program, and in fact the PICFI Program, they are influenced by Aboriginal Fisheries Policy, which was also entered into evidence, I think, setting out how Aboriginal fishing would take place, and how monitoring and enforcement would take place. And more recently there is policy on how Aboriginal agreements are set out, how payments are made, how reporting gets made. So those are the policy elements, but the AFS Program, the AAROM Program, the PICFI Program are program elements of that.

Now, we have policy and programs, policy on the various elements of fishery management. For example, we have across the fisheries, allocation policies, and those have to do with who gets what, and what the priority of who gets what is. That works together with the conservation-based policies in some cases.

For example, in salmon, the expression of the very broad international and Canadian precautionary approach is the Wild Salmon Policy. So they are, in fact, elements of the same thing.

But the Wild Salmon Policy says for the biology of this fish, and for the way in which the fishery is prosecuted, and for the environment in which it works, this is how you would implement the precautionary approach. So they are nested in a sense from our international obligations, our Canadian Canada-wide policy. There is a government-wide policy on precautionary approach. And this is how it applies to Pacific salmon fisheries. And we have it in other parts of the country in other policies to apply to other fisheries.

We have policies, for example, that came out of the New Directions Framework, and that was work done by the Minister with the region around salmon back in the late '90s/2000 that said, we're going to tell you these things; we're going to create policies, and so we're going to talk about consultation and how it will take place; we're going to talk about salmon allocation and tell you what the priorities are; we're going to develop a Wild Salmon Policy; we're going to develop a Selective Fishing Policy, and then the programs which we have, which go on, which broadly in this instance are fisheries management for salmon, respect those policies.

So policies are hierarchical in the sense that they need to become more detailed as they are applied more specifically, and programs are things that go on and are influenced and directed by the policies.

- So I don't know if that's helpful, but...

  And in a regional context, that's largely an operational end of the Department; is that right?
- MS. FARLINGER: That's right. Our responsibility in the region is to implement the programs of the Department in line with the policies of the Department.
- Q All right, thank you, and you've answered my next question, so thank you. Deputy?
- MS. DANSEREAU: May I add to that. Though it's true that the regions are the implementers and they are primarily focused on program, but all of our policies need to be developed with the input of the people on the ground, therefore the input of the regions, because that's where the knowledge is. And so we have policy thinkers who can take a

Canada-wide perspective in Ottawa, but we need absolutely to develop our policy with the help of the people who actually implement. So that's why Sue is involved in a lot of the policy committees that we have, and brings a wealth of experience to those discussions.

And what you're saying, as I understand it then,

- And what you're saying, as I understand it then, is the region has a role in policy development, which is ultimately developed and then the operational side, if you like, the region, being largely the operational end, is the one who then takes that and implements it.
- MS. DANSEREAU: That's right.

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- Q And just a couple of further questions on this, if I may. Would it be right, Deputy and Ms. Farlinger, that within the region the more senior the official, and, Ms. Farlinger, you're the most senior official in the region, of course, the more you would be involved in policy development and then coming back overseeing the operational end of things, or the implementation of policy, and as you move down the -- as you move down the regional hierarchy, the people will be more and more strictly operational.
- MS. FARLINGER: Yes, that's a fair comment.
- All right. Now, on December the 16th last year and, Ms. Farlinger, you gave evidence at page 17, and I don't need to take you to it as such, but if you think you need to see it, let me know. You gave evidence then in answer to a question from the Commissioner, and the gist of the Commissioner's question was that he asked which of the policies that you were referring to that day fell under the direct responsibility of the region for administrative purposes. And you may recall that you were asked by Mr. Timberg about a number of policies which were all exhibits in and around the range of Exhibits 260 and into the 270s, as numbers. You were asked about them and you gave evidence, and then the Commissioner at the end asked what I just said. And you gave evidence then on page 18 and following as to which of those policies is national and which is regional.

I just want to pick up on that, because as I understand the Commissioner's question, he wanted to know, and your evidence was helpful there, but he also wanted to know which of the policies fell

under the direct responsibility of the region for administrative purposes. And so a further question I have of you, then, picking up on the Commissioner's question: In terms of responsibility for applying policies in the Pacific Region, whether it's a national policy or a regional policy, who's got that responsibility? TABLINGER: At the operational level. I have the

MS. FARLINGER: At the operational level, I have the responsibility for ensuring the programs that are delivered here in the region are delivered consistently with policy, whether it is regional policy or national policy. In a sense all policy is national policy, because we couldn't have a policy here in the region that had not been approved and managed through the national policy process.

The reason we would have one specifically here is for example in the case of the Wild Salmon Policy, we have Pacific salmon.

Q All right. Deputy.

- MS. DANSEREAU: We need to -- sorry, we need to remember also that the Minister is the key policy maker for the Department. That is the role of -- one of the key roles of a Minister, and my role would be to advise the Minister once -- on the bigger policies. And sometimes even on some fairly narrow policies, and it's always the Minister's prerogative to decide whether or not to become involved in the development of certain policies or the approval thereof.
- Q All right, thank you. Could we go to Commission's Tab 2, please, this is a fairly lengthy document. It will come up on the screen as the first page. It's a list of Treaties and Acts and Regulations, Agreements, Policies, Programs and Procedures regarding fisheries management on the Pacific Coast. Ms. Farlinger, do you recognize that document?
- MS. FARLINGER: Yes, I do.
- Q Can you say what it is, as you understand it?
- MS. FARLINGER: As I understand it, it's a list of -well, as you can see, Treaties, Acts, Regulations
  Agreements, Policies, Programs and Procedures that
  are related to the management of fish habitat -fish and fish habitat, sorry.
- Q It was something Fisheries prepared for purposes of this Commission of Inquiry, was it?

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1 MS. FARLINGER: Yes. 2 MR. TAYLOR: All right. This is approximately a 50-or-3 something-page document. I'd ask that that be the 4 next exhibit please. 5 THE REGISTRAR: Exhibit 1923. 6 7 EXHIBIT 1923: List of Treaties, Acts 8 Regulations, Agreements, Policies Programs 9 and Procedures related to the Management of 10 Fish and Fish Habitat on the Pacific Coast of 11 Canada, October 2010 12 13 MR. TAYLOR: 14 Now, within that document there are hyperlinks to 15 various policies that are there, and I have a CD, 16 and I talked to Mr. Wallace and Mr. Lunn, and I 17 think the best thing is to mark the CD, which are 18 the hyperlinks, as an exhibit. They're all on 19 Ringtail, all of the participants have access to 20 them through Ringtail, but after this Commission 21 concludes, there won't be Ringtail, at least not 22 for this. So I'm proposing to put in the CD. see that I don't actually -- or I do on the 23 24 backside have enough space if you put a stamp on 25 it. 26 27 28

- MR. McGOWAN: Yes, I think that's probably appropriate, Mr. Commissioner. I do note that the CD contains some things that perhaps aren't typical or entirely appropriate to be exhibits, such as legislation, but in the interest of efficiency and accessing the documents that are listed, I think this is the most sensible approach.
- THE REGISTRAR: Do you wish that to be made a subdocument of the 1923?
- MR. McGOWAN: I think a subdocument would be appropriate, yes.

THE REGISTRAR: That will be marked as 1923A.

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EXHIBIT 1923A: CD containing documents linked to Exhibit 1923

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- MR. HARVEY: I'm sorry, will participants be given a copy of that?
- MR. TAYLOR: We can make a copy. It's all on Ringtail, Mr. Harvey.
  - MS. GAERTNER: With all due respect, I think that getting a copy to all the participants would be

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            helpful.
       MR. TAYLOR: We'll make a copy available, yes.
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       MR. McGOWAN: And, Mr. Commissioner, we'll endeavour to
 4
            make the links somehow accessible on our website,
 5
            if that's possible, as well.
 6
       MR. TAYLOR:
                    In fairness to Mr. Harvey, his reaction
 7
            was about the same as mine.
 8
            Now, from that document, Ms. Farlinger, there was
 9
            a subset listed, and that's at Tab 15 of Canada's
10
            book of documents, and this is something entitled
11
            "Selected Examples of Policies Related to the
12
            Management of Pacific Salmon and their Habitat",
13
            it's dated May of 2011. Do you recognize that?
14
       MS. FARLINGER: Just a moment, please.
15
                 Yes, I do.
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            Now, it's divided into four categories,
       Q
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            Conservation, Sustainable Use, Consultation and
18
            Decision Making, Collaboration and Co-management.
19
            Without for the moment worrying about the policies
20
            under each of those, is that a fair categorization
21
            of the policies that apply to Pacific salmon in
22
            the Pacific Coast?
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       MS. FARLINGER:
                      Yes, it is.
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            And would it be correct that there's overlap
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            between those categorizations such as, for
26
            example, the Wild Salmon Policy is listed under a
            couple of them.
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       MS. FARLINGER: Yes, that's true, and I also note that
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            there are some programs in here.
30
            Yes.
31
       MS. FARLINGER:
                      Rather than policies.
32
            Which are those?
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       MS. FARLINGER: I would talk about, for example, the
34
            Pacific Fisheries Adjustment and Restructuring
35
            Program under -- it's number 5 under "Sustainable
36
            Use".
37
            Any others?
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       MS. FARLINGER:
                      The Pacific Integrated Commercial
39
            Fisheries Initiative, number 10.
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            Okay, that comes up as 16, as well. Any others?
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       MS. FARLINGER:
                       The Aboriginal Aquatic Resources and
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            Oceans Management Program, number 14.
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            All right.
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       MS. FARLINGER:
                       The Aboriginal Fisheries Strategy,
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            number 13.
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            All right.
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       MS. FARLINGER: And I would just point out in
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Consultation and Decision Making, the Toolbox is
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            really a set of tools as opposed to a policy.
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            All right.
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       MS. FARLINGER:
                       They're a set of tools for
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            practitioners to be in compliance with policy.
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       MR. TAYLOR: All right. Could this Tab 15 be marked as
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            the next exhibit, please.
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       THE REGISTRAR: Exhibit 1924.
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                 EXHIBIT 1924: Selected Examples of Policies
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                 Related to the Management of Pacific Salmon
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                 and their Habitat, May 2011
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       MR. TAYLOR:
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            If we go to Tab 20 of Canada's book of documents,
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            we have something entitled "A Framework for the
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            Application of Precaution in Science-Based
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            Decision-Making About Risk", and I'll turn to you,
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            Mr Bevan, if I may, with regard to this. Do you
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            recognize this document?
       MR. BEVAN:
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                  Yes, I do.
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            And what is it, firstly?
       MR. BEVAN: It's giving guidance on how to use
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            scientific information in making decisions, and to
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            do so based on use of the precautionary approach,
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            or in following the precautionary principle.
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            Okay.
                  And I'm just going to identify a couple of
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            -- one other document, and as I go there, and then
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            we're going to come back to some substantive
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            questions. As we go to the next document, and may
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            Tab 20 be the next exhibit, please.
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       THE REGISTRAR: It's already marked as Exhibit 51.
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       MR. TAYLOR:
                   Sorry, the number?
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       THE REGISTRAR: Exhibit 51.
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       MR. TAYLOR:
                    Thank you.
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            And if we turn to Tab 21, do you recognize this
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            document, Mr. Bevan?
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       MR. BEVAN: Yes, I do.
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            And what is that?
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       MR. BEVAN: Again, it provides guidance to managers in
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            making decisions and incorporating in their
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            decision-making process the precautionary
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            approach.
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       MR. TAYLOR: Okay.
                           And may we mark this as an exhibit,
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            too, please.
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       MR. McGOWAN: I believe it may already --
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       THE REGISTRAR: That is Exhibit 185.
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1 MR. TAYLOR: Okay. THE COMMISSIONER: I'm sorry, what is it? 3 THE REGISTRAR: Exhibit 185. MR. TAYLOR: 5 Now, let's take 21, which is Exhibit 185. 6 know the approximate date of that document? 7 MR. BEVAN: It's a few years old. It must be in the 8 early 2000s, I think, based on the appearance of It does lay out the precautionary approach, 9 10 but I would note that we have used it for some 11 time, the precautionary approach, and would have some nuances around how this approach would be put 12 13 in place in today's context. 14 Okay. 15 MR. BEVAN: I don't have a specific date for it, but it's similar to documents I've seen from the years 16 17 2000, and I can't put a date on it, whether it's 18 2003 or 2005, that kind of thing. 19 All right. Turning back to Tab 20, which is Exhibit 51, do you know the date of this document? 20 21 And just in that regard, on the page that's 22 overleaf from the title there's some coding that 23 makes me wonder or believe that it might be 2003. 24 But do you know? 25 MR. BEVAN: I share your view on the meaning of the 26 coding, but I have to confess I haven't got a 27 specific date for this one. But again it's a 28 document that is consistent with the kind of work 29 that was being done in the development of the 30 precautionary approach at that time, and around 31 the first half of the 2000s. 32 Okay. And if we again go back to Tab 21, Exhibit 33 185, at the bottom of the first page there's a 34 footnote, and can you tell me if you've got a comment about that first footnote there? 35 36 That footnote would refer to the fact MR. BEVAN: Yes. 37 that these documents are not made in absolute 38 They are informed by legislation, isolation. 39 including the Fisheries Act, the Oceans Act and 40 Species at Risk Act. And while each of those Acts 41 in and of itself, don't necessarily deal with the 42 precautionary approach, for example, the Fisheries 43 Act does not provide the Minister with guidance in 44 how to use the discretion that the Act provides 45 the Minister in terms of who gets the fish, where

they fish, how they fish, with what gear they

fish. There's not a lot of guidance in that Act

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 concerning how to conserve. There's no reference to that. There's no reference to the precautionary approach, and there's no legal guidance on how to decide who gets the fish and who doesn't.

But that **Act** is not in isolation. We have the **Oceans Act** and we have the **Species at Risk Act**, which moved down the spectrum to providing more protection for species, et cetera. And moreover, we also have things like the **U.N. Fisheries Agreement**, **UNFA**, which is something that the Canadian Government has ratified, and that brings some legal status to that in terms of obligations for the government. And that again does get specific around the precautionary principle and precautionary approach.

And the document that we're looking at here would be reflective of the kind of thinking that went into the development of the precautionary approach subsequent to international work on it under the *United Nations Agreement on Straddling Stocks and Highly Migratory Stocks*, or *UNFA*.

- Q Okay. You mentioned at one point *United Nations Fisheries Agreement* and you said *UNFA*, so I take it for Madam Reporter, you're saying U-N-F-A; is that right?
- MR. BEVAN: That's correct.
- Now, this is all about the precautionary approach or precautionary principle. Is there a difference between those two things?
- MR. BEVAN: Yes, I think so. The principle is something that was looked at more broadly than just fisheries or just resource management decisions. It was looked at, at the time, in terms of dealing with scientific uncertainty and the need to make decisions in the face of that uncertainty, and how to do so in a way that would manage the risk for avoiding irrevocable or significant harm as a result of those decisions. So it was basic, in our view, a principle on how to make those decisions in the face of uncertainty.

When I look at the precautionary approach, as reflected in the document that's currently on the screen, it's much more specific. It gets into the details of how to take decisions in the face of scientific uncertainty, and to be precautious in

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order to prevent irrevocable or significant harm to the stocks that we are responsible for managing.

And you'll see on some of the subsequent pages the stock status on one axis and removal rate on another, and zones of critical zones, cautious zones and healthy zones, and the kinds of guidance that the approach would give to managers about how to incorporate uncertain scientific advice in their decision-making and to do so in a way that is precautious.

I would note that these approaches that are reflected in this document, we've certainly learned in their application over time, it's almost a little bit humorous to think that the dial that we as managers get to turn, which is a dial on how much fish is taken and therefore the fishing mortality, that there's a direct relationship between our actions and nature's response to those actions in terms of stock abundance. I think it's pretty clear that we've learned that in certain circumstances where you have high natural mortality or variable mortality, and you have a short-lived species, you're not going to have this -- the kind of control. have a long-lived species with low natural mortality, fishing mortality will have more direct potential impacts.

These are also designed to deal with multiyear class spawning components of the population. So you'll have a population made up of numerous spawning year classes, and year class success, the recruitment of one year class on any given year, can be variable. But over -- you have it damped out over time because of the fact that it was based on a population like cod, which could have numerous spawning year classes.

The manifestation in the Pacific context of this precautionary approach would be the Wild Salmon Policy, because it has to deal with the fact that in sockeye you only have three living year classes when you're fishing on the returning adults. And those can be highly variable in terms of -- as in any fish population, the recruitment of one year class could be very variable depending on a myriad of conditions that have been presented to the Commission.

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So we can't use the precautionary approach as written here on multiyear populations, because we have to factor in things such as the status of the population. Is it a long-lived low natural mortality fishery where you have more control over response to fishing mortality, or is it something where we respond with setting fishing mortality to a highly variable short-lived species with significant natural mortality. In that case we don't control things. Nature controls us and we set the mortality in response to that. And in other cases we have a bit more control, but it's not linear, it's not direct, we don't have a dialin to go beyond our control of fishing mortality, and you can have a predictable, absolute predictable outcome in terms of population abundance.

And the Wild Salmon Policy reflects the fact that we're applying this general principle to a situation where we have one year class that supports the fishery and we have to ensure that we control the mortality on that, such that we get adequate spawners to the spawning ground. But also we have to understand that just because we can do that, doesn't mean it will be an absolute response four years out as a result of the adults making it to the spawning ground, spawning and dying, and the subsequent eggs and the recruits will come back in predictable numbers. that's not the case. So we have to apply the WSP as its manifest as part of the precautionary approach, that's what the precautionary approach in Pacific Salmon is, WSP, and we have to be careful about our expectation and about our ability to actually control levels of populations in out years. We just have to give nature a chance in terms of making sure we don't do it.

So we can't guarantee success. We can certainly guarantee failure if we set harvest levels at a level that will preclude any reasonable level of spawning stock. But we don't have the other flip side. We can't guarantee a predictable outcome from controlling fishing mortality. So I'd just note that those are some of the nuances that we've learned in the last few years of application of the precautionary approach.

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PANEL NO. 65
Cross-exam by Mr. Taylor (CAN)

The other thing that's in here is on the decision rules, looking at your ecological conditions for the fishery, what are -- are the conditions favourable or not, and then looking at the trajectory of stocks. Again that's more easily dealt with in terms of multiyear populations where you have numerous age classes making up the group, and therefore noise is dampened out and you don't have to deal with hugely variable year classes, which occur in groundfish and other longer-lived populations. get good years and bad years in them, but it doesn't -- doesn't have the same level of impact in terms of making responses in managing the fishery. So that's -- perhaps I'll just leave it at that. All right, thank you, that's very helpful. Farlinger, you've heard Mr. Bevan --

THE COMMISSIONER: Mr. Taylor I apologize for interrupting. I wonder while you're on this, if you could just have Mr. Bevan, if he is the correct party, on page -- it's Tab 21, the tab you're on, I think it's the second page, and it's footnote number 4. If he could just explain what that's referring to.

MR. TAYLOR:

- Q Mr. Bevan, or perhaps the panel should say who is the right person.
- MR. BEVAN: Well, I think that's basically what I had mentioned, that the precautionary approach, because it was designed and it was an international effort, but it was designed to deal with populations that were made up of multiple year classes and spawning stocks that were also the spawning stock component of the population was also more than one year class. That model does not apply to the biology of the Pacific salmon populations because they are one year class fishery and they all die after spawning.

So to try and adapt the precautionary approach, it was done through the Wild Pacific, the policy, or the WSP, Wild Salmon Policy.

I don't know if you want to add more.

THE COMMISSIONER: I guess, Mr. Taylor, what was confusing me is Canada's Policy Conservation of Wild Pacific Salmon, is that the Wild Salmon

Policy document? 1 MR. TAYLOR: Yes, I sensed that's what, Mr. 3 Commissioner, you were wondering. 4 I'm assuming that's a fancy international name for 5 the Wild Salmon Policy? 6 MS. FARLINGER: Yes, that's the Wild Salmon Policy. 7 THE COMMISSIONER: Okay, thank you. 8 MR. TAYLOR: Oh, apparently that is the formal name, although we never call it that. Yes, the Exhibit 9 10 8, which is the Policy, says "Canada's Policy for 11 Conservation of Wild Pacific Salmon", so, yes, 12 that's the WSP. Does that answer that, Mr. 13 Commissioner? 14 THE COMMISSIONER: Yes, it does. Thank you very much. 15 MR. TAYLOR: 16 Ms. Farlinger, Mr. Bevan has given a very thorough explanation of precautionary principle and 17 18 approach, and some of how it's applied, using the 19 Wild Salmon Policy as a touchstone for that 20 explanation. You being the Regional Director 21 General here in Pacific Region, do you have 22 anything to add or expand upon to what was said by 23 Mr. Bevan? 24 MS. FARLINGER: I certainly agree with the idea that 25 the whole basis of the Wild Salmon Policy comes 26 from a precautionary approach and how we would 27 express it in the management of Pacific salmon. 28 think that the issues of whether we are operating 29 our fisheries, operating our assessments, 30 operating all the activities we have to do around 31 the management of the fishery in compliance with 32 that policy is something that we are required to 33 do because it is the policy that sets that out. 34 All right. I should give either of the other two 35 panel members an opportunity if you want to say 36 anything. All right. 37 I'd like to move now, if I may, to a different area of guestions that touches on the 38 39 causes of decline of sockeye salmon productivity 40 in the Fraser River, and that's, of course, part 41 of the terms of reference of this Commission of 42 inquiry. My questions will be mainly of you, Dr. 43 Richards. You're familiar with the April 2011 DFO 44 workshop that happened recently, are you? 45 DR. RICHARDS: Yes, I am. 46 Can you just explain, we've had some evidence on

this, but just remind us what that was.

DR. RICHARDS: Yes, Mr. Commissioner. That was really an opportunity that was at my request to bring staff together to talk amongst themselves and inform me and inform my managers internal to DFO, what the latest research results were. Following certainly from the other workshops that we'd had, and the other work that was done, including the work that was done and presented at the June 2010 Pacific Salmon Commission sponsored workshop, there's been a lot of work that has been done, prepared, and staff working very diligently to try to address this question about what led to the decline in 2009, and a number of different research projects that have been undertaken.

And we really wanted to bring staff together to be able to first of all share their expertise, because we need to make sure that people are working in an integrated fashion. Certainly the information that one group might uncover could feed or help some work that was done in a somewhat different scientific area. So we wanted to make sure that the staff were fully informed about what was going on. And we also wanted to make sure that we did as much as we could to help prepare you, Mr. Commissioner, for the hearings that took place over the summer, where many of those same staff came and presented their evidence. And make sure that we were doing as much as we could to -from the perspective of DFO Science to help you and inform the Commission.

- And if we turn to Tab 5 of Canada's book of documents, you'll see there what's called a Draft Summary Report, April 14-15, 2011. Is that a summary report that came out of the workshop that you've just described?
- DR. RICHARDS: Yes, it is.
- Q It's called "Draft", is it draft or final?
- DR. RICHARDS: Well, this is the final version that was produced. It didn't go through a lot of internal peer review in the normal scientific sense, so it's not a final polished document, but this was the last document that was produced.
- MR. TAYLOR: All right. May that be the next exhibit, please.
- THE REGISTRAR: It's already marked 1364.
- 46 MR. TAYLOR: Oh, all right. Thank you.
  - Q Now, if you turn to page 3 and 4 of that document,

I don't know if we can see both of them at once, or if we try to see both of them at once the print 3 will be too small. We can take a run at it, I 4 suppose. You recognize that, do you, Dr. 5 Richards? 6

DR. RICHARDS: Yes, I do.

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- And that's a graphic way of showing the relative strength of evidence, and likely or possible or unlikely level of certain possible causes being the cause; is that right?
- DR. RICHARDS: Yes, it was. And more specifically, Mr. Commissioner, what we wanted to was because we had known, or because of the way that the information was presented in the Pacific Salmon Commission Report, and because of the importance of that report in terms of evidence here, we wanted to portray our current information in that same format and following that same way of presentation so it could be as clear as possible.
- All right. And the Pacific Salmon Commission report you're referring to is the one that came out of the June 2010 symposium, is it?
- DR. RICHARDS: Yes, that's correct.
- MR. TAYLOR: And that, Mr. Commissioner, the report is dated August of 2010, although it comes from the June 2010 symposium. And I'm quite sure it's an exhibit, but I'm not going to venture to try and say the number. But on the break I'll find that out and we'll let you know.
- Have you -- so you presented the outcomes of your workshop in a similar format to what the Pacific Salmon Commission did. Have you had a chance to look at and compare the thinking, the best thinking that came out of your workshop in April with what came out of that Pacific Salmon Workshop in terms of how well they line up or don't line up?
- DR. RICHARDS: Well, that is what we intended to portray in the table that you have on the screen in front of you.
- All right.
- DR. RICHARDS: And so if I can just -- I'll have to, sorry, refresh my notes explicitly here. think there were a few areas where we had slightly differences of opinion, but overall I think our results are very consistent with what was presented at that workshop. And I think that the

way that this is, that the shaded boxes were -the shaded grey boxes on the screen would be the 3 views that were presented and the information that was presented in the Pacific Salmon Commission 5 report. There's a couple of boxes which are 6 black, and I think that is once -- I think that 7 that is where we might have had a slight -- sorry, 8 just trying to --9 No, I think they're the same. 10 DR. RICHARDS: Yes. 11 Now that you say what the shading is, and I've got the two of them in front of me. 12 DR. RICHARDS: Okay. 13 14 And we'll all be able to compare them when we have 15 the records there, of course. But I think you're 16 right, that the shading is representing what was 17 said before, and the "X's" are your own comment 18 now; is that what it is? 19 DR. RICHARDS: Yes, that's correct. 20 So if we look at what's on the screen, I see. 21 your April assessment, your collective assessment 22 from April are the "X's" and the Pacific Salmon

- shading.
  DR. RICHARDS: That's correct.
- Q Okay.

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DR. RICHARDS: So in general, they were very, very consistent. We had given a bit more weight, as you've already heard in evidence, to oceanic conditions outside of the Strait of Georgia.

Commission, a year earlier roughly, is the

- Q All right. Then what now? What is DFO Science continuing to do? What follow-up is occurring? What are the next steps? Where do you go from April?
- DR. RICHARDS: Well, I think, as I indicated, that a lot of the work that we were doing, especially on the short term, was trying to get as much information as we could, Mr. Commissioner, to help inform the hearings that happened and took place in July and August and into September already. So a lot of that work has been already presented as evidence by the scientists that you had here.

But in general, I mean, as I indicated earlier this morning, our work is not done in isolation. We have not in general done a lot of research projects which are focused solely on Pacific salmon. We had a lot of ongoing research

programs that would be feeding on and contributing to the information that was relevant to those questions.

Certainly we are -- ongoing monitoring programs, such as I described this morning, have been continuing, and that would include programs such as enumeration programs that would take place on the spawning grounds, that include the troll surveys in the Strait of Georgia, and further up north on the Coast, and off the West Coast of Vancouver Island, that will include a lot of the oceanographic information, that would help again feed information on ocean conditions. So certainly we are continuing some of those programs which have been ongoing.

There were a few programs that we have undertaken that I think were in part work that we have done to really try to address more specific questions that were raised. One of them I also referenced this morning, which was a program we started last year in 2010 to try to get more information on juvenile salmon within the Strait of Georgia, and also the condition of those fish. We are doing some sampling program, and the fish, the juvenile salmon that are collected from that program, we are doing a series of fish health tests on. We're looking at the -- looking at histology and various other diagnostics to look more generally at the state of health, and that work was actually referenced in Dr. Kent's report.

Certainly we are continuing on some of the other higher profile issues. You heard a lot about the work that we're doing on genomics research. Dr. Garver did mention some work that is ongoing and we are trying to certainly investigate the issues around the genetic signature and try to get more clarity into what that really means.

There is -- we think we may have a virus as was described to you in hearings earlier. We have begun, as Dr. Garver mentioned, some challenge experiments on that, to look at that, and we will continue to do some more research in that area to try to elucidate that question as much as we can, because that's a very new area for us and there's lots of very simple questions for which we just don't, at this point, have the answer.

- 1 Q All right. So summing that up then, it sounds 2 like the work you're doing now is building on the 3 April workshop that you had; is that right?
  - DR. RICHARDS: Yes, that's correct.
  - Q And that workshop is built on the June symposium that the--
  - DR. RICHARDS: Yes.

- Q -- Pacific Salmon Commission had.
- DR. RICHARDS: Yes.
- Q And that Pacific Salmon Commission symposium, was that attended by Fisheries scientists?
- DR. RICHARDS: The Salmon Commission symposium was attended by quite a broad group. There were scientists from both within and outside of DFO. We had significant participation from U.S. scientists. We also had, at least as observers there, some members from the Fraser River Panel portion of the Pacific Salmon Commission. So that was attended by a broad group of both government and other scientists outside of government, both within Canada and the Untied States.
- All right. And before that June 2010 symposium, there's some evidence on this, but as I understand it there was a Simon Fraser University workshop or symposium in about January of 2010 or December of '09; is that right?
- DR. RICHARDS: I think it was in the fall of '09.
- Q Right. And, as well, there was in September of '09 was there a DFO workshop?
- DR. RICHARDS: We had just an internal DFO workshop in September of '09, yes.
- Q And out of that workshop came a trio of briefing notes that I won't go to them right now, and don't remember the numbers at the moment, but the trio of briefing notes that we've seen quite a bit of.
- DR. RICHARDS: Well, that was where we first brought staff together to say what happened, you know, why did we have such a poor return in 2009? What are various ideas, it was very much a brainstorming session. We didn't have a lot of data at that time. It was really intent to start brainstorming around various hypotheses which might have led to the -- to the decline in 2009.
- MR. TAYLOR: Okay. All right. And as I indicated, Mr. Commissioner, on the break I'll get the exhibit number for the PSC symposium, but the page where the chart is set out is comparable to the April

one on the screen now, the page in the PSC symposium report is page 9 and 10.

Now, Dr. Richards, you've given a fair bit

- Now, Dr. Richards, you've given a fair bit of evidence on this next point, but I'm wondering if there's anything that you want to say to elaborate beyond what you've said, and I'll take the liberty of pointing you or highlighting certain things that you may or may not want to comment upon. The question has to do with the challenges for Science in trying to determine the causes of the decline in Fraser River sockeye, and you've spoken, as I say, about this. There's climate change; that's a challenge, I take it?
- DR. RICHARDS: Certainly, the climate change would be one of the factors that would be setting the context around what's going on, so that's affecting a lot of things beside Fraser sockeye. But, yes, it is certainly one of the contextual factors we need to take into consideration.
- Q And what is it about climate change, or what more specifically, can you say?
- DR. RICHARDS: Well, there are a number of -- the number of aspects within the climate change. Certainly, in terms of climate change it's not something that we sort of understand fully about what all the long-term impacts would be. But certainly on the short term we know that there has been extreme variability in ocean conditions in general, temperature being an obvious signal, and we have seen some big fluctuations in at least surface temperatures. And with the Argo program that I described this morning, we will now be able to get more information on temperature at a range of depths throughout the ocean. And so that is certainly one thing where we have seen that there have been some big changes. And so that's also a signal for other changes in productivity in terms of the timing and the distribution and species composition of different kinds of plankton, which would then be the food supply for salmon.

So, yes, I mean, it's a potential factor we don't fully understand how it's going to play out at this point, and there are other aspects of it that haven't really been brought up to date and which we don't know about very much yet. One would be what's going on with the fact that the oceans are becoming more acidic, and that again

1 could play into the longer-term production, but 2 that's something more in a future-looking aspect 3 than something today.

- Q All right. Does the range of habitat and length of migration for Fraser sockeye pose a challenge for trying to determine from a scientific standpoint what's going on?
- DR. RICHARDS: Absolutely, and as I alluded to earlier this morning, it's very -- it's difficult to catch juvenile salmon in the ocean. We're able to follow them to some extent as they migrate along the coast, but when they go into the open ocean it's very difficult to get precise information on where those fish are located and exactly what's going on. So that is an extremely difficult question from the technology standpoint. We don't really have good tools to be able to answer that question.
- All right. Just reminding myself here, I'm going to drop back and ask a question and then jump forward again. I understand that there's going to be a conference, and I'll get the name wrong, but you'll probably get enough words that you'll know what I'm talking about, the North Pacific Anadromous Commission?
- DR. RICHARDS: The North Pacific Anadromous Fisheries Commission.
- Thank you. We'll come to what that is, we've had some evidence on that, but just to remind us. But is there a conference coming up on that?
- DR. RICHARDS: That is an international organization with, I think, six or so countries which are parties to that convention. It rotates its meetings annually amongst the different parties. This year it is Canada's year to host that meeting. It will be held -- the annual meeting will be held in Nanaimo at the end of October. As part of that, every two years they try to have a scientific session, and this year there will be a scientific session held, a workshop over a two-day period and that will be in Nanaimo.
- Q Do you remember, or do you know the title of the workshop?
- DR. RICHARDS: I can't remember precisely the title, but I think the focus is on pink and chum salmon.
- Q all right. And is that being organized by, amongst other people, Dr. Beamish?

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- DR. RICHARDS: Dr. Beamish is one of the individuals who is on the steering committee that will be organizing that workshop, yes.
  - Q And the name probably gives it away, but I understand the member countries include Canada, United States, Russia, Jap[an, and there must be -- oh, Korea, South Korea?
  - DR. RICHARDS: Korea is a member as well.
  - Q Yes. I'll bring Ms. Farlinger into this next question along with Dr. Richards, if I may. How would you characterize the current state of Fraser River sockeye salmon in terms of their health and as a population? I'll start with you, if I may, Dr. Richards.
  - DR. RICHARDS: Well, I think our most current information on that is contained in the report, again, that I referenced this morning, by Sue Grant, who has looked at benchmarks for Fraser River sockeye. And, you know, in general that we have a very large number of stocks. There is a variation in the conditions of those stocks, and some of those stocks are doing very well, and others are doing less well.
  - Ms. Farlinger, did you want to add from a manager's perspective what you see as the current state?
  - MS. FARLINGER: I think something that has become more evident in management over the last few years, and it's entirely consistent with Laura's comments, is that the fluctuations between individual stock productivities and returns from year to year, the timing of those stocks and a number of biological characteristics have become more variable and less predictable than they were, or at least they were considered to be, 20 years ago. So I think I would characterize it from a manager's point of view as being more uncertain and more dependent on actual in-season returns than what we've been able to predict pre-season.
  - Q Does that underline the importance of in-season planning, or in-season management?
  - MS. FARLINGER: Well, it certainly does, and there is always pressure, of course, on the Science folks to tell us and to tell others what the salmon returns will be in the following year. And I've taken personally to characterizing it much like weather prediction. We can tell you within three

or four cays fairly accurately, but maybe six months or a year in advance I think we've come to realize that we must depend on what we see inseason to actually manage those things that we can manage, such as the harvest.

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All right. Could we turn to Exhibit 1852, please. This was an updated productivity chart that has been prepared -- no, that's not what I'm thinking of.

MR. LUNN: There are several tabs at the bottom.

- MR. TAYLOR: Okay. It may be 1851. It's the productivity chart that was recently updated and put in as an exhibit. Exactly, thank you.
- Now, firstly, Ms. Farlinger, you recognize what that is, do you?

MS. FARLINGER: Yes.

- And is in particular the very right side of that chart a graphic depiction of what you were just speaking of in terms of uncertainty, unpredictability? You could see the last few years there.
- MS. FARLINGER: It certainly is in some ways, but also important to remember that this looks at Fraser sockeye in totality, and not only is there more variation in the total run size, there's also more variation in productivity amongst the individual stocks, and changes in run timing and other things that have been influenced by a variety of factors, some of which we can measure like in-river temperature, and others of which we haven't been able to. So it is a representation of that, but I just point out it's the entire stock complex there.
- All right. Mr. Bevan, do you have anything to add or comment on in terms of how one manages in the face of unpredictability and uncertainty?
- MR. BEVAN: I think the first thing is not to assume any degree of certainty. And as I've noted on the discussion of the precautionary approach, that approach was based on an assumption of some higher level of correlation between our activities as managers and the response in the natural system. It also has things in it like maximum sustainable yield, which is an assumption that you can have a sustained yield of high level based on a higher level of population. Well, that would assume a steady state, and we've rejected that as a

 reality.

And we have now to adopt an attitude that things aren't steady, that we have to deal with highly variable ecosystems, and that we have to deal with a higher level of unpredictability than we have in the past, and we have to reflect that in our caution. Because as I mentioned, there's no guarantee of success in the case of turning down fishing mortality, but there can be a guarantee of a disastrous outcome if we maintain levels of fishing mortality in the face of highly variable realities, and that we don't -- we're not adaptable to responding to that level of uncertainty.

The other thing we've done in the past, and it's even somewhat reflected in the precautionary approach, is relied on indicators of abundance and focused on what we thought were reasonable levels or -- or reasonable ways to determine levels of abundance, and not kept their heads up looking at the broader picture. We need to do that.

We need to be very careful not to get too narrowly focused in the face of the high level of uncertainty. Keep looking at all sorts of other potential indicators, and help that inform decision-making so that we don't look at test fish results in isolation of other indicators of oceanographic productivity, or as we do now in the region, could certainly give better description of it. Looking at models for flows in the river, et cetera, so we keep, we have to broaden out our perspective on what's influencing the populations in nature.

And even in the face of high levels of uncertainty, try to make decisions that are reasonable and balanced between opportunities to fish, but also balanced in terms of being cautious and not taking too high a risk, especially in the face of uncertainty. The higher the uncertainty, the higher the potential risk of any given action, and you have to react accordingly, and you can't get seduced by the desire to find a way to have certainty in science when it's not realistic to get there.

Q Okay. I'm going to turn now to a different set of questions, and these go to improving the future sustainability of the Fraser sockeye and the

Fraser sockeye fishery. And I'll start these questions by turning to Ms. Farlinger and ask about -- some more about the Wild Salmon Policy. I want to ask about it in the context of collaboration and integrated approach to fisheries planning. Where do you see, if it all, Ms. Farlinger, the Wild Salmon Policy fits into collaboration and integrated approaches?

MS. FARLINGER: Well, the Wild Salmon Policy, particularly in Strategy 4 and in the Basic Principles, really outlines that this needs to be a collaborative effort. As you've heard, there are a variety of members of the public, First Nations, recreational and commercial fishermen, environmental groups, all -- and the general public who have an interest in salmon, and also that the topic is exceedingly complex.

So one of the bases of collaboration and something we've been working on in the last certainly ten years and more specifically in the last five years, is a common understanding of data and information improving catch monitoring and understanding of the variability in the science advice we get, and the reliability, and really giving ourselves and others a more realistic picture of what it is we're trying to manage, and those benefits.

And ultimately the Wild Salmon Policy speaks to the much greater understanding of the genetic and geographic units of salmon in making the kinds of management decisions that have to be made. those decisions need to be informed. And not only does the Minister or the Department need to be informed by all those groups, but those groups need to understand each other's perspectives. And so the whole issue of collaboration has many dimensions. And one of the basic things we've come to understand through some of the work we've done over the last few years is that a very strong catch monitoring system is better for fisheries management, it's better for conservation because scientists can understand removals and the impacts, but it is also very much better in terms of improving the trust and collaboration between groups.

So that's one of the aspects of collaboration, that is a common understanding of

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information and trust and reliability in the information that is provided from all sources, not just the science that comes from the Department and outside the Department, but the monitoring and people's confidence in each other's numbers. Very significant in terms of getting the best possible advice for decision-makers.

And Strategy 4 really speaks to that, that there will be tradeoffs, there will be public policy decisions here about conservation units, about the risks, about the -- as David explained, in the precautionary approach, about the potential for long-term harm. And those things really need to be informed by a collaborative process.

MR. TAYLOR: Okay. Is this an okay time to take a break, Mr. Commissioner?

THE COMMISSIONER: Yes, thank you, Mr. Taylor.
THE REGISTRAR: The hearing will now recess for ten
minutes.

(PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS) (PROCEEDINGS RECONVENED)

THE REGISTRAR: Order. The hearing is now resumed.

MR. TAYLOR: The Pacific Salmon Commission Workshop report from the June 2010 symposium, dated August 2010, is both Exhibit 73 and Exhibit 203, it's in twice. And I did mention, as we went through the questions before the break, Mr. Commissioner, and one of the witnesses spoke to it, the Simon Fraser University Workshop of the fall, or December, or 2009, or thereabouts, that's Exhibit -- the report is Exhibit 12.

## CROSS-EXAMINATION BY MR. TAYLOR, continuing:

- Q I have a question, now, of both Mr. Bevan and Ms. Farlinger. I'll start with you, Ms. Farlinger. What has been learned from the WSP to date?
- MS. FARLINGER: Well, I think I should say that the review that's going on currently will certainly tell us some things that have been learned, but --
- Q Just pausing for a moment, is that the identified independent review that you spoke of yesterday?
- MS. FARLINGER: Yes, that is.
- 46 Q Okay.

MS. FARLINGER: But in terms of learning inside the

Department, you've heard some references to it, I think, throughout today and yesterday. One, is that we set some timetables for implementation that relied on science as if science were a deliverable, you could order by March 31st and have it by then. It really didn't take into account the fact that science evolves, it changes, it's taken us this long to come up with a definition of conservation units, which is really a fundamental building block of the first three elements of the Wild Salmon Policy.

I think that we didn't recognize the uncertainty that we were working in, in terms of the science advice we get. I think, also, that this was a far more detailed policy, and I think the deputy made reference to it earlier, that it might not be written today as it was written at the time. It depended on that timing. depended on that sort of perception of science and science advice. It did not necessarily take into account the time for the social changes and the kind of developing, the kind of collaborative processes that would have to accompany those social changes in response to the policy. think we have learned some things about the original view of implementation and the policy. All right. Mr. Bevan?

MR. BEVAN: Just briefly to add to that, perhaps. The key issues around Wild Salmon Policy as it's a reflection of the precautionary approach more generally, is the first thing that has to be done is population identification, what's the spawning component, and in the context of the Wild Salmon Policy that's what are the CUs.

And I think just to add what Ms. Farlinger said, identification of one element of that, of the precautionary approach Wild Salmon Policy is the lower reference point. Those are very difficult to set in terms of how far down can a population go before it's in real risk of irrevocable or significant harm. Those are not easy things to do, and I think by trying to say we're going to have them all available for a large number of CUs on a specific date, we're being naive at the time as to just what of a challenge we're looking at.

I think we've learned that in the absence of

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being able to get to the finish line on all of that detail, we have learned to live with a high 3 level of uncertainty, and we have learned that the Wild Salmon Policy is directional. And even if 5 all the specific reference points, et cetera, are 6 not yet available, it is directional, that it does 7 help us think about how to make decisions in the 8 face of very significant uncertainty on any given 9 year. 10 All right. Thank you. Ms. Farlinger, I 11 understand that you are the --12 Mr. Taylor, are you moving to a THE COMMISSIONER: 13 different topic? 14 MR. TAYLOR: By all means, interject and ask a 15 question. 16 THE COMMISSIONER: I'm sorry to interrupt. I just --17 MR. TAYLOR: No, that's fine. I am moving to a next 18 question, so now's a good time. 19 THE COMMISSIONER: I thought it would be helpful, from 20 my perspective, on page 35 of the Wild Salmon 21 Policy, because I think this is essentially on the 22 topic that you just asked the witnesses about --23 no, I'm looking at the hard copy, Mr. Taylor, I 24 apologize. You might be, if you're looking on the 25 screen, I think it's on the screen. 26 MR. TAYLOR: I've got the same page. 27 In the, I think it's the third THE COMMISSIONER: paragraph, it starts, "This new approach". I'm 28 29 not sure if it's on the screen or not. 30 31

This new approach to salmon conservation is complex, and the pace and effectiveness of implementation will be influenced by two key factors. First, implementation must be accomplished within DFO's existing resource capability and will be phased in over time. Second, it will depend on the effectiveness of our sharing of responsibilities...

I wonder if you could ask the witnesses really two things. Perhaps they've already addressed this and they've already said it. I just want to make sure I understand it. I believe Mr. Bevan, or one of the witnesses, talked about this policy coming into effect in 2005, I think it was June 2005.

MR. TAYLOR: Yes, it was.

THE COMMISSIONER: Now that we're in 2011, we have

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about six years under our belt. First of all, how realistic is that statement, that implementation 3 must be accomplished within DFO's existing resource capability? I'm reading that to mean 5 human and financial resource, but I could be 6 misinterpreting that statement. And secondly, how 7 realistic is it that DFO will find a solution to 8 sharing responsibility with First Nations, 9 governments, volunteers, stakeholders, and other 10 governments? In other words, after six years of 11 working with the Wild Salmon Policy, if I could 12 just get some reality check on these statements, 13 it would be helpful. 14 MR. TAYLOR: All right. 15 Who wants to take that on? Maybe the first very 16 preliminary question is the Commissioner was 17 assuming that when it says there, "within existing resource capability" that that includes both human 18

- and money; is that right, to start?
  MS. FARLINGER: I think that is fair, and I also think
  the comment about --
- Q Okay. Just pausing --
- MS. FARLINGER: -- perhaps naive --
- Q -- there for a moment, I'm just going to put on the record the deputy was nodding. So she agrees with you that it's human and financial resources.
- MS. FARLINGER: Whew.
- Q Carry on.

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- MS. FARLINGER: I think there is, also, a realism about, we need science, we have to work based on it, but we also have to work within the uncertainty about science. So I think that element is part of the learning about the implementation of that, and I think that speaks very much towards taking all the things that we do and all the decisions that are made within a department, either by the minster or on behalf of the minister, it means we will take this into what we already do every day. And I don't think we've made that very clear in that statement.
- Q I think what the deputy -- sorry, what the Commissioner is getting at, though, is the Commissioner, if I understand you, Mr. Commissioner, you're pointing to that first and that second, and they say what they say, but is it really realistic to think that doing it within existing resources is a good -- is that a good or

bad reality check and is it realistic to expect
that there will be sharing of responsibilities; is
that the gist of what you're asking?

THE COMMISSIONER: Precisely.

MS. DANSEREAU: The next paragraph, if I may, says,

"Full implementation will not be achieved

- "Full implementation will not be achieved overnight," has to be added to those other statements.
- THE COMMISSIONER: No, I think my question, Mr. Taylor, was really just having had six years of experience with it, just, at this point in time, how realistic are these statements?
- MS. DANSEREAU: The question of the resources, given the lack of knowledge that was had at the start of this process, makes it clear that it wasn't as realistic as it could have been, and the timelines, I think, that were included, were what was not realistic, because it didn't give enough flexibility to work with the resources that we had, or the Department had at that time.

So in retrospect, I would say, and David may add to this, there was some naivety in the development of this policy.

MR. TAYLOR:

- Q I'm going to -- Mr. Bevan, did you want to add to that?
- MR. BEVAN: Just to note that we did look at seed money to try and move it along, get it started. But the real desire was not so much to add onto a new way of doing business on top of everything we were already doing, but to transform what we were doing, to move from that mixed stock management where we set aggregate to harvest rates and let nature try to take care of itself in the face of our activities and we saw the decline in the mid-1990s we couldn't continue with that type of approach, so we had to shift to weak stock management, and this was just thought of as a transformation. We still invest a lot of money in management of salmon, but we were looking at a transformation.

I think where we got overly ambitious and unrealistic, to some extent, was we had the desire to identify all of the CUs and to set down limit reference points and other specific targets that we've managed to help inform management, and we underestimated the difficulty of that task, et

cetera, but we are following the direction of the Wild Salmon policy, and it's a way we shifted doing business within the resource base that we've got.

So it is -- what was probably unrealistic was our expectation to do all sorts of scientific work that turned out to be way more difficult than we thought. And that turned out to be a problem in all of the precautionary approach. Limit reference points turned out to be very -- much more difficult to work through with our stakeholders and with the science community than we had originally contemplated.

MS. FARLINGER: And I do think, on the matter of collaboration, I think the objective and -- is still realistic. I think the pace at which we've been able to bring people up to the same level of understanding, that is, collect the data and information, implement catch monitoring standards across the board to develop that trust I talked about earlier, they aren't happening with sufficient speed, either of them, to give people a kind of confidence they need to have to come together and have the -- provide the kind of integrated advice that they need to.

But we have made significant advances through the work that went on at the Integrated Salmon Dialogue through the work that's gone on at some of the tables, the Barclay Sound table, other tables. We've made significant progress with the First Nations, all of whom harvest Fraser sockeye for FSC. Five years ago we would not have had a place where those people and DFO could get together and talk about the implications for Fraser sockeye of all those fish. So there have been significant moves forward.

Do we have that place where everyone will get together now for every one of our salmon CUs? No, we don't. But I think there have been significant moves over the last five years.

Q I'm going to ask a further question, picking up on what I understood to be the gist of what the Commissioner was asking and picking up on what some of you, on the panel, have been saying, and it's a question of the panel. The question is:
Where are we at with implementation of the WSP?
But to frame that question, as I have heard

evidence over the last year or so, there are a number of different understandings on what the WSP is or should be or could be, and there is, if you like, as I understand it, a -- what might be considered a sort of prescriptive approach or reading of the policy versus, and we heard some evidence on this earlier today, it being a guiding principle and it's then, as a guiding principle, brought into all of the work one does.

So at one level, one would look at the policy and the literal words and figure out whether this has been -- this can be checked off and that can be checked off and so forth and so on. And another way of looking at it, one looks at, well, what's the thought or the intent or the spirit or the principle that is being put forth, and is that being implemented or not?

So with that context, I come back to the question of the panel: Where are we at, as you see it, with implementation of the WSP?

MR. BEVAN: I'll turn it over to Ms. Farlinger in a second. I think we're definitely there in terms of the kind of advice that we're providing to the minister. In terms of the kinds of harvest rates that we're recommending and the measures needed to protect co-migrating weak stocks, I would suggest to you that the directional -- the policy has pointed us in that direction and we are going in that direction.

I think I'll leave it to Sue to talk about the specific targets that we set for ourselves, et cetera. Clearly, there's a way to go on that. But I would suggest that in the last few years our actions have demonstrated that we are reflecting the spirit of the WSP in our actions and in the decisions that we are taking and that -- in the recommendations that we are giving to the -- or making to the minister.

Ms. Farlinger?

MS. FARLINGER: Well, I'd have to agree with David that if we look at the specific Strategies 1 through 6, we were very ambitious in terms of each one's — one of those. I do think that the policy needs to be implemented in a way that understands the data collection, the decisions about conservation units, various things, various elements of this policy will continue to evolve and change over

time, and in Strategy 5, which is the annual fishing plan, we will always have to take what we have at that time and make decisions and provide the best advice on the basis of that.

And in that, we, as David has said, are operating consistently with the policy. I think we need to clearly, in terms of developing the strategy and differentiating between science advice and the management actions that are taken, or the management decisions, whether they range from allocation through the operation of the fishery, we have to clearly understand the difference between those things. And if I were writing this policy today, I think I might be differentiating between those steps, what is a management decision, what is science advice, and how do those two things come together?

But the principles of the policy really set that out, and I think we're operating consistent with it. I think the idea that all the people that are affected by the implementation of the policy need to be involved in the decision is something that we have accomplished to a great extent through the annual management of the fishery and Integrated Harvest Planning Committee and all the various processes that lead up to that.

I do think we have some work to do on tying together the aboriginal participation in that integrated process, which we are working on. But I certainly think that we are living with the principle that all the people that will be affected by this directly or indirectly will be exposed to the question and have opportunities to input into the decisions that come about as a result of it.

All right. Continuing along some of the same theme, I'm going to turn, now, to Tab 9 of Canada's book of documents, and after that Tab 10. These are extracts of testimony of Dr. John Davis. He's a gentleman known to all of you, I'm sure, and was the RDG at one time, and is now retired.

At Tab 9 in the transcript, at page 40, he's given some evidence on May 30th, where, at page 40, he is asked a question about how the Wild Salmon Policy would fit with the **SARA** legislation. And he says that, "the nature of the Wild" -- this

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 is about line 9 on that page, he says that:

...the nature of the Wild Salmon Policy is to address weak stock management. It's all about trying to decide which components of the individual very complex fish runs need to be managed. Hence the concept of conservation units under the Wild Salmon Policy. How do we define the biodiversity that's there? Where do we set the bar -

- -- and this is the key part --
  - Where do we set the bar with respect to what level of biodiversity you manage to?

And he goes on to say, again, at about line 35, "where do you set the bar?" And then over on Tab 10, which is his evidence from July 8th, when he came back to give evidence, at page 13 of that evidence on July the 8th, towards the bottom of the page there's a paragraph that begins, "So it means to me," this is John Davis -- Dr. John Davis speaking:

So it means to me that one needs to explore this very, very carefully and just where do you set the bar, Mr. Wallace, with respect to protecting weak stocks, and in doing so, what are the implications of that. It could be a very, very different fishery on the West Coast, but one that also has benefits from robust stocks and protecting stocks that are there to provide benefits for the future. And I think it's very much going to boil down to questions about can we get consensus about the tradeoffs that need to be made, can we get the kind of buy-in from the different groups that are involved in the fishery,

and so on, and I think you can see what he's saying there.

With that, what's your reaction, or what comment does the panel have on that and, in particular, what do you say about where to set the bar and how do you do that?

MR. BEVAN: I think that there are very good questions

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raised in this testimony and clearly that's what we've been struggling with for a number of years. You've heard that we are looking at dealing with the uncertainty, dealing with moving our thinking from managing aggregates, managing groups of -- or a population and dealing, now, with the impacts of fishing on co-migrating weaker stocks, and that's what the Wild Salmon Policy's about. But it also gets us into the area of the Species at Risk, where the **Species at Risk** is a very prescriptive piece of legislation, and we have to make very careful decisions in managing our response to recommendations from COSEWIC relative to marine populations. And there's got to be a discussion in that process with society as to how much cost they're prepared to bear in terms of foregoing economic activities, and it's not just fishing; it could be foreshore development or all sorts of other activities that would have to be curtailed in the event that we're looking at every single recommendation and every population, and that's the same kind of question you have under wild salmon.

So I think the issue, here, is that we are moving towards protection of weak stocks, we are moving in that direction. And the question that is posed by Mr. Davis is, "How far is appropriate and how far are we, as a society, prepared to go in terms of curtailing our activities in the marine environment or in the river systems or on land in the watersheds, how far are we prepared to go to achieve the outcome?" And I think that's the discussion and the debate that we have been having in the course of managing -- making management decisions, whether it was a response to Cultus Lake and Sakinaw Lake, in terms of, can they be rebuilt? If so, what's the best approach? We chose the approach of using the Fisheries Act rather than the Species at Risk Act, due to the costs of going down the latter path.

And I think with respect to the Wild Salmon Policy, it's a question of, how far are we prepared to go in curtailing activities on healthy stocks in order to protect the weak stocks? And I think you've seen our actions in the last number of years reflect a shift in that balance, but we haven't landed 100 percent on a formula or

anything of that nature. It's a decision that's taken in the context of the time when you're looking at these choices between protection of population. We don't want to be in a situation where we use today's current events, current ecosystem, where one stock is currently stock and fish to that, then eliminate options for the future where, in future conditions, stocks that are currently strong may be weak, and ones that are weak may be strong. So we need to keep the balance right so that we maintain biodiversity and have more robustness in out years to respond to changing ecosystems. But I think it's a matter of how much cost is society willing to bear in the immediate for that option in the future.

We think we're getting it right in terms of the consultations that we're involved in and trying to make these decisions and not foreclose on the future. And certainly in the British Columbia context, we have a much more balanced dialogue going on because of the different views. It's not just people benefitting from putting things at risk that are involved in that dialogue. It's ENGOs and communities and First Nations and so on. So we have a much richer dialogue in the British Columbia context than we do in some other parts of the country. But it does boil down to just what Mr. (sic) Davis had said, "What's the collective view," as to how far we're going to go down the spectrum of taking fairly draconian actions on people's activities in order to protect weaker stocks.

- Q So Ms. Farlinger, it's 10 to 4:00 on a Friday afternoon, and the Associate Deputy has framed the issues well and offered some comment and, as the Regional Director, you have the challenge, of course, of "What now?" and I'll let you say what you think with regard to what Mr. Davis -- Dr. Davis has been saying and how you handle that, how you -- how we all deal with that.
- MS. FARLINGER: I'll do my best to be brief. I think I'll --
- Q Well, it's an important area, so by all means, take what time you think is needed.
- MS. FARLINGER: The central question which Dr. Davis points out that is central to the Wild Salmon Policy, is, what is the trade-off between

biodiversity and yield? So biodiversity is hedging against the future and things that may happen there that we can't predict now, and yield is, what do we see coming back that people want a harvest for cultural, for recreational, and for economic reasons?

That is the trade-off. And I would reference the report of the Skeena Independent Science Panel. This is a report that was prepared by a number of scientists at the request of the Department in B.C. in 2008. And that panel spent a good deal of time in their deliberations and their report exploring these issues. Looking at, for example, what is the science around this, the various models that can be used to say when you're just actually fishing a stock at something less than the highest yield versus threatening that stock with extinction.

And it won't surprise you that the things that come out in that report is you can make a lot of choices about that because there's uncertainty around the science at that level.

Q All right.

MS. FARLINGER: So I would say that that basic question has attempt -- there is an attempt to address it from a science point of view in that report, and I think it's informative. I think it's also the fact that we've introduced, over the last five years in Pacific fisheries, reform the intention to move towards some kind of a share-based fishery in salmon. And why have we done that? So we can provide the tools for those people with an interest in salmon, commercial, cultural or recreational, can be in a position to have a decent, in this case, commercial fishery, but fish it in a way that deals with that trade-off between biodiversity and yield.

So when we talk about the advantages of a share-based fishery, we talk about being able to prosecute the fishery in a way that avoids weak stock, that helps us optimize the protection of biodiversity while still allowing people to make a decent living to meet their cultural and other requirements. And in fact, what we're trying to do through some of the programs in PICFI, is produce the tools that will allow people to get together and make the kind of decisions about

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At this point, we make those decisions each and every year, and what this strategy -- what this policy calls for is a long-term strategy.

So I think you have to think about, do we have the right tools? Is the mixed stock fishery, which is something we've had for well over 100 years in this -- in B.C., the right tool to manage salmon? And I just would say that it is a complex problem and it has been addressed, to some level, with respect to the science panel advice on Skeena, and this is the core of the issue and the Strategy 4 and that conversation that needs to be held in a rather more public forum in order to inform the minister.

Thank you. Mr. Commissioner, the All right. Skeena report that Ms. Farlinger is referring to is Exhibit 944.

Ms. Farlinger, I'm going to turn to another area and ask you, am I correct that you're the Chief Commissioner for Canada on the Pacific Salmon Commission?

- MS. FARLINGER: That's right.
- And can you say what that position is? I think there's some evidence on that, but if you could just explain, briefly, the structure and what the commissioner or commissioners are?
- MS. FARLINGER: The Commission implements the terms and conditions of the Pacific Salmon Treaty. We -the Pacific Salmon Commission employees, from whom you have heard various biologists and experts, work for the Commission, which is a bilateral commission. There are commissioners, an equal number of commissioners, from both sides, from the United States and from Canada, and it is specifically aimed at the management of salmon stocks that are co-fished and come from one country or the other that are intercepted by that fishery.
- And do I understand that you being the Chief Commissioner for Canada, yourself and a United States chief commissioner would be the two chief commissioners?
- MS. FARLINGER: That's correct.
- And as a result of that position, wearing that hat, if you like, as distinct from your RDG hat, I

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understand that you have knowledge of what the Pacific Salmon Commission is doing and following up on -- with respect to the June 2010 workshop, do you?

MS. FARLINGER: I do.

- Q And what is being done by the Pacific Salmon Commission to follow up? We've heard quite a bit what DFO is doing, Dr. Richards in particular. What's the Salmon Commission doing?
- MS. FARLINGER: The Salmon Commission, which is, of course, supported by DFO in Canada, and also the Province of B.C. --
- Q And the United States, too?
- MS. FARLINGER: And in the United States, by their regulatory agencies from both the states and the federal agency, have directed the Commission to follow up on the workshop. And what is currently going on is an inventory of the work across not only DFO but, as Laura mentioned, the academic community and otherwise, with respect to the key areas that were identified as potential causes for the decline of sockeye.

That inventory of work and the progress on it will be reported back at our executive session in October of this year, and it is certainly being discussed at the Commission as to how that inventory will be put into place to get the information out to the broad science community about what those priorities are, but also, who is working on what and where are the opportunities to close some of the gaps that were identified not only in the PSC salmon workshop, but as you've heard from Laura, some of the follow-up that's been done on both sides.

- Q All right. Thank you. Just a couple of quick things, as we approach the top of the hour. May we go to Tab 41 of Canada's book of documents. This is a letter of September 22nd, 2009, to you, Deputy, from Wayne Wouters, and you recognize him as being the Clerk of the Privy Council, I take it?
- MS. DANSEREAU: I do.
- Q And is this the letter that appoints you as the Champion of Science for the Federal Service?
- MS. DANSEREAU: Yes.
  - MR. TAYLOR: May that be the next exhibit, please.
- 47 THE REGISTRAR: Exhibit 1925.

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PANEL NO. 65
Cross-exam by Mr. Taylor (CAN)

EXHIBIT 1925: Letter to Claire Dansereau from Wayne Wouters, Clerk of the Privy Council, dated September 22, 2009

## MR. TAYLOR:

- Q And then if we turn to Tab 44 of Canada's book of documents, we have a very colourful, what I believe is a media article. Do you recognize that, Deputy?
- MS. DANSEREAU: Somewhat, yes.
- MR. TAYLOR: Okay. All right. I'm going to leave it for now, then, I think. We might come back to that on Monday.

I'm going to launch into something that will take a few moments, so it's probably best if we may adjourn. By my count, and Mr. McGowan or Ms. Chan will correct me, but by my count I have 40 or 45 minutes on Monday. I put an "or" in there and they're nodding to both, so I'll take 45.

- MR. McGOWAN: Mr. Commissioner, I think with the 10-minute break this afternoon, Mr. Taylor has 40 minutes left on his allotment.
- MR. TAYLOR: Thank you.
- THE REGISTRAR: The hearing is now adjourned for the day and will resume on Monday, at ten o'clock.

(PROCEEDINGS ADJOURNED TO SEPTEMBER 26, 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.

## 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.

## 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