

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



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

Public Hearings

Audience publique

Commissioner

L'Honorable juge /
The Honourable Justice
Bruce Cohen

Commissaire

Held at:

Room 801
Federal Courthouse
701 West Georgia Street
Vancouver, B.C.

Friday, October 29, 2010

Tenue à :

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

le vendredi 29 octobre 2010

APPEARANCES / COMPARUTIONS

Brian J. Wallace Lara Tessaro	Senior Commission Counsel Associate Commission Counsel
Mitchell Taylor, Q.C. Jonah Spiegelman	Government of Canada
Boris Tyzuk, Q.C. D. Clifton Prowse, Q.C.	Province of British Columbia Pacific Salmon Commission
Chris Buchanan	B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("BCPSAC")
David Bursey	Rio Tinto Alcan Inc. ("RTAI")
Alan Blair Shane Hopkins-Utter	B.C. Salmon Farmers Association ("B.C.SFA") Seafood Producers Association of B.C. ("SPAB.C.")
Gregory McDade, Q.C.	Aquaculture Coalition: Alexandra Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society ("AQUA")
Judah Harrison	Conservation Coalition: Coastal Alliance for Aquaculture Reform Fraser Riverkeeper Society; Georgia Strait Alliance; Raincoast Conservation Foundation; Watershed Watch Salmon Society; Mr. Otto Langer; David Suzuki Foundation ("CONSERV")
Don Rosenbloom	Area D Salmon Gillnet Association; Area B Harvest Committee (Seine) ("GILLFSC")

APPEARANCES / COMPARUTIONS, cont'd.

David Butcher	Southern Area E Gillnetters Assn. B.C. Fisheries Survival Coalition ("SGAHC")
Christopher Harvey	West Coast Trollers Area G Association; United Fishermen and Allied Workers' Union ("TWCTUFA")
Keith Lowes	B.C. Wildlife Federation; B.C. Federation of Drift Fishers ("WFFDF") Maa-nulth Treaty Society; Tsawwassen First Nation; Musqueam First Nation ("MTM") Western Central Coast Salish First Nations: Cowichan Tribes and Chemainus First Nation Hwlitsum First Nation and Penelakut Tribe Te'mexw Treaty Association ("WCCSFN")
Brenda Gaertner Leah Pence	First Nations Coalition: First Nations Fisheries Council; Aboriginal Caucus of the Fraser River; Aboriginal Fisheries Secretariat; Fraser Valley Aboriginal Fisheries Society; Northern Shuswap Tribal Council; Chehalis Indian Band; Secwepemc Fisheries Commission of the Shuswap Nation Tribal Council; Upper Fraser Fisheries Conservation Alliance; Other Douglas Treaty First Nations who applied together (the Snuneymuxw, Tsartlip and Tsawout)
Barbara Harvey Rob Miller	Adams Lake Indian Band Carrier Sekani Tribal Council ("FNC") Council of Haida Nation

APPEARANCES / COMPARUTIONS, cont'd.

	Métis Nation British Columbia ("MNB.C.")
Tim Dickson	Sto:lo Tribal Council Cheam Indian Band ("STCCIB")
	Laich-kwil-tach Treaty Society James Walkus and Chief Harold Sewid Aboriginal Aquaculture Association ("LJHAH")
Lisa Fong	Heiltsuk Tribal Council ("HTC")
Krista Robertson	Musgagmagw Tsawataineuk Tribal Counsel ("MTTC")

TABLE OF CONTENTS / TABLE DES MATIERES

	PAGE
PANEL NO. 2 (continuing):	8
JOHN REYNOLDS	
Cross-exam by Mr. Butcher (SGAHC) (cont'd)	1
Cross-exam by Mr. Harvey (WCTAGA & AFAWU)	9
Cross-exam by Ms. Gaertner (FNC)	20/25/29/30/35/37
Cross-exam by Mr. Dickson (STCCIB)	38
Cross-exam by Ms. Robertson (MTTC)	47
Cross-exam by Mr. Taylor (Canada)(cont'd)	49
DAVID CLOSE	
Cross-exam by Mr. Butcher (SGAHC) (cont'd)	8
Cross-exam by Ms. Gaertner (FNC)	21/27/32/37
Cross-exam by Mr. Dickson (STCCIB)	40
Cross-exam by Ms. Fong (HTC)	43
Cross-exam by Ms. Robertson (MTTC)	47
Cross-exam by Mr. Blair (BCSFA)(cont'd)	53
TERRY GLAVIN	
Cross-exam by Mr. Harvey (WCTAGA & AFAWU)	13
Cross-exam by Ms. Gaertner (FNC)	21/30/35/38
Cross-exam by Mr. Dickson (STCCIB)	41
Cross-exam by Ms. Robertson (MTTC)	47
Cross-exam by Mr. Taylor (Canada)(cont'd)	48/51
ROB MORLEY	
Cross-exam by Mr. Butcher (SGAHC)(cont'd)	9
Cross-exam by Mr. Harvey (WCTAGA & AFAWU)	16
Cross-exam by Ms. Gaertner (FNC)	22/35/38
Cross-exam by Mr. Dickson (STCCIB)	41
Cross-exam by Ms. Robertson (MTTC)	47

EXHIBITS / PIECES

<u>No.</u>	<u>Description</u>	<u>Page</u>
13	UN Convention on Biological Diversity	31

1
PANEL NO. 2
John Reynolds
Cross-exam by Mr. Butcher (SGAHC) (cont'd)

Vancouver, B.C. /Vancouver (C.-B.)
October 29, 2010/le 29 octobre 2010

1
2
3
4 THE REGISTRAR: Order. The hearing is now resumed.
5 MR. WALLACE: Good morning, Commissioner Cohen. It's
6 Brian Wallace, Senior Commission Counsel. And Mr.
7 Butcher, if I might, I just have a couple of
8 preliminary matters I'd like to raise just with
9 respect to process.

10 The material documents and several listed
11 documents and summaries of evidence has now been
12 emailed to everybody. I do apologize for the
13 delay in getting that material to everybody, but
14 the process is that summaries of evidence are
15 provided to the witnesses to make sure that that
16 is, in fact, what they will say, and the last of
17 those summaries was only returned to us this
18 morning. So we're trying to streamline our
19 timeline on that.

20 The second thing, for next week, is on
21 Wednesday one of the witnesses is in Paris and she
22 will be attending by video link, and because of
23 the time change, we will start the hearing on
24 Wednesday morning at 8:30.

25 Thank you.

26 THE COMMISSIONER: Mr. Butcher?

27 MR. BUTCHER: Mr. Commissioner, I've asked Mr. Lunn to
28 pull up Exhibit 11, and he has done that.

29 THE REGISTRAR: Microphone, please.

30 MR. BUTCHER: Sorry. It's David Butcher.

31
32 CROSS-EXAMINATION BY MR. BUTCHER, continuing:
33

34 Q Dr. Reynolds, Mr. Leadem put this document to you
35 yesterday, and you told us that this was a -- this
36 statement was produced after a think-thank meeting
37 of scientists in early December of 2009, and that
38 those scientists had gathered to examine the
39 shortfall in the 2009 sockeye runs.

40 DR. REYNOLDS: Yes.

41 Q You also told us, yesterday, that Department of
42 Fisheries and Oceans staff had been told they
43 could not attend this meeting.

44 DR. REYNOLDS: Yes.

45 Q Who told you that?

46 DR. REYNOLDS: I believe Patricia Gallagher, from the
47 Centre for Coast Studies at SFU, told me that.

2

PANEL NO. 2

John Reynolds

Cross-exam by Mr. Butcher (SGAHC) (cont'd)

1 Q Did she tell you why they were forbidden to
2 attend?

3 DR. REYNOLDS: My recollection was that there was a
4 concern -- by the time we were holding this,
5 although we had made plans for this workshop
6 before the Cohen Commission had been announced, by
7 the time it was in play, that announcement had
8 come out, and as of that point, as in -- as at
9 that point, there were concerns, I am told. So
10 this is me telling you what someone else told me,
11 okay? But my understanding was that there were
12 concerns about DFO staff participating in a forum
13 such as this which would lead to public statements
14 which might then conflict with official
15 departmental positions or other testimony that
16 individuals might be giving to this commission.

17 Q I left on your desk this morning, a list of the
18 participants at this conference, and I found this
19 overnight, after looking at the history of this
20 matter on the internet. They included a Dr. Susan
21 Allen, a physical oceanographer?

22 DR. REYNOLDS: Yes.

23 Q Mark Angelo, who was Chair of the Pacific
24 Fisheries Resource Conservation Counsel?

25 DR. REYNOLDS: Yes.

26 Q Dr. Ken Ashley, who had 25 years of experience
27 with the B.C. Ministry of Environment?

28 DR. REYNOLDS: Yes.

29 Q Patricia Gallagher, who is an adjunct professor
30 in biosciences at Simon Fraser?

31 DR. REYNOLDS: Yes.

32 Q A fellow called Kees Groot, who was a scientist
33 emeritus from DFO?

34 DR. REYNOLDS: Yes.

35 Q A UBC fisheries scientist, called Scott Hinch?

36 DR. REYNOLDS: Yes.

37 Q A Dr. Jeffrey Hutchings, whose field of study was
38 salmonid fisheries?

39 DR. REYNOLDS: Yes.

40 Q Mike Lapointe, who we heard from on Monday?

41 DR. REYNOLDS: Yes.

42 Q Dr. Connie Lovejoy, a fishery biologist?

43 DR. REYNOLDS: Yes.

44 Q Dr. Nathan Mantua, a professor in the school of
45 aquatic and fishery studies -- or fishery sciences
46 at the University of Washington?

47 DR. REYNOLDS: Okay, so we need to clarify something.

3

PANEL NO. 2

John Reynolds

Cross-exam by Mr. Butcher (SGAHC) (cont'd)

1 He was unable to attend. He was invited, but he
2 was unable to attend. And that's, to my
3 recollection, everyone else you've mentioned did
4 attend. I'm not sure that Susan Allen was there.

5 Q Dr. Catherine Michielsens?

6 DR. REYNOLDS: Yes.

7 Q From Imperial College, in London?

8 DR. REYNOLDS: Yes, she was there.

9 Q Dr. Arne Mooers is a Simon Fraser professor?

10 DR. REYNOLDS: Yes.

11 Q Alexandra Morton, who is Mr. Dade's client in
12 these proceedings?

13 DR. REYNOLDS: Yes.

14 Q Craig Orr, a behavioural ecologist from Watershed
15 Watch?

16 DR. REYNOLDS: Yes.

17 Q I think one of Mr. Leadem's clients. Randall
18 Peterman, a professor in the School of Resource
19 and Environmental Management?

20 DR. REYNOLDS: Yes.

21 Q Sorry, that was at Simon Fraser.

22 DR. REYNOLDS: Simon Fraser.

23 Q Yourself?

24 DR. REYNOLDS: Yes.

25 Q Brian Riddell, who is the president of the Pacific
26 Simon Foundation?

27 DR. REYNOLDS: Yes.

28 Q That should be Dr. Brian Riddell?

29 DR. REYNOLDS: Yes.

30 Q Dr. Marvin Rosenau, a local fishery biologist?

31 DR. REYNOLDS: Yes, he's with BCIT.

32 Q A fellow called Rick Routledge?

33 DR. REYNOLDS: I'm pretty sure he was there.

34 Q Mike Staley, a -- sorry, and Rick Routledge is a
35 professor at Simon Fraser?

36 DR. REYNOLDS: Yes.

37 Q Mike Staley, a professional biologist locally?

38 DR. REYNOLDS: I'm pretty sure he was unable to attend.

39 Q Ken Wilson, a representative of the Marine
40 Conservation Caucus?

41 DR. REYNOLDS: Yes.

42 Q Howie Wright, a fisheries manager from the
43 Okanagan National Alliance Fisheries Department?

44 DR. REYNOLDS: Yes.

45 Q A collection of people both locally and
46 internationally, who clearly have a lot of
47 knowledge about managing the fishery?

1 DR. REYNOLDS: Yes. And I'd just like to add, for the
2 record, to the best of my recollection of who
3 actually came. There was a lot of to-ing and fro-
4 ing as we put this together, but to the best of my
5 recollection, this is the group, and I would agree
6 with your characterization of them.

7 Q And you would agree, I take it, that it would be
8 useful for the managers of the fishery, locally,
9 to attend such meetings, even if it was only for
10 listening purposes?

11 DR. REYNOLDS: Yes, it was -- yes. And just to be
12 clear, biologists in particular. Scientists, not
13 just biologists, but scientists from the
14 department, yes.

15 Q And turning to the document itself, the conclusion
16 of this particular think-tank, and I'm looking at
17 the second paragraph with respect to the 2009
18 collapse, the second sentence reads, simply --
19 I'll read the first two sentences of that
20 paragraph:

21
22 We believe that expectations in 2009 for
23 Fraser sockeye were overly optimistic because
24 forecasts did not adequately account for this
25 decreased productivity. The trend is not due
26 to fishing.

27
28 Have I read that correctly?

29 DR. REYNOLDS: Yes, you have. I don't have the
30 document right in front of me, but that sounds
31 fine. I didn't bring my binoculars, either, but I
32 almost have it on my screen, if you'll...

33 Q Okay. Sorry, we're trying to do this without
34 paper.

35 DR. REYNOLDS: Thank you.

36 MR. TAYLOR: Just while that's happening, I wonder if
37 Mr. Butcher is going to put this on the rest of
38 our desks.

39 MR. BUTCHER: It's an exhibit that's been marked. It's
40 Exhibit 11.

41 MR. TAYLOR: No; the list of attendees.

42 MR. BUTCHER: I have copies for everybody. I had a
43 discussion with commission counsel beforehand.
44 Well, I'll let Mr. Wallace address the issue of
45 exhibits and paper.

46 MR. WALLACE: Mr. Commissioner, Mr. Butcher wanted to
47 put the names of the attendees of a conference

1 which had come into evidence yesterday. He
2 provided me and the witness with the attendance
3 list, which he read from. I objected to the fact
4 that he was going to introduce a document with
5 information that no one had seen before, and I
6 understood from Mr. Butcher that the only point
7 was to determine who the attendees were at the
8 conference, which came into evidence yesterday,
9 and I take the document as simply being an aid
10 memoir for that list, and I wasn't intending that
11 it would be marked as an exhibit; it simply was a
12 list that Mr. Butcher put orally to the witness,
13 the witness confirmed who was and who he could not
14 recall was there, and I took that to be the sole
15 point that Mr. Butcher was to make, and I didn't
16 think it was necessary to mark the exhibit.

17 If others want it in, it offends our Rule 61.
18 I can see how it came up, because it deals with
19 something that happened yesterday, and I think
20 that's the issue, but I'm not sure Mr. Butcher
21 needs to have it in, and I'm not sure he's asking
22 to have it in.

23 MR. TAYLOR: I'm not asking or advocating it be an
24 exhibit, I'd just like to know what witnesses have
25 in front of them.

26 MR. WALLACE: That's a fair comment.

27 MR. BUTCHER: And I'm content with the questions,
28 although my preference, frankly, would be that the
29 document be marked as an exhibit.

30 THE COMMISSIONER: Which document are you speaking of,
31 Mr. Butcher?

32 MR. BUTCHER: The bio sketches of the people that
33 attended the conference that led to the statement
34 that's been marked as Exhibit 11.

35 THE COMMISSIONER: Ms. Gaertner?

36 MS. GAERTNER: It's Brenda Gaertner, for the First
37 Nations Coalition. I wonder if we could have a
38 copy of it?

39 MR. BUTCHER: Sure. I have brought a limited number of
40 copies.

41 THE COMMISSIONER: I think, for now, then, we'll leave
42 it, Mr. Butcher. Counsel can look at the copies
43 you've provided and they can address it later if
44 they think there's a reason to mark it.

45 MR. BUTCHER: Certainly.

46 Q You were one of the -- you, Dr. Reynolds, were one
47 of the members of the steering committee for the

6

PANEL NO. 2

John Reynolds

Cross-exam by Mr. Butcher (SGAHC) (cont'd)

1 March 2010 SFU summit on Fraser River sockeye
2 salmon --

3 DR. REYNOLDS: Yes.

4 Q -- is that correct?

5 DR. REYNOLDS: That's correct.

6 Q And there were 34 speakers at that two-day summit?

7 DR. REYNOLDS: I don't recall.

8 Q I've put the list in front of you.

9 DR. REYNOLDS: Well, I could take your word for it, or
10 we could pause while I count. It sounds like the
11 right ballpark.

12 Q We can agree that it's about 30 speakers?

13 DR. REYNOLDS: Fine.

14 Q There were none from DFO there, were there?

15 DR. REYNOLDS: No.

16 Q Was there a reason for that?

17 DR. REYNOLDS: It was the same reason that I explained
18 for the original think-tank in December 2009.

19 Q Historically, had Department of Fisheries and
20 Oceans scientists participated in these kinds of
21 panels in the community?

22 DR. REYNOLDS: Yes.

23 Q Did you receive any advice whilst you were
24 preparing for this conference from anybody at DFO
25 about why they would not be attending?

26 DR. REYNOLDS: I didn't have any direct contact with
27 anyone from DFO, myself.

28 Q Did you hear anything from one of the other
29 members of the steering committee, perhaps?

30 DR. REYNOLDS: Yes, my recollection was that an attempt
31 was made to bring them to this meeting, as we
32 typically do at SFU, but that they were unable to
33 comply or to accept our invitation.

34 DR. REYNOLDS: Now, you have the document in front of
35 you. There were three findings, or three
36 recommendations for further work. The first
37 involved a conclusion by you that -- sorry, I'm
38 going back to the document of Exhibit 11. The
39 first was a conclusion that there was a lack of
40 empirical data on the different sockeye
41 populations and that you needed to do more work in
42 that area?

43 DR. REYNOLDS: Yes.

44 Q Was it your collective view that there was
45 insufficient population data on the various
46 sockeye populations in the watershed, or merely
47 that you hadn't collected them?

1 DR. REYNOLDS: Well, we had Mike Lapointe and Catherine
2 Michielsens from the Pacific Salmon Commission as
3 participants in that think-tank, and we had a
4 presentation from Michael Lapointe, which
5 summarized a lot of the information available on
6 the different stocks and their status and trends,
7 so we felt that this was not an analytical
8 exercise; it was two days of considering the
9 information that we could put together as
10 basically a first kick at the can. So we had, I
11 think, sufficient information in front of us to --
12 okay, so your question is: Was there more
13 information that we did not have access to, sorry?

14 Q And then, was there more information that you
15 determined should be obtained?

16 DR. REYNOLDS: Yes. It was really more the latter. It
17 was that -- well, we certainly -- to refer to your
18 point, you're referring to point 1; is that right?

19 Q Yes.

20 DR. REYNOLDS: Okay. If I can just quote it and then
21 pick it apart.

22
23 First, there is a need to assemble and
24 analyze all existing data on Fraser river
25 sockeye health and condition and to estimate
26 survival throughout their life cycle. The
27 gaps revealed in this review merit immediate
28 attention to explain changes in the survival
29 of Fraser sockeye by life stages.

30
31 By that, we were really referring to the fact
32 that if the data did exist, we certainly didn't
33 have them, and we were mostly concerned about the
34 need for new information that did not exist. That
35 was the main thrust of our point there.

36 Q And what do you know, if anything, has been done
37 to satisfy the need that you've identified in that
38 paragraph?

39 DR. REYNOLDS: Well, you cannot -- the sort of data
40 that we would like would be a time trend
41 understanding, for example, of diseases that wild
42 fish might have at the critical, early juvenile
43 stage in the sea, and those sorts of things. You
44 cannot just suddenly make those data appear. That
45 implies search programs. So I don't know if
46 anyone has, in response to this, gone out and
47 launched a program, but if they have, it would be

1 just the beginning of such an exercise.

2 MR. WALLACE: Mr. Commissioner, Mr. Butcher is well
3 over his time estimate, and although these
4 questions, I don't think, are on the topic that
5 we're here to address.

6 MR. BUTCHER: Given the time issue -- the problem is
7 these witnesses are not coming back, none of them,
8 as I understand it. But maybe other witnesses who
9 are dealing with these subjects are coming back.

10 I'll turn to some of the evidence that some of
11 these witnesses have given, quickly, if I may.

12 Q Dr. Close, you have told us about the value of
13 Aboriginal traditional knowledge and the need to
14 insert, if I may, that knowledge, for want of a
15 better term, we've been calling western science.
16 And I heard, during your evidence, some very
17 general principles, but I'm wondering if there are
18 any specific areas where you think Aboriginal
19 traditional knowledge would be particularly
20 useful?

21 DR. CLOSE: Yes. Well, first of all, it's considered
22 indigenous knowledge and then TEK, traditional
23 ecological knowledge, is considered as a subset of
24 indigenous knowledge. And also, I also, yesterday
25 in the evidence, I mentioned that both of them -
26 and I promote both of them - should be used in
27 attaining knowledge about biological questions
28 needed for management. So I'll just try to
29 straighten that out.

30 I think that, yeah, there are examples and
31 there are many things that western science and
32 society, the research that's going on in the
33 Fraser right now, may not be addressing, and there
34 are fisheries or species that may be in trouble
35 that aren't being addressed, and this traditional
36 knowledge might be the only knowledge base, and we
37 need to be able to tap that and for better
38 management. For example --

39 Q And I think we'd all agree that any knowledge from
40 any source is useful, but it's the examples that I
41 was interested in.

42 DR. CLOSE: Yeah, well, like oolichan, traditional
43 knowledge on oolichan, they're basically about to
44 be listed, I believe they should be, and they are
45 in the Columbia, they were just listed as
46 endangered, and there really hasn't been much work
47 at all on oolichan using western science, you

PANEL NO. 2

David Close, Rob Morley

Cross-exam by Mr. Butcher (SGAHC) (cont'd)

John Reynolds

Cross-exam by Mr. Harvey (WCTAGA/UFAWU)

1 know, scientific methods. So I think that with
2 that being said, I think there's a lot of
3 knowledge based on thousands of years of use and
4 harvest by First Nations and tribes in the States,
5 so that's my main point.

6 Q And one last question for you, Mr. Morley. You
7 mentioned that the history of the sockeye harvests
8 in Alaska was rather different than the recent
9 history in British Columbia?

10 MR. MORLEY: That's correct.

11 Q Would you think it would be useful for this
12 commission to gather evidence from Alaska about
13 their management strategies?

14 MR. MORLEY: I definitely think it would be useful for
15 the commission to look at their sockeye management
16 programs and strategy for how they manage the
17 balance between biodiversity and harvest, yes, I
18 do.

19 Q Is there anybody in the panel who disagree with
20 that comment? I note there's silence.

21 MR. BUTCHER: Thank you, those are my questions.

22 THE COMMISSIONER: Mr. Wallace, just --

23 MR. WALLACE: Thank you. I --

24 THE COMMISSIONER: Just for the record, Mr. Wallace, I
25 think Ms. Tessaro is with you again this morning.
26 Can we put her in --

27 MR. WALLACE: Thank you. With me is Ms. Lara Tessaro.
28 Mr. Harvey.

29 MR. HARVEY: Chris Harvey for the Area G Trollers and
30 the UFAWU.

31

32 CROSS-EXAMINATION BY MR. HARVEY:

33

34 Q My first question is to Dr. Reynolds. Dr.
35 Reynolds, you described the two roles which should
36 be separately identified; the scientific role and
37 the determination of objectives. But the sum of
38 your evidence, isn't it, is this; that science
39 does have a proper and appropriate use in
40 informing fisheries managers on scientific aspects
41 and impacts of their decisions?

42 DR. REYNOLDS: Yes.

43 Q Yes. Because one thing you don't want, of course,
44 is uninformed decision-making. Now, on issues of
45 scientific aspects and impacts, would you include
46 economics within the body of science that should
47 inform DFO managers? I'm not meaning to pick a

1 fight between you and Mr. Morley, but...

2 DR. REYNOLDS: Oh, we're able to do that on our own. I
3 wasn't referring to economics.

4 Q No. But as a general proposition, would you agree
5 that economics should also inform fishery manager
6 decision-makers?

7 DR. REYNOLDS: For the management decision-makers, yes,
8 because clearly decisions that are made about
9 salmon management will have economic costs and
10 benefits, and one of the benefits that we derive
11 from salmon is certainly economic.

12 Q Yes. Now, Mr. Morley's evidence -- I haven't got
13 the exact transcript, but my note is that - and
14 I'm asking this question of Dr. Reynolds, whether
15 he agrees with the general import of this - Mr.
16 Morley said:

17
18 So managers must be forced to analyze what
19 impacts are to both the resource and the
20 beneficial users of the resource and to
21 quantify them, rather than the current system
22 that is consultative and asks for opinions
23 rather than analysis.

24
25 Dr. Reynolds, do you agree with the general
26 tenor of that comment in that the current system
27 of consultation at any rate runs the risk of
28 decision-making on uninformed public opinion
29 rather than sound analysis?

30 DR. REYNOLDS: I don't actually feel qualified to
31 answer that, because I have not spent a great deal
32 of time -- in fact, I haven't really spent any
33 time on that edge of the decision-making process.

34 Q I see. All right. I wanted to ask you one other
35 subject, that's what you said about the
36 precautionary principle. The Wikipedia
37 definition, that source of all knowledge, defines
38 it, I think, in the same way that you define it.
39 I just want to get it clear.

40
41 The precautionary principle states that if an
42 action or policy has a suspected risk of
43 causing harm to the public or to the
44 environment, in the absence of scientific
45 consensus that the action or policy is
46 harmful, the burden of proof that it is *not*
47 harmful falls on those taking the action.

11
PANEL NO. 2
John Reynolds
Cross-exam by Mr. Harvey (WCTAGA/UFAWU)

1 Is that basically correct?
2 DR. REYNOLDS: Yes, I think that's --
3 Q Thank you.
4 DR. REYNOLDS: -- pretty much consistent with the way
5 I've framed it.
6 Q Yes. And in the area we're dealing with there
7 are, of course, areas of scientific controversy?
8 DR. REYNOLDS: Yes.
9 Q Yes. And in such cases, the action or question
10 should not be taken in areas where one side of the
11 controversy asserts that the action is harmful to
12 the public or the environment, the principle
13 would, properly applied, would indicate that
14 action should not be taken unless and until proven
15 not to be harmful; is that correct?
16 DR. REYNOLDS: Can you just state that one more time,
17 sorry?
18 Q In cases where the action in question, and I'm
19 talking about management decisions or policy,
20 where that -- where there's scientific controversy
21 and one side of the controversy indicates that the
22 action is detrimental to sustainable use of the
23 resource, then the precautionary principle would
24 indicate that the action should not be taken until
25 it is proven that it is not harmful to the
26 resource?
27 DR. REYNOLDS: Yes.
28 Q Yes, all right. Now, would the phenomenon of
29 over-escapement be one of those areas where there
30 is an absence of scientific consensus as to
31 whether it is harmful or not?
32 DR. REYNOLDS: Can you define "harmful", please?
33 Q Harmful to productivity in the sense of being
34 harmful or detrimental to the reproductive
35 capacity of the conservation unit in question.
36 DR. REYNOLDS: Well, it raises the point of -- okay,
37 the answer is, if all you're concerned about is
38 the reproductive capacity of the stock, then I
39 would agree with your statement that there is lack
40 of scientific consensus on that, and in that case
41 you could apply the precautionary principle to
42 that particular objective. But I want to be clear
43 that that is an objective-specific application of
44 that rule and that there could be other objectives
45 which --
46 Q Yes.
47 DR. REYNOLDS: -- might require a different

1 application. I think we're coming back into the
2 zone - I'm not trying to make it complicated - but
3 I honestly believe that we're back in the zone of
4 deciding how we approach the precautionary
5 principle and management of different potential
6 objectives.

7 Q All right. We haven't had a discussion, yet, of
8 the Ricker's curve, but there is a body of
9 scientific opinion that if you put too many
10 spawners on the spawning grounds, the late
11 arrivals will destroy the eggs and nests of the
12 earlier ones and the alevins and fry, they exceed
13 the carrying capacity of the system; correct?

14 DR. REYNOLDS: Sorry, is your question is there
15 evidence for that, or --

16 Q No. Is there a body of scientific opinion
17 supporting that?

18 DR. REYNOLDS: The strongest consensus of scientific
19 opinion that I am aware of was the report that was
20 done for the Pacific Fisheries Resource
21 Conservation Council by Karl Walters and Brian
22 Riddell, and I believe one other author, possibly.

23 MR. GLAVIN: Tom Quinn.

24 DR. REYNOLDS: It was Tom Quinn, I'm told, which
25 suggested that the weight of evidence was that
26 this was a very rare phenomenon in terms of its
27 impacts on returns four years later. There is no
28 question that the salmon can dig up each other's
29 nests. I think the controversy, if you want to
30 put it like that, or that the key question that we
31 are interested in, I know that commercial industry
32 is interested in, is whether that has the effect
33 of reducing the number of adults that will be
34 returning four years later. And on that, the
35 PFRCC document is the best evidence that I have --

36 Q All right. Well --

37 DR. REYNOLDS: -- that I know of.

38 Q -- I won't pursue that further with you, because I
39 expect we'll have --

40 MR. WALLACE: Thank you.

41 MR. HARVEY: -- ample evidence on that.

42 Q Mr. Glavin, you made mention of the so-called 1992
43 collapse and the events of 1994 that were followed
44 by a review board finding - and we now have the
45 transcripts, so I can get this right - that:
46
47 ...aggressive fishing...had so imperilled the

13
PANEL NO. 2
Terry Glavin
Cross-exam by Mr. Harvey (WCTAGA/UFAWU)

1 Fraser River sockeye runs that "One more 12-
2 hour opening could have virtually eliminated
3 the late run in the Adams River."
4

5 That was the review board, I think, chaired
6 by John Fraser following the 1994 fishery; is that
7 correct?

8 MR. GLAVIN: That's correct.

9 Q And that one statement, I expect that you can
10 appreciate it, with your background as a
11 journalist, immediately caught the public's
12 attention. It was an effective sound bite;
13 correct?

14 MR. GLAVIN: Perhaps not as effective as it might have
15 been. I don't know how to gage the effectiveness
16 of that statement as a sound bite.

17 Q Would you not agree with me that that was the
18 single most effective statement leading to a
19 transformation of the structure of the salmon
20 fishing industry in the west coast?

21 MR. GLAVIN: I certainly would not.

22 Q No, all right. Do you recall it immediately
23 caught the minister's attention?

24 MR. GLAVIN: I do.

25 Q Did it not -- well, at any rate, whether it was
26 causative or not, you mentioned that by 2002 the
27 run had revived to such an abundance that another
28 federal review was ordered; is that correct?

29 MR. GLAVIN: It was not ordered because the run had
30 revived to abundance, but it had revived to some
31 abundance.

32 Q But you said this time it was:

33
34 ...to examine industry complaints that the
35 fisheries managers had allowed too many
36 sockeye to make it through the coastal
37 fishery gauntlet. There were alarms about an
38 ecological catastrophe that had befallen the
39 Adams river sockeye, this time on account of
40 too many spawners being allowed to make it
41 back to their spawning grounds.
42

43 MR. GLAVIN: That's my recollection, yes.

44 Q And you answered that by saying:

45
46 ...the offspring of the 2002 catastrophe
47 somehow made it back to the Adams River in

1 2006 and their offspring made [it] back to
2 the mouth of the Fraser River in 2010 in
3 numbers unseen in anyone's lifetime.
4
5 And you compared the biomass to that of the
6 population of the City of Vancouver.
7 MR. GLAVIN: Yeah, I might have been actually shy on
8 that. I was just, this morning, thinking it may
9 actually be closer to the combined population of
10 Vancouver and Burnaby.
11 Q All right. But any rate, you were attributing the
12 success in 2010 to the escapement in 2002, in
13 some --
14 MR. GLAVIN: You may remember that I - and I may have
15 spoken too quickly - but I did caution that we not
16 draw cause and effect lines too clearly from this.
17 Q No, I'm not asking --
18 MR. GLAVIN: I don't think it's directly attributable
19 in that quite so easily.
20 Q Indirectly attributable?
21 MR. GLAVIN: It may be. It may be. I think, as I
22 recall, I did raise -- I think I may have used the
23 word "irony" when I was addressing that point.
24 Q Yes, all right. Well, I'd just like to examine it
25 a little more closely, now. Firstly, with the --
26 this question goes to the extent of your research
27 in this area. Have you had a look at the book
28 published by the Pacific Salmon Commission written
29 by John Roos and entitled, *Restoring Fraser*
30 *River* --
31 MR. GLAVIN: *Salmon*.
32 Q -- *Salmon*, yes.
33 MR. GLAVIN: Yes.
34 Q Yes. Do you recall a discussion in that book
35 about the 1958 run being the - which was a run of
36 about 15 million, I think - the largest run, prior
37 to 2010, in recent times?
38 MR. GLAVIN: I believe I do, yes.
39 Q Do you recall a section on optimum escapement
40 determinations?
41 MR. GLAVIN: Not specifically, no.
42 Q All right. The 1958 run, do you recall that the
43 grandparents of that run in the -- 1950, there was
44 only 1.2 spawners in the Adams system and it
45 produced a return, in 1954, of nine million; do
46 you recall that?
47 MR. GLAVIN: I don't recall that.

15
PANEL NO. 2
Terry Glavin
Cross-exam by Mr. Harvey (WCTAGA/UFAWU)

1 Q Okay.
2 MR. GLAVIN: It wouldn't surprise me to learn this.
3 All right, well, we'll get that when the
4 commission comes.
5 MR. WALLACE: The risk on this, of course, is we're
6 getting into areas which will be considered in
7 detail during the course of the hearing, as
8 opposed to the overview on the concepts of
9 conservation sustainability, which is the topic of
10 this panel.
11 MR. HARVEY: Yes, all right. Well, thank you.
12 Q With respect to what you said in 2002, the facts
13 are, are they not, that in 2002 the amount that
14 reached the spawning grounds was in the range of
15 4.5 million spawners in 2002?
16 MR. GLAVIN: I can't recall the number of spawners to
17 reach the Adams grounds in 2002.
18 Q It was sufficiently large to have produced an
19 outcry from the industry that led to the review
20 that you mentioned.
21 MR. GLAVIN: Well, there was certainly lots of outcry
22 from the industry, yes.
23 Q All right. That run --
24 MR. WALLACE: Mr. Commissioner and Mr. Harvey, if I
25 may, Mr. Commissioner, I'm not sure how this line
26 of questions informs the specific issues before
27 this panel and, as I mentioned a moment ago,
28 issues of the particular runs and escapement of
29 patters in various years will become very much a
30 part of the evidence before you as we proceed.
31 THE COMMISSIONER: All right, thank you.
32 MR. HARVEY: I just wanted to test the connection
33 between 2002, 2006 and 2010.
34 Q And what I wanted to put to you, so that you have
35 a chance to comment on it, because it will be gone
36 into more fully later, no doubt, that the
37 productivity between 2002 and 2006 was about one
38 to one; in other words, the total return was about
39 the same as the number of spawners in 2002. Were
40 you aware of that?
41 MR. GLAVIN: As I say, I can't remember the precise
42 findings of the post-season spawning escapement
43 estimates for those two years. This does sound
44 about right to me, though.
45 Q All right. And as for the escapement in 2006 --
46 MR. WALLACE: With respect, Mr. Commissioner, I really
47 do not understand how this is helpful in the

16

PANEL NO. 2

Terry Glavin, Rob Morley

Cross-exam by Mr. Harvey (WCTAGA/UFAWU)

1 context of this panel.

2 MR. HARVEY: Well, let me just ask this:

3 Q Before you could draw any connections between 2002
4 and 2010, you would want to look at the record in
5 2006, would you not, return levels and escapement
6 levels in 2006?

7 MR. GLAVIN: The connection that I draw --

8 MR. TAYLOR: Well, I have -- I have a --

9 MR. GLAVIN: -- is that it's the same population of
10 salmon.

11 THE COMMISSIONER: Just a minute.

12 MR. TAYLOR: I have --

13 MR. GLAVIN: It's the same cycle year.

14 MR. TAYLOR: -- an objection at this point. Mr.
15 Wallace is putting it on the basis we're outside
16 the topic; I'm putting it on the basis we're
17 outside the expertise.

18 MR. HARVEY:

19 Q Mr. Glavin, would you agree with that, this is
20 outside --

21 MR. GLAVIN: Well, you know, what expertise does it
22 require to simply observe that this is the same
23 cycle year in the same population of salmon?
24 That's all I observed yesterday, and I don't think
25 you need a law degree to understand the
26 difference.

27 MR. TAYLOR: I'm the one objecting at the moment.

28 Mitchell Taylor. I think you need a scientific
29 degree or science degree. That's my objection.

30 THE COMMISSIONER: Thank you, Mr. Taylor. Mr. Harvey,
31 could you move on, please.

32 MR. HARVEY: Yes.

33 THE COMMISSIONER: Thank you.

34 MR. HARVEY:

35 Q Mr. Morley, you made the statement that
36 conservation is ensuring that we can enjoy optimum
37 benefits from the resource phase in its entirety;
38 have I got that right?

39 MR. MORLEY: That's correct.

40 Q Yes. You spent 13 years with the DFO, did you
41 say?

42 MR. MORLEY: I did, starting in 1974 through to -- or
43 13 years after that.

44 Q '74. And in what area of the DFO?

45 MR. MORLEY: I began my career as a junior economist
46 working in the northern operations branch in the
47 habitat section, and I moved onto being an

1 economist in the planning section of the salmonid
2 enhancement program and was the director of
3 planning in the salmonid enhancement program, and
4 I went from there to being the advisor on
5 international and intergovernmental affairs to the
6 director general.

7 Q In the days that you were there, what sort of an
8 economic unit did the DFO have?

9 MR. MORLEY: They had several economic units. In fact,
10 as I said, I was in one that was responsible for
11 northern operations and spent a lot of time
12 working on habitat issues. There was another --
13 and we had about three or four economists involved
14 in that section, there was a similar sized section
15 that was working on southern operations, and there
16 was a more general one that worked on policy and
17 management issues that had half a dozen economists
18 in it as well.

19 Q Yes. How does that compare with the staffing
20 today; do you know?

21 MR. MORLEY: I don't know in details what the exact
22 staffing level is, but I would suggest to you that
23 it's -- the level and breadth of knowledge and
24 issues that they get involved in, today, are
25 miniscule compared to what we used to.

26 Q Yes. When you were there, was cost benefit
27 analysis a major part of your work?

28 MR. MORLEY: It was a -- yes, it was a very large part
29 of our work. In fact, we developed a system, when
30 we were involved in the salmonid enhancement
31 program, it was really based on what are the
32 resource planning systems that had been used
33 throughout North America at the time that were
34 sort of state of the art for doing multi account
35 benefit cost analysis of the implications of
36 various public policy decisions on resource use
37 and resource users, and we used that to help plan
38 the salmonid enhancement program and to analyze
39 the impacts of various management decisions. So
40 we looked at the impacts on national income in
41 terms of the treasury board guidelines, but also
42 impacts on First Nations, impacts on employment,
43 impacts on the environment, and developed an
44 evaluation system that could demonstrate to
45 decision-makers what those implications might be,
46 before they made decisions on how to invest money
47 or how to make changes in the management of the

1 fishery.

2 Q Yes. Have you had any involvement, recently, in
3 the Cultus Lake habitat restoration, or revival
4 program?

5 MR. MORLEY: I have, as I mentioned yesterday, I was on
6 the Cultus sockeye recovery team that was put
7 together to look at what the strategies might
8 involve for recovering Cultus Lake as an industry
9 from -- after that document came out, and when the
10 government announced -- the minister announced
11 their recovery plan for Cultus Lake. There were a
12 number of activities that were indicated as being
13 ones that should be undertaken, including such
14 things as increased hatchery production and
15 increased hatchery as well as some freshwater
16 predator control programs and other programs. The
17 industry, at the time, in 2006, decided that we
18 would, in fact, devote part of the catch in 2006,
19 towards a fund that would assist in those Cultus
20 recovery teams.

21 I have sat on a committee that has been
22 administering those funds jointly with the
23 representatives of the Sto:lo First Nation for the
24 last four years, and we have been providing those
25 funds to programs that have been attempting to
26 deal with some of the freshwater issues,
27 particularly with the predator control program.
28 And, as well, we tried to provide additional money
29 to DFO to do some of the programs and hatchery
30 supplementation, but they have refused to accept
31 the money from us, so we have been forced to use
32 the money on things that we can do that they will
33 allow us to do.

34 Q The money, if I've got this right, was raised by
35 industry in 2006, from 100,000 fish that was used
36 for the purpose of raising money for this project?

37 MR. MORLEY: That's correct. The Commercial Salmon
38 Advisory Board sat down and decided that we wanted
39 to provide some additional funding to assist in
40 the recovery of Cultus sockeye, because it was
41 seen as an impediment in terms of pursuing a
42 higher level of harvest, and so we decided that
43 we'd put aside funding for two reasons. One, two-
44 thirds of the funding out of the 100,000 fish,
45 that the net proceeds from the fishing and selling
46 those fish, were devoted towards the Cultus
47 recovery program; one-third went to the ongoing

1 operations of the Commercial Salmon Advisory
2 Board.
3 Q Yes. About 800,000 was raised, I think; is that
4 right?
5 MR. MORLEY: Yes.
6 Q That resulted in the harvest rate being changed
7 from 10 percent to 30 percent?
8 MR. MORLEY: Well --
9 Q Have I got that --
10 MR. MORLEY: -- I mean, I guess the question is, the
11 minister decided, in the end, on a 30 percent
12 exploitation rate. Whether or not that was to do
13 with our efforts, I think that it was certainly
14 the -- in discussions the Sto:lo and the
15 recreational community and ourselves, recommended
16 that we should go to 30 percent.
17 MR. HARVEY: All right. Could I have one final
18 question?
19 MR. WALLACE: I would object if it was to continue on
20 this line. Mr. Commissioner, this is not
21 relevant.
22 MR. HARVEY: I just -- I'll ask my question and maybe
23 Mr. Commissioner will determine whether it's a
24 proper question or not.
25 Q You're an economist. I wanted to -- if we assumed
26 for a minute - and this will have to be dealt with
27 by somebody else - that there was a difference in
28 harvest rate between 10 and 30 percent, that came
29 about at the same time as the Cultus habitat work
30 was proposed and the money was raised, as an
31 economist, how does the 800,000 for habitat
32 restoration compare with --
33 MR. WALLACE: Mr. Commissioner, this is a matter --
34 this whole area will be canvassed. This is not
35 the time for on this point. The matter is quite
36 clearly going to be before you with witnesses and
37 proper notice on these issues.
38 MR. HARVEY: All right, well, if the matter is going to
39 be dealt with more thoroughly with other
40 witnesses, I'm content to leave it.
41 THE COMMISSIONER: Thank you, Mr. Harvey.
42 MR. WALLACE: My notes take me to First Nations.
43 MS. GAERTNER: Thank you, Mr. Wallace. Brenda
44 Gaertner, for the First Nations Coalition, and
45 with me is Leah Pence.
46 I want to, perhaps, just lay the foundation
47 for what I'm going to try to do in my questions,

1 as distinct from cross-examinations, I'm hoping.
2 I'm, first, going to just ask a few questions
3 about the perspective or expertise that each of
4 you have been willing to bring to this inquiry,
5 and then I'm going to stick to the definitions of
6 conservation and stewardship, biodiversity, trade-
7 offs, which is something we've talked a little bit
8 about, and then end with the precautionary
9 approach. So I'll cover those questions in my
10 remarks.

11
12 CROSS-EXAMINATION BY MS. GAERTNER:
13

14 Q I'm going to first start, we've heard a lot about
15 the importance of world views, and Mr. Reynolds,
16 you're a biologist, but you're not a biologist for
17 the Department of Fisheries and Oceans; is that
18 correct?

19 DR. REYNOLDS: That's correct.

20 Q And you would agree with me that scientific
21 perspectives are only one of the perspectives that
22 will be useful when looking at the difficult
23 issues around conservation?

24 DR. REYNOLDS: Probably. Can you just tell me what the
25 other ones were that -- just to make sure I
26 understand the question?

27 Q Well, perhaps I'm going to say that --

28 DR. REYNOLDS: What other ones --

29 Q -- not only scientists have a useful perspective
30 to bring --

31 DR. REYNOLDS: Oh, certainly.

32 Q Yes, thanks. And you're also going to agree with
33 me, perhaps, that science is somewhat biased in
34 that science is usually dependent on the studies
35 that they rely upon?

36 DR. REYNOLDS: I don't know if I'd call that biased.
37 I'd say it's limited by the studies --

38 Q Okay.

39 DR. REYNOLDS: -- that they have available to them.

40 Q And that those studies usually are directly
41 related to the funding decisions that are made
42 around them?

43 DR. REYNOLDS: That's probably fair to say.

44 Q Mr. (sic) Close, you're a holder and a scholar of
45 traditional knowledge and biology; is that
46 correct?

47 DR. CLOSE: Yes.

21
PANEL NO. 2
David Close, Terry Glavin
Cross-exam by Ms. Gaertner (FNC)

1 Q And is it fair to say that one of the things
2 you're trying to teach and live is walking the
3 bridge between those?
4 DR. CLOSE: Yes.
5 Q And I heard you mention, yesterday, that
6 ecological knowledge is informed by experiment and
7 pattern recognition, and that would be the
8 traditional ecological knowledge that you're
9 talking about there?
10 DR. CLOSE: I think it works both ways with the
11 scientific method or western science and
12 traditional or indigenous knowledge or TEK.
13 Q And then just briefly this morning, and I want to
14 stress this a bit, there is another traditional
15 knowledge that is more informed or by the ethics
16 and the beliefs and how that traditional
17 ecological knowledge is applied into certain
18 patterns?
19 DR. CLOSE: Well, could you explain?
20 Q The holders of traditional knowledge within any
21 society have both the traditional ecological
22 knowledge --
23 DR. CLOSE: Mm-hmm.
24 Q -- which is informed by the pattern recognitions
25 and the familiarity with the place and all of the
26 ecosystem --
27 DR. CLOSE: Mm-hmm.
28 Q -- but they also hold knowledge around how their
29 society has used that knowledge over time to make
30 decisions based on the ethics of that society, the
31 belief systems --
32 DR. CLOSE: Yes.
33 Q -- and that which is important to them?
34 DR. CLOSE: Yes, that's true.
35 Q And that one of the things that you have been able
36 to study are similarities amongst some of those
37 traditional knowledge patterns?
38 DR. CLOSE: Yes.
39 Q You're not a holder of specific knowledge and
40 ecological knowledge in the traditional way as it
41 relates to the Fraser River sockeye?
42 DR. CLOSE: That's correct.
43 Q Mr. Glavin, I heard, yesterday, some acute cross-
44 examination about the fact that you're not a
45 biologist.
46 MR. GLAVIN: Something like that, yeah.
47 Q But am I correct in understanding that what you've

1 come here to offer is a world view informed by
2 being an observer of recent history and how that
3 recent history compliments or relates to some of
4 the traditional or older history?

5 MR. GLAVIN: That may be why I was called.

6 Q Not so much why you were called. Why --

7 MR. GLAVIN: Oh, sorry.

8 Q I'd like to see more about where you feel
9 comfortable speaking from. What interests you?

10 MR. GLAVIN: Oh. Well, what particularly interests me
11 and what I've spent a great deal of my life
12 writing about is the relationship between the --
13 among and between the values that we articulate as
14 values that we're trying to conserve in biological
15 diversity, and these include science, ceremonial
16 issues, economic interests, and so on.

17 Q And when I heard -- one of the values that I heard
18 you refer to both in your written material and I'm
19 going to risk asking a question about, because I
20 wasn't clear about, was the value of the public
21 interest -- or the public trust. Could you just
22 give me a definition, or give us all a definition
23 of what you mean by that?

24 MR. GLAVIN: In this specific context, actually, I
25 think, if you look, you know, you can only look to
26 the sources that are available to us. The
27 commitment that this country made in its -- in the
28 convention on biological diversity I think quite
29 clearly sets out what that public trust is, or the
30 values that we're trying to protect, and they were
31 articulated as ecological, scientific, economic,
32 commercial, cultural, social, educational - what
33 have I missed - aesthetic. And, similarly, in the
34 Wild Salmon Policy, you will have a number of
35 values that are similarly articulated and not -- I
36 don't know that it's fair to say that one -- any
37 one is given a higher ranking, in terms of the
38 principles, than another.

39 Q Thank you, Mr. Glavin. Mr. Morley, now, you're
40 not a biologist, either, are you?

41 MR. MORLEY: No, I'm not.

42 Q And you're not a scientist, either, are you?

43 MR. MORLEY: Not by -- no, I'm not a scientist.

44 Q All right. But you also felt that you had
45 something useful to offer this commission with
46 respect to conservation?

47 MR. MORLEY: Absolutely. I think my perspective, from

1 my training as a resource economist, my experience
2 working for a management agency, and experience
3 being a user who has been involved in countless
4 consultative processes developing fishing plans
5 over my entire career, gives me a good perspective
6 to provide, yes.

7 Q And one of those perspectives, as you've just
8 said, is a perspective of being a user within the
9 commercial industry; correct?

10 MR. MORLEY: That's correct.

11 Q And would you agree with me that that industry
12 has, at least over the last 50 years, gone through
13 a lot of growing pains?

14 MR. MORLEY: It would be nice if it was all growth,
15 actually. A lot of pain, I would say, yes.

16 Q A lot of pain, all right. And would you also
17 agree that partly that pain is, for the first
18 while and for a good portion of it, you had
19 strong, predictable access to runs, and it allowed
20 you to develop heavily capitalized interception of
21 fisheries, and that one of the growing pains that
22 you're now experiencing is that that's not there
23 for you?

24 MR. MORLEY: I would say that, again, I wouldn't call
25 it a growing pain, I would say that we're
26 adjusting to a changed management approach and it
27 has caused significant restructuring of the
28 business, that access to the resource is certainly
29 a critical part of that, and as well as a far more
30 conservative and restrictive harvest regime as
31 being two components.

32 Q And part of that is because it's difficult to
33 manage and change a heavily capitalized
34 interception fishery when we're talking about
35 mixed stock fisheries and worrying about weak
36 stocks; is that correct?

37 MR. MORLEY: No, I wouldn't agree with that.

38 Q No?

39 MR. MORLEY: I would say that the industry, throughout
40 its entire career, has dealt with considerable
41 changes in abundances and the -- in fact, the --
42 just simply because something is heavily
43 capitalized is not a reason why it can't adjust.
44 I think, in fact, the private sector is well
45 placed to make adjustments under the right
46 circumstances.

47 Q Excellent. I like to hear that the commercial

1 industry is getting more flexible.

2 MR. MORLEY: The commercial industry has been flexible
3 for its entire history. If you weren't flexible
4 in exploiting an exhaustible natural resource with
5 huge fluctuations, you wouldn't survive, and our
6 company has been in business for 104 years --

7 Q Right.

8 MR. MORLEY: -- and we hope to be for another 104
9 years.

10 Q Great. One final question about the industry and
11 the perspectives that you've done, I'm not sure
12 about this, but would it be fair to say that the
13 commercial fishery is not really a self-regulating
14 fishery, but basically when you get an opening
15 you're out there?

16 MR. MORLEY: The industry will respond to the
17 regulatory system that is in place, and certainly
18 the regulatory system in commercial fisheries in
19 British Columbia differs depending on the
20 particular fishery and species and, as you heard
21 Mr. Glavin say yesterday, the majority of the
22 fisheries are managed by individual quota and, I
23 would suggest have a -- under that system, have a
24 far more sort of direct self-regulation component
25 to it than some of the fisheries that are still
26 managed under a system of just calling for
27 openings and closures, and that would, in fact,
28 mean that you go out when it's open and you stop
29 when it's closed, if you're fishing legally.

30 Q Yes, I guess I appreciate the details of how we
31 can improve the regulation of the fishery, and I
32 think that's where you went, but I was just trying
33 to make sure that I understood historically -- I'm
34 not, in my own experience with fishery, not aware
35 of any time in which the fishery was opened and
36 the commercial fishery said, "No, we're not going
37 to go. That's not going to be good for
38 conservation."

39 MR. MORLEY: You know, that's difficult in the sense
40 that the industry, on many occasions, has said,
41 "We do not want the fishery to be opened, because
42 we're concerned about conservation," and so
43 certainly that when you make your living going
44 fishing, when they call an opening and people go
45 fishing, then you go fishing. But the industry
46 has a tremendous commitment to conservation and,
47 again, wouldn't be here if we didn't.

1 Q Okay. All right, I'm going to turn, now, to some
2 of the information that was provided yesterday
3 around the definitions of conservation and
4 stewardship, and I've just got a couple of clean-
5 up questions for you, Dr. Reynolds.

6 Your definition of conservation, you quite
7 use the words "ecosystem" and "interdependence",
8 and I just want to make sure that -- perhaps we're
9 just dealing with semantics, and I did hear your
10 evidence yesterday refer to ecosystems. So when
11 you use the words "protection of salmon and their
12 habitat throughout the lifecycle," is that fair to
13 say that you're talking about ecosystems there?

14 DR. REYNOLDS: Ecosystems come in under my definition
15 of salmon diversity, and my definition of
16 conservation makes, let's see here, this makes
17 reference to including diversity. So it says,
18 "This includes maintaining salmon diversity as
19 I've just defined it." As I've defined it, so...

20 Q So maybe if I've heard that answer right, your
21 definitions really need to be read as a unit, all
22 three of them; they don't stand on their own?

23 DR. REYNOLDS: That's probably fair to say.

24 Q All right.

25 DR. REYNOLDS: That's right.

26 Q That's very helpful.

27 DR. REYNOLDS: And yes, I'm glad I got a chance to
28 clarify that.

29 Q Thank you.

30 DR. REYNOLDS: So in the Wild Salmon Policy, and a
31 point I made yesterday, the diversity is contained
32 within the definition of conservation, and I agree
33 with that. I broke it out to help us unpack what
34 we mean by diversity, but I absolutely agree with
35 your statement.

36 Q Thank you, Doctor, that's very helpful to me, and
37 hopefully to Mr. Commissioner.

38 And then the other question that I just had
39 was the difference that I've heard over the years
40 between the word -- using the word
41 "interdependence". You've got "interactions"
42 amongst the other -- around the other species.

43 DR. REYNOLDS: Mm-hmm.

44 Q I suppose that's a semantics issue, is it, or is
45 -- I just want to make sure that I've got it
46 right.

47 DR. REYNOLDS: I think it's probably largely a semantic

1 issue. I think we probably mean the same thing.
2 I guess if you say "interdependence" you might
3 have to define what you mean by "depend", but I
4 think that is largely a semantic. I'm certainly
5 referring to ecological interactions between
6 species.

7 Q And then, in your definition of "sustainable use"
8 you use the word "diversity", and again, I'm
9 sorry, but lawyers have a tendency to be very
10 particular about words, and I want to make sure we
11 get them right. That's why we brought you here,
12 today, was to just help us with some definitions.

13 So you use the word "diversity" there. Is it
14 fair to say you mean "biodiversity" in your
15 definition of sustainable use?

16 DR. REYNOLDS: No, actually, I'm referring to the
17 salmon. So biodiversity of salmon. Because I'm
18 looking at this as a -- I've got sustain -- I'm
19 looking at this in terms of the use of salmon and
20 their benefits that they provide to people.

21 Q So then you'll have to agree with me that the --
22 or perhaps comment on the definition of
23 biodiversity in the Wild Salmon Policy does refer
24 to the biodiversity within ecosystems, yes?

25 DR. REYNOLDS: Yes, I believe it does. But this is one
26 of the distinctions between sustainable use and
27 conservation.

28 Q Say more?

29 DR. REYNOLDS: Well, perhaps we don't need to go back
30 down this, but this is one of the reasons why I
31 disagree with Mr. Morley, that conservation is the
32 same as sustainable use. I believe they are two
33 separate concepts.

34 Q And you would agree with me that conservation
35 sometimes has to preclude use?

36 DR. REYNOLDS: Yes, clearly.

37 Q Now, just again on the words, I, over the years,
38 have observed that we used to use the word
39 "environment" a lot, and now we use the word
40 "ecosystem" a lot, and one of the ways that I have
41 heard that distinction is that "environment"
42 refers to something outside of the human
43 population or something we relate to outside of
44 us, and that the ecosystem includes all of us,
45 includes humans within that system. Is that
46 something that, Dr. Reynolds, you could comment
47 on?

27

PANEL NO. 2

John Reynolds, David Close

Cross-exam by Ms. Gaertner (FNC)

1 DR. REYNOLDS: Okay, so I defined, yesterday, an
2 ecosystem - and I'll just try to make sure I get
3 the words right, again - it's the combination of
4 species that interact with one another.

5 Q Which would include humans?

6 DR. REYNOLDS: Which would include humans and the
7 physical environment.

8 Q Okay.

9 DR. REYNOLDS: Is that okay?

10 Q That works for me.

11 DR. REYNOLDS: Okay.

12 Q I'm not trying to challenge your definitions, I
13 was just trying to make sure that as we go
14 forward, when we use those words, we're clear,
15 amongst ourselves and with Mr. Commissioner, about
16 those words.

17 DR. REYNOLDS: Fine.

18 Q All right. Dr. Close, I'm going to ask you a few
19 questions, now. These might seem a bit basic for
20 you, but bear with me.

21 DR. CLOSE: Okay.

22 Q Would you agree, Dr. Close, that the First Nations
23 in the Pacific Northwest have practices and laws,
24 that they would call laws, and traditions that are
25 what we would call holistic or ecological in
26 nature?

27 DR. CLOSE: Yes.

28 Q For example, that the entire system, the animals,
29 the trees, the waters, the air, the lands, are all
30 referred to as a whole and are treated as that and
31 respected as that?

32 DR. CLOSE: Yes, it's true.

33 Q That none are fundamentally higher or better or
34 more important?

35 DR. CLOSE: That's right. Including fish.

36 Q Including fish. And would you also agree that
37 First Nations see themselves as interacting
38 fundamentally within that ecological system?

39 DR. CLOSE: Yes. Could you repeat that question?

40 Q That First Nations don't see themselves out of the
41 system?

42 DR. CLOSE: Oh no.

43 Q They don't have an --

44 DR. CLOSE: No, no.

45 Q They're directly part of --

46 DR. CLOSE: Yes, yes.

47 Q -- and next to all the other species and beings --

1 DR. CLOSE: Yes.
2 Q -- that are in the ecosystem?
3 DR. CLOSE: It's true.
4 Q And so you'd probably agree with me, given the
5 discussion that we have, that First Nations come
6 with a perspective that is an ecosystem-based
7 perspective?
8 DR. CLOSE: I would agree with that, yes.
9 Q It's not something new for them?
10 DR. CLOSE: That's right. We've held that for a very
11 long period of time.
12 Q And would you also agree that when you spoke about
13 the fishing chiefs on the Columbia River and
14 regulating their fisheries and who had access or
15 where or what families and at what times, that
16 those were part of how they managed the fisheries?
17 DR. CLOSE: Yes. We call it "meockt" on the -- meockts
18 are the leaders or salmon chiefs, would manage and
19 have people pulling nets or stopping fisheries at
20 certain times. And to my knowledge, on the Fraser
21 it's "sien" is the correct term for the salmon
22 chiefs on the Fraser River.
23 Q And kukwpi7, have you heard kukwpi7?
24 DR. CLOSE: No, I haven't.
25 Q You'll learn -- maybe you'll learn about that.
26 Have you heard First Nations often refer to their
27 territories in the English terms "homelands"?
28 DR. CLOSE: Little bit. I have to say, I am relatively
29 new to the area, so...
30 Q And I wanted to stress that that relationship that
31 we're talking about, that ecosystem approach, is
32 fundamentally informed by our responsibility; is
33 that correct?
34 DR. CLOSE: Yeah, it's what I'd call -- what we call
35 the Tamaalwit, which is the unwritten law of how
36 we're supposed to interact with the fish and the
37 deer and such.
38 MS. GAERTNER: I just have a couple more questions on
39 conservation, Mr. Commissioner. I note the time,
40 but maybe I'll finish those and then I could
41 suggest a break to you.
42 Q I want to just pick up, briefly, on the
43 information that Dr. Reynolds has provided about
44 the value-laden nature of conservation and the
45 importance of those values. And I just want --
46 perhaps, Dr. Reynolds, if you could answer these
47 questions.

29
PANEL NO. 2
John Reynolds
Cross-exam by Ms. Gaertner (FNC)

1 Would you agree with me that one group of
2 people could see salmon conservation being around
3 and ensuring healthy animals, like bears and
4 eagles and fish and humans?
5 DR. REYNOLDS: Yes.
6 Q That would be a value that they would hold and
7 that perhaps other groups might not hold that
8 value?
9 DR. REYNOLDS: Yes.
10 Q You also agree with me that some groups might hold
11 the value that ensuring sufficient salmon is
12 really about ensuring human harvest and sockeye
13 migration up to the tops of the rivers to the
14 spawning grounds?
15 DR. REYNOLDS: Yes.
16 Q And would you also agree that historically, at
17 least, some of the groups thought of conservation
18 as really being about ensuring maximum sustainable
19 yield?
20 DR. REYNOLDS: By historically, do you mean First
21 Nations' viewpoints, or within --
22 Q No; more recent historic --
23 DR. REYNOLDS: -- the more recent fisheries -- the
24 commercial fisheries world?
25 Q Yes.
26 DR. REYNOLDS: Okay. So, sorry, can you repeat the
27 question, please?
28 Q And these are current, so this is like -- I
29 shouldn't have used the word "historical".
30 DR. REYNOLDS: Oh,
31 Q But another group, actually, would -- could use or
32 could hold the value that conservation is really
33 just about ensuring maximum sustainable yield?
34 DR. REYNOLDS: Yes, groups could hold that value.
35 Q And would you also agree with me that part of the
36 difficulty in managing to conserve a resource is
37 most of those values are not reflected in science,
38 but those are values that are held by the broader
39 society?
40 DR. REYNOLDS: Well, the value that you just described
41 of maximum sustainable yield is one that
42 scientists are quite comfortable working with.
43 The other value is to - I've forgotten, now, what
44 they were - but human wellbeing or ecosystems are
45 more difficult to deal with.
46 Q And maybe, Mr. Glavin, I'll ask you this next
47 question, because you're an observer of recent

30
PANEL NO. 2
Terry Glavin, John Reynolds
Cross-exam by Ms. Gaertner (FNC)

1 history. Has it been your experience that
2 scientists, First Nations, recreational fisheries
3 and commercial fisheries and organizational and
4 environmental organizations don't always hold the
5 same meaning to the word "conservation" and don't
6 always carry the same values?

7 MR. GLAVIN: Precisely.

8 Q And would you also agree with me that one of the
9 challenges associated with managing a fishery is
10 not just managing for biodiversity of stocks, but
11 because of all those different values?

12 MR. GLAVIN: Precisely.

13 MS. GAERTNER: Those are my only questions on
14 conservation, Mr. Commissioner. If this is an
15 appropriate time to break, then?

16 THE COMMISSIONER: It is, Ms. Gaertner, thank you very
17 much. May I ask you and your learned friends to
18 just confer while I'm out of the room, to make
19 sure that with the hour remaining everybody gets a
20 fair opportunity to ask their questions. Thank
21 you.

22 THE REGISTRAR: The hearing will now recess for 10
23 minutes.

24
25 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)

26 (PROCEEDINGS RECONVENED)

27
28 THE REGISTRAR: The hearing is now resumed.

29 MS. GAERTNER: Thank you, Mr. Commissioner. I
30 understand I'll be within my time if I finish in
31 10 minutes, so I'm going to do my absolute best.

32
33 CROSS-EXAMINATION BY MS. GAERTNER, continuing:

34
35 Q So I want to turn, now, to the definition of
36 "biodiversity" and I want to ask if Exhibit PPR-2,
37 in particular paragraph 114 of that exhibit, could
38 be put before the panel. And just as a way of
39 background, at paragraph 114 we're talking about
40 Article 8 of the Convention on Biological
41 Diversity that's been accepted and to which Canada
42 has been a signatory to.

43 Are you familiar with that --

44 DR. REYNOLDS: Oh, you're asking -- sorry.

45 Q -- convention, Dr. Reynolds?

46 DR. REYNOLDS: Yes.

47 Q Dr. Close, are you familiar with that convention,

1 the UN Convention on Biological Diversity?

2 DR. CLOSE: No.

3 Q All right. Then I'll have to go to Dr. Reynolds
4 on this.

5 DR. REYNOLDS: Thanks a lot.

6 MS. GAERTNER: Actually, they're not hard questions,
7 and I'm going to put them right over to Dr. Close
8 soon, so you're okay.

9 Mr. Commissioner, I actually was -- didn't, I
10 guess, do my homework correctly, and I hadn't
11 realized that the actual convention wasn't in that
12 paragraph and it was just a reference to the
13 substance of the convention, and what I wanted to
14 bring to the attention of the Commissioner,
15 through the witnesses, was the list of items that
16 are set out in the convention as it relates to
17 biodiversity and the steps that can be taken.

18 MR. WALLACE: Mr. Commissioner, the convention was
19 provided with our material last week to the
20 participants, and it had been my intention to
21 introduce it as an exhibit in re-examination
22 because it's been mentioned a number of times. So
23 perhaps this would be a convenient time --

24 MS. GAERTNER: Excellent.

25 MR. WALLACE: -- to mark the UN Convention on
26 Biodiversity as the next exhibit.

27 THE REGISTRAR: That will be marked as Exhibit 13.

28

29 EXHIBIT 13: UN Convention on Biological
30 Diversity

31

32 MS. GAERTNER:

33 Q So then I would ask you to go to Article 8 of that
34 exhibit. Primarily why I am taking you there is
35 because I find it to be a useful listing of the
36 steps that can be taken to enhance biodiversity.
37 Do you agree with me, Dr. Reynolds, that that list
38 that's there are various different methods by
39 which states can take steps to enhance
40 biodiversity?

41 DR. REYNOLDS: I'm just briefly looking through the
42 list, if I may. If you could scroll down for a
43 moment, please, I'd appreciate it.

44 Yes, I think I would agree with that.

45 Q All right. And in particular, Dr. Close, I'd like
46 you to pay attention to Article 8(j) --

47 DR. CLOSE: Mm-hmm.

1 Q -- in which it stresses that one of the ways to
2 enhance and enforce biodiversity and conservation
3 is to preserve and maintain knowledge, innovations
4 and practices of indigenous and local communities.

5 DR. CLOSE: Mm-hmm. Yeah, I see that.

6 Q And I'm wondering if you could speak about the
7 particular types of traditional ecological
8 knowledge that would be useful for enhancing or
9 preserving biodiversity?

10 DR. CLOSE: Well, we, for an example, in the Columbia,
11 our elders were noticing that there was a collapse
12 of lamprey from the -- coming up from the 1970s,
13 and nobody had been doing any work on this, and so
14 we started off with traditional ecological
15 knowledge from our elders to provide baseline
16 biological data so we could initiate restoration
17 and preservation of this important cultural
18 species. And so, at the time, that was the only
19 knowledge about lamprey biology, was from our
20 elders in the Columbia River base, and that was --
21 so we did interviews and brought the knowledge
22 forward, and that formed the foundation for a
23 restoration planning. And then the State and the
24 federal governments started jumping in later and
25 joining our efforts, but we basically led the way
26 with that body of knowledge in restoring these --
27 trying to restore these fish.

28 Q And I'm wondering if you would agree with me that
29 the types of body of knowledge that you are
30 relying on are things like information around
31 particular parts of a stream or the amount -- or
32 the flows of the water in particular areas?

33 DR. CLOSE: Yes, it's very local knowledge --
34 knowledge-base, and that's one of the
35 disadvantages, but it can also be an advantage.
36 For instance, if you're trying to restore the
37 biodiversity in a certain area and you need to
38 know about a certain species' lifecycle, it can be
39 very useful, and so I believe it's really
40 important to include that. And I'm not saying,
41 you know, western science -- we shouldn't be doing
42 western science, but I think we should, but we
43 should also include this body of knowledge in
44 moving forward with conservation and --

45 Q I'm just trying to give Mr. Commissioner some --

46 DR. CLOSE: Yes.

47 Q -- examples of the types of knowledge that could

1 be useful, and we've got the localized streams and
2 the flows of water. Would you also agree that
3 there are other timing indicators that traditional
4 ecological knowledge also includes, usually, so
5 you can get a sense of when a stream -- when run
6 is likely to be expected by other things that are
7 going on in the ecosystem, based on the local
8 environment?

9 DR. CLOSE: Yeah, we've got some examples of this. And
10 some of it's embedded within stories that are told
11 and, you know, for example, one, there's certain
12 ants that show up along the river when the lamprey
13 are running, and so this is like an indicator.
14 And also, when certain berries are coming in, are
15 available, you know it's time to go down and
16 collect these fish and where they're going to be,
17 where to look for them. And so there's these
18 kinds of correlations and pattern recognition that
19 have occurred through long periods of time, and
20 some of these are handed down, and that's the
21 knowledge base that -- like trans-generational
22 knowledge.

23 So, for instance, for spring Chinook we have
24 the morning dove. When the morning dove is --
25 basically shows up in the spring and is very
26 active, that's a sign that we're supposed to go
27 down and fish. And the same thing with
28 huckleberries and lampreys. So there's a lot of
29 pattern recognition, among other things, so -- as
30 well as biological information about the lifecycle
31 of the animal, so I think it's all important.

32 Q In addition to that, you also have selective
33 fishing methods that would have been reflective of
34 that local knowledge; is that correct?

35 DR. CLOSE: Yes.

36 Q Okay, I want to take you to the words
37 "precautionary" and the "precautionary approach",
38 and Dr. Close, I'm going to start with you.
39 Yesterday, or earlier today, I can't recall, you
40 began to mention the principle within traditional
41 knowledge, or principles of the seven generations.

42 DR. CLOSE: Mm-hmm.

43 Q That's something you're familiar with?

44 DR. CLOSE: A little bit, yes.

45 Q Something that many -- most First Nations on the
46 Pacific North Coast carry?

47 DR. CLOSE: Yes.

1 Q And can you say a little bit about that principle,
2 if you want -- if you could? If you could inform
3 Commissioner Cohen about the content of that
4 principle?

5 DR. CLOSE: Well, it's basically when we're dealing or
6 making decisions about, say, resources and such,
7 we need to -- or in council with each other about
8 -- about issues, we're supposed to take into
9 consideration the future effects of these
10 decisions that may be made, and so we're supposed
11 to be thinking ahead, how this is going to affect
12 seven generations forward, and so that's where
13 that comes from, is thinking ahead about future --
14 our future people and the children and whether
15 they're going to have these opportunities to
16 continue to practice cultural harvesting of fish
17 and preparing and learning, so...

18 Q And would you agree with me that fundamentally
19 it's quite similar to what we, in English, are now
20 calling the "precautionary approach"?

21 DR. CLOSE: I think there's some similarities there.

22 Q And I guess based on some of the information I
23 heard yesterday, would you agree that First
24 Nations that are trained in those principles and
25 have been raised by the elders don't have
26 difficulty in applying that principle; they
27 generally feel comfortable in applying it on
28 behalf of future generations?

29 DR. CLOSE: Yeah, I think there's no -- there's not a
30 problem with that, and I think it's an important
31 part of who we are. Also, it should be noted,
32 though, that this -- not everybody is living by
33 this principle, now, and so it makes for difficult
34 management, also.

35 Q Absolutely.

36 DR. CLOSE: So...

37 Q There's been changes and evolutions that have --

38 DR. CLOSE: Yes.

39 Q -- occurred, yes.

40 DR. CLOSE: Yes. However, I still think a lot of this
41 is very important, and we should be promoting a
42 lot of these values.

43 MS. GAERTNER: Now again, just briefly, because this is
44 about definitions, Mr. Cohen, I wanted to bring to
45 the attention, in the same policy and practice
46 report, at paragraph 17, there's a reference to
47 the definition of the precautionary approach that

1 was accepted in the Rio Declaration. And it's
2 there, in full, in that report.

3 Q And perhaps Mr. (sic) Reynolds and Dr. Close may
4 have something to say about this, but one of the
5 things that I noticed, when we start hearing --
6 seeing these definitions, is that we now add the
7 words "lack of full scientific certainty".

8 Dr. Close, you would agree with me that,
9 traditionally, even in a modern context, the
10 application of precautionary principle is not only
11 when there is scientific uncertainty; is that
12 correct?

13 DR. CLOSE: Yes. There's -- well, there's always
14 scientific uncertainty as well as traditional
15 knowledge systems as well, and so I think you --
16 we always try to err on the side of -- we should
17 try to err on the side of, you know, being
18 conservative with how we move forward, usually, as
19 a general principle.

20 Q Conservative and caution, is that --

21 DR. CLOSE: Yes.

22 Q -- would that be fair? And Dr. Reynolds, would
23 you agree with me that, generally speaking,
24 reasonable people might have a different view as
25 to what is highly scientific uncertainty?

26 DR. REYNOLDS: Let me think about that. Reasonable
27 people would have different views on --

28 Q What's a scientific uncertainty?

29 DR. REYNOLDS: Of what is a scientific uncertainty.
30 Yes, I suppose so.

31 Q I'm just wondering, if we were applying the
32 precautionary principle, and I guess, is it fair
33 to say amongst you that it's agreed that there
34 were a lot more stocks and a lot more fisheries
35 100 years ago than there are today on the Fraser
36 River?

37 DR. REYNOLDS: I don't know very much about the
38 historical fisheries, I'm afraid.

39 Q Mr. Glavin, you've researched this information.
40 Would you agree with me?

41 MR. GLAVIN: I think, generally, yes, there's an
42 overwhelming body of evidence for populations that
43 were there that aren't there anymore.

44 Q And would we also --

45 MR. MORLEY: Could I add my comment as well?

46 Q Sure, Mr. Morley. Absolutely.

47 MR. MORLEY: I'm not sure that there were necessarily

36
PANEL NO. 2
Rob Morley
Cross-exam by Ms. Gaertner (FNC)
Discussion

1 that many more fisheries, and in terms of the
2 number of stocks, I think, again, it goes back to
3 what is the definition of a stock, and that is
4 something that I think you're going to get into in
5 more detail when you start talking about harvest
6 management, but because, again, what we call a
7 stock is, by the terms of reference, it is the
8 Fraser sockeye stock, which is one.

9 Q All right. I actually will be more precise, then.
10 Is it common knowledge amongst us that the stocks
11 were generally more predictably abundant about 100
12 years ago than there are now?

13 MR. MORLEY: No, I disagree with that, entirely. There
14 was huge variation in abundance, and that goes
15 back, historically, for -- further than 100 years.
16 And if you look at records throughout the North
17 Pacific, you can see, in fact, salmon populations
18 have varied widely, even in areas where there is
19 no human habitation and had never been any use.

20 Q All right. Dr. Close, in your experience with
21 fisheries, there's this concern that I've heard a
22 number of times over today, and I definitely heard
23 it over the years, about too many spawners getting
24 onto the spawning ground. Is that something that,
25 from traditional knowledge, you've heard much
26 concerns about?

27 MR. TAYLOR: Mitchell Taylor. I thought this witness
28 said he didn't know the Fraser.

29 MS. GAERTNER:

30 Q Generally speaking, from a traditional ecological
31 knowledge perspective, when it comes to the
32 migrating salmon of the Pacific Coast, have you
33 heard too many concerns around too many spawners
34 getting to the spawning ground?

35 THE COMMISSIONER: Just a minute, Ms. Gaertner. Mr.
36 Lowe's?

37 MR. LOWES: J.K. Lowe's. A simple submission, Mr.
38 Commissioner. What's sauce for the goose should
39 be sauce for the gander. Mr. Harvey was stopped
40 in this line of questioning, and I think the same
41 rule should apply to Ms. Gaertner.

42 THE COMMISSIONER: Ms. Gaertner, I am going to ask you
43 to move on. I also note your 10 minutes is now 20
44 minutes.

45 MS. GAERTNER: I have one more question.

46 THE COMMISSIONER: All right.

47 MS. GAERTNER: I just wanted to finish with one last

1 question, which we've heard a lot about
2 sustainability and conservation, and I thought it
3 might be helpful to Mr. Commissioner, I'm not
4 sure, but I'm going to try it, to try to put those
5 things together, and so to get to a definition of
6 "sustainable fisheries". And I did some work on
7 this and was able to find a definition that was
8 reached at a conference in Victoria in 1996, in
9 which 500 participants attended and worked towards
10 a definition of what's a sustainable fisheries.
11 And I'll just read it to the panel. I have it,
12 but I didn't have it in the ringtail and do all of
13 the things that needed to be done, and I have it
14 in printed form, and if counsel want it, I'm more
15 than happy to give it. But I want to put it to
16 the panel, if I may, just in the terms of the
17 definition.

18 And that is that a sustainable fisheries
19 could be defined as:

20
21 The conditions that support healthy, diverse,
22 and productive ecosystems, viable Aboriginal,
23 sport and commercial fisheries, and vital and
24 stable communities throughout the historical
25 range of the anadromous Pacific salmonids.
26

27 Would each of the panel members be able to
28 speak about their comfort levels with respect to
29 that definition.

30 DR. REYNOLDS: I'm comfortable with that.

31 DR. CLOSE: I didn't catch the last part.

32 Q I'll read it again, because I really do want each
33 of the panel members to speak about it.
34

35 The conditions that support healthy, diverse,
36 and productive ecosystems, viable Aboriginal,
37 sport and commercial fisheries, and vital and
38 stable communities throughout the historical
39 range of the anadromous Pacific salmonids.
40

41 DR. CLOSE: I would agree with that. Are you talking
42 about communities of -- are you talking about
43 people -- humans here, or -- okay. But for the
44 most part, I would agree that that's a fairly good
45 definition of sustainable fisheries, yeah.

46 Q Mr. Glavin? Mr. Morley?

47 MR. GLAVIN: I think, without question, that would be

1 in keeping with what you might call a public
2 objective, but I don't know whether or not all of
3 that -- all of those components are necessary
4 before you could make the judgment that it's a
5 sustainable fishery that we're describing.

6 MR. MORLEY: And I would tend to agree with Mr. Glavin
7 on that, the -- certainly indicating that you need
8 to have fisheries that are -- I don't know what
9 "viable" actually means, and I certainly don't
10 think you need to specify who is harvesting the
11 fish in order to define a sustainable fishery.
12 And, again, a sustainable fishery does not
13 necessarily -- it was outlined at the start saying
14 the conditions. Well, I don't think it's the
15 conditions. I think we need to talk about the
16 fishery and what makes it sustainable. And so I
17 really don't like that definition very much at
18 all.

19 MS. GAERTNER: All right. Another way of being
20 surprised. Those are my questions, Mr.
21 Commissioner.

22 THE COMMISSIONER: Thank you.

23 MR. WALLACE: Thank you. Mr. Commissioner, that brings
24 us, I think, to the Sto:lo Tribal Council, Mr.
25 Dickson.

26 MR. DICKSON: Mr. Commissioner, Tim Dickson for the
27 Sto:lo Tribal Council and Cheam Indian Band.

28 I'm going to put some questions to Dr.
29 Reynolds and then ask the other panellists to
30 comment on them.

31
32 CROSS-EXAMINATION BY MR. DICKSON:

33
34 Q Dr. Reynolds, you were speaking of biodiversity
35 yesterday, and actually, it may be useful to refer
36 to -- bring up Exhibit 4 and the PowerPoint, the
37 fourth page, please. I believe, Dr. Reynolds, one
38 of the positive effects of biodiversity that you
39 were identifying is what we've been calling the
40 portfolio effect, and that is that biodiversity
41 better allows a population, as I understand it, to
42 weather environmental variation. It can cope
43 better with environmental variation in the sense
44 that some stocks may do worse, but some stocks may
45 do better; is that fair?

46 DR. REYNOLDS: Yes, that's correct. So as long as
47 we're clear, when you say "a population", I think

1 what we really mean is an aggregate of populations
2 collectively do better, because some individual
3 populations --
4 Q Thank you.
5 DR. REYNOLDS: -- go up and down.
6 Q Thank you. And another positive effect is that
7 biodiversity allows for greater capacity of the
8 species to adapt to longer-lasting environmental
9 changes?
10 DR. REYNOLDS: Yes.
11 Q And so more genetic diversity means more
12 possibility for mutations --
13 DR. REYNOLDS: Yes.
14 Q -- adaptations?
15 DR. REYNOLDS: More possibility -- it would provide
16 more raw material for natural selection to have at
17 its disposal for -- which would then provide a
18 genetic response to selection.
19 Q Thank you.
20 DR. REYNOLDS: If you don't mind my jargon, but yes.
21 Q Thank you. And in terms of conserving salmon
22 populations, conserving the species, diversity
23 becomes more important as environmental variation
24 and change increase; is that fair?
25 DR. REYNOLDS: Yes.
26 Q Maintaining biodiversity means maintaining weaker,
27 smaller stocks, as well as larger stocks, it means
28 maintaining a suite of stocks; is that --
29 DR. REYNOLDS: That's correct.
30 Q -- fair? And so if we care about maintaining the
31 diversity of stocks, then we have to be careful to
32 preserve weaker stocks; is that fair?
33 DR. REYNOLDS: Yes.
34 Q And yesterday you stated, I believe, that there is
35 a significant body of science showing that if a
36 weak stock is migrating alongside a strong stock,
37 then heavy fishing on the strong stock can damage
38 the weak stock?
39 DR. REYNOLDS: Yes.
40 Q And so, again, if we care about maintaining the
41 diversity of stocks, then fishing selectively, not
42 fishing on the weak stock, becomes important?
43 DR. REYNOLDS: That's right.
44 Q And towards fishing selectively, it's important to
45 have information about the fish that are being
46 fished?
47 DR. REYNOLDS: That seems reasonable, yes.

40
PANEL NO. 2
John Reynolds, David Close
Cross-exam by Mr. Dickson (STCCIB)

1 Q About the timing of runs, what are the runs?

2 DR. REYNOLDS: Yes.

3 Q And the more information you have on that, the
4 more you can fine-tune fishing so as to fish
5 stronger stocks and not weaker stocks?

6 DR. REYNOLDS: Yes, the more information you have to --
7 potentially to fine-tune. It may be that the
8 information will end up showing that there might
9 be no way to do -- accomplish what you're trying
10 to do, but I agree with the thrust of your
11 argument.

12 Q Is there more capacity to have greater information
13 about the runs of fish when the fish are in the
14 ocean or in the river?

15 DR. REYNOLDS: By the "runs of the fish", do you mean
16 the timing of which fish are where at a given --

17 Q Which stocks they are, you know, which -- what is
18 composing the fish that are going through, the
19 fish that are being fished --

20 DR. REYNOLDS: Well, we -- the way that -- I mean, I'm
21 not the best expert to explain that, but the way I
22 understand it, we do get -- the genetic samples
23 are taken in test fisheries out in the sea, and
24 these are to understand what is going to be coming
25 past the fish counting stations in-river, so the
26 fish counting stations are giving the most
27 accurate information on the number of fish that
28 are passing by them, but to calibrate which fish
29 you're looking at, you need, in this case, the way
30 it's done, we -- it's based on the genetic
31 information that's coming from the sea.

32 MR. WALLACE: Mr. Commissioner, again, we're getting
33 into some specifics which we will hear far more
34 about as we go along, and I think we're beyond the
35 tenor of the definitions.

36 MR. DICKSON: Fair enough, Mr. Commissioner.

37 Q On the questions that were leading up in nature of
38 biodiversity being important to conserving the
39 salmon populations and the importance of
40 maintaining weak stocks to maintain biodiversity,
41 do the other panellists agree? Dr. Close, do you
42 agree with Dr. Reynolds' answers to those?

43 DR. CLOSE: Well, he's characterized, you know, the
44 genetics portion of this and it is important if
45 you have this diversity of -- basically, it's
46 really important for adaptability of these fish.
47 And as far as weaker stocks go, you can have more

1 selective fishery, I believe and think, that
2 you're always going to have a mixed -- somewhat of
3 a mixed fishery, maybe a component, but you can
4 increase the selectivity in some of the rivers and
5 using selective gear. So I don't think it's
6 impossible.

7 You're not always going to get completely
8 selective, but you can try to minimize, and so I
9 think it's reasonable to say that.

10 Q Thank you.

11 DR. CLOSE: Does that -- did I answer?

12 Q I think that's responsive, thank you. Mr. Glavin?
13 And Mr. Morley, I'll also ask you.

14 MR. GLAVIN: Yeah, I think in the -- from my limited
15 expertise, in the absence of fairly elaborate and
16 extremely well-resourced assessment methodology
17 prosecuted in-season to determine the various
18 components of migrating runs and a tremendous
19 amount of faith in the capacity of those elaborate
20 systems to be in any way accurate, I think it
21 should be without controversy to say that the
22 easiest or the most obvious way to prosecute
23 selective fisheries is as close to the spawning
24 areas as possible.

25 Q Thank you. Mr. Morley?

26 MR. MORLEY: Well, since I wasn't asked to speak about
27 how we should be organizing the fishery, I'll
28 limit my response to the question about strong
29 stock versus weak stock and genetic diversity,
30 okay? And again, I covered this a little bit
31 yesterday in my testimony, and partly it was
32 related to -- goes back to the definition of, what
33 is a stock, and the question is, "What is a strong
34 stock and a weak stock, and how do they respond in
35 different situations?" and I think, looking from
36 my knowledge of Fraser River sockeye and from my
37 analysis of the data, that if you define a -- the
38 strong -- I mean, it's the question, how do you
39 define a strong or more productive stock? And
40 some of the larger populations, if you go by the
41 definition of "returns per spawner" that we are
42 now seeing in some of the larger populations,
43 could be called a weaker stock, and some of the
44 smaller populations, because they have higher
45 productivity in terms of returns per spawner,
46 could be called a stronger stock.

47 So when people make these value judgments of

1 strong and weak, I want to know what they're
2 talking about, and I think everyone jumbles them
3 together, and really what we're talking about,
4 here, is that every population is contributing, as
5 Dr. Reynolds said, to the genetic diversity, and
6 certainly resiliency, there's no question that the
7 broader the genetic diversity the more opportunity
8 there is to respond, and the real question is, how
9 quickly and how much do we need in terms of that
10 respond in order to have sustainable fisheries.
11 That's the question that needs to be answered.

12 Q One of the benefits of having a suite of stocks is
13 resilience; would you agree with that?

14 MR. MORLEY: Certainly that is one of the benefits, in
15 the sense that you have a greater opportunity to
16 have some surviving populations in the face of
17 some stocks, for sure. But resilience is also
18 accounted for by abundance, and again, if you look
19 at historical and development of the Fraser, that
20 we had populations colonize the Fraser that never
21 resided in the Fraser River, and within the Fraser
22 River we are still seeing straying and moving
23 around from some of the larger stocks when, in
24 fact, they have large abundances that, in fact,
25 you see straying and residency taking up
26 elsewhere. So that also provides for some
27 resilience and some adjustment to the population.
28 So it's not simply biodiversity, but abundance
29 also helps the fish to respond.

30 Q Mr. Glavin, did you want to comment on that?

31 MR. GLAVIN: Only to sort of agree, kind of, with what
32 Rob said in terms of muddling up the differences
33 between stocks and populations. But you can't
34 have it both ways. The question that we were
35 previously asked about, well, you know, how much
36 have we lost, what do we know about the stocks
37 that we've lost, if you use the term "population",
38 if you look at the scientific literature, and I
39 referred to it yesterday, we, in the paper by
40 Brian Riddell, we find that fully one-third of all
41 the known salmon populations that were known to us
42 in the 1950s, as recently as the 1950s, in the
43 southwest corner of British Columbia, are gone, or
44 at least have been reduced so much that they're
45 not even noticeable or even monitored anymore.

46 And stocks, if you just want to use the term
47 "stocks", if you just want to talk about sockeye,

43

PANEL NO. 2

Terry Glavin

Cross-exam by Mr. Dickson (STCCIB)

David Close

Cross-exam by Ms. Fong (HTC)

1 if you just want to talk about sockeye within
2 shouting distance of Vancouver, we've lost
3 Coquitlam sockeye, we've lost Alouette sockeye.
4 We may have -- it may be said that we have "lost"
5 Cultus sockeye. I think there may have been a
6 population at Stave, as well.

7 MR. DICKSON: Thank you. Those are my questions.

8 MR. WALLACE: Thank you, Mr. Dickson. Mr.

9 Commissioner, that brings us to the last
10 participant on the list, the Heiltsuk Tribal
11 Council, Ms. Fong.

12 MS. FONG: Lisa Fong, for Heiltsuk Tribal Council. The
13 Heiltsuk, just for this panel, the Heiltsuk are
14 First Nation, and they are located on the northern
15 coast of British Columbia, at Bella Bella.

16 My questions are going to be directed at Dr.
17 Close, and they're going to be regarding his
18 comments yesterday about conservation in relation
19 to hatcheries. And I am aware that there will be
20 a portion of this hearing on, I believe,
21 hatcheries, so I'm going to try and keep this very
22 general in relation to conservation in particular,
23 thank you. And if you could bring up Exhibit 4,
24 Dr. Reynolds' description -- or definitions of
25 salmon diversity, conservation, sustainable. I
26 believe that was page 3. Thank you.

27

28 CROSS-EXAMINATION BY MS. FONG:

29

30 Q Now, Dr. Close, yesterday, to address the collapse
31 of fisheries on the Columbia River, you mentioned
32 that the Cayuse used conservation hatcheries, that
33 was a term that you had used. Focusing on the
34 purpose, just because we are going to have some
35 additional evidence later on in the hearing
36 regarding hatcheries themselves, focusing on the
37 purpose, can you explain to us, what is a
38 conservation hatchery?

39 DR. CLOSE: Well, the conservation hatchery, there is
40 different types of aquaculture activities, and,
41 you know, everybody is probably aware of the
42 aquaculture industry on the coast and with
43 Atlantic salmon and such. And there's other, like
44 on the Snake River and the Columbia, there's
45 rainbow trout and such. And then you have
46 hatcheries that are considered conservation
47 hatcheries that are basically for restoration.

44
PANEL NO. 2
David Close
Cross-exam by Ms. Fong (HTC)

1 And then there is some hatcheries that have been
2 built on the Columbia that are primarily just
3 straight up mitigation hatcheries and to restore a
4 fishery, just supply a fishery.
5 Q Okay, so --
6 DR. CLOSE: And so --
7 Q Sorry. So what I understand is, with conservation
8 hatcheries and these, you've called them,
9 mitigation hatcheries, their main purpose is
10 restoration of a population of fish?
11 DR. CLOSE: Correct.
12 Q Okay.
13 DR. CLOSE: One is maybe for more than just catching
14 the fish. So a conservation hatchery, we had
15 salmonid populations were extirpated in our seeded
16 areas, and so we were trying to restore these
17 traditional fisheries in our lands, our
18 territories, and so we employed conservation
19 hatcheries to rebuild these runs, and without
20 those we wouldn't have the salmon fishery in our
21 homelands right now, so...
22 Q And so this type of a salmon fishery being
23 restoration-based, is it also known as, another
24 terminology, supplementary hatchery?
25 DR. CLOSE: It can be interchanged with
26 supplementation, yes.
27 Q The purpose of both these conservation hatcheries
28 and supplementary hatcheries being restoration of
29 the population of salmon, then?
30 DR. CLOSE: Yes.
31 Q Okay. And would you agree with me, then, looking
32 at the definition provided by Dr. Reynolds, of
33 conservation, that these restoration-type
34 hatcheries are consistent with the concept of
35 conservation?
36 DR. CLOSE: Well, it's a tool. Conservation hatcheries
37 are just simply a tool that can be used in the
38 efforts for conservation --
39 Q Right.
40 DR. CLOSE: -- of these populations. So within this
41 definition, I guess it could be used -- let's
42 see --
43 Q In that they help restore the population of --
44 DR. CLOSE: Yes.
45 Q -- for example, salmon?
46 DR. CLOSE: I think so.
47 Q Okay. And would you also agree, then, these sorts

1 of restoration hatcheries are consistent with the
2 definition of sustainable use provided by Dr.
3 Reynolds?
4 DR. CLOSE: Well, you're getting into an area that I'm
5 -- well, you know, we -- you know, grinding up
6 fish, you know, for fish food and feeding fish in
7 these hatcheries, is not really, you know,
8 probably not sustainable. It's stop gap, you
9 know, measures to stop the -- or rebuild a
10 population, or try to get the population back on
11 its feet. And so I don't know if I would call
12 these kind of measures to stop the -- or rebuild a
13 population or try to get the population back on
14 its feet. So I don't know if I would call these
15 kind of measures sustainable.
16 Q Well, is --
17 DR. CLOSE: But -- or part of sustainable use. It's a
18 little bit tricky.
19 Q Okay. But sustainable at least in the sense that
20 they're rebuilding a population which then goes to
21 maintaining abundance and diversity of that
22 particular population?
23 DR. CLOSE: Yes.
24 Q Okay. And would you then agree that these types
25 of hatcheries then support a multitude of salmon-
26 rearing streams?
27 DR. CLOSE: They do.
28 Q Okay.
29 DR. CLOSE: They supply a multitude of streams in the
30 Columbia and Snake River basins.
31 Q Okay. And could do so elsewhere?
32 DR. CLOSE: Yeah.
33 Q I'm asking more generally. Yes. Okay, and
34 supporting a multitude of salmon-rearing streams,
35 generally, increases the diversity of salmon
36 conservation units, so that suite of stocks that
37 Mr. Dickson --
38 DR. CLOSE: It can, but --
39 Q -- was speaking of?
40 DR. CLOSE: -- it's also been shown to be a problem,
41 you know, it's a two-edged sword here. We've got
42 a loss of genetic diversity as well as, you know,
43 it can happen with fishing, too. We've got all
44 the -- the king Chinook are basically gone from
45 the Columbia because of harvest, the size of the
46 fish have been harvested off, so now we have just
47 small Chinook salmon. So there's been a genetic

1 impact on the diversity -- you know, for the
2 diversity of these fish.

3 So there's problems with hatcheries. It's
4 not a -- I wouldn't say that it's a great
5 solution, but you may have to use it to save a
6 population. So I don't think it's something we
7 just go out and build a bunch of hatcheries and
8 say it's okay. That's the problem with the
9 Columbia right now, and so in the Columbia we've
10 got hatcheries going up for all the wrong reasons,
11 and so now the fisheries are still -- are being
12 conducted at high levels and nobody is paying
13 attention to the ecosystem.

14 So when technology replaces ecosystem, you
15 have a problem, okay? That's the real issue with
16 me, in my mind, is when this gets out of hand, you
17 just look to the south, in the Columbia, and
18 you'll see what's gone wrong with this idea that
19 we're smart enough, as human beings, to replace
20 the ecosystem with technology. It's really not a
21 good way to go.

22 Q Correct. And with hatcheries, though, just sort
23 of very generally here --

24 MR. WALLACE: Mr. Commissioner, I think, once again,
25 we're getting down into some specifics of
26 techniques as opposed to --

27 MS. FONG:

28 Q Actually, and that was my question, which was
29 simply that there are a variety of ways in which
30 hatcheries can be operated, like in terms of
31 whether you select wild broodstock, whether you,
32 you know, when you release, if you release at the
33 fry stage, where you release, and things like
34 that. So when you're talking about the conflict
35 of technology, it would vary, depending on the
36 particular situation?

37 DR. CLOSE: Yeah, it depends in how they're used, but
38 there's not a great record, I guess you would say,
39 historically.

40 MS. FONG: Okay, and I'll just leave my questions
41 there, thank you.

42 MR. WALLACE: Mr. Commissioner, I understand that the
43 Musgagmagw Tribal Council has one question.

44 MS. ROBERTSON: Thank you. Krista Robertson for the
45 participant Musgagmagw Tsawataineuk Tribal
46 Council.

47

1 CROSS-EXAMINATION BY MS. ROBERTSON:

2

3

Q Dr. Reynolds, I have a question for you. Earlier today, Ms. Gaertner asked you if you felt it would be useful for the commission to consider salmon management in Alaska as a comparative basis.

4

5

6

7

DR. CLOSE: Who are you talking to?

8

9

Q Dr. Reynolds.
MS. GAERTNER: I think, just for the record, I think that was Mr. Harvey's question, was it not, that we go to Alaska? It wasn't my question, but the question was --

10

11

12

13

MS. ROBERTSON: Okay.

14

15

16

17

18

19

Q The question was put to you - it was actually put to the whole panel - if it would be useful for the Commission to consider harvest salmon management practices in Alaska as a comparative basis in British Columbia, and do you recall that you agreed that it would be useful?

20

21

22

23

24

25

26

DR. REYNOLDS: I don't have the transcript in front of me, so I guess I would be helped if I could be reminded exactly the way that question was phrased, but I think we can always learn from other fisheries and other places. If that's the general point you're trying to make I would have to agree with that, yes.

27

28

29

30

31

32

33

34

Q Okay. And so I just ask you, then: In your -- I think it was yesterday you spoke about sort of the red and the blue zones of the salmon and the salmon health along the coast. Do you agree that it would be helpful to the commission to look also at the red zones further south of British Columbia as a comparative basis to help us understand salmon management in British Columbia?

35

DR. REYNOLDS: Yes.

36

37

Q And are there any panellists that would disagree with that statement? No disagreement?

38

39

40

41

42

43

MR. MORLEY: I mean, I think it's more to look at what not to do, but I, frankly, wouldn't spend a lot of time on it, because I think the terms of reference talk about how we can improve the system and, again, I don't think there's as much to be learned looking south as there is looking north.

44

45

46

47

MR. GLAVIN: If I might, it's what happens when you look south. Is it all red? It isn't, actually. We're all excited this year about all the sockeye that returned to the mouth of the Fraser River.

1 What was it like two years ago, when the Great
2 Bear Rainforest was practically barren of salmon?
3 What was the salmon population that was the most
4 astonishing? It was Okanagan sockeye that has to
5 traverse nine mainstem dams on the Columbia River.
6 Unbelievable return. No one alive had seen
7 spawning escapements like that.

8 Yes, please, look south and look north. I
9 would hope that the commission, when it does that,
10 would do it for perhaps purposes that are not
11 being suggested to the commission. If you look
12 north, what you find is that at least twice Alaska
13 was declared a federal disaster area because of
14 the salmon populations. The salmon fisheries had
15 gone.

16 So I just don't want to leave anybody with
17 the impression that if we do look to these other
18 jurisdictions that we are only looking for certain
19 narrow and predetermined answers.

20 MS. ROBERTSON: Those are my questions, thank you.

21 MR. WALLACE: Thank you, Ms. Robertson.

22 Mr. Commissioner, I understand that Mr.
23 Blair, for the Aquaculturists (sic), and Mr.
24 Taylor, for the Government of Canada, both would
25 seek leave to ask a question in re-examination.
26 One of the issues that arises, of course, is that
27 lots of things happen after someone's opportunity
28 to cross-examine is gone, and I suggest it might
29 well be fair to give Mr. Blair and Mr. Taylor an
30 opportunity to ask their short questions, I
31 understand, on re-examination for matters that
32 have come up since they were last on their feet.

33 THE COMMISSIONER: Mr. Taylor?

34 MR. TAYLOR: Thank you. In general terms, I understand
35 that five minutes is allotted to re-examination.
36 I certainly will seek to be short. At the same
37 time, my re-examination is coming from cross-
38 examinations that haven't stuck to their time.

39
40 CROSS-EXAMINATION BY MR. TAYLOR, continuing:

41
42 Q Now, there were questions asked of, I think - yes,
43 it was - Dr. Reynolds about some conferences in
44 December and March, and one of my friends over to
45 my left, I think, asked them. You recall those
46 questions this morning?

47 DR. REYNOLDS: Yes.

1 MR. TAYLOR: And for the record, Mitchell Taylor.

2 Q Now, as I understand it, you received third-hand
3 or so information about DFO, or why DFO scientists
4 were not at those conferences; is that right?

5 DR. REYNOLDS: Yes, I was told by --

6 Q Patricia.

7 DR. REYNOLDS: -- by Patricia Gallagher --

8 Q Right.

9 DR. REYNOLDS: -- what -- that DFO had told her.

10 Q Yeah. And it boils down to, does it not, that DFO
11 had decided not to attend?

12 DR. REYNOLDS: That's correct.

13 Q And DFO was not an organizer of either the
14 December or March events, were they?

15 DR. REYNOLDS: They were not.

16 Q And DFO would have been only -- would only have
17 limited influence on what the outcome would be
18 from those conferences?

19 DR. REYNOLDS: Each person at those meetings would have
20 the same opportunity to make their arguments and
21 carry the same weight. There wouldn't be an undue
22 influence expected just because they're from DFO
23 or any other organization.

24 Q All right. Now, we all know that the Cohen
25 Commission was announced just before that?

26 DR. REYNOLDS: Yes.

27 Q Just before the December one. And did you also
28 hear that there was a point being taken by DFO
29 that they did not want to be seen to be coming and
30 influencing or undermining the work of a
31 commission that was about to start?

32 DR. REYNOLDS: I don't recall the subtlety -- the
33 nuances. I guess I'm less comfortable explaining
34 to you exactly what the nuances were for their
35 motivation in not attending, but in broad terms,
36 it was as I responded earlier this morning.

37 Q Now, were there some organizations that sought to
38 attend that were not in attendance at either or
39 both the December and March conferences?

40 DR. REYNOLDS: I don't know.

41 Q Okay. Were the B.C. Salmon Farmers there, at
42 either conference?

43 DR. REYNOLDS: They were not at the think-tank, the
44 December 2009 think-tank.

45 Q Right.

46 DR. REYNOLDS: I don't recall whether they were at the
47 Wosk Centre. That was a public -- that was a

50

PANEL NO. 2

John Reynolds

Cross-exam by Mr. Taylor (Government of Canada) (cont'd)

1 public meeting. That was wide open to the public.
2 Anybody could attend that one.

3 Q The March one you're talking about, now?

4 DR. REYNOLDS: The March one, yes.

5 Q There was another conference in June, organized by
6 the Pacific Salmon Commission in Nanaimo, wasn't
7 there?

8 DR. REYNOLDS: Yes.

9 Q Were you part of that?

10 DR. REYNOLDS: No.

11 Q You're a colleague of - and I'll get the name
12 wrong, I think in part - but Professor Randall
13 Peterman, is it?

14 DR. REYNOLDS: Yes.

15 Q And was he part of the June one?

16 DR. REYNOLDS: Yes.

17 Q And did you have discussions with him about it?

18 DR. REYNOLDS: I'm not sure we've ever discussed it
19 directly.

20 Q Okay. Do you know whether --

21 MR. TAYLOR: Yes, Mr. Wallace, we're off topic, but
22 there were questions off topic by my friend in
23 cross.

24 MR. WALLACE: Mr. Commissioner, my point is that this
25 is not, in my view, proper re-examination.

26 THE COMMISSIONER: I'll allow it, Mr. Taylor.

27 MR. TAYLOR: Allow, you said?

28 THE COMMISSIONER: Yes.

29 MR. TAYLOR: Thank you.

30 Q I think I can wrap this fairly quickly, now. Do
31 you know whether DFO scientists were at the June
32 meeting?

33 DR. REYNOLDS: I'm pretty sure they were. It would be
34 very easy to verify that, by looking at the
35 output, the document that resulted from that
36 meeting, which was on the -- is on the
37 commission's website.

38 Q Yeah, I have actually looked at the output and I'm
39 not sure there is a list of attendees there, but I
40 may not have the complete one. But anyhow, your
41 recollection is that you're pretty sure there were
42 some DFO scientists there?

43 DR. REYNOLDS: In fact, I am sure.

44 Q All right. And a fair number, then?

45 DR. REYNOLDS: Sorry?

46 Q A fair number?

47 DR. REYNOLDS: Well, you're -- I think they were well

1 represented at that meeting, is -- that is my
2 guess. My understanding was that there was -- the
3 restrictions did not apply to that meeting that
4 applied to the first two, and --

5 Q All right.

6 DR. REYNOLDS: -- so I --

7 Q Okay.

8 DR. REYNOLDS: -- presumed they were probably well
9 represented.

10 Q And is it fair to say, then, that at the end of
11 the day there was a pause in attendance? There
12 were DFO scientists at these kinds of conferences
13 before December, you've said that, and they were
14 there in June and onwards?

15 DR. REYNOLDS: Yes, there was a pause.

16 Q Thank you. Now, Mr. Glavin, you've already said
17 that you're not a scientist; you are a journalist
18 and a writer and have been for decades, including
19 writing in this area. Is it fair to say, and I
20 think you have said this, that you do not profess
21 to speak to causal effect of why something is or
22 isn't happening with regard to salmon stocks? Are
23 you with me so far, or do you agree with that?

24 MR. GLAVIN: In the context of the very, very specific
25 matter in which this was raised this morning,
26 yeah, I'm with you with it --

27 Q All right.

28 MR. GLAVIN: -- with you on it.

29 Q And is it fair to say that what you really do do
30 is you report on what is going on --

31 MR. GLAVIN: Yeah. Sometimes. Sometimes I actually
32 work as an advocate for conservation
33 organizations, but, yeah, this is where I come
34 from.

35 Q But you're reporting, you're not assessing causal
36 effect?

37 MR. GLAVIN: I don't think you should draw too much of
38 a distinction between these two things in the
39 specific matter in which this issue has arisen
40 today. The question was about whether or not I
41 had any expertise to make an assessment about
42 cause and effect, which I actually didn't make, in
43 the 2010 cycle year of Adams' sockeye. What I did
44 is I actually referred to the scientific
45 assessment of claims that "ecological catastrophe"
46 and "biological disaster" were appropriate terms
47 to be used in 2002 and 1994, I guess it was, and I

1 only observed - and I will resort to the language
2 of common speech - to characterize the scientific
3 assessment of those claims as superstitious mumbo-
4 jumbo. I feel perfectly comfortable in using that
5 language, not being a scientist.

6 Q All right. Dr. Reynolds, you were asked about
7 maximum sustained yield earlier this morning, and
8 I recall, or heard your evidence to be that you
9 said some scientists are comfortable with that.
10 Do you agree with me that the world is changing
11 and that maximum sustained yield is no longer a
12 governing operative approach?

13 DR. REYNOLDS: Yes.

14 MR. TAYLOR: Thank you. Those are my questions.

15 MR. BLAIR: For the record, Alan Blair for the B.C.
16 Salmon Farmers Association. Mr. Commissioner, I'm
17 seeking leave to re-examine on a very narrow area.
18 They're questions that arose from the cross-
19 examination of Ms. Fong.

20 I would like to say, generally, with respect
21 to the question of re-examination, and I'm sure
22 this is the end of week one, and we'll have to
23 revisit this many times, but there's a distinct
24 disadvantage of going early and having a variety
25 of cross-examinations following those of us who
26 are numbered six in the batting order for the San
27 Francisco Giants this week. I think we're up two
28 nothing, and we're all on the same team, I'm sure.

29 But by going early, of course, cross-
30 examination arises, and without any ability to re-
31 examine, we're somewhat hamstrung by the early
32 part of the batting order. That's particularly so
33 when documents are being produced without any
34 notice, and I make that point because I'm sure all
35 of us, including yours truly, will suffer from the
36 need from time to time to ask for leave, but as I
37 understand it, the rule, generally, is questions
38 and documents to be put to people for cross-
39 examination should have two days notice. We
40 received no notice in some cases, and I'm sure
41 perhaps next week I'll be asking leave because a
42 document comes to my attention, but it further, I
43 think, indicates the need for there to be liberal
44 use of re-examination certainly in those
45 situations, and that's part of the context for
46 rising today.

47 Really, as well, with respect to the right of

1 re-examination, I should say the request, some
2 parties are able to share their time more
3 effectively than, I think, my client will be able
4 to, and we saw an example very late in the piece
5 when number 20 had a question that arose from sort
6 of a fellow in the cause. And again, if we have
7 no such ability to do that, we may again be
8 looking for the request for re-examination.

9 With that preamble, I do have a question that
10 comes up as a result of a cross-examination, a
11 single area, if I may? Thank you.
12

13 CROSS-EXAMINATION BY MR. BLAIR, continuing:
14

15 Q Dr. Close, the question is for you, and it relates
16 to the questioning from Ms. Fong just a few
17 moments ago with respect to conservation and
18 conservation hatcheries.

19 DR. CLOSE: Yes.

20 Q And I'm going to ask you whether or not you agree
21 with this proposition arising out of that
22 question. It seems, to me, that what I heard you
23 saying, but perhaps not in quite so many words,
24 were that hatcheries aren't necessarily the be all
25 and end all for conservation, there may be
26 technological abilities to advance hatcheries, but
27 that, by itself, doesn't necessarily lead strictly
28 towards conservation, correct?

29 DR. CLOSE: That's correct.

30 Q And in part it's because the technology, itself,
31 doesn't replace the natural ecosystem ability to
32 evolve salmon in a natural way?

33 DR. CLOSE: Well, more than that. I think the problem
34 is -- that's one problem, but the other issue is
35 the mindset that it gets into people's minds that
36 we can forget about the rivers and the ecosystem
37 and just focus on building more of these
38 hatcheries and producing it -- and that this is
39 all they need; the more fish we put out, the more
40 fish we get back. And that's simply -- I don't --
41 I don't think that's helpful with the efforts of
42 conservation.

43 Q So in fact, it's not a stretch to say that
44 hatcheries, in some cases, can be inconsistent
45 with conservation and biodiversity because of
46 removing some element of genetic diversity, for
47 example?

54

PANEL NO. 2

David Close

Cross-exam by Mr. Blair (BCSFA) (cont'd)

Discussion

1 DR. CLOSE: It can, yes.

2 Q And hatchery fish can have disease, for example,
3 which comingle with the stocks, migrating out of
4 the river systems, and that could be a negative
5 effect, as well?

6 DR. CLOSE: You could have mismanagement with hatchery
7 systems and disease problems have, you know,
8 they've been shown to be of issue, yeah.

9 Q Well, documented?

10 DR. CLOSE: Yeah.

11 MR. BLAIR: Thank you. Thank you, Mr. Commissioner.

12 THE COMMISSIONER: Thank you, Mr. Blair.

13 MR. WALLACE: Mr. Commissioner, I will forego any re-
14 examination. I think nothing I have to ask is
15 necessary.

16 I would like to make, just as we close the
17 week, make two observations coming from Mr.
18 Blair's comments a moment -- his preamble a moment
19 ago. The first is, I agree that there is an issue
20 about the order that I would be interested in
21 hearing from participants if they think there is a
22 better order, drawing lots, I don't know, but we
23 may want to vary it, but I'll talk to the
24 participants about that issue.

25 With respect to being surprised by documents,
26 there's no question, and we've seen it already,
27 that there will be circumstances where the fair
28 thing to do is to allow someone to introduce a
29 document that hasn't previously been brought to
30 anyone's attention. You have the discretion,
31 under Rule 62, to either deny, allow -- or allow
32 that document to go in, or to put conditions on it
33 for fairness.

34 The general rule is, in Rule 61, with respect
35 to providing documents to witnesses and other
36 participants, and the expression there is
37 "reasonable notice", so it will depend on the
38 context.

39 And that's all I have, thank you.

40 THE COMMISSIONER: Thank you. Ms. Gaertner?

41 MS. GAERTNER: Mr. Commissioner, I just have a question
42 and a concern that I wanted to raise with respect
43 to the proceedings, going forward. And I don't in
44 any way intend this to be a criticism. I know
45 people are working extremely hard and with
46 commission staff. But as I understand it, I've
47 received, by e-mail today, as best as can be, the

1 summaries for the evidence next week, including
2 any documents that will be produced at that time.
3 It's Friday afternoon.

4 I represent a large coalition of people that
5 I have to get instructions from, and it's very
6 difficult to get these kinds of documents so late
7 in the day. What I'm just asking for, at this
8 stage, is to make sure that in those situations
9 it's clear that any witnesses that will be
10 produced with such notice will be available at a
11 later time should there be additional questions
12 that will arise from it.

13 MR. WALLACE: Thank you. Mr. Commissioner, I am aware
14 of the late provision of this material, and it
15 just happens as a result of the circumstances. We
16 had difficulties communicating and getting things
17 back from witnesses in a timely way, and the
18 commission turned them around today, very quickly,
19 to get them out to participants. I'm aware,
20 though, that that only gives the weekend for
21 people to look at this with respect to the panel
22 that will be here on Monday. My recollection is
23 that we have already undertaken to recall a senior
24 DFO panel at the end, so, in fact, there will be a
25 further opportunity, later in the hearings, to
26 canvass things that simply couldn't be done
27 because of lack of notice at this time, and we
28 will certainly endeavour to prevent any sort of
29 unfairness and recall people, if necessary, for
30 that purpose.

31 THE COMMISSIONER: Well, thank you, counsel. And in
32 particular, I want to thank the members of the
33 panel for making themselves available yesterday
34 and again this morning, thank you very much.

35 We are adjourned, I believe, until Monday
36 morning at 10:00 a.m.

37 THE REGISTRAR: This hearing is now adjourned until
38 Monday at 10:00 a.m.

39
40 (PROCEEDINGS ADJOURNED AT 12:36 P.M. TO
41 NOVEMBER 1, 2010 AT 10:00 A.M.)
42
43
44
45
46
47

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47