

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.

Thursday, October 28, 2010

Tenue à :

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

le jeudi 28 octobre 2010

APPEARANCES / COMPARUTIONS

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Lara Tessaro	Associate Commission Counsel
Wendy Baker	Associate Commission Counsel
Brock Martland	Associate Commission Counsel
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Mitchell Taylor, Q.C. Tim Timberg	Government of Canada
Boris Tyzuk, Q.C. D. Clifton Prowse, Q.C. Barron Carswell	Province of British Columbia
John Hunter, Q.C.	Pacific Salmon Commission
Chris Buchanan	B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("B.C.AUEW")
David Bursey	Rio Tinto Alcan Inc. ("RTAI")
Alan Blair	B.C. Salmon Farmers Association ("B.C.SFA")
Michael Walden Christopher Sporer	Seafood Producers Association of B.C. ("SPAB.C.")
Gregory McDade, Q.C. Lisa Glowacki	Aquaculture Coalition: Alexandra Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society ("AQUA")
Margot Venton Tim Leadem	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")

APPEARANCES / COMPARUTIONS, cont'd.

Don Rosenbloom	Area D Salmon Gillnet Association; Area B Harvest Committee (Seine) ("GILLFSC")
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")
Tina Dion Joseph Arvay	Maa-nulth Treaty Society; Tsawwassen First Nation; Musqueam First Nation ("MTM")
David Robbins Gary Campo John Gailus Robert Janes Karey Brooks	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	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")
Bertha Joseph	Council of Haida Nation

APPEARANCES / COMPARUTIONS, cont'd.

Joseph Gereluk	Métis Nation British Columbia ("MNB.C.")
Tim Dickson Nicole Schabus	Sto:lo Tribal Council Cheam Indian Band ("STCCIB")
Allan Donovan R. Keith Oliver Steven Kelliher	Laich-kwil-tach Treaty Society James Walkus and Chief Harold Sewid Aboriginal Aquaculture Association ("LJHAH")
Lisa Fong Ming Song	Heiltsuk Tribal Council ("HTC")
Krista Robertson	Musgagmagw Tsawataineuk Tribal Counsel ("MTTC")

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1
Opening remarks by Commission Counsel

1 Vancouver, B.C. /Vancouver (C.-B.)
2 October 28, 2010/le 28 octobre 2010
3

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

5 MR. WALLACE: Good morning, Commissioner Cohen. For the
6 record, Brian Wallace, senior commission counsel.

7 I have a few housekeeping matters before we
8 get on with this panel. The first is that it
9 became apparent after the first couple of days
10 that we need to have a record of who is in
11 attendance for participants each day, and so there
12 is now a sign-in sheet, which is behind me just
13 past the fence, and I'd ask that counsel sign in
14 against their particular participant group when
15 they arrive.

16 We will courier that report when it's
17 released, probably about half past 10:00 tomorrow
18 morning Vancouver time to the office of each named
19 counsel for each of the participants. We do have
20 copies for all of the members of the participant
21 groups as well and our intention is to mail those
22 out next week when we receive more copies. Our
23 plan is to mail the copies for the members of each
24 group to the office of the counsel. However, if
25 you would let Leo Perra know addresses for the
26 members of the group directly and you'd like them
27 to be sent to them directly, we can arrange that,
28 but we need to have those addresses.

29 Another logistical matter that has arisen is
30 how we mark various things that are being tendered
31 as exhibits, policy and practice reports and later
32 on scientific reports. You'll have noted in our
33 rules of procedure that we have rules relating to
34 the use that the commissioner may make of policy
35 and practice reports and scientific reports and
36 the protocols for entering them. That is, they
37 can be entered without going through a witness
38 simply by tendering them.

39 Because the policy and practice reports are
40 sometimes law, sometimes fact, sometimes both, and
41 because exhibits has a particular meaning in our
42 jargon as lawyers, we've come upon this way to
43 deal with it. Exhibits in the normal factual
44 sense will be marked and have been marked as
45 exhibits numerically. Those things that are
46 policy and practice reports will be called policy
47 and practice reports and will have a designation

1 "PPR" and again be numbered sequentially from 1
2 carrying on. And then with the policy and
3 practice reports, people have an opportunity to
4 provide submissions, in some cases responses,
5 which, for example, happened earlier this week
6 with respect to the aboriginal and treaty rights
7 paper, so we will letter in sequence those
8 responses and connect them to the particular
9 report. So we'll have PPR-1 and then A, B, C
10 et cetera. And in a few moments we'll do that
11 with respect to the documents that were marked for
12 identification on Tuesday.

13 Similarly, scientific reports will be given
14 the doesn't "SR" and numbered sequentially as
15 well. And again, it may be, although I'm not sure
16 of the circumstances it'll happen, there may be
17 related documents that we want to attach to them
18 and we can, again, use the letters to signify
19 those as we proceed.

20 Now, on our website there is a place where
21 exhibits are found, a place where policy and
22 practice reports will be found, and also
23 scientific reports. So all of these documents, as
24 they are marked, as quickly as we can will be
25 posted on the website.

26 In addition, there will be either a field or
27 three fields in Ringtail which will provide links
28 to all of those documents, which I guess puts them
29 in a searchable form because on the website
30 they'll be PDF documents.

31 So why don't we mark, please, Mr. Lunn, if we
32 can, the documents that were put in on Tuesday as
33 exhibits for identification. Mr. Commissioner,
34 may we mark the policy and practice report on
35 aboriginal and treaty rights framework, please, as
36 Exhibit PPR-1.

37 THE REGISTRAR: So marked.

38
39 EXHIBIT PPR-1: "The Aboriginal and Treaty
40 Rights Framework Underlying the Fraser River
41 Sockeye Salmon Fishery" dated October 1, 2010
42 (previously marked A for identification)
43

44 MR. WALLACE: Thank you. That was Exhibit A for
45 identification. Exhibit B for identification are
46 the written submissions of Canada, which I'd ask,
47 Mr. Commissioner, be marked as PPR-1A.

3
Opening remarks by Commission Counsel

1 THE REGISTRAR: So marked.

2

3

4

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9

EXHIBIT PPR-1A: Written submissions of
Government of Canada by Mr. East (previously
marked B for identification)

MR. WALLACE: Exhibit C for identification, the written
submissions of the Province of British Columbia,
PPR-1B.

10 THE REGISTRAR: So marked.

11

12

13

14

15

EXHIBIT PPR-1B: Submissions for Province of
British Columbia (previously marked C for
identification)

MR. WALLACE: Exhibit D for identification, written
submissions of the B.C. Wildlife Federation and
others as PPR-1C.

19 THE REGISTRAR: So marked.

20

21

22

23

24

EXHIBIT PPR-1C: Submissions of WFFDF by Mr.
Keith Lowes (previously marked D for
identification)

MR. WALLACE: E for identification is written
submissions of the - I just have the initials here
and the name is not coming to me - the MTM will
become PPR-1D.

29 THE REGISTRAR: So marked.

30

31

32

33

34

EXHIBIT PPR-1D: Submissions of MTM by Mr.
James Reynolds (previously marked E for
identification)

MR. WALLACE: And F for identification, the written
submissions of the West Coast Salish group becomes
PPR-1E.

38 THE REGISTRAR: So marked.

39

40

41

42

43

EXHIBIT PPR-1E: Submissions of WCCSFN by Mr.
Robert Janes (previously marked F for
identification)

MR. WALLACE: G for identification, the written
submissions of the Stó:lō and others, PPR-1F.

46 THE REGISTRAR: So marked.

47

1 EXHIBIT PPR-1F: Submissions of STCCIB
2 (Previously marked G for identification)

3
4 MR. WALLACE: The written submissions of the First
5 Nations Coalition becomes PPR-1G.

6 THE REGISTRAR: So marked.

7
8 EXHIBIT PPR-1G: Submissions of HTC by
9 Ms. Brenda Gaertner (previously marked H for
10 identification)

11
12 MR. WALLACE: And I for identification, the written
13 submissions of the LTS becomes PPR-1H.

14 THE REGISTRAR: So marked.

15
16 EXHIBIT PPR-1H: Submissions of LJHAH by Mr.
17 Allan Donovan (previously marked I for
18 identification)

19
20 MR. WALLACE: And the submissions both written and
21 subsequently provided, transcript of an email
22 containing the oral submissions of the Heiltsuk
23 will be together marked PPR-1I.

24 THE REGISTRAR: So marked.

25
26 EXHIBIT PPR-1I: Submissions of HTC by Ms.
27 Lisa Fong (previously marked J for
28 identification)

29
30 MR. WALLACE: And Exhibit K for identification, the
31 written submissions of the Fisheries Survival
32 Coalition become PPR-1K.

33 THE REGISTRAR: J.

34
35 EXHIBIT PPR-1J: Submissions of SGAHC by Mr.
36 David Butcher (previously marked K for
37 identification)

38
39 MR. WALLACE: And I would like to now tender as PPR-2
40 the policy and practice report on International
41 Law Relevant to the Conservation and Management of
42 Pacific Salmon. I understand that counsel for
43 Canada would like to make a submission or a point
44 on the record with respect to this policy and
45 practice report.

46
47

1 EXHIBIT PPR-2: "International Law Relevant
2 to the Conservation and Management of Pacific
3 Salmon"
4

5 MR. TAYLOR: Mitchell Taylor for the participant,
6 Government of Canada, Mr. Commissioner.

7 We don't object or have any objection to the
8 marking of this document for identification with
9 the proviso that I do want to make a short
10 statement about it and we do intend to file a
11 response document to that report. Overall we
12 think it's quite a good overview of the
13 international law that's applicable in treaties,
14 that is applicable to matters bearing on Fraser
15 sockeye. At the same time, there's a couple of
16 things that we will -- or more than a couple, but
17 a few things that we intend to put some
18 submissions in on, and we will be doing that in
19 time.

20 But the one thing that I wanted to say right
21 now is this, on the record, that because this
22 commission may be construed by some people,
23 including those in foreign jurisdictions or in
24 foreign or international tribunals, because this
25 commission could be construed by them as in one
26 way or another a legal arm of the government, and
27 therefore in order to avoid ambiguity in the eyes
28 of any international tribunal or court or a
29 foreign government, I want to say that, and I
30 would urge that it be the case, that there be a
31 disclaimer, and we seek to make our point, there
32 should be a disclaimer that the content of that
33 report that's about to be introduced is the
34 commission's report, and it's not considered or
35 should not be considered to represent the position
36 of the Government of Canada in international law
37 matters necessarily.

38 And also, in addition, any silence on any
39 particular point by Canada about what's in that
40 report should not be taken as an admission or an
41 acceptance necessarily of what's in the report.
42 This is a precautionary statement I'm making, Mr.
43 Commissioner, and it's simply to have on the
44 record what I've just said so that in the eyes of
45 the international community and international
46 forums and tribunals, there's no confusion or
47 ambiguity about the situation.

1 THE COMMISSIONER: Thank you.

2 MR. WALLACE: Thank you, Mr. Taylor. Mr. Commissioner,
3 I might just point out that our rules provide that
4 the PPRs are not the commissioner's view
5 necessarily either, and I would also point out
6 that I hope no one thinks that we are not behaving
7 independently of Canada here.

8 A couple of other things on the housekeeping
9 list. Today's session has brought forward the
10 issue of what is reasonable notice for the
11 provision of material that people wish to use to
12 examine witnesses. We received material in the
13 last couple of days, as recently as last night.
14 So the issue of what is reasonable notice can be
15 dealt with. If someone feels they are prejudiced
16 by it, the commissioner has the ability to either
17 deny the right of putting such documents in or
18 doing so on conditions. So I would just point
19 that out to anyone who feels that the lack of
20 notice with respect to the material provided this
21 week is prejudicial to their clients, then I would
22 ask if they wish to make a submission on that
23 point, they may do so.

24 One final point. We are going to now try out
25 our electronic document retrieval and display
26 system today, so please be patient. We hope that
27 we'll get any bugs worked out.

28 It may be that in the marking of PPR-1J I may
29 have said K instead of J. The Fisheries Survival
30 Coalition is J. Is that correct?

31 THE REGISTRAR: That's correct.

32 MR. WALLACE: Thank you. I have nothing else of a
33 housekeeping nature, and no one has come to me and
34 said that they had anything. So with that, Mr.
35 Commissioner, I would propose that we introduce
36 the conservation panel.

37 This panel of witnesses is attending today
38 and we started this morning at 9:30 to try and see
39 if we can get it all done today because of the
40 sequencing of the time we expected. However, we
41 have advised people, including the panel, that if
42 necessary we will sit through into tomorrow to
43 complete this panel.

44 This panel was another suggestion by
45 participant's counsel, Brenda Gaertner, at a
46 counsel meeting this summer, and the idea of
47 having a panel to put before you the various

1 perspectives people have on some of the words that
2 are used, particularly conservation and
3 sustainability in particular, would be useful. I
4 took it from the response of other participants
5 that this was thought to be a valuable thing to do
6 and we have assembled four people to provide these
7 different perspectives.

8 I just would note that in the terms of
9 reference for the commission, the word
10 conservation is used in one of the very opening
11 passages. You are charged, Mr. Commissioner, to
12 conduct the inquiry with the overall aim of
13 respecting conservation of the sockeye salmon
14 stock, and at the end of your mandate that charges
15 you with developing recommendations for improving
16 the future sustainability of the sockeye salmon
17 fishery in the Fraser River. These are
18 fundamental concepts to what you have been asked
19 to do.

20 The panellists that we have asked today bring
21 a variety of experience and education to this
22 task, science and ecology. We have a fish
23 scientist who also brings a First Nations
24 perspective, a panellist with commercial fishing
25 perspective, and a journalist and author who has a
26 had a long-time focus on the Pacific salmon.

27 The format will be that each of them will
28 speak for the length of time they think necessary,
29 which we have suggested would be something less
30 than half an hour. And that will be followed by a
31 discussion which I will invite among them and I'll
32 have some questions for them perhaps, following
33 which participants will have the opportunity to
34 question the panel members. And finally there may
35 be some re-examination at the end by me.

36 Let me now introduce each of the panellists.
37 And I'm going to ask that they be qualified as
38 experts in a very limited way, that is that their
39 expertise allows them to speak to the meanings
40 basically of these concepts of conservation, the
41 sustainability, and address the perspectives that
42 people close to the salmon fishery have on them.

43 First, I wonder if we could ask Mr. Registrar
44 if you would affirm or swear each of the
45 panellists.

46 THE REGISTRAR: Yes, gentlemen. I need you to stand,
47 please. Do you solemnly affirm that the evidence

PANEL NO. 2 affirmed
John Reynolds
In chief on qualifications by Mr. Wallace

1 to be given by you to this hearing shall be the
2 truth, the whole truth and nothing but the truth?
3 Witness number 1, how do you respond?
4 DR. REYNOLDS: I do.
5 THE REGISTRAR: Number 2?
6 DR. CLOSE: Yes.
7 THE REGISTRAR: Number 3?
8 MR. GLAVIN: I so affirm.
9 MR. MORLEY: I so affirm.
10 THE REGISTRAR: Thank you. Witness 1, would you state
11 your full name, please.
12 DR. REYNOLDS: John Douglas Reynolds.
13 THE REGISTRAR: Number 2?
14 DR. CLOSE: David Alan Close.
15 THE REGISTRAR: Thank you. Number 3?
16 MR. GLAVIN: Terry John Glavin.
17 THE REGISTRAR: Thank you. Number 4?
18 MR. MORLEY: Robert William Morley.
19 THE REGISTRAR: Thank you, gentlemen. You may be
20 seated.
21 MR. WALLACE: I propose, Mr. Chairman, to put the usual
22 leading qualifying questions to each of the
23 witnesses and then invite anyone who wishes to
24 examine on these qualifications to do so.
25
26 EXAMINATION IN CHIEF ON QUALIFICATIONS OF JOHN REYNOLDS
27 BY MR. WALLACE:
28
29 Q Dr. Reynolds, you are the Tom Buell B.C.
30 Leadership Chair in Aquatic Conservation and
31 Management at Simon Fraser University, correct?
32 A Yes, that's right.
33 Q And you come to that from a PhD at the University
34 of Toronto in 1991 and having spent 13 years on
35 the faculty of the University of East Anglia in
36 the UK, including holding the Chair in
37 Conservation and Ecology; is that correct?
38 A That's correct.
39 Q Your research, I understand, focuses on fish
40 ecology and fishery sustainability, including the
41 extinction risk for both freshwater and marine
42 species, and that you've participated in workshops
43 on threat criteria for both COSEWIC and the World
44 Conservation Union, correct?
45 A That is correct.
46 Q What is the World Conservation Union?
47 A It's also called the IUCN, so they are the people

PANEL NO. 2 affirmed
John Reynolds
In chief on qualifications by Mr. Wallace

- 1 who set the global standards for assessing the
2 threat status of the world's plants and animals.
- 3 Q Is it a UN body?
- 4 A Yes, I believe it is. They are the people who
5 produce the Red List, which is quite well known.
6 The Red List of Threatened Species. It's an
7 international group.
- 8 Q Thank you. Is it representative of nations or is
9 it independent?
- 10 A I'm not sure.
- 11 Q Thank you. You've been focusing, I understand, at
12 Simon Fraser University on the conservation of
13 salmon and the links to sustainability of
14 ecosystems, correct?
- 15 A Yes.
- 16 Q You have served on the Science Advisory Committee
17 of the B.C. Pacific Salmon Forum, 2006 to 2009,
18 and as well as the Independent Science Review
19 Panel advising federal and provincial agencies on
20 fisheries in the Skeena in 2008, and you presently
21 serve on the boards of both the Vancouver Aquarium
22 and the Fraser River Sturgeon Conservation
23 Society?
- 24 A Yes.
- 25 Q You're well published?
- 26 A I think so.
- 27 Q Do you have a sense of -- you've been publishing
28 on Pacific salmon since your return to B.C.?
- 29 A That's right.
- 30 Q And in what journals have these been published?
- 31 A The salmon papers, we have one coming out in the
32 *Canadian Journal of Fisheries and Aquatic*
33 *Sciences*, another one in the journal, *Ethology*.
34 Those are the main ones that are out so far. We
35 have another one coming out in the journal,
36 *Ecosphere*. Actually I correct that. That's
37 called *Ecosystems*.
- 38 Q Thank you. This year you co-organized the
39 symposium for the 2010 Society for Conservation
40 Biology Congress to examine the status and trends
41 of Canada's biodiversity. When was that held and
42 where?
- 43 A That was in Edmonton, and I believe it would have
44 been -- I think it was late July, but I need to
45 check exactly. Late July or early August.
- 46 Q And that was a general conservation --
- 47 A It was an international symposium, so there were

PANEL NO. 2

John Reynolds

In chief on qualifications by Mr. Wallace

David Close

In chief on qualifications by Mr. Wallace

1 people from all over the world. And the objective
2 at that symposium was to invite people from across
3 Canada who were experts in different parts of the
4 country to give a view on the status and trends of
5 the biodiversity in those particular regions.

6 Q Thank you. And you've had several awards, the
7 Medal for Fisheries Society of the British Isles
8 in 2000, the Stephenson Award from the Canadian
9 Conference of Fisheries Research in 2003, and an
10 NSERC Accelerator Award in 2007; is that correct?

11 A Yes.

12 Q Thank you.

13

14 EXAMINATION IN CHIEF ON QUALIFICATIONS OF DAVID CLOSE

15 BY MR. WALLACE:

16

17 Q Dr. Close, you are the Director of Aboriginal
18 Fisheries Research at UB.C.; is that correct?

19 A That's correct.

20 Q And I gather you're also on the faculty of the
21 Department of Zoology?

22 A Both the Fisheries Centre at UB.C. and the
23 Department of Zoology at UB.C.

24 Q You are a citizen of the Cayuse Nation located in
25 the Confederated Tribes of Umatilla Indian
26 Reserve?

27 A That's correct.

28 Q Where is that located?

29 A That's in the northeast Oregon area, near
30 Pendleton, Oregon.

31 Q Thank you. And you've been involved in working in
32 aboriginal fisheries for more than a decade,
33 correct?

34 A That's correct.

35 Q And your research is focused on biological
36 questions relating to sustainable aboriginal
37 fisheries, correct?

38 A That's correct.

39 Q Your current research focuses primarily on the
40 ancient vertebrate, the lamprey, which is a
41 culturally important food to the aboriginal
42 peoples along the West Coast; is that correct?

43 A Yes, that's correct.

44 Q And you have been conducting interdisciplinary
45 research in the areas of aquatic ecology, correct?

46 A Yes.

47 Q Fish physiology and integrating traditional

PANEL NO. 2

David Close

In chief on qualifications by Mr. Wallace

Terry Glavin

In chief on qualifications by Mr. Wallace

1 knowledge with fisheries science?

2 A Yes.

3 Q Recently you have presented on projected effects
4 of climate change in aboriginal fisheries,
5 correct?

6 A Yes. That was on Vancouver Island.

7 Q Okay. And another presentation you made which I'm
8 going to ask you about, because I don't know what
9 it means, is Tamaalwit. Is that the
10 pronunciation?

11 A Tamaalwit.

12 Q "Tamaalwit, the Sacred Law." Can you tell us what
13 that is?

14 A Sure. Tamaalwit is for our people in the Columbia
15 Basin, it's the unwritten law of how we're
16 supposed to live with our brothers and sisters,
17 like the animals, like deer, fish and other
18 things. So it's a religious belief system
19 integrated with traditional knowledge.

20 Q Thank you.

21

22 EXAMINATION IN CHIEF ON QUALIFICATIONS OF TERRY GLAVIN
23 BY MR. WALLACE:

24

25 Q Mr. Glavin, you're a B.C. journalist and an author
26 and you've written extensively on Pacific salmon;
27 is that correct?

28 A Yes.

29 Q You worked as the *Vancouver Sun's* fisheries and
30 native affairs reporter in 1993?

31 A Until 1993.

32 Q Until 1993. And you've received a number of
33 literary and journalism awards, including the
34 Hubert Evans Prize, several national magazine
35 awards, and the 2009 B.C. Lieutenant Governor's
36 Award for Literary Excellence?

37 A Yeah.

38 Q Your essays and criticisms are frequently found in
39 newspapers and magazines from *Seed* in New York,
40 *Lettres internationales* in Berlin, *Democratia*
41 (phonetic) in the UK and the *National Post*,
42 *Canadian Geographic*, *Outdoor Canada* and the
43 *Vancouver Review*?

44 A That's correct.

45 Q And you've been a recipient of the Roderick Haig-
46 Brown Conservation Prize from the North Pacific
47 chapter of the American Fisheries Society. What

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Terry Glavin

In chief on qualifications by Mr. Wallace

Rob Morley

In chief on qualifications by Mr. Wallace

1 was that with respect to?

2 A That was for -- I think it's an annual award that
3 the American Fisheries Society may --

4 Q Was it for a particular work of yours of just --

5 A I think it was simply for the contribution that
6 they imagined that I may have made to the
7 discussion about conservation of salmon in the
8 North Pacific.

9 Q Thank you. There are five of your books which
10 appear to be directly relevant to fisheries
11 conservation and biological diversity starting in
12 1994 and going through till 2007.

13 A Yeah.

14 Q You were a founding member of the Pacific
15 Fisheries Resource Conservation Council?

16 A That's correct.

17 Q And an analyst with the British Columbia Treaty
18 Commission and a member of the External Steering
19 Committee of the 2002 Fraser River Sockeye
20 Fishery?

21 A Correct.

22 Q Among the reports you have authored or co-authored
23 are *Set Adrift: The Plight of British Columbia*
24 *Fishing Communities; Last Call: The Will to Save*
25 *Pacific Salmon; Restructuring the Pre-Contact*
26 *Tribal Fisheries of the Fraser Basin; Rebuilding*
27 *Stó:lō Fisheries Law; Report of Shortfalls in*
28 *Fraser River Sockeye Spawning Escapements for the*
29 *Stó:lō Council; and Protecting the Public Interest*
30 *in the Conservation of Wild Salmon in British*
31 *Columbia: A Strategy for the Conservation of*
32 *Pacific Salmon* for the Sierra Club, correct?

33 A Yes.

34

35 EXAMINATION IN CHIEF ON QUALIFICATIONS OF ROB MORLEY BY
36 MR. WALLACE:

37

38 Q Finally, Mr. Morley, you are an economist by
39 training?

40 A That's correct.

41 Q And you are currently the Vice-President of Human
42 Resources and Corporate Development for the
43 Canadian Fishing Company, correct?

44 A That's correct.

45 Q And how long have you worked in the industry, the
46 fish processing and commercial fishing industry?

47 A I've worked directly in the industry in the

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Rob Morley

In chief on qualifications by Mr. Wallace

John Reynolds, David Close

Cross-exam on qualifications by Mr. Taylor (Canada)

1 private sector for 14 years. Prior to that, first
2 of all for a joint venture between B.C. Packers
3 and Canadian Fishing Company, and then for the
4 last ten years or so for the Canadian Fishing
5 Company. Prior to that I worked for ten years for
6 the Fisheries Council of British Columbia, which
7 was the trade association that represented all of
8 the major fish processing companies.

9 Q And prior to that you were employed by the
10 Department of Fisheries and Oceans?

11 A I started my career out of university at the
12 Department of Fisheries and Oceans for about 13
13 years.

14 Q You are or have been a director of the Salmon
15 Marketing Council?

16 A Correct.

17 Q And you're Chairman of the Fisheries Council of
18 Canada?

19 A Yes.

20 Q Is that current?

21 A No. It was a couple of years back.

22 MR. WALLACE: Mr. Commissioner, I would invite
23 participants to question these panellists with
24 respect to their qualifications to speak to the
25 matters before you today.

26 THE COMMISSIONER: Are there any counsel who wish to
27 rise?

28 MR. TAYLOR: I have two questions of each panellist,
29 Mr. Commissioner, if I may, and I'm assuming that
30 I'm the first of order of go, am I?

31 THE COMMISSIONER: I can see no one else leaping to
32 their feet.

33 MR. TAYLOR: I'll ask my questions in the same order.
34

35 CROSS-EXAMINATION ON QUALIFICATIONS OF JOHN REYNOLDS BY

36 MR. TAYLOR:

37

38 Q Dr. Reynolds, are you a linguist?

39 A No.

40 Q And am I correct, then, you don't have a degree in
41 linguistics?

42 A That's correct.
43

44 CROSS-EXAMINATION ON QUALIFICATIONS OF DAVID CLOSE BY

45 MR. TAYLOR:

46

47 Q Dr. Close, my questions are the same of you. Are

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Terry Glavin, Rob Morley

Cross-exam on qualifications by Mr. Taylor (Canada)

John Reynolds, David Close

Cross-exam on qualifications by Mr. Butcher (SGAHC)

1 you a linguist?

2 A No.

3 Q And do you have a degree in linguistics?

4 A No.

5 Q Thank you.

6

7 CROSS-EXAMINATION ON QUALIFICATIONS OF TERRY GLAVIN BY

8 MR. TAYLOR:

9

10 Q Mr. Glavin, are you a linguist?

11 A No, I'm not.

12 Q And do you have a degree in linguistics?

13 A No, I do not.

14 Q Thank you.

15

16 CROSS-EXAMINATION ON QUALIFICATIONS OF ROB MORLEY BY

17 MR. TAYLOR:

18

19 Q And Mr. Morley?

20 A No, I'm not, and no, I don't.

21 MR. TAYLOR: Thank you, gentlemen.

22 MR. WALLACE: Oh, I do wish somebody could have said
23 yes.

24 THE COMMISSIONER: You didn't ask me, Mr. Wallace. The
25 answer would have been the same. Are there any

26 other counsel? Mr. Butcher?

27 MR. BUTCHER: David Butcher. I have some questions for
28 each of the panellists.

29

30 CROSS-EXAMINATION ON QUALIFICATIONS OF JOHN REYNOLDS BY

31 MR. BUTCHER:

32

33 Q Dr. Reynolds, first, I've read your résumé and I
34 think you'd agree with me that your published work
35 covers a wide range of species, from North Sea
36 groundfish to Caribbean reef fish to snakes in
37 Cambodia; isn't that correct?

38 A That's correct.

39 Q And your work on salmon is a very recent
40 development for you in your career?

41 A Yes, about five years.

42

43 CROSS-EXAMINATION ON QUALIFICATIONS OF DAVID CLOSE BY

44 MR. BUTCHER:

45

46 Q Dr. Close, I read your résumé and noted that your
47 academic work had concentrated on a study of

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John Reynolds

In chief by Mr. Wallace

1 lampreys; is that fair?

2 A Yeah, that's correct.

3 Q Have you done any work in the area of salmon or
4 Fraser salmon particularly?

5 A Not published work. However, I worked in our
6 tribal fisheries program for a number of years on
7 restoration of salmonids in the Columbia Basin.
8 So I do have knowledge regarding that.

9 Q Some background knowledge but no specific
10 knowledge of Fraser salmon?

11 A That's correct.

12

13 CROSS-EXAMINATION ON QUALIFICATIONS OF TERRY GLAVIN BY
14 MR. BUTCHER:

15

16 Q Mr. Glavin, you are an Adjunct Professor of
17 Creative Writing at the University of British
18 Columbia?

19 A That's correct, yes.

20 Q What is creative writing?

21 A A very good question. I could bore you to tears
22 with this if you like. I don't particularly like
23 the term myself. My specialty, if you want to
24 call it that, is long form narrative non-fiction,
25 otherwise known as literary journalism.

26 Q You have no academic qualifications in ecology or
27 environmental science?

28 A Not -- none whatsoever.

29 Q You have never been involved in any scientific
30 research on any fishery-related issue?

31 A Actually yes. But I don't -- I think what you're
32 getting at is have I ever sort of engaged as a
33 scientist in any way, shape or form in these
34 things.

35 Q And the answer to that question would be no --

36 A Would be no, yeah.

37 Q -- correct? You are a freelance journalist --

38 A Yeah, you could say that. Yeah.

39 Q -- who has the freedom to write about anything
40 that you form opinions about?

41 A Yes.

42 Q And at the moment, one of the major subjects that
43 you write about is Canada-Afghan relations?

44 A Yeah. I spent more time in Afghanistan in the
45 last three years than I have in the Fraser Valley,
46 yeah.

47 Q And any opinions that you express here today are

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John Reynolds

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1 really no more than those of a journalist or a
2 creative writer; is that fair?

3 A If you like.

4 MR. BUTCHER: Thank you. Those are my questions.

5 MR. GLAVIN: (To Mr. Morley) You don't get asked?

6 That's not fair.

7 MR. WALLACE: Does any other counsel wish to ask about
8 these witnesses' qualifications? Thank you. Mr.

9 Commissioner, I would tender these witnesses as
10 qualified to speak to the subject of this panel,
11 which is the different perspectives on
12 conservation and sustainability.

13 THE COMMISSIONER: Yes. I'm satisfied that they may
14 address those topics, and of course counsel will
15 have an opportunity later, as mentioned, to put
16 questions to these witnesses in those areas upon
17 which they testify. Thank you.

18 MR. WALLACE: Thank you. At this point, Mr.
19 Commissioner, I propose simply to turn the
20 microphone over to each of the panellists,
21 starting with Dr. Reynolds.

22

23 EXAMINATION IN CHIEF BY MR. WALLACE:

24

25 DR. REYNOLDS: Well, thank you for the opportunity to
26 speak to you today. I certainly appreciate the
27 enormous task that the commission has taken on and
28 I wish you all the best with this.

29 I've been asked, as you know, to provide a
30 scientific view on concepts regarding
31 sustainability and conservation, and I'm looking
32 forward to comparing notes with my colleagues, who
33 will be also speaking on this from different
34 perspectives.

35 Here is an outline of my talk, right here. I
36 have four areas that I will be focusing on. I'll
37 begin with three quick definitions, the terms
38 "diversity," "conservation," and "sustainable
39 use," and I'll just move through those fairly
40 quickly. Then I'll unpack them in the second part
41 of my talk. That will be followed by a discussion
42 of the role of science in management objectives
43 and then finally I would like to consider the role
44 of scientific uncertainty and how we deal with
45 this.

46 Here are the three definitions that I would
47 like to have a look at. I will just simply read

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1 these out to you and then I'll come back to each
2 one in turn.

3 "Salmon diversity" includes variation within
4 and among populations in genetics, morphology,
5 life histories and behaviour, any of which may
6 create differences in productivity, such as
7 survival rate from eggs to adults, and it may also
8 enable populations to adapt to changes in
9 environmental conditions.

10 I define "conservation" as the restoration
11 and protection of salmon and their habitats
12 throughout the life cycle, maintaining salmon
13 diversity and abundance, interactions with other
14 species and continuance of the evolutionary and
15 natural production processes.

16 And finally, "sustainable use" involves the
17 use of salmon in a way that maintains their
18 abundance and diversity at levels that match the
19 diverse values that current and future generations
20 place upon them. There are other ways of putting
21 this, but fundamentally it is about meeting
22 current needs in a manner that does not diminish
23 opportunities for future generations.

24 Okay, so for the second part, then, I will
25 expand each of these definitions in turn and give
26 you a bit of an idea of where I'm coming from with
27 them and what I think they mean and perhaps try to
28 pick out for the commission some of the particular
29 aspects of those definitions that will be
30 particularly important for people to understand in
31 the months ahead.

32 My definition of salmon diversity is adapted
33 from the widely used concept of biological
34 diversity as used in the Convention on Biological
35 Diversity, and the definition has also been
36 embedded within the definition of conservation as
37 used by Canada's Wild Salmon Policy. That is, the
38 Wild Salmon Policy includes genetic diversity of
39 salmon within its definition of conservation.

40 So both the Convention on Biological
41 Diversity and the Wild Salmon Policy emphasize the
42 many levels at which diversity exists, from
43 genetic variation within populations to variation
44 among populations and species and it also includes
45 their interactions with their environments. The
46 variation that we're interested in does not need
47 to be known to have a genetic basis, by the way.

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1 Protection of these various elements of
2 diversity helps to maintain resilience of salmon
3 populations, which increases the chance that
4 salmon will produce social, economic and
5 ecological benefits over the long term.

6 I'd like to consider why we should be
7 concerned about maintaining diversity. I'll run
8 through four reasons, which are on the slide here,
9 and I'll begin with what we could call cultural
10 and aesthetic value. There are many other ways to
11 frame this. This is the appeal that people have
12 for knowing that there are fish in lots of small
13 streams across a large spatial area. People like
14 having salmon streams in their communities as
15 shown by the large numbers of streamkeepers'
16 organizations, the applications received by
17 organizations such as the Pacific Salmon
18 Foundation and the Fraser Salmon and Watersheds
19 Program, and also all of the grassroots efforts
20 that volunteers bring to try to restore salmon
21 streams.

22 Now, to many of these people, it's irrelevant
23 whether their local creeks will contribute in a
24 big way to fisheries. They want to have salmon
25 and the wild values that these fish represent.
26 Now, I suspect that Terry Glavin will probably
27 have more to say about this in his presentation,
28 and I'll leave that particular aspect of the
29 benefits of diversity at that.

30 The second one I want to talk about is the
31 fact that this can help maintain the ability of
32 the fish to evolve. There is strong evidence that
33 salmon can evolve quickly, and environmental
34 conditions are always changing and they have been,
35 of course, for a very long time. We know they're
36 going to continue to do so at an accelerated rate
37 due to climate change and other impacts of humans
38 as well as natural events. So the fish need as
39 much room to manoeuvre as possible. Erosion of
40 genetic diversity due to fishing or any other non-
41 random selection among individuals constrains the
42 fish's options for the future.

43 A third reason for protecting diversity is to
44 maintain fisheries through portfolio effects. The
45 idea here is that a diverse portfolio of stock
46 dampens out year-to-year variation in the
47 abundance of individual stocks. Populations of

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1 sockeye salmon vary in age structure, in run
2 timing, in migration routes and numerous other
3 ways which can cause populations to fluctuate out
4 of synchrony with one another according to
5 differences in the way they respond to year-to-
6 year variation in environmental conditions.

7 An example was the remarkable ability of the
8 Harrison River sockeye last year to buck the trend
9 and come back at a rate that was more than three
10 times the forecast, while virtually all of the
11 other populations in the Fraser came back much
12 lower than was expected. These fish have a
13 fundamentally different life history. They skip
14 the first year in fresh water that other stocks do
15 and they spend quite a lot of their time in the
16 vicinity of the estuary of the Fraser and the
17 Strait of Georgia rather than migrating straight
18 out the Strait of Georgia, and eventually they
19 show up on the west coast of Vancouver Island.

20 Now, when you maintain that sort of diversity
21 among populations, you set yourself up for a
22 portfolio effect. The benefits of this effect are
23 analogous to the benefits of having a diverse set
24 of assets in an investment portfolio in damping
25 down variation and reducing risk.

26 This was quantified recently by a study that
27 was published in June of this year in the journal,
28 *Nature*, by Daniel Schindler and colleagues. They
29 analyzed data from sockeye populations in Bristol
30 Bay, Alaska. This is a big complex of stocks
31 somewhat similar to the Fraser, and many, many
32 different stocks, some large, some small,
33 providing for a strong aggregate population which
34 is supporting some very healthy fisheries.

35 The authors showed that if the diversity
36 among populations in the Bristol Bay complex had
37 been lost, so they all fluctuated synchronously
38 according to shifting climate conditions from one
39 year to the next, there would be ten times more
40 fisheries closures than expected under the current
41 conditions. And I want to emphasize that this
42 would occur even if the stocks had maintained the
43 same long-term average abundance. It would be an
44 effect of loss of diversity.

45 My final reason, the fourth one, is to
46 consider spatial and temporal maintenance of
47 ecosystems. Many species, we know, in addition to

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1 humans, can benefit from diverse stocks of salmon.
2 This can occur not only through a portfolio effect
3 again, which could benefit many species of
4 predators, for example, by buffering them against
5 inter-annual variations in numbers of salmon, but
6 also spatially by benefitting plants and animals
7 over a wide geographic range.

8 I do recognize that there can be costs as
9 well as benefits of maintaining diversity in
10 salmon, and I'll discuss some of these in more
11 detail later on in my presentation.

12 So I would now like to unpack the other two
13 definitions, conservation and sustainable use. My
14 definitions of these terms are actually quite
15 similar to those used in Canada's Wild Salmon
16 Policy. In the case of conservation, that's not
17 because I stole the definition from the policy.
18 It's just that I happen to agree with the people
19 who wrote these definitions.

20 Conservation and sustainable use, then are
21 not considered to be the same thing, at least from
22 most scientific perspectives. I'll certainly be
23 interested to hear what David Close has to say
24 about this distinction from an aboriginal
25 perspective, and I won't be surprised if we could
26 have an interesting discussion with Mr. Morley on
27 this as well.

28 But the distinction I've drawn between
29 conservation and sustainable use matches not only
30 the Wild Salmon Policy, also the Convention on
31 Biological Diversity and the Millennium Ecosystem
32 Assessment. For example, the Convention on
33 Biological Diversity establishes the conservation
34 of biological diversity and the sustainable use of
35 its components as separate goals. The Millennium
36 Ecosystem Assessment repeatedly uses the phrase
37 "conservation and sustainable use," which makes it
38 clear that these are not the same thing, at least
39 from the perspective of the some 1,300 authors who
40 contributed to that report. That report is a
41 global assessment of the consequences of changes
42 in ecosystems for human well-being. So it does
43 not come from some sort of anti-use perspective:
44 it is precisely about the uses of biological
45 diversity for people.

46 I'd like to make the further point that we
47 know you can engage in conservation without

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1 sustainable use, such as extreme examples when we
2 might set aside protected areas where no hunting
3 is allowed, for example. So in my view,
4 conflating these terms does not do justice to the
5 diverse values that people place on salmon, and
6 from a practical point of view, I think it can
7 obscure management priorities, such as the Wild
8 Salmon Policy's top priority of conservation.

9 But one thing I hope we would all agree on is
10 that we cannot divorce species from interactions
11 with other parts of their ecosystems when we set
12 conservation objectives, including sustainable
13 use.

14 Now, that brings up an interesting point to
15 consider. Are humans part of the salmon's
16 ecosystem or are we separate from it? An
17 ecosystem is defined as a combination of the
18 species that interact with one another and also
19 their physical environments. Now, we are clearly
20 interacting with salmon, so we are indeed, in my
21 view, part of each other's ecosystems. This view
22 appears to match what I've been told by various
23 aboriginal people as well, though again, I will
24 defer to Dr. Close and others for a more accurate
25 and more nuanced view on that issue. I think that
26 whatever way you look at it, looking after salmon
27 also means looking after ourselves.

28 So for the third part of my talk I want to
29 turn to the role of science in management
30 objectives and try to get a better understanding
31 of how scientists can work with the setting and
32 attainment of management objectives. Now, I'm
33 offering these personal views in the hope that the
34 commission can perhaps understand better what
35 science can and cannot do.

36 Now, one thing I've learned is that it's very
37 easy to engage in debates that are more about
38 differing objectives than about differences in
39 opinion about the science. I'll give you an
40 example from within the sustainable use paradigm.
41 A few years ago I participated with three other
42 scientists in producing a report on the scientific
43 basis of management of salmon and steelhead in the
44 Skeena Watershed. We received a large number of
45 submissions from a large number of scientists
46 giving different opinions about what the state of
47 play was for these fish. And it soon became

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1 clear, to me at least, that many times people were
2 actually simply arguing about different objectives
3 but that they may not have actually been
4 disagreeing with each other about the science
5 itself.

6 For example, if you consider the impacts of
7 fisheries on strong stocks on weaker stocks. It's
8 well known that if you fish hard on a strong stock
9 that has a weaker stock that migrates with it,
10 there is a very good chance you will have a
11 negative impact on those weaker stocks. I don't
12 think there's really much scientific debate about
13 that. But there's lots of debate about how much
14 that matters. That's more along the lines of
15 getting at people's differing values and differing
16 objectives of management.

17 So it's possible for two scientists to reach
18 opposite conclusions about the best options for
19 management simply because of unstated differences
20 in which objectives of sustainable use they are
21 referring to.

22 So I think we should try to avoid letting
23 debates about objectives disguise themselves as
24 debates about scientific evidence, and I hope the
25 commission can keep that in mind when they hear
26 debates over the coming months. Are people
27 disagreeing about objectives or about evidence?
28 The objectives have to be clear or these debates
29 will simply be a waste of time.

30 That brings up a question of who should set
31 these objectives, and there is some debate within
32 the scientific community about this. So all I can
33 really offer is a personal view on the matter.
34 Some of these issues are discussed in some of the
35 reports that we received at the last minute,
36 including one that I received from the commission
37 last night. But my personal view has been gained
38 from a variety of good and bad experiences working
39 on some of the most contentious issues that face
40 salmon. Personally I think that as a citizen and
41 a scientist, I have a right and a responsibility
42 to participate in the process that leads to the
43 formulation of objectives as well as the choices
44 people may want to make about the best options for
45 reaching them.

46 So that involves scientific research, which
47 illuminates tradeoffs among competing goals, and

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John Reynolds

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1 it also can require defence against
2 misinterpretation of evidence. I agree with those
3 who argue that we should be clear about the
4 distinction between science and values, but this
5 does not necessarily to my mind mean that
6 scientists should be out of the room when those
7 discussions are being had. Scientists can help
8 society choose the objectives with the best
9 information available, and I think an instructive
10 example has been the process that led to the
11 creation of Canada's Wild Salmon Policy. It
12 provides guidance about overall objectives and
13 priorities for salmon management, and these
14 objectives were developed after about six years of
15 public input and guidance and consultation with
16 scientists.

17 So for the fourth part of my talk, then, and
18 the last part, I'd like to deal briefly with the
19 question of scientific uncertainty. Decisions
20 about conservation and sustainable use must often
21 be made in the face of considerable uncertainty,
22 and the best way to reduce uncertainty is
23 obviously to do more research. The more
24 information we have, the more certain we can be.
25 But while some uncertainties can be reduced
26 through further study, others will remain a fact
27 of life. And forecasting of salmon returns is a
28 perfect example of this. Trying to forecast
29 salmon returns two years in advance is arguably
30 more difficult than trying to forecast the weather
31 over the same time period.

32 I hope the commission, though, will not let
33 people use scientific uncertainties as an excuse
34 for inaction. We do not need to make up a new set
35 of rules about how to deal with uncertainty. DFO
36 is committed to the precautionary approach, as
37 stated by the Wild Salmon Policy, and the
38 precautionary principle has been adopted by many
39 international fisheries organizations. For
40 example, it's included in the UN's Fisheries and
41 Agricultural Organization's *Code of Conduct for*
42 *Responsible Fisheries*, which includes guidelines
43 for implementation.

44 In a nutshell, the precautionary principle
45 prescribes the use of a level of precaution in
46 management that matches the level of uncertainty,
47 risks and lack of reversibility of impacts.

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David Close

In chief by Mr. Wallace

1 Placing the burden of proof on those who say
2 that something is harming salmon stocks is not a
3 precautionary approach. If an issue arises in
4 which there's uncertainty about a potential
5 problem, the precautionary approach places the
6 burden of proof on proponents of those activities.

7 In closing, I've tried to set out some key
8 issues concerning concepts of conservation and
9 sustainable use through a scientific perspective.
10 There is no one scientific perspective, of course,
11 and so while these are my own views, I do respect
12 the fact that others may see things differently.
13 But I'm certainly looking forward to hearing what
14 my fellow panellists have to say on these issues,
15 and I do wish the commission all the best with
16 this in the months ahead.

17 MR. WALLACE: Thank you, Dr. Reynolds. Dr. Close.

18
19 EXAMINATION IN CHIEF BY MR. WALLACE:

20
21 DR. CLOSE: Thank you for inviting me here to talk
22 about these important issues.

23 First I wanted to go over this idea of ways
24 of knowing and how basically these ways of knowing
25 and doing science or traditional knowledge and how
26 that's integrated in with sustainability and also
27 the idea of conservation. So with this, I'm just
28 going to show a few brief slides here.

29 So we have aboriginal fisheries from where
30 I'm from in the Columbia River Basin and also in
31 the Fraser Basin. There's about 8,000 years of
32 record of fishery, sustainable fishery. And so
33 some of the questions that come forward regarding
34 that long-term -- the fishery, of course there are
35 less people fishing and also the question arises
36 how could that be. Did the salmon populations
37 increase through time? It doesn't appear to be
38 that way. There seems to be a consistent mixed
39 fishery on the rivers through this time period.

40 Now, of course the -- these are pictures.
41 When I talk about the salmon -- and the question
42 came up earlier about working on lamprey and such.
43 The traditional perspective of these fisheries,
44 it's not necessarily -- you know, of course the
45 record of salmon is very important and people
46 always talk about salmon. That's mainly because
47 of the society and also they are an important

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David Close

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1 staple fish for the people.

2 But there's also many other fisheries that
3 are going on that go on unnoticed, and it's very
4 important to the First Nations and the tribes in
5 the States that these fisheries persist. And so,
6 for example -- and that's one of the reasons why I
7 began working on fresh water mussels and lampreys
8 and such because these things weren't being
9 addressed, falling through the cracks. And so
10 while we're focused on the salmon fishery here, I
11 just want to plant the seed that this diversity of
12 species is very important.

13 So the way we learn about -- through this
14 long period of time, about the traditional foods
15 and the salmon and other things, we actually learn
16 from the animals themselves through time, and
17 basically how to prepare the fish, when the fish
18 are coming in, when to go out, and there's these
19 different pattern recognition that have come about
20 and people are keyed into these different things.

21 So I think this has allowed sustainable
22 harvests for long periods of time, and also a body
23 of knowledge, and I'll be talking about that
24 briefly with regards to indigenous knowledge and
25 traditional knowledge for what I've been asked to
26 talk about.

27 And some of the things that are important are
28 the difference in world views of the resource. Of
29 course in the last period of time with
30 colonization and with regards to the
31 industrialization of the resources, this has
32 been -- and we're part of that also, aboriginal
33 people and our fisheries.

34 But there's another part to it that is
35 overlooked, and that's the cultural perspectives
36 of the salmon and other fish and other animals,
37 and that is that these things have a spirit or a
38 view of *wa-eek* (phonetic), what we call *wa-eeken*,
39 so the spiritual value of this animal is very
40 important, and it's one of the reason why it's
41 tied into cultural stories and also ceremonies
42 when the fish are returning back. So to celebrate
43 and honour that relationship, we have ceremonies
44 and we have songs to honour those fish that are
45 coming back into the system.

46 And it's also -- it's not exactly a tragedy
47 of the commons. People have ownership in areas,

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1 in fisheries areas. And if you go into a certain
2 area and try to fish, you may run into trouble
3 because certain families have certain areas and
4 fishing areas and have been passed on for a long
5 period of time. And so what we call *meockt*, which
6 is a chief or a leader, and so we had salmon
7 chiefs or fisheries chiefs working there on the
8 river and would regulate the fishery. And this
9 has been going on for a very long time. And when
10 they're asked to pull nets, they pull the nets to
11 let the fish go by at certain times.

12 And so between that and the religious aspect
13 in celebrating the fish and honouring that
14 relationship, it's just not fish. It's also with
15 all the deer, the four-legged things, the birds
16 and all these different -- plants. All these
17 things are very important.

18 And so when we talk about the fisheries,
19 yeah, it's important. It's important to society
20 today. But it's even more important to recognize
21 that there's an interrelationship and these
22 seasonal rounds that are still important to the
23 people today collecting these different
24 traditional foods. So it needs to be viewed in
25 a -- in my perspective, it needs to be viewed in a
26 holistic perspective of this. And because we have
27 our people catching -- taking part in the
28 commercial fishery or co-opted into this -- I
29 mean, we're still -- it's still important, but
30 these other factors are overlooked. And so I
31 think it's very important that we step back and
32 look at this spiritual relationship and what it
33 really means, because people aren't talking about
34 it very much and I think it's important.

35 So then we get to this idea of traditional
36 knowledge or traditional ecological knowledge.
37 And traditional ecological knowledge is the
38 ecological or -- let's start again. The
39 indigenous knowledge is the local knowledge held
40 by indigenous people, right? So this is the
41 knowledge I was talking about through harvesting
42 the fish and harvesting these different animals
43 and learning -- and it's local knowledge of the
44 area. And it's very important for survival
45 through long periods of time.

46 So traditional ecological knowledge of the
47 ecological part of the indigenous knowledge, the

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1 land, the water-based practical knowledge of
2 species and belief system, the beliefs regarding
3 human interaction with the ecosystem and how we're
4 supposed to live together with these brothers and
5 sisters. And so when I say that, that's because
6 that's a religious sort of belief system that
7 these are really our brothers and sisters, these
8 animals.

9 So I just wanted to show the scientific
10 method, some common points here and traditional
11 knowledge. The way I see it, both of them are
12 based on observations. And with traditional
13 knowledge you may have these observations and
14 development of questions and then you can have
15 development of hypotheses in both of these.
16 Experiments, and I put pattern recognition because
17 a lot of our knowledge is based on pattern
18 recognition through time. For example, discerning
19 where certain fish are going based on phenotype of
20 scale, scale patterns and such.

21 And so you also have doing regular
22 experiments, interpreting data, and then writing
23 reports and getting them published, which is very
24 important in academia that we do this research and
25 then get it out and publish it and are known for
26 that.

27 And for traditional knowledge, it's oral
28 history or oral reporting and passed on. And if
29 you want to know about a certain behaviour, you
30 can go and talk to some of the elders and they'll
31 discuss the knowledge base on a certain species
32 and such.

33 And also I had to throw in here that also
34 dreaming as a way of knowing. And if you talk to
35 some of the traditional people, dreaming is a way
36 of knowing. So I just wanted to throw that in
37 there.

38 Once again, this is kind of a diagram of the
39 scientific method the way I see it. First,
40 observations, developing questions, hypotheses,
41 experiment, collect data. And it's kind of -- you
42 can view it in a helical type of a structure and
43 it comes back to conclusions, and you can develop
44 theory or investigate more hypotheses from that
45 data.

46 And with the traditional knowledge, you
47 basically have the same pattern. You may have

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1 directed hypotheses or a guess and more
2 observations. Collecting data through time,
3 usually viewed as longer time periods in doing
4 this type of -- gathering this type of knowledge,
5 coming to conclusion and it's accepted as a fact.
6 Or some of it may be explained through stories or
7 legends and such so it can be used as a teaching
8 tool also. So we have that kind of knowledge
9 being passed down. And I think sometimes some of
10 our stories are attempts to explain some of the
11 unexplainable sometimes.

12 So that's the perspective on why it's
13 important to look at this traditional knowledge
14 and western -- now, I'm not saying that western
15 science is much better or traditional knowledge is
16 way better. I believe that we need to utilize
17 both ways of knowing to move conservation forward.
18 But I don't see that occurring here. I don't see
19 funds going into different agencies to address
20 traditional knowledge, and I don't see funds going
21 into First Nations to build up capacity for
22 science.

23 So I think that this is something that the
24 commission should be thinking about, is how do we
25 work together on this? How do we move these ways
26 of knowing forward? And if traditional knowledge
27 has been put out there as important, what are the
28 weaknesses and strengths of both western science
29 and traditional knowledge? And then we try to use
30 that to tap into ways of moving forward.

31 But right now I don't see that occurring
32 within First Nations in Canada. It's a little bit
33 better in the States. But it all takes funds and
34 effort and working together as co-managers.

35 So here's a final slide. This is just a
36 model on gaining knowledge. And so there's this
37 body of knowledge as a whole, and what we do
38 typically is we conduct studies or use our
39 scientific method, and it shines a little light on
40 that body of knowledge. And after a while you
41 begin to be able -- you can say something
42 hopefully intelligent about that piece of
43 knowledge. And so we do enough of those -- you
44 know, you may do a few and you can't really say
45 much, but after a while you can start to say
46 something about it.

47 And I would advocate that we need to include

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1 traditional knowledge into this. And you know, we
2 may not see the same things, and it's the same
3 thing with the scientific method and with science.
4 Sometimes you see different aspects of the facts.
5 But we do need to include both, and I think to
6 move management forward we need both, and both of
7 them need to be funded in First Nations and
8 through DFO's management, and there needs to be a
9 co-management effort.

10 So with that, I also -- historically the fish
11 were like currency here in the Fraser Basin and in
12 the Columbia and all through the Pacific
13 Northwest. Fish were central for trade. Fish
14 were also stored for food, subsistence. And so of
15 course that's been -- now it's been taken as kind
16 of -- it's not viewed the same way any more. So
17 it's very important that we see the fish as -- the
18 perspective has evolved through time. And it's
19 always been a source for First Nations in the
20 Basin, a source of food and wealth and trade. And
21 I think that we have seven to eight thousand years
22 of use and sustainable use. I think there may be
23 some lessons to be learned from that, and we
24 should be taking a look at that a little bit
25 closer and not just pushing it to the side and
26 thinking that we're doing so great, because
27 obviously we're not.

28 Also, maintain diversity. We have seasonal
29 rounds, so to speak. It's not just focusing on
30 one species. We harvest on many different
31 species. And some of these things aren't
32 really -- some of these things aren't on the
33 radar, some of these fish.

34 And so if we want to address the issue of
35 their collapsing -- for example, lamprey. It's up
36 to the First Nations or the tribes to utilize the
37 science, utilize the traditional knowledge, and
38 work on restoring -- you know, working on
39 conservation efforts. And it's very difficult to
40 do when you don't have support. So I think that
41 it's about time that people recognize this as a
42 valuable partner in restoring the system, and
43 that's with First Nations here.

44 As I mentioned, management has always been
45 there with the chiefs, the leaders, calling for
46 closure on certain times of the year, and
47 ownership in the fishery. So I think that it's

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1 not just an open fishery like people like to think
2 and so historically it wasn't that way. And it
3 also allowed for selective harvest. It's not a
4 big mixed fishery out in the estuary or -- as
5 such, it's usually done in the tributaries of the
6 big river.

7 So I would propose that we need to consider
8 these different world views and take them
9 seriously. Also we should take traditional
10 knowledge seriously. It's not -- of course you
11 hear it in policy documents and what I see as
12 consultation with the First Nations and such, but
13 I don't see meaningful dialogue. And so I've seen
14 it in earlier years in the Columbia River Basin.
15 Our fisheries program is working to restore
16 salmonids in the Columbia. We're leaders in
17 conservation and restoring salmon and other non-
18 game fish, even surpassing the federal government
19 and state government with some of it.

20 So it's not like we can't do it, but we do
21 need a chance to do it. So I think all this is
22 important but we need to put this into
23 perspective. And with that, I'll step down and be
24 ready for the attack.

25 MR. WALLACE: You'll have to wait. Mr. Commissioner,
26 it's coming on towards 11 o'clock. I suspect Mr.
27 Glavin might be longer than we want to go before
28 we take a break, so perhaps this would be a good
29 chance.

30 THE COMMISSIONER: All right, we'll take a short break.

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

33
34 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)

35 (PROCEEDINGS RECONVENED)

36
37 THE REGISTRAR: The hearing is now resumed.

38 MR. WALLACE: Thank you. Mr. Commissioner, Dr. Close
39 provided us with a PowerPoint today which we did
40 not have in advance. That will be produced
41 electronically and emailed to everybody at noon.
42 Apparently we don't have the technology to do it
43 right now, but we will get that to you quickly.
44 And in due course my intention is to mark the
45 documents that this panel has put in as exhibits,
46 but we'll do that when we complete the panel.

47 Mr. Glavin.

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1 EXAMINATION IN CHIEF BY MR. WALLACE:
2

3 MR. GLAVIN: Thank you very much. As I've made known
4 to commission staff, my presentation will focus on
5 the origins of the current paradigm in the
6 conservation, sustainability and stewardship of
7 salmon and certain cultural, historic and economic
8 trends that coalesced during the 1990s, first in
9 an environment of heightened public anxiety and
10 alarm, but ultimately in elevated public
11 expectations.

12 The way I have described the challenge in
13 forcing the transition from a catastrophic 19th
14 century management culture is that it proved to be
15 not so much a herculean task at all but rather
16 more along the lines of the task to which the gods
17 condemned Sisyphus, to roll a great boulder uphill
18 only to have it roll back down again, and on it
19 goes like this for eternity.

20 The commission will have heard by now that
21 overall salmon abundance tends to be determined by
22 broad scale environmental factors, not least among
23 them trends in climate and ocean productivity, and
24 that these factors will matter at least as much to
25 abundance as such anthropogenic factors as
26 allowable harvest rates and so on.

27 Only the other day the commission, I believe,
28 if I'm not mistaken, received a submission from
29 Dr. Timothy Parsons regarding the results of
30 scientific research that strongly suggests that
31 the astonishing and splendid abundance of the
32 sockeye returns to the Fraser River this year
33 occurred in all likelihood at least partly because
34 of the eruption of a volcano in Alaska a few years
35 ago.

36 This is both heartening and humbling. It is
37 also fortuitous, to my submission, which also
38 relies on the evidence for factors that govern the
39 survival and persistence of salmon runs in the
40 northwest quarter of North America that are
41 similarly well beyond the control of government
42 officials, fisheries managers and scientists.

43 Ten years ago the fisheries scientists Gordon
44 Hartman, Cornelius Groot and T.G. Northcote
45 outlined this case in a paper they helpfully
46 titled *Science and Management in Sustainable*
47 *Salmonid Fisheries: The Ball Is Not in Our Court.*

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1 What these authors assert is that ultimately
2 fisheries scientists, fisheries managers and other
3 such specialists and technicians have no practical
4 long-term influence in the survival of wild
5 salmon. The ball is simply not in your court,
6 they said. And quoting [as read]:
7

8 If there is to be a reprieve for Pacific
9 Northwest salmonids, it must come in the
10 form of initiatives that reach into areas of
11 society beyond fisheries science and
12 management.
13

14 And it is in these broader social, cultural
15 and economic forces that you will find, in my
16 view, the origin of a new paradigm, or at least
17 its beginnings, in the place of what should be --
18 it should be without controversy to describe as a
19 catastrophic paradigm. There are a number of
20 catastrophes that have occurred within Fisheries
21 and Oceans jurisdiction on Canada's West Coast.
22 Many of these events are nearly forgotten. The
23 loss of countless small salmon runs, the complete
24 collapse of the River's Inlet sockeye fisheries,
25 fisheries-induced extirpations of ling cod and
26 rockfish and other bottom fish species, the recent
27 vanishing of once unimaginably abundant oolichan
28 runs to several coastal rivers, the long-ago
29 distinct population of humpback whales in the
30 Strait of Georgia that was hunted into extinction,
31 and on and on.

32 The most staggering recent catastrophe within
33 Fisheries and Oceans' purview occurred on the East
34 Coast in the ruin of the North Atlantic cod
35 fishery. There too allowable cod catches were
36 established without regard for broad scale
37 fluctuations in ocean productivity. In any event,
38 in 1992, the cod moratorium brought to an end one
39 of the world's largest and oldest commercial
40 fisheries. Nearly half a millennium of livelihood
41 and labour came to a close, and 30,000 people were
42 thrown out of work. It is worth remembering the
43 agony and the public alarm that this event caused.

44 It was also in 1992 that British Columbians
45 were subjected to a campaign waged against reforms
46 in federal aboriginal fishery policy implemented
47 in response to the 1990 Supreme Court of Canada's

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1 **Sparrow** decision. The major point of contention
2 was the federal decriminalization of a long-
3 standing practice, particularly among the Stó:lō
4 people of selling some of the fish they caught in
5 their traditional fisheries. Missing fish alarms
6 dominated the news that year. The commercial
7 industry blamed the changes in the aboriginal
8 fisheries for what it called a major biological
9 crisis and a real biological disaster for Fraser
10 River sockeye stocks. More pertinent but less
11 loudly reported was the collapse of the Canada-US
12 Salmon Treaty in 1992, which was repeated again in
13 1994, which produced overfishing free-for-alls in
14 the ocean fisheries.

15 As it turned out, in 1992 the numbers of
16 sockeye to make it home to their spawning grounds
17 that year were exceeded only once on that cycle
18 year in half a century, but this did not prevent
19 organized protests on the grounds of the
20 provincial legislature in Victoria with
21 demonstrators carrying signs that read, "Fraser
22 River Salmon, R.I.P, 1992."

23 Two years later the Fraser Sockeye Review
24 Board found that the 1994 Canada-US fish war along
25 with the Fisheries Department's overconfident
26 reliance in their own scientists' in-season run
27 size estimates and forecasting models and Canada's
28 self-described aggressive fishing strategy had so
29 imperilled the Fraser River sockeye runs that "One
30 more 12-hour opening could have virtually
31 eliminated the late run in the Adams River.

32 Still, the offspring of the 1994 Adams run
33 had revived in such abundance that by 2002 another
34 federal review was ordered, this time to examine
35 industry complaints that fisheries managers had
36 allowed too many sockeye to make it through the
37 coastal fishery gauntlet. There were alarms about
38 an ecological catastrophe that had befallen the
39 Adams River sockeye, this time on account of too
40 many spawners being allowed to make it back to
41 their spawning grounds. One does not need a too
42 finely tuned sense of irony to properly assess the
43 outcome of the so-called catastrophe of 2002.

44 Now, we should not be too quick to draw
45 simple cause and effect lines here. But the
46 offspring of the 2002 catastrophe somehow made it
47 back to the Adams River in 2006 and their

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1 offspring made their way back to the mouth of the
2 Fraser River in 2010 in numbers unseen in anyone's
3 lifetime. By my calculations, their biomass was
4 roughly equal to the weight of the human
5 population of the city of Vancouver.

6 And again, the big controversy this year was
7 an alleged catastrophe that would result from so
8 many spawners arriving on the Adams River spawning
9 grounds. But I'm getting a bit ahead of myself.

10 Through the 1990s, public confidence in the
11 credibility of the major industry players was
12 dramatically shaken. So was confidence in the
13 ability of Fisheries and Oceans managers to
14 protect habitat, forecast and estimate run
15 strengths, run timing and harvest rates, and
16 curtail the impact of fisheries strong runs on the
17 health and status of smaller runs that get scooped
18 up in the fisheries gauntlet.

19 The coho crisis of the 1990s is another case
20 in point, the coho declines through the 1980s and
21 1990s that seemed to defy all attempts at
22 explanation. Throughout the Strait of Georgia
23 coho stocks fell by 90 percent. The catch fell
24 from 4 million annually in the late 1970s to a
25 mere 220,000 by the mid-1990s. Critical to the
26 cause of conserving the remaining runs was the
27 work of imposing severe restraints on a variety of
28 commercial and recreational salmon fisheries that
29 Fisheries and Oceans continued to approve, even
30 though they intercepted coho.

31 Circumstances were even more dire with
32 respect to South Coast's steelhead runs which were
33 routinely intercepted in net fisheries for
34 sockeye, chum and pink. Increasingly the
35 Department of Fisheries and Oceans came to be
36 regarded as rather than at least part of the
37 solution, increasingly like a major part of the
38 problem, and British Columbians were fed up and so
39 were an increasing number of fishermen and federal
40 fisheries biologists.

41 What did we mean by conservation? What was
42 it exactly that we were all allegedly hoping to
43 conserve? In 1993, Fisheries and Oceans scientist
44 Brian Riddle asked the question directly in his
45 seminal paper, *Spatial Organization of Pacific*
46 *Salmon: What to Conserve?* Riddle noted that if
47 it was biological diversity, there wasn't much

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1 conservation going on. No adequate inventory of
2 salmon populations had ever been undertaken in
3 B.C. But Riddle could still report [as read]:
4

5 In southwestern British Columbia, however,
6 one third of the spawning populations known
7 since the early 1950s have now been lost or
8 decreased to such low numbers that spawners
9 are not consistently monitored.

10
11 It's at this point in the story that what
12 Hartman, Groot and Northcote called initiatives
13 that reach into areas of society beyond fisheries
14 science and management come into rather sharper
15 focus.

16 The lofty language of the 1992 UN Convention
17 on Biological Diversity anticipates that Fraser
18 sockeye will be conserved for their ecological,
19 genetic, social, economic, scientific,
20 educational, cultural, recreational and aesthetic
21 values. It just so happens that these purposes
22 reflected with an astonishing degree of accuracy
23 and precision the concerns that British Columbians
24 and Canadians were consistently expressing about
25 salmon specifically and species diversity
26 generally in those days broadly and locally.

27 By the end of the 1990s, throughout the range
28 of Pacific salmon on both sides of the Canada-US
29 border, public values had undergone a radical
30 shift. Nationally Canadians were exhibiting
31 strong concerns about the loss of biological
32 diversity. A Polara poll in 2000 showed that 94
33 percent of Canadians wanted laws to protect
34 endangered species. And this was an anomaly in
35 public opinion surveys, which rarely show support
36 for any issue exceeding 90 percent. The
37 overwhelming majority of Canadians, 86 percent,
38 said endangered species protection should take
39 priority over economic development. Public
40 opinion polling in British Columbia showed a
41 consistent willingness of the people to place the
42 conservation of salmon and salmon habitat at a
43 higher priority than economic development.

44 Every weekend thousands of British Columbians
45 were involving themselves in salmon conservation
46 initiatives. Most British Columbians reported
47 that they wanted salmon protected and salmon

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1 habitat conserved even if it means a slowdown in
2 the rate of economic development or paying higher
3 taxes. And this was across the board in British
4 Columbia, by the way. There's no rural/urban
5 split here. There's no split between fishery
6 dependent communities and communities with no
7 vested commercial interest in the resource.

8 So out of all of this, from the 1994 Fraser
9 Sockeye Review Board, the New Directions
10 consultations that the Fisheries minister, David
11 Anderson, initiated in the 1990s, the 2002 Fraser
12 Sockeye Review recommendations and other
13 initiatives, came a series of recommendations for
14 fairly radical reform.

15 Among these were recommendations for the
16 establishment of a Pacific Fisheries Conservation
17 Council. Another recommendation called for the
18 creation of a new integrated harvest management
19 process, that it would include conservation
20 organizations and community groups in decision-
21 making tables usually dominated by commercial
22 industry lobbyists. There was also the demand
23 that Ottawa actually establish a policy that would
24 set out explicitly to conserve wild salmon, not
25 just for the yield of commercially valuable stocks
26 but for the inherent values in salmon themselves,
27 in all their dizzying variety and their genetic
28 and spatial diversity.

29 Key to the reforms was a new management
30 paradigm embodied in a document known as Canada's
31 Policy for Conservation of Wild Pacific Salmon,
32 released in 2005, otherwise known as the Wild
33 Salmon Policy. It's useful to recall that after
34 two full years of internal departmental policy
35 analysis, the draft policy came back from Ottawa
36 utterly mangled, in the words of a group of
37 federal and provincial scientists who had reviewed
38 the original draft. This is what we mean when we
39 talk about pushing the boulder uphill constantly
40 only to see it roll back down again. It took
41 another five years of consultations and hand-
42 wringing before the policy was adopted. There was
43 a lot of backsliding along the way. But at least
44 the policy contained language that reflected the
45 broad public interest in salmon conservation as it
46 had evolved over time.

47 In its favour, the Wild Salmon Policy

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1 explicitly articulated the paramountcy of
2 safeguarding the genetic diversity of wild salmon
3 populations. It promised that people throughout
4 British Columbia and the Yukon will contribute to
5 decisions that reflect society's values for wild
6 salmon. It pledged that ecosystem considerations
7 will be incorporated into salmon management. And
8 it vowed:
9

10 This policy will foster a healthy, diverse,
11 and abundant salmon resource for future
12 generations of Canadians. It will support
13 sustainable fisheries to meet the needs of
14 First Nations and contribute to the current
15 and future prosperity of Canadians.
16

17 Five years have passed and the policy is
18 still a long way from being fully implemented.
19 The commission will no doubt hear explanations and
20 criticisms from various parties about how things
21 are going. But it is here that it becomes
22 extremely difficult to go along with the
23 assumption that we are all in this together. It
24 stretches credulity to the breaking point to
25 assert that we all mean the same thing when we say
26 we're in favour of conserving salmon in
27 perpetuity. It is impossible to say with any
28 honesty that the people of British Columbia and
29 the Yukon have been so successful in getting their
30 foot in the door that Fisheries and Oceans
31 decision-making has come to reflect society's
32 values for wild salmon.

33 It is certainly true that aboriginal people
34 have been at least relatively successful in
35 forcing the Crown to consult with them in
36 fisheries management decision-making. Aboriginal
37 communities have consistently asserted their
38 determination to re-establish their customary
39 fisheries in their traditional in-river fisheries
40 areas and the courts have increasingly confirmed
41 the rights of aboriginal communities to do so.

42 This is perfectly consistent with the broader
43 public aspiration to see salmon spawning in all
44 their accustomed places, regardless of whether any
45 particular salmon run makes a particularly unique
46 genetic contribution to a conservation unit and
47 regardless of the value that the salmon run might

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1 contribute to the commercial or recreational
2 fisheries.

3 The constitutional burden upon the Crown to
4 conserve all of those specific salmon runs to
5 which specific aboriginal communities are vested
6 with specific aboriginal rights of harvest might
7 be said to bode well for the public interest in
8 seeing those salmon runs persist in perpetuity.

9 These various conservation purposes -- I
10 don't accept that they are unavoidably and
11 necessarily in competition with one another, nor
12 do they necessarily compete for salmon with bears,
13 eagles or any other contribution that salmon might
14 make to terrestrial ecosystem functioning.

15 Neither do these interests compete against the
16 value of salmon for cultural, social, educational
17 or aesthetic purposes. These varying demands on
18 salmon, on the resource, can actually co-exist.

19 It's also true that in a very limited way
20 environmental organizations are beginning to play
21 a role in co-authoring fishing plans with
22 aboriginal, commercial and recreational
23 stakeholders. Organized into the Marine
24 Conservation Council, environmentalists are now
25 formally represented on the South Coast and North
26 Coast panels of the Integrated Harvest Planning
27 Committee and have secured at least observer
28 status at the Fraser Panel of the Pacific Salmon
29 Commission.

30 But this is wholly insufficient, and this
31 commission might well ask whether the IHPC's
32 decisions, advisory though they are, end up
33 carrying any weight in the prosecution of
34 fisheries where small co-migrating stocks are at
35 risk. Nonetheless, environmentalists have come a
36 great distance since 2002 when their demands to be
37 included as management participants along with
38 industry were met with suggestions that they might
39 just join a local chapter of the B.C. Wildlife
40 Federation.

41 But there is still no accommodation of those
42 public interests for which environmentalists
43 should not necessarily claim a mandate, namely
44 social, educational, cultural and aesthetic
45 values.

46 I don't propose any solution to this problem,
47 but it must be said that the economic and

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1 commercial interests in salmon are still far and
2 away more effectively and intimately represented
3 in Fisheries and Oceans decision-making. It must
4 also be said that perhaps as a function of the way
5 the harvest sector is still structured and the
6 straitjacket that the DFO licensing paradigm has
7 kept the industry, that the industry indeed has no
8 immediately apparent interest in the restoration
9 and conservation of the biological, genetic and
10 spatial diversity of salmon at all.

11 It's a sad thing to note, but the commercial
12 salmon fishing industry of British Columbia is a
13 shadow of what it was only a quarter of a century
14 ago. By the late 1990s, the value of salmon had
15 dropped to less than one half of one percent of
16 British Columbia's gross provincial product. I
17 expect it represents an even smaller fraction of
18 the provincial economy now. The market value of
19 salmon has suffered extreme losses as a
20 consequence of the rise of farmed salmon, and
21 farmed salmon now easily outpaces the production
22 of wild salmon in British Columbia.

23 The commercial salmon fishery as it has been
24 conventionally prosecuted and as it is still more
25 or less currently structured, to be fair, should
26 not be expected to flourish under a paradigm that
27 places a constitutional allocation priority on
28 upriver aboriginal fisheries and at the same time
29 asserts a priority on maintaining the broadest
30 diversity of salmon populations rather than merely
31 the abundance of a few relatively predictable
32 stocks of the highest market value.

33 Making matters worse for the commercial
34 salmon fishery, it is the last fishery of any
35 consequence on Canada's West Coast that remains
36 locked mainly within an outdated and rigid limited
37 entry licence system. This is the greatest
38 impediment to the new paradigm's uphill climb, the
39 absence of sufficient diversity, innovation and
40 capacity for flexibility in the means and methods
41 available to the commercial harvest sector. Until
42 that problem is solved, the commercial fishing
43 industry, I believe, will continue to resist
44 reforms necessary to bring salmon conservation
45 decision-making in line with the broader public
46 interest in salmon conservation. Until this
47 dilemma is addressed, the commercial fishing

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1 industry will continue to regard all the other
2 values associated with salmon as competing
3 interests.

4 This problem was recognized early on and some
5 avenues forward were articulated in the analysis
6 and recommendations contained in the 2004 report,
7 *Treaties and Transition toward a Sustainable*
8 *Fishery on Canada's Pacific Coast*, authored by
9 Peter Pearce and Donald McRay. In a nutshell, the
10 report recommended a transformation of the access
11 privileges vested in commercial licence-holders to
12 a system of quotas or transferable shares in the
13 harvestable surpluses of individual salmon stocks.
14 This would not only allow a modernization of the
15 salmon fishery and bring it in line with other
16 fisheries regimes on the coast; it would allow the
17 federal government to more efficiently and fairly
18 transfer allocations to First Nations in treaty
19 settlements as required and it would free up
20 quota-holders in the industry to develop more
21 imaginative and innovative ways to take advantage
22 of harvest opportunities that necessarily vary
23 over time from stock to stock.

24 In July 2007, Fisheries Minister Loyola Hearn
25 announced a \$175 million program called the
26 Pacific Integrated Commercial Fisheries
27 Initiative. I think all I'll say about that is
28 that it may be relevant for the commission to ask
29 questions about where that has gone and whether or
30 not it's simply reverted into something that looks
31 more like a fairly conventional licence buyback
32 scheme augmented by licence transfers to First
33 Nations.

34 This brings me to my last point. The
35 commission will undoubtedly hear pleadings against
36 the paradigm of maintaining biological diversity,
37 or rather for special consideration in light of
38 its challenges and implications by resorting to
39 the term "tradeoffs." You may hear that it is not
40 wise or fair to expect the commercial fishery to
41 be subjected to federal management decisions that
42 reduce its earnings capability just so that the
43 public might secure the benefit of some certainty
44 that small runs of little commercial value will
45 persist and flourish over time.

46 Now, I think -- I want to handle this
47 delicately. But I think it has to be acknowledged

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1 that the -- the Canadians have actually already
2 made quite a few tradeoffs in the matter of
3 conserving the biological diversity of salmon.
4 And you might say that just one is the opportunity
5 cost in conserving the commercial salmon fishing
6 industry in its current antiquated form. Canadian
7 taxpayers have traded off roughly half a billion
8 dollars just in the past 20 years in various fleet
9 reduction programs, revitalization subsidies,
10 annual fisheries management budgets, and related
11 costs that in some years actually exceed the
12 cumulative landed value of B.C. wild salmon.

13 Perhaps that money could have been more
14 wisely spent. I do want to make it clear that I
15 am not one of those that opposes the notion of
16 subsidies to ensure that the public interest in
17 the maintenance of a flourishing commercial
18 fishing industry is adequately managed and
19 serviced. But like the overwhelming majority of
20 British Columbians, I no longer expect the
21 commercial salmon fishery to either pick my pocket
22 or butter my bread.

23 For these same reasons, I don't see why
24 British Columbians and Canadians should be
25 expected to tolerate the management expedience of
26 any tradeoff that would put any salmon runs at
27 risk or in any way diminish the diversity and
28 resilience of the Fraser sockeye runs. This would
29 sorely test and strain the patience and the
30 tolerance of the public, and the public trust is
31 critically important to the prospects of any
32 management regime that purports to be about the
33 conservation of salmon. We've had those debates
34 and arguments already. The other side lost.

35 Given what science has come to know about the
36 inherently daunting complexities of mixed-stock
37 fisheries management, the gross imprecision in
38 forecasting and estimating run strengths, and the
39 limits of human agency in determining overall
40 abundance, unanticipated events and management
41 errors are bound to occur. The labour of Sisyphus
42 may well be our inescapable fate. But to err on
43 the side of hubris or mere expedience is to betray
44 the public trust, and the public should only be
45 expected to tolerate management decisions that err
46 on the side of caution.

47 In that context, the central question that

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1 faces this commission may be the extent to which
2 the policies and practices of the Department of
3 Fisheries and Oceans put the backs of the
4 department's officials into rolling the boulder
5 uphill or whether those policies and practices err
6 on the side of rolling it back down again.

7 Thanks.

8 MR. WALLACE: Thank you, Mr. Glavin. Mr. Morley.

9

10 EXAMINATION IN CHIEF BY MR. WALLACE:

11

12 MR. MORELY: Thank you, Mr. Wallace. I want to thank
13 the commission for the great privilege and
14 opportunity to come and speak today. I will be
15 limiting my remarks to the rather limited task
16 that I was set out to provide here today and
17 presumably at some point may have another
18 opportunity to deal with some of the other issues
19 that have been raised by some of the panellists.

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So with that as sort of background as to
where I'm coming from, as I said, it's a personal
view and it's not here as a representative of the

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1 commercial sector. And I suspect some of the
2 commercial sector may take great issue with my
3 approach to this issue because I'm not here to
4 defend commercial interests per se.

5 I appreciate Mr. Wallace's introduction of
6 this topic where he referred to the context of the
7 commissions terms of reference. I too went back
8 to those terms of reference when I was asked to
9 take on this task and noted exactly where the
10 terms conservation, sustainability and stewardship
11 entered into it. I actually couldn't find the
12 term "stewardship" in the terms of reference.
13 Nonetheless, it somehow wends its way into some of
14 this discussion. I will come back to that.

15 I did note that the terminology respecting
16 conservation of the sockeye salmon stock referred
17 to the salmon stock, the sockeye salmon stock, and
18 not the stocks per se. And I think you've heard a
19 lot of comments from previous people about stocks.
20 I'll get into that in more detail. It also was in
21 conjunction with encouraging broad cooperation
22 amongst stakeholders, and I think this is
23 particularly important that those two issues are
24 put together and I think that's part of why we
25 have this panel today, is that in fact it's quite
26 clear that there is a diversity of opinion almost
27 as large as the diversity of salmon populations
28 around what these terms actually mean. And that's
29 it's really part of the job of the commission to
30 in fact understand how to encourage cooperation
31 amongst the stakeholders in interpreting these
32 terms and coming to something that makes sense.

33 So again -- and I will come back to some of
34 that later in terms of just how cooperation among
35 stakeholders relates to conservation and
36 definitions of conservation when I get towards the
37 end of my presentation.

38 As I said, my background in resource
39 economics leads me to sort of look at sort of the
40 development of the whole issue of the conservation
41 movement and conservation ethic, conservation
42 terminology in managing natural resources. And it
43 really comes back to the process of allocating
44 scarce resources to meet competing ends. While
45 many people believe that there are many different
46 things we can get out of salmon, and we've heard a
47 variety of values from the previous columnist that

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1 in fact, unfortunately, we can have more of this
2 and we can have more of that, we can have more of
3 the other thing, but sometimes more of this means
4 less of that. And the reality is that we as a
5 society need to find a way to reconcile and
6 balance those interests and those values.

7 So while early on it was very clear that
8 conservation and the whole terminology of
9 conservation and management and natural resources
10 referred almost entirely to managing to ensure
11 sustainable yield and the concept was directly
12 related to yield of the particular resource under
13 management.

14 There's no question that as we've heard
15 again, particularly from Terry, that that concept
16 has broadened -- and from Dr. Reynolds as well,
17 that the concept has broadened to include the
18 preservation of biodiversity and ecosystem
19 function. Nonetheless, we've also heard from both
20 Dr. Reynolds and Dr. Close that in fact humans are
21 an important part of the ecosystem, and humans in
22 fact consume fish and consume Fraser sockeye. And
23 we've also heard from some of the historical
24 evidence that in fact humans have been around, if
25 not as long, almost as long as sockeye have been
26 in the Fraser River and have been consuming those
27 fish for that time period, that the entire
28 evolution of sockeye populations within the Fraser
29 River is intertwined with human use of both pre-
30 contact and post-contact, and that that use has
31 been part of how those sockeye have evolved and
32 how they have managed to survive to this point in
33 time with a large part of diversity intact.

34 So we've also heard that use is only one part
35 of the way in which people can derive values and
36 benefits, that in fact some people, as Terry has
37 indicated, derive benefit from Fraser sockeye
38 populations just in knowing that they exist and
39 that they're spawning in many different locations.

40 So really, from my point of view,
41 conservation is ensuring that we can derive the
42 optimum mix of benefits by maintaining the
43 productive potential of the resource base, and
44 that's the resource base in its entirety. And as
45 we have indicated, it's talking about the
46 conservation of the sockeye salmon stock.

47 Since not all objectives can be maximized

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1 simultaneously, what is really required is an
2 evaluation of the costs and benefits of
3 alternative management measures and to protect the
4 habitat and to control the harvesting the salmon,
5 and to do that in an informed, transparent public
6 choice that strikes the appropriate balance
7 amongst the multiple objectives.

8 Clearly some values for Fraser sockeye may be
9 easier to measure or quantify. Certainly I could
10 speak at great length about the considerable
11 income and employment benefits to communities up
12 and down the coast that are allowed to harvest
13 commercially or recreationally the Fraser sockeye
14 populations. We as a company have a large fleet
15 of vessels that fishes for us, the majority of
16 whom are in fact First Nations people living in
17 various communities all the way from Prince Rupert
18 down through Alert Bay, Campbell River, and into
19 the Fraser River itself. There's no question that
20 the incomes that are derived from commercial
21 exploitation, both for fishermen and for
22 processing workers alike, are particularly
23 important to coastal communities. I could also go
24 through, and those kinds of values are relatively
25 simple to quantify and put forward.

26 Some of the other values that are enjoyed by
27 people may not be as easy to quantify, certainly
28 not in dollar or numeric terms. But I would
29 contend that in fact, if we are going to make
30 informed public choices, that we need to array the
31 impacts, against all of those multiple objectives
32 of various management measures in order to permit
33 decision-makers to understand fully the nature of
34 the decisions they're making and how in fact it
35 affects the mix of benefits that can be enjoyed
36 from the management of these natural resources.

37 I want to get a little bit more into the
38 discussion about biodiversity and how this plays
39 into this equation. Because the issue here is
40 that, again, it's one of these things where, sure,
41 everyone says biodiversity is good; more
42 biodiversity is better. How much biodiversity is
43 enough is a question that we need to ask as a
44 society here, because we even heard from Dr.
45 Reynolds that biodiversity increases the
46 resilience and the ability of populations to
47 respond to changes in the environment and it

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1 reduces the chances that adverse things will
2 happen. But he didn't put it forward as an
3 absolute. In fact, he did, again, say it's
4 relative and it's only reducing some of the
5 chances. So there's some uncertainty, there's
6 some risk involved, and the real question is, if
7 our only goal was to preserve the maximum
8 biodiversity of the sockeye populations, then we
9 would never allow anyone to harvest them.

10 So clearly I don't think there's anyone in
11 this room who believes that the optimum solution
12 here is that no one gets to harvest any Fraser
13 sockeye. So it's a matter of degree and how much.
14 And what we really need from a scientific point of
15 view is a description of what the production
16 possibility frontier is and what the -- in fact,
17 by increasing biodiversity, what does it actually
18 do and where does it provide potential increases
19 in populations or reductions or increases in
20 catches, and looking at various management levers
21 that we can pull?

22 As well, conservation is not simply
23 preservation. The ecosystem within which Fraser
24 sockeye are living has changed drastically. I
25 mean, it was only about 12,000 years ago that in
26 fact the ice departed and sockeye started to come
27 into the Fraser River, that we have seen even
28 within that time period huge changes in abundance
29 and a variety and distribution of populations that
30 are probably unrelated to the harvest that's taken
31 place in most cases. And despite considerable and
32 some would say very intense fishing pressure for
33 the last hundred years or so, that we still
34 maintain a high level of biodiversity.

35 And if you look again at the terminology of
36 biodiversity, people tend to focus on the adult
37 salmon and what's happening when the fish come
38 back, and that we look at how many fish are
39 spawning and how many fish we're harvesting, and
40 say that that's the population that we're looking
41 at.

42 But I think you heard -- earlier this week
43 the commission was given a presentation on the
44 life cycle and biology. And I know that Mike
45 Lapointe presented some information with respect
46 to a pair of spawners will produce somewhere in
47 the range of three to four thousand fertilized

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1 eggs. So there's three to four thousand sockeye
2 that start out their life. He also said, by the
3 time you go through the various life stages, that
4 the average return for Fraser sockeye says that
5 for each spawner, each spawning pair that produced
6 that three to four thousand individuals, that
7 about ten come back, so five per each effective
8 spawner.

9 We harvest somewhere in the range, or have
10 been harvesting recently, somewhere in the range
11 of one to three of those fish. So in terms of
12 biodiversity and looking at the populations,
13 focusing on the five that come back or the one to
14 three that we harvest is really ignoring in fact
15 the vast changes to biodiversity, i.e. the fish
16 that die, that do not get to contribute to the
17 next generation, are dying somewhere else. And in
18 fact, the things that impact on those other
19 sources of mortality - and you heard again from
20 Mr. Lapointe how many different sources of
21 mortality, and from the other panellists, there
22 are - probably have a far more significant impact
23 on biodiversity than what we do in terms of
24 managing fisheries when the fish return.

25 And the issues as to how we impact on that
26 through alterations to habitat, through changes to
27 what's going on in the environment, in the river,
28 and what may be going on in the ocean, I know
29 you're going to have a great deal of evidence
30 presented on all of those factors. But I think
31 that if we are going to look at the issue of
32 preserving biodiversity and how much is the right
33 amount, I think we need to look at that all of
34 the -- first of all, what it does in terms of the
35 actual abundance and sustainability of the stock
36 of Fraser sockeye, and secondly what can we do,
37 what are the levers and how much should we as a
38 society devote to dealing with those issues?

39 And I will use an example here, in fact. I
40 sat as a member of the Cultus Lake Sockeye Salmon
41 Recovery Team and spent a couple of years together
42 with a group analyzing the situation facing Cultus
43 sockeye and looking at the causes of the declines
44 and what could be done in terms of management, in
45 terms of habitat, in terms of other measures to
46 help rebuild Cultus sockeye. The interesting part
47 about that analysis was that after doing extensive

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1 and more detailed - and we probably have more data
2 on Cultus sockeye than we have on any other
3 sockeye population in the Fraser River over a long
4 period of time - it was very clear that in fact
5 whether you harvested Cultus sockeye at a 10
6 percent exploitation rate, a 20 percent or 50
7 percent, or didn't harvest them at all, it was not
8 deterministic of whether Cultus sockeye would
9 continue on as a viable population. The other
10 things impacting on that resource were far more
11 significant. The fresh water survival, the
12 predator issues in the lake, water quality in the
13 lake, spawning areas available, a number of
14 factors going on in ocean survival, were far more
15 critical to whether or not -- in fact, they were
16 deterministic of whether or not Cultus sockeye
17 would recover.

18 So the question really is, as a society, if
19 we are truly interested in preserving
20 biodiversity, then we need to look at where we
21 have levers to deal with it and just how much
22 we're prepared to expend on that. And the example
23 in Cultus -- quite easy for a management agency to
24 say, okay, we're going to eliminate harvest
25 because it doesn't cost the government any money
26 to do that directly. It simply puts a lot of
27 people out of work and imposes a lot of cost on a
28 lot of communities. On the other hand, if in fact
29 the only way you can properly preserve
30 biodiversity is to eliminate recreational activity
31 on Cultus Lake, I think what we're seeing is that
32 society is making choices, and those choices are
33 not to in fact move towards biodiversity in the
34 same way. And I think what I'm suggesting is that
35 we need to do the appropriate evaluation when
36 we're dealing with biodiversity in the context of
37 conservation to suggest that yes, there are
38 benefits to biodiversity.

39 There are also significant costs to
40 increasing biodiversity or preserving it, and the
41 real question is what is the society prepared to
42 do, and not only looking at what the costs are in
43 total but looking at where they're distributed
44 amongst people in society and making the
45 appropriate choice that's in the total society
46 interest from that point of view.

47 I would also suggest that we've heard some

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1 comments about the role of mixed stock fisheries
2 in this issue of conservation and biodiversity.
3 One of the things as well that Mr. Lapointe
4 presented with respect to the issue of
5 productivity of different sockeye salmon
6 populations and stocks was that in fact there's a
7 variety of different productivities of the
8 different stocks and that productivity is
9 dependent partly on just how many fish you have
10 allowed to go spawn and what the capacity is of
11 some of the habitat in which those fish are going
12 into. And at a certain point, there is in fact
13 declining returns, declining marginal
14 productivity, by adding more fish into a spawning
15 population and that the returns are not there any
16 more. And in fact, it's common for people to talk
17 about that, well, we have been managing to the
18 larger, more productive stocks. But if you
19 measure productivity and we have been
20 overharvesting for, say, the smaller weaker
21 stocks, again, we need to very carefully analyze
22 the data that is being used to make those
23 statements.

24 At this point in time, if you look, for
25 example, at Quesnel Lake sockeye, which is one of
26 the largest populations, or has been one of the
27 largest populations, and you use the definition
28 that has been put forward as what is a productive
29 versus an unproductive stock, in fact Quesnel
30 sockeye is one of the least productive stocks,
31 that in fact we are now at a situation where we've
32 managed it to the point where the returns are
33 barely above one to one and they in fact -- and in
34 fact some of the smaller populations that people
35 have concerns for have far higher returns per
36 spawner and in fact could withstand far higher
37 rates of harvest than what we're exerting at this
38 point in time, that really, if you look at what
39 we're doing to where people have suggested that we
40 may have overharvested Fraser sockeye in the past,
41 I suspect that if you look at the definition of
42 overharvesting and how it relates to conservation,
43 and going back to this idea that we're looking for
44 sustainable yield, that you would discover that in
45 fact we are underharvesting Fraser sockeye
46 substantially because we are harvesting far below
47 the rate at which it would provide the maximum

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1 yield.

2 And again, that analysis as to what we are
3 giving up in terms of yield in order to achieve
4 additional biodiversity needs to be done in a far
5 more rigorous and scientific and economic and
6 social, looking at the social, economic and values
7 that underlie that rather than simply saying, we
8 got to reduce harvest in the large productive
9 stocks because of the small weak stocks. We need
10 to do the analysis and we need to do it properly
11 in order to evaluate where we sit in that
12 conservation paradigm.

13 One other area I want to touch on here is the
14 concept of shared stewardship and I want to build
15 a little bit on the comments that Terry made about
16 the outmoded system of allocating access to the
17 fisheries.

18 It's interesting that as a commercial
19 harvester, we need to provide a product to the
20 marketplace that consumers want and are willing to
21 pay for and that we need to do it in a way that in
22 fact generates a profit so that you can afford to
23 invest in equipment and people in order to provide
24 that product. And what is very wonderful about
25 sockeye salmon is that their inherent productivity
26 and rate of return is far beyond the rate of
27 return that the vast majority of businesses are
28 looking for in our society. And so it does make
29 business and economic sense to invest in more
30 production of sockeye and more certain production
31 in the longer terms, as opposed to -- it's not a
32 resource that anyone would want to mine like an
33 exhaustible natural resource.

34 However -- and that clearly means that there
35 is a huge conservation epic within both the
36 commercial and recreational harvesting communities
37 because in fact, they truly concede that the
38 benefits of conserving sockeye stocks will result
39 in continued benefits down the road.

40 Now, one of the caveats to this, of course,
41 is that with the way fisheries are organized and
42 fisheries are allocated, that there are sequential
43 harvests of sockeye stocks from all the way out
44 from the ocean up to the final spawning grounds
45 and that there are many opportunities for harvests
46 that are far gone by one group to be taken by
47 another group, be they even outside the country as

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1 well as different groups within the country.

2 And to the extent that people feel that their
3 conservation efforts will in fact result in
4 additional fish that are required on the spawning
5 grounds actually getting to the spawning grounds
6 and contributing to future production, there is
7 tremendous buy-in to conservation. To the extent
8 that people feel that if they conserve and in fact
9 will not actually reach the spawning grounds but
10 simply be harvested by another harvester or
11 another user group or another sector, then there
12 is not buy-in for conservation to the same degree.

13 An example of this in a larger scale - and
14 I've put in a reference to the Pacific Salmon
15 Treaty to my presentation here - is that I spent
16 the last five years of my career in Department of
17 Fisheries and Oceans working as the assistant
18 chief negotiator for the Pacific Salmon Treaty for
19 Canada and have a great deal of experience over
20 the years in seeing directly some of the issues
21 that Terry is raising with respect to when we did
22 not have a treaty or an agreement that provided
23 each country with a share of the harvest that they
24 felt was appropriate, that in fact we jointly did
25 not conserve many of the populations and jointly
26 overharvest of the population caused significant
27 conservation issues for many stocks, chinook, coho
28 and certainly some sockeye populations.

29 Nonetheless, I think what was demonstrated is
30 that in order to achieve an agreement and move
31 forward is that the key kind of principles that
32 were embodied in that treaty to in fact allow us
33 to move forward, was the principle under Article 3
34 in the Pacific Salmon Treaty, which basically says
35 with respect to stocks subject to this treaty:

36
37 each Party shall conduct its fisheries and
38 its salmon enhancement programs so as to:

39
40 prevent overfishing and provide for optimum
41 production; and

42
43 provide for each Party to receive benefits
44 equivalent to the production of salmon
45 originating in its waters.

46
47 And with that assurance, the countries were able

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1 to achieve a regime, at least in 1985 and for a
2 period of time after that, did result in an
3 improved conservation regime, particularly for
4 depressed chinook stocks at the time.

5 I just want to comment briefly on a couple of
6 the other points that were raised by the other
7 panellists. I guess one of the -- there's a
8 disadvantage of going last. One of them is that
9 many people have already said some of the things
10 you're going to say. But the advantage is that
11 you do get in fact a chance to respond to some of
12 the issues that were raised.

13 One of the areas that I note has become more
14 popular for scientists as a means to sort of
15 explain or justify this concept of biodiversity is
16 the one that Dr. Reynolds referred to in terms of
17 the portfolio effect. Now, all of us have certain
18 experience in dealing with portfolios in terms of
19 investment portfolios, and probably in the last
20 few years not very pleasant experiences. However,
21 the analogy that's used I think needs a lot more
22 explanation than is put forward, because it's
23 generally put forward in a very simplistic fashion
24 that in fact it's a good idea to have a
25 diversified portfolio because it preserves wealth,
26 or something to that effect.

27 But I mean, there's two issues that I take
28 with that. One of the first issues is that is it
29 in fact -- you know, salmon stocks are not like
30 other investments and other stocks. As I
31 mentioned previously, there is this issue of
32 declining marginal returns when you increase a
33 population to the limits of its habitat or its
34 environment so that in fact it's not the same kind
35 of investment that you would make in other stocks
36 or bonds or commodities. So that's something that
37 needs to be understood.

38 Secondly, even with that as a caveat, the
39 idea that a diversified portfolio is good is fine
40 as far as it goes, except that even within
41 portfolio management that the type of portfolio
42 that you're going to hold is dependent largely on
43 your goals and objectives. And in fact, we all
44 know that financial advisors would tell you that
45 at certain times, if your goal is long term
46 growth, then you will hold a certain kind of
47 portfolio that maybe has a broader array of stocks

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1 that may be more variable and speculative, and
2 have some penny stocks along with some other
3 stocks that might be higher risk but higher reward
4 in the long term. But if you want to have a
5 portfolio that is going to -- if you need, in fact
6 -- since you can't live on your investment, and at
7 some point in time you need an income that you
8 might want to draw from your investment, in fact
9 if you want to draw an income that is more secure
10 and stable and long term, you might want to change
11 that portfolio to in fact include a higher
12 proportion of more certain blue chip stocks with
13 dividends and bonds and things like that.

14 So I think if you, again, look more in detail
15 at this analogy, that what it really tells you is
16 it comes back to my original proposition that in
17 fact the conservation sustainability and how we
18 address that as resource managers is that it can
19 provide -- the Fraser sockeye resource can provide
20 us a vast array of benefits and there's a vast
21 array of values, and that our goals and objectives
22 as a society in accessing those benefits and
23 values are critical in how we approach the issue
24 of conservation sustainability, and that in fact
25 we need to ensure that managers who are tasked
26 with conserving and providing for sustainable
27 fisheries must be forced to undertake the
28 objective, based-in-science analysis of what the
29 real management levers are, where they are,
30 whether they're in habitat management or whether
31 they're in harvest management, what the actual
32 impacts are in the short and the long term across
33 both the existence of the resource and potential
34 benefit to users, and evaluate those in an open,
35 transparent manner and quantify them so that
36 decision-makers are given the appropriate
37 information, rather than the system that we
38 currently have, which is largely based on a
39 consultative process that asks for opinions rather
40 than evaluates real costs and benefits.

41 And again, just to pick up on some of the
42 comments to do with this view of people's opinions
43 as to what's important for conservation, because
44 Terry spent quite a bit of time on that, that one
45 of the major developments in the whole area of
46 seafood marketing these days is in the area of
47 sustainability. And it is certainly true that the

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Discussion

1 public are getting more and more concerned about
2 environmental issues and sustainability. And I
3 think that one of the big movements there is the
4 Marine Stewardship Council and we have a lot of
5 experience with going through certification of
6 fisheries in order to demonstrate to the public
7 that in fact fishing practices our fisheries being
8 managed sustainably. And partly this is in
9 response to consumer interest, clearly, and
10 there's no question that again, when consumers are
11 polled and asked whether or not they would like to
12 purchase a sustainably managed and sourced seafood
13 product, they definitely almost overwhelmingly
14 come forward with a preference saying yes, we want
15 that. So I'm not surprised at the 80 to 90
16 percent approval rating you get for those kind of
17 things.

18 But when faced with the choice on the shelf
19 as to paying with money out of their pocket for
20 the sustainable product versus the non-sustainable
21 product, the results are very different. So the
22 reality here is that simply gauging people's
23 opinions and views is not the way we should be
24 making decisions if we want to understand the real
25 underlying values, that we in fact need to do a
26 more rigorous evaluation and quantify as far as
27 possible and array the alternatives for decision-
28 makers.

29 Thank you.

30 MR. WALLACE: Thank you, Mr. Morley.

31 Mr. Commissioner, it's about a quarter after
32 12:00. My thought was that I would just invite
33 the participants at this point to comment on what
34 they've heard. And if they are shy, I have some
35 questions to do that. It seems to me that we're
36 likely to have the issue here in keeping this
37 debate on the level of the perspectives on the
38 terms we're looking at as opposed to getting down
39 into some very real issues that you are going to
40 have to grapple with as we go along. But let's
41 see if we can keep it on the high plane we've
42 started with.

43 I wonder, maybe off the top, if any of you
44 would like to take the lead on commenting on
45 something that another panellist has said. Thank
46 you, Dr. Reynolds.

47 DR. REYNOLDS: Right. I will just because there was a

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John Reynolds

In chief by Mr. Wallace

1 pregnant pause there. You know, some of the
2 things, just to pick up first of all on Rob
3 Morley's comments, some of the things he said
4 right near the end about the need for us to do
5 rigorous evaluations of the diverse values which
6 determine how we approach conservation and
7 sustainable use, I think most of that resonated
8 pretty well with me as well and it sounded a lot
9 like what I was trying to say in my closing. So
10 in terms of the idea that we should have a clear
11 and open and transparent process to provide a
12 rigorous evaluation of the tradeoffs, I think from
13 where I sit I don't have any problem with that. I
14 think that a lot of what I was hearing, though,
15 was about values again. And we, I dare say, may
16 even be on the same plane there in terms of what
17 the distinction should be between scientific
18 research and values.

19 And I think what I've been hearing from this
20 discussion is what I was pretty much expecting to
21 hear and which I think that the commission will be
22 hearing a lot of, which is that people are going
23 to be arguing for different positions on the
24 spectrum of values that people hold for salmon,
25 and those positions themselves are not really open
26 to scientific debate. But science can illuminate
27 the choices that people might want to make in
28 order to decide where they want to be on that
29 spectrum.

30 MR. WALLACE: Thank you, Dr. Reynolds. One of the
31 issues that I heard Mr. Morley mention which may
32 impact directly on the scientific analysis was
33 your portfolio analogy for the importance of
34 biodiversity, and biodiversity seems to be an
35 accepted goal of conservation. And Mr. Morley
36 suggested there are limits, at least I heard him
37 say, to that, and he went to the analogy of the
38 portfolio and said you don't always want to have a
39 balanced portfolio, which it sounds to me as
40 though it's -- and perhaps this is a value, not a
41 scientific issue, but biodiversity in and of
42 itself may not be the only goal.

43 DR. REYNOLDS: Well, I think that's a point. Should
44 I -- was that directed to me or to --

45 MR. WALLACE: That's addressed to you.

46 DR. REYNOLDS: Okay. I think that's a good point. To
47 take it to an extreme, there are many people in

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John Reynolds, Rob Morley

In chief by Mr. Wallace

1 this world for whom the goal would be to liquidate
2 the resources completely, invest the money in the
3 bank and earn a higher rate of interest. You
4 would earn a higher rate of interest by
5 eliminating the world's large whales, for example,
6 than you would by trying to come up with a
7 sustainable hunt, I would argue, because the rate
8 of gain over time of allowing whales to reproduce
9 is going to be too small because it takes too
10 long. You would do better to liquidate the
11 resource and invest the capital elsewhere.

12 I know that is absolutely not what -- that's
13 an extreme, okay. But my point is that yes,
14 absolutely, people have different values and
15 different rates of return that they want to obtain
16 from their values. But I think what's -- so
17 people do need to decide what they want to do.
18 And what struck me about the portfolio paper that
19 I referred to was the prospect that there would
20 have been about ten times as many fisheries
21 closures if there were a single homogeneous stock
22 than there actually would be otherwise. So for
23 some people, that might be okay if they want to
24 sell out and move into a different line of work.

25 MR. WALLACE: Thank you. Mr. Morley.

26 MR. MORLEY: I'm not sure I -- maybe I didn't fully
27 understand what he was saying about the portfolio
28 analysis. And I have read the Schindler paper as
29 well, and in fact, we have an operation in Bristol
30 Bay, our company, and I'm intimately familiar with
31 the fisheries up there and the populations up
32 there. It is a very different population than
33 Fraser sockeye in Bristol Bay. In Bristol Bay
34 there are a number of -- probably half a dozen
35 major systems, each of which has a significant
36 number of lakes and streams contributing to it.
37 The other significant difference is that in
38 Bristol Bay, in fact, there is a much more
39 different array of life histories of sockeye
40 salmon than there is in the Fraser River. So most
41 of the "portfolio effect" that was referred to in
42 that paper was actually as a result of salmon up
43 there that spend a variety of years in fresh water
44 versus salt water, so you've got fish that spend
45 one to three years in fresh water and one to four
46 years in salt water, and that certainly provides a
47 much more biodiversity from that life history

PANEL NO. 2

Rob Morley, Terry Glavin
In chief by Mr. Wallace

1 strategy point of view than we have in Fraser
2 stock.

3 But the other thing I would say is that,
4 interestingly enough, in Bristol Bay the so-called
5 smaller weaker stocks that people here are mostly
6 interested in, they completely ignore in their
7 management and have basically stopped counting
8 them. So the exploitation rate in Bristol Bay
9 sockeye fisheries, they have been able to achieve,
10 largely as a result of favourable environmental
11 conditions, it's somewhere in the range of 75 to
12 80 percent over the last ten years. And we
13 certainly don't harvest anywhere near that in
14 terms of how we have balanced our interest in
15 biodiversity in British Columbia.

16 But going directly back to the point, though,
17 the point I was making is that the question still
18 is, even if biodiversity and increasing
19 biodiversity are maximized as a goal, it's still
20 only one of the goals that needs to be balanced
21 with others, and it's a goal that in fact we need
22 to understand what the long-term consequences are
23 of that biodiversity directly to Fraser sockeye,
24 and because the question as to how you get that
25 biodiversity is not just involved in harvest
26 management, it's involved in everything to do with
27 the life cycle of that fish. And there are costs,
28 significant economic costs to achieve that mean
29 society as a whole will have to make decisions as
30 to where they want to spend their resources,
31 whether it's on Fraser sockeye or whether it's on
32 health care or education or a number of other
33 things that people hold near and dear to their
34 hearts. It's not as simple as just saying, well,
35 biodiversity is good so we should have more of it.

36 MR. WALLACE: Mr. Glavin.

37 MR. GLAVIN: Yeah. I think this is where things go
38 pear-shaped. I don't know whether I should
39 suggest to Rob that he might want to be careful
40 about what he wishes for when he talks about
41 tradeoffs. But you know, one question I would ask
42 about how we might trade off, we might consider
43 very seriously the kinds of investments we make in
44 education or health care, for instance -- I mean,
45 is it not about a half a billion dollars, I think,
46 that Canadians have paid -- Canadian taxpayers
47 have paid in various fleet rationalization,

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Terry Glavin

In chief by Mr. Wallace

1 industry support, DFO salmon budget subsidies,
2 over the last 15 years or so? Maybe that money
3 could be spent somewhere else. Maybe this
4 enormous expense that we go to just in order to
5 keep Jimmy Pattison busy when he's not busy with
6 his Bristol Bay canneries, is something that we
7 should think about.

8 And I'd also like to observe that there is
9 something wrong - clearly, definitely, factually,
10 logically wrong - it's witchcraft, Rob, when you
11 say that it's this zero sum game of tradeoffs
12 between biological diversity and harvest. How did
13 you put it? Maximum biological diversity means no
14 one gets to fish. Where did you get this idea? I
15 don't know where you're getting these things.

16 Certainly if you're invested in a form of
17 fishing, all of your capital is in gear and boat
18 types and plants that require or best profit by
19 the existence of four or five fairly predictable
20 run-timing groups and the harvest is in the salt
21 water, yeah, I get where you're coming from. It's
22 perfectly rational.

23 But actually, you can actually have
24 commercial fisheries that are flourishing, that
25 are targeted on distinct conservation units of
26 sockeye, that don't compromise biological
27 diversity at all, not in the slightest bit.

28 Yes, there's always going to be risks. It's
29 all about the level of risks that we're willing to
30 take. But if it comes to tradeoffs, at some point
31 you're going to be trading off -- the problem with
32 species is that you trade them off once and
33 they're gone forever. You can't go back again.
34 You can't go back again. And if it's just a zero
35 sum analysis of profit and opportunity cost, then
36 as the years go by, you just lose all of these
37 little populations because in any given year, oh
38 well, it's just Cultus sockeye. And by the way,
39 COSEWIC was actually quite specific about this.
40 Overfishing was the cause of the decline, the
41 primary cause of the decline in Cultus sockeye.

42 You know, this is the difficulty with this
43 whole argument, is that we are confusing interests
44 with values.

45 MR. WALLACE: Just a final comment, Mr. Morley, before
46 we break for lunch?

47 MR. MORLEY: Yes. I'm not going to respond to a number

PANEL NO. 2

Rob Morley

In chief by Mr. Wallace

1 of the things Terry has said because it could take
2 a while and he's totally off base. But he
3 hasn't -- actually I never said the word
4 "tradeoff," okay, number one. Number two, what I
5 did say -- and I don't dispute the description and
6 the definition of biological diversity that John
7 Reynolds put forward, okay? But by that
8 description and definition, he put forward the
9 idea that it is variability and differences
10 between and amongst and within species, okay? And
11 going down to the way, how you measure
12 biodiversity is somewhat arbitrary, and that's why
13 I made the point I did, because between us, we can
14 now measure differences between every individual
15 in this room going down to the DNA level. The
16 same thing is increasingly being able to be done
17 with sockeye populations. The question is that
18 any time you remove a single individual out of
19 that population, you're taking away some of the
20 genetic material. Therefore you are reducing, by
21 the definition that Dr. Reynolds put forward, the
22 biodiversity -- so you know, Terry has his view
23 that conservation units may be the level of
24 biodiversity we're interested in protecting. But
25 I'm suggesting to you that even that definition is
26 a compromise, that in fact there is more to
27 biodiversity than just at the conservation unit
28 level. It's still a question as to how much is
29 enough and what are the impacts of various levels
30 of biodiversity on all of the things that we're
31 all trying to achieve out of managing this
32 resource.

33 MR. WALLACE: Thank you. Mr. Commissioner, it's just
34 about 12:30. Would this be convenient?

35 THE COMMISSIONER: Yes. Thank you very much. We'll
36 return at two o'clock, Mr. Wallace.

37 MR. WALLACE: Thank you.

38
39 (PROCEEDINGS ADJOURNED FOR NOON RECESS)

40 (PROCEEDINGS RECONVENED)

41
42 MR. WALLACE: Good afternoon, Commissioner Cohen. This
43 morning I neglected to introduce my co-counsel,
44 Lara Tessaro, Commission Counsel, who is with me
45 at the table this morning. Which reminds me we
46 should all be introducing ourselves when we speak
47 so that the record is clear.

PANEL NO. 2

John Reynolds

In chief by Mr. Wallace

1 One other sort of point on that side, the
2 most important person in the room for the
3 witnesses is Commissioner Cohen. So as you are
4 engaging with one another and with those of us out
5 here, remember that it's Commissioner Cohen who
6 has to deal with the information at the end of the
7 day.

8 The conversation got lively this morning, and
9 from my perspective it seems to me that it was
10 drifting off of the focus of this, which is really
11 to try and provide the Commissioner with different
12 perspectives on what these critical terms mean, as
13 -- and obviously you get into examples, so it's
14 going to -- it's going to happen. But I'd like --
15 let me just ask a couple of questions and then I
16 think we'll open it to participants' counsel to
17 have an opportunity to make their examinations.
18

19 EXAMINATION IN CHIEF BY MR. WALLACE:

20
21 Q Dr. Reynolds, in your work and in your comments
22 this morning, you make a clear distinction between
23 the role of science in identifying the risks to
24 conservation and the -- and the different sort of
25 decisions that go into the choices between those
26 conservation values and others and is that really
27 a bright line. You go on to say that there is a
28 role for science in the making of the choices, as
29 well, and obviously providing objective evidence
30 of the risks, I think is what you see as that. Is
31 there another -- is there anything -- can science
32 take us any further than that?

33 DR. REYNOLDS: Well, that's a good question, and it's
34 one that I think all scientists who are involved
35 in applied types of research have to grapple with,
36 where exactly are we coming from. It's the ideal
37 is that we would make cold, hard judgments which
38 are entirely value free, somewhat like a judge in
39 a courtroom, where we simply listen to the
40 evidence, or in our case gather the evidence, and
41 sometimes we're listening to other people's
42 evidence and trying to make a good clear verdict
43 on what the evidence is telling us. But if that
44 were all that we were doing, then it would mean
45 that we might be missing out on an opportunity to
46 point out additional facts or additional
47 observations that people hadn't thought of. If

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John Reynolds/David Close

In chief by Mr. Wallace

1 people were to say, for example, that we think we
2 can have our cake and eat it, too, and that would
3 be what they would want, then often it's up to --
4 I feel it's up to scientists to say, well, no,
5 actually, you probably can't.

6 And so that -- so it's very difficult to draw
7 in practice a really sharp distinction between the
8 evaluation of evidence in the most objective way
9 possible, and what many of us feel is a
10 responsibility to also use our expertise to help
11 to point out landmines, or opportunities, and in
12 that sense, it's easy to start to move a little
13 bit into objectives. I don't have a problem with
14 that as long as we are clear about which
15 objectives it is that we are advising on.

16 MR. WALLACE: Thank you. That's all the questions.

17 Q Dr. Close, just one clarification. This morning
18 near the end of your presentation you gave some
19 interesting examples of management of the fishery
20 in a particular regime, and just for clarity I
21 think you were talking about the U.S.
22 jurisdictions, and jurisprudence, and in
23 particular the fishery on the Columbia River; is
24 that right?

25 DR. CLOSE: Yes, that is. That's correct,

26 Q Just I think it was clear, but I just wanted to
27 make sure there wasn't any misunderstanding about
28 that.

29 Now, Dr. Close, you have -- you provided us
30 with the slides this morning which you identified
31 the parallels between traditional knowledge and
32 modern science, or western science, however you
33 want to call it. Are they both seeking to do the
34 same things, or are there things that we can learn
35 from traditional knowledge that science can't
36 teach us?

37 DR. CLOSE: Well, I think it's correct that traditional
38 knowledge is -- they're very similar, and I would
39 -- you don't want to say one is rudimentary or --
40 or anything like that, or we should use Western
41 Science to evaluate traditional knowledge. I
42 think it's a knowledge base that stands on its
43 own. And what I am promoting or putting forward
44 the idea is that it's very important that both are
45 utilized by every aspect of, you know, in
46 fisheries management, within the First Nations and
47 tribes, and within the government, which I don't

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David Close

In chief by Mr. Wallace

1 see -- I don't see it happening, and so that was
2 -- that's the important point. And that there are
3 -- I think there's an important difference with
4 western science. And I don't even know if we
5 should really call it "western science", but
6 everybody calls it western science,

7 Q Yes.

8 DR. CLOSE: You know, that with -- with regards to
9 experimental design or setting up experiments, I
10 think western science is very efficient, and
11 whereas the traditional knowledge may come over
12 long -- longer periods of time. It can include
13 experiment, but a lot of time it's pattern
14 recognition and coming back into these
15 observations time and time again. And then -- and
16 then coming up with hypotheses and that's how it
17 moves forward. So I think that's why I said I
18 don't think either one is better, but they're both
19 very important to utilize. I think more moving
20 forward with conservation.

21 Did I avoid that question, or...?

22 Q No, I think it's helpful. To paraphrase, I mean,
23 you used the pejoratives, you can't say one is
24 rudimentary and the other is rigorous. It's there
25 are --

26 DR. CLOSE: There are advantages, you know, to both.

27 Q We shouldn't be too quick to dismiss something
28 that is anecdotal when it's got the history it
29 has, I mean, we're --

30 DR. CLOSE: But that's the problem, is that with
31 western science and the academy that I'm in, and
32 university, is that we typically as scientists
33 look down our nose at other ways of knowing, and
34 it's not as good because -- because I'm invested
35 in western science and I'm married to it, and I'm
36 making a lot of money doing this job and so forth,
37 and so we basically like to look down our noses at
38 this other way of knowing, because it elevates
39 people and their way of knowing to that esteemed
40 position as a professor or a fisheries scientist
41 or whatever. So I think you have to be clear that
42 there is basically these vested interests in
43 science and it is political. And in an ideal
44 situation, like John says, it would be nice if
45 everybody was objective but that's not the case.
46 We have to strive to do that, and try to aim for
47 objectivity, but it doesn't seem to be the case.

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1 There's a lot of people doing science that have
2 different values. And so anyway, that's all I say
3 on that.

4 MR. WALLACE: Yes, thanks very much.

5 Mr. Commissioner, I think I'll leave my
6 questioning of the panel at that point. There has
7 been reference this morning to a number of
8 documents, and just as a matter of housekeeping, I
9 would like to have those marked at this point in
10 the event that people may wish to refer to them in
11 their examination this afternoon. So the first,
12 the next exhibit, which would be marked -- what is
13 the next exhibit number?

14 THE REGISTRAR: Number 4.

15 MR. WALLACE: Okay. So may I ask that Dr. Reynolds'
16 c.v. and presentation outline and his PowerPoint
17 collectively be marked as Exhibit 4.

18 THE REGISTRAR: So marked.

19
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24

EXHIBIT 4: Dr. John Reynolds' c.v.,
presentation outline and PowerPoint
presentation "A scientific view of
conservation and sustainability"

25 MR. TAYLOR: May I just ask what outline, the one that
26 came --

27 MR. WALLACE: The outline that --

28 MR. TAYLOR: -- a day or so ago?

29 MR. WALLACE: The outline that was circulated. Because
30 all of the material that I am about to refer to
31 was either provided earlier to participants or
32 referred to by the witnesses this morning, or
33 both. In fact, I think at this point everything
34 has been provided, although some of it a little
35 bit late.

36 So then the next exhibit, Mr. Commissioner,
37 may I ask that Dr. Close's PowerPoint presentation
38 and c.v. be marked as the next exhibit.

39 THE REGISTRAR: Exhibit number 5.

40
41
42
43

EXHIBIT 5: Dr. David Close's c.v. and
PowerPoint presentation "Ways of Knowing"

44 MR. WALLACE: And may we mark Mr. Glavin's précis and
45 c.v. as Exhibit 6, please.

46 THE REGISTRAR: So marked.

47

PANEL NO. 2

David Close

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

1 EXHIBIT 6: Terry Glavin's c.v. and précis

2

3

MR. WALLACE: And Mr. Morley's outline and
presentation, and his c.v. as Exhibit 7.

4

5

THE REGISTRAR: Exhibit 7, so marked.

6

7

EXHIBIT 7: Rob Morley's c.v., outline and
presentation "Perspective on Conservation"

8

9

MR. WALLACE: I will leave it at that. There have been
other documents referred to this morning, some
explicitly and some not. I won't mark those
exhibits at the moment. If it becomes necessary
in the course of examination this afternoon to do
so, we can. With that, I would ask whether there
are any questions from the Government of Canada.

10

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MR. TAYLOR: Thank you, yes. Mitchell Taylor.

17

18

CROSS-EXAMINATION BY MR. TAYLOR:

19

20

Q Dr. Close, in your evidence this morning, you said
at one point as I heard you that there needs to be
money for First Nations to build capacity, and I
think you were speaking specifically in the
Fisheries context, and as I heard you, you
suggested that there wasn't money for that. Have
you had occasion to look into what programs and
funding there is for First Nations to build
capacity and engage in fisheries within the
Canadian context?

21

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DR. CLOSE: Yes.

31

Q Are you familiar with the Aboriginal Fishing
Strategy?

32

33

DR. CLOSE: No.

34

Q All right. Are you familiar with something that's
loosely called AAROM, but is more properly known
as Aboriginal Aquatic Resource and Ocean
Management Program?

35

36

37

38

DR. CLOSE: Yes.

39

Q Are you aware that that began in 2005?

40

DR. CLOSE: Yes.

41

Q is it your understanding that that provides --
that program provides funding through the
Department of Fisheries to aggregate aboriginal
organizations to develop fisheries, scientific and
technical expertise in fisheries management?

42

43

44

45

46

DR. CLOSE: I'm not sure about that last statement that

47

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David Close

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

1 you made.

2 Q What is your -- firstly, are you aware then that
3 it provides funding to --

4 DR. CLOSE: I'm aware that it does provide funding, but
5 I'm not sure that it provides what you just said.

6 Q What do you think it provides money for?

7 DR. CLOSE: Well, I think it provides a forum for DFO
8 to gather people up together and try to -- try to
9 be more efficient in trying to make some decisions
10 about fisheries management, but I don't think it
11 builds capacity.

12 Q All right.

13 DR. CLOSE: So far, from what I've seen.

14 Q It's my understanding that some of the money is
15 for purposes of engaging in advisory or
16 consultative processes, and you are indicating
17 that's your understanding, I take it?

18 DR. CLOSE: I may not understand the whole program with
19 AAROM, but what I've seen so far and what I've
20 been involved with, it doesn't seem to be building
21 capacity as far as fisheries management and making
22 decisions about fisheries management within the
23 First Nations.

24 Q Is it the case that you don't know what else it
25 does provide money for besides what we've just
26 spoken of?

27 DR. CLOSE: Could you repeat that, please?

28 Q Do you know what else it provides money for
29 besides the ability to engage in advisory and
30 consultative processes?

31 DR. CLOSE: Well, I think that there is -- from what I
32 understand in the Fraser there is three, a lower,
33 a mid and an upper, it is providing a -- like a
34 FTE, full-time employee, I think, so at each of
35 those.

36 Q It sound like you have a very general
37 understanding of what AAROM money is for.

38 DR. CLOSE: Very general, yes.

39 Q All right. Are you familiar with the program
40 called PICFI?

41 DR. CLOSE: A little bit, yes.

42 Q Are you aware of how much money goes into that
43 over the aggregate of that program?

44 DR. CLOSE: I'm not sure of the exact dollar value, but
45 I know it's substantial, for the buying back --
46 the buy-back of a licence.

47 Q That is, in my understanding, one element. I

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David Close/Terry Glavin

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

1 think there's a number of elements, but that I
2 understand to be part of the program. Is it your
3 understanding that that's a program that started
4 in 2007?

5 DR. CLOSE: I don't know when it started, the PICFI.

6 Q When you say substantial funds, do you understand
7 it to be in the hundreds of millions, or over a
8 hundred million?

9 DR. CLOSE: I don't recall the amount. I know it was
10 -- I thought it was in the millions, but...

11 Q Okay. And are you aware of programs through the
12 Department of Indian and Northern Affairs to do
13 with building capacity on the part of First
14 Nations in the fisheries context?

15 DR. CLOSE: I haven't seen any of that.

16 Q All right.

17 DR. CLOSE: But I'm aware that the organization exists
18 and...

19 Q Sorry, which organization?

20 DR. CLOSE: The Aboriginal Affairs.

21 Q The Department, you mean?

22 DR. CLOSE: Yeah, Department.

23 Q It exists.

24 DR. CLOSE: And I'm not sure how much money is being...

25 MR. TAYLOR: All right, thank you.

26 Q Mr. Glavin, you spoke in your evidence of, in
27 brief, the *Wild Salmon Policy*, which will be the
28 subject of evidence later on in these proceedings,
29 and you made some comments about it, the
30 development of it, that is. Am I correct that you
31 were not part of the Department of Fisheries
32 deliberations and workup of that policy?

33 MR. GLAVIN: You would be not correct if that was your
34 assumption. We were quite closely consulted. I
35 can't remember the number of consultations --

36 Q All right.

37 MR. GLAVIN: -- on the *Wild Salmon Policy* that I
38 participated in.

39 Q Thank you, you've clarified. I take it your role,
40 then, was as one of the parties or members of a
41 party who was consulted by the Department.

42 MR. GLAVIN: My involvement in the development of the
43 *Wild Salmon Policy* came in the course of my work
44 as a member of the Pacific Fisheries Resource
45 Conservation Council.

46 Q All right.

47 MR. GLAVIN: And later as an advisor for environmental

PANEL NO. 2

Terry Glavin/Rob Morley/David Close

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

- 1 organizations, conservationists.
- 2 Q And then separately from whatever liaison and
- 3 consultations Fisheries officials had with you and
- 4 your organizations, they would have had internal
- 5 workup and deliberations, as well, correct?
- 6 MR. GLAVIN: Yes, indeed.
- 7 Q And you were not part of that.
- 8 MR. GLAVIN: No.
- 9 Q Now, Mr. Morley, you heard Dr. Reynolds earlier
- 10 speak of the definitions and he has them in his
- 11 deck as well, the definitions of "biodiversity"
- 12 and "conservation" and "sustainable use". Do you
- 13 generally accept that those are good working
- 14 definitions?
- 15 MR. MORLEY: I would say I generally accept that they
- 16 are reasonable working definitions. What the one
- 17 major difference that I would have with his
- 18 definition would be that, in my view, conservation
- 19 includes use as part of its definition, as not
- 20 completely separate as he has indicated.
- 21 Q All right. You're aware that the Department of
- 22 Fisheries and Oceans has working definitions that
- 23 divide conservation and sustainable use in much
- 24 the same way Dr. Reynolds does, do you?
- 25 MR. MORLEY: I am aware that they have taken that
- 26 approach, what I think is an untenable one.
- 27 Q I see. Mr. Glavin, do you accept Dr. Reynolds'
- 28 definitions that he put out of biodiversity and
- 29 conservation and sustainable use as, generally
- 30 speaking, good working definitions?
- 31 MR. GLAVIN: Yes.
- 32 Q All right. And likewise, Dr. Close, do you
- 33 similarly accept them?
- 34 DR. CLOSE: Yes.
- 35 Q And those definitions that Dr. Reynolds put out
- 36 are similar to the definitions that the Department
- 37 of Fisheries use. There's a number of documents,
- 38 including the *Wild Salmon Policy*; is that right,
- 39 Dr. Close?
- 40 DR. CLOSE: Yes.
- 41 Q And you agree, Mr. Glavin?
- 42 MR. GLAVIN: Yes.
- 43 MR. TAYLOR: Thank you. Those are my questions.
- 44 MR. WALLACE: Thank you, Mr. Taylor.
- 45 Province of British Columbia?
- 46 MR. TYZUK: No questions.
- 47 MR. WALLACE: Thank you.

PANEL NO. 2

David Close/Terry Glavin

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

Cross-exam by Mr. Blair (BCSFA)

1 Pacific Salmon Commission?

2 The Public Service Alliance?

3 MR. BUCHANAN: No questions.

4 MR. WALLACE: Thank you. Rio Tinto Alcan?

5 MS. HILLER: We have no questions.

6 MR. WALLACE: B.C. Salmon Farmer's Association? Thank
7 you, Mr. Blair.

8 MR. BLAIR: Mr. Commissioner. Alan Blair, for the B.C.
9 Salmon Farmers Association. Gentlemen of the
10 panel, I must say I much enjoyed your exchanges
11 this morning. Seldom are lawyers spectators in a
12 hearing room like this, and I for one enjoyed it.
13 Perhaps this is why in courtrooms panels are much
14 restricted and perhaps their place is better in an
15 inquiry.

16
17 CROSS-EXAMINATION BY MR. BLAIR:

18
19 Q I have a question for all of you in a sort of a
20 general nature relating to the word
21 "conservation", and I understood from all of you
22 and from the questions we've heard today that
23 there appears to be different ways of describing
24 what conservation is. It can mean different
25 things to different people. And I want to just
26 set the tone for some general questions that I'd
27 like to put to all of you, and it's putting the
28 context around salmon and salmon harvesting. And
29 these numbers are from memory and I may be off by
30 a percentage or two or by a year or two, but I
31 think you'll understand my point.

32 I think it's fair to say that about 30 years
33 ago harvesting by commercial fishing fleet of
34 North Pacific salmon, but I think it's correct to
35 say that about 24 percent of the world harvest was
36 the Canadian commercial fishing fleet. It may
37 have been 25 years ago and not 30, and it might be
38 26 percent, not 24, but a fairly percent of the
39 world harvesting total. And now I understand,
40 although this year may be an exception, that in
41 recent time the commercial fleet of Canada has
42 harvested perhaps as low as one percent of that
43 North Pacific salmon which has been harvested
44 worldwide. And so a huge reduction from roughly a
45 quarter to almost insignificant on a global
46 harvesting. And I also understand that never has
47 the tonnage of North Pacific salmon been so high

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Terry Glavin

Cross-exam by Mr. Blair (BCFSA)

1 as it's been in the last several years.

2 And so under the "What does conservation
3 mean?", I have a question for you and perhaps we
4 can decide who will answer it first. But it seems
5 that the Canadian response to conservation has
6 been as it relates to harvesting, well, we'd
7 better tie the boats up because there's not enough
8 fish. We have to conserve the wild stocks and
9 harvesting impacts that negatively. But it seems
10 as though as the tonnage of global wild salmon
11 stocks increase, other jurisdictions, notably the
12 U.S., Alaska in particular, seem not to have that
13 trouble, and indeed their percentage of the catch
14 goes higher and higher -- ever higher.

15 And those seem to be two separate responses
16 by two mature governments' sophisticated fisheries
17 management policies. Why is that? Why is it that
18 Canada conserves fish stocks and keeps commercial
19 fishing fleets in port and the U.S., and Alaska in
20 particular, deals with conservation by high
21 harvest rates. I'm not suggesting too high, but
22 clearly sustainable on a very high level for a
23 very long period of time.

24 Who would like to take that one on first?

25 MR. GLAVIN: I think you will find that two years ago
26 the total catch of wild salmon in the North
27 Pacific was a record breaker.

28 Q 550 million tons?

29 MR. GLAVIN: I calculated it, and I can't do math, so I
30 always -- I think I figured out it was a million
31 buffalo, or ten million buffalo moving across the
32 plains. This is the way I do things.

33 Q How many people --

34 MR. GLAVIN: Lots. I don't know. I think you're
35 getting it wrong though, in this way, and the
36 abundances of salmon throughout the North Pacific
37 will shift and change over time from place to
38 place, depending on conditions in the ocean. The
39 actual biomass of salmon in the North Pacific
40 actually may be static over time, but you will see
41 massive declines in certain areas and abundances
42 in other areas, and a lot of it's related to the
43 Pacific decadal oscillation and other long-term
44 things like that.

45 I don't think it's fair to say that Canada's
46 different than the United States in the way we
47 curtail fisheries necessarily. I don't think it's

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Terry Glavin/John Reynolds

Cross-exam by Mr. Blair (BCSFA)

1 fair to say that Canada simply ties up the boats
2 at the dock while other countries are allowed to
3 go fishing. It does really depend significantly
4 on abundance and variability.

5 Go ahead.

6 DR. REYNOLDS: If I could follow from that. If you
7 look at a map of the -- imagine a map of the West
8 Coast, the Pacific Coast, and imagine you had
9 different colours on that map from different parts
10 of the coastal areas in terms of how well the
11 salmon are doing, in some metric, basically, what
12 has their abundance been looking like. And if red
13 is bad, and blue is good, that map would be quite
14 red down around California. It gets a little less
15 red as you move up through Oregon, Washington.
16 It's maybe amber, or what have you down in the
17 Fraser, and again as you go further up things
18 suddenly start to turn blue.

19 And this is part of that phenomenon that
20 Terry has just referred to, that in the south,
21 these are not good times right now for salmon, and
22 you will find there have been lots of boats, I
23 understand. I'm not an expert on American
24 fisheries, but I think you will find that there
25 have been an awful lot of closures, you know,
26 species listed under the **Endangered Species Act**
27 and everything else in the lower States, and as
28 you go further north things are better off and
29 it's -- it's partly, not entirely, but partly for
30 the reasons that Terry just gave.

31 Q You've gone from "red states" to "blue states".

32 DR. REYNOLDS: Yes.

33 Q Five days before mid-term elections.

34 DR. REYNOLDS: That was completely unintentional.

35 Q Is that also a reference to latitudes and water
36 temperature, then?

37 DR. REYNOLDS: Yes, it is. There is one other thing
38 going in the north, which is also the tremendous
39 amount of hatchery production that is occurring in
40 the -- in the western, northwestern Pacific.
41 Again, I won't pretend to be able to give you any
42 figures on that, but my understanding is that
43 countries such as Japan and Russia are ramping up
44 hatchery production to a large extent and so that
45 to many people, that's a very different beast, so
46 to speak, from wild fish.

47 DR. CLOSE: David Close. I agree with John in what

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David Close/Rob Morley

Cross-exam by Mr. Blair (BCSFA)

1 we're seeing in the southern part of the United
2 States on the coast here is a lot of the fisheries
3 have collapsed, and a lot -- there's a lot of
4 listings under the **Endangered Species Act**. The
5 Columbia River is -- is mainly made up of hatchery
6 -- conservation hatchery fish. And really, if it
7 wasn't for these conservation hatcheries, there
8 probably wouldn't be too much of a fishery left
9 right now. So it is a tool, and people are
10 utilizing this tool to try to keep these runs
11 alive in the Columbia. But it's different in the
12 north. Within Alaska the runs seem to be still
13 strong. But I was told that recently that there's
14 more salmon in the north -- northwest, northeast,
15 also right now due to the hatcheries in Japan and
16 Russia, also. So there's a -- we may be paying
17 for that in the future, but we don't know yet,
18 so...

19 MR. MORLEY: I would agree with everything all the
20 other panellists have said, but I think they are
21 still missing out one factor that you did mention,
22 and in fact there is no question that the harvest
23 management policy in British Columbia, when you
24 compare it with where we're seeing larger catches,
25 both in Alaska, in Russia and in Japan, it's
26 significantly different. And that our harvest
27 management policy in response to a number of
28 things that are going on, and in response to
29 pushes for more managing biodiversity has been far
30 more conservative and we have taken the approach
31 of -- to compare us to Alaska, they have a harvest
32 management policy of fishing to aggregate mixed
33 stocks as a preference as to how they manage their
34 biodiversity, rather than the approach we have
35 taken more and more in Canada, which is managing
36 to the smaller populations, and instead of
37 managing to larger aggregations of populations.

38 So if you look at the harvest rates within
39 British Columbia, you will find that they're
40 significantly lower than they are in Alaska in
41 general, even for populations that are in a
42 similar state of health.

43 Q If the only issue we had to manage, gentlemen, was
44 conservation, and if we could all agree on what
45 that meant, can we manage conservation within a
46 Canadian context alone, or are we left to draw in
47 the other jurisdictions, and you've mentioned them

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David Close/John Reynolds

Cross-exam by Mr. Blair (BCSFA)

1 all from California to Japan. Is it not a
2 function that we have to study conservation of a
3 migrating species like wild Pacific salmon in a
4 North Pacific regional way, rather than a purely
5 Canadian? And perhaps I'll put that directly to
6 Dr. Close, who used the expression this morning,
7 the "tragedy of the commons".

8 DR. CLOSE: Yes.

9 Q I mean, don't the fish all go to the same table to
10 feed?

11 DR. CLOSE: Well, but they're coming to different sub-
12 basins, and so I think we have to be careful with
13 the mixed stock fishery. So far, you know, it's
14 worked out fairly well in Alaska, but there's no
15 guarantee that that's -- you know, that's going to
16 hold up, either. So I always like to tend to -- I
17 think on the side of being conservative in that
18 and trying to, you know, manage more for some of
19 these smaller stocks. I think it's a conservative
20 approach, but it's careful.

21 And for the First Nations it's important
22 because we have -- and I say we, as well as in the
23 Columbia, that we also fish on these small
24 tributaries. And so if some of these go extinct,
25 it means a lot to our people. So I think that we
26 have to be very careful with just doing these
27 industrial-sized management regimes.

28 So anyway, that's my perspective.

29 Q Anybody else on the tragedy of the commons or
30 where the fish go to feed?

31 DR. REYNOLDS: Well, there's, I mean, if again, if
32 you're looking at the entire lifecycle of the
33 salmon and managing it all, I think that it's far
34 more complicated than simply looking at managing
35 the harvest, as I mentioned previously today. And
36 that -- that's not just looking at where they feed
37 out on the high seas and whether or not they're in
38 competition with production from other -- other
39 places. But also what's happening to them
40 throughout their lifecycle from the time that
41 they're eggs in the gravel, right through their
42 residence period in freshwater lakes and their
43 travel down the river and in the estuaries and in
44 the near shore area. So it's a very complicated
45 system to manage and conservation includes us
46 managing all parts of that system.

47 Q Including, if I may, then, just to follow, but

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John Reynolds/Terry Glavin

Cross-exam by Mr. Blair (BCSFA)

1 also including the feeding in the commons, as well
2 as you're saying just there are other factors as
3 well, many others.

4 DR. REYNOLDS: Yes.

5 Q Yes. But you do agree with the premise that the
6 wild salmon, and I think you all, gentlemen, you
7 all agree that the wild salmon generally go to the
8 North Pacific. They more or less intermingle.
9 There's this issue of an ocean, and what it's
10 carrying capacity would be, and therefore it's
11 impossible to look at conservation in one of these
12 geopolitical areas when the fish don't recognize
13 that. They just -- they swim to the north ocean,
14 the North Pacific to feed. Is that fundamentally
15 true?

16 DR. REYNOLDS: Well, I think that the -- we are seeing
17 other populations. The -- I don't know that we
18 can say we've tested the carrying capacity of the
19 North Pacific at this point in time and whether or
20 not that's a significant factor in the health of
21 British Columbia salmon, when you compare it with
22 other populations out there. I don't know that
23 the scientific evidence is strong, but I don't
24 think it's the most deterministic factor we're
25 dealing with here.

26 Q Anyone else, generally, another question?

27 MR. GLAVIN: Yeah, I don't think the tragedy of the
28 commons that you raise is actually an issue in
29 this, in the respect of the common ocean pasturage
30 of salmon. I'm not sure whether I heard Rob refer
31 to the management of the whole ecosystem. I don't
32 know how that would be possible, or even whether
33 we would try. This is the sort of thing I was
34 thinking about when I so cheekily used the word
35 "witchcraft" this morning. And I don't think you
36 can -- it's fair to say that because we can't
37 manage or comprehend or anticipate variability in
38 abundance of phytoplankton and zooplankton
39 densities in the North Pacific Ocean, that we
40 can't conserve salmon in the separate
41 jurisdictions where salmon spawn.

42 Q So then is it a simple question that jurisdictions
43 like Alaska, for example, have abundance in salmon
44 now because of climate change, or relative to more
45 southerly jurisdictions. Is that why they are
46 able to conserve salmon in much the same way we
47 do, and yet harvest it at many multiples to the

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Terry Glavin/Rob Morley

Cross-exam by Mr. Blair (BCSFA)

1 Canadian fisher?

2 MR. GLAVIN: I think the first thing that salmon
3 biologists in Alaska would tell you is "Thanks for
4 all the adulation, but it's actually we didn't
5 really have all that much to do with it." It
6 really is a matter of ocean survival and
7 unbelievably pristine habitat, and a discrete set
8 of stocks that are actually quite easily managed
9 and actually do not present the same kind of
10 complexity that faces Fisheries and Oceans
11 managers.

12 And at the same time I think you might want
13 to remember that Alaska actually harvests
14 populations of fish that spawn well to the south
15 of Alaska, as far south as the Columbia River, and
16 there's a great deal of antagonism in the -- in
17 treaty for a, quite often between the lower 48
18 states and the interception fisheries that their
19 stocks are subjected to in southeast Alaska.

20 MR. MORLEY: An even more simplistic analysis than the
21 one that Dr. Reynolds put forward with "red
22 states" and "blue states", is that if you took his
23 same map, and you imprinted on it the density of
24 population of where people live, and you looked at
25 where salmon are doing well and when they are not,
26 you would see an inverse relationship. So I think
27 that's probably more significant. And that gets
28 back to the comment I was making about the
29 lifecycle on which humans have an impact where we
30 can control human activities and where they do
31 have an influence on what parts of salmon life
32 history that they're successfully in getting
33 through, that's critical in terms of conservation.

34 Q And lastly, are the sockeye salmon, but really all
35 wild salmon stocks from British Columbia, are they
36 competing and are conservation measures that we
37 try to impart by the DFO or public interest or
38 individuals, are they complicated by the billions
39 of fish that those wild B.C. salmon compete
40 against when they go up and find the billions of
41 ocean ranched salmon that are released by Alaska?
42 Is that a totally separate, there's no
43 relationship?

44 While you're thinking about your answer, I've
45 seen correlations where there's -- it's never been
46 higher than a straight line of billions of ocean
47 ranched salmon are released by Alaska, which

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Rob Morley

Cross-exam by Mr. Blair (BCSFA)

1 coincidentally coincides directly with the 18-year
2 decline. Maybe that's just a correlation without
3 meaning, but...

4 MR. MORLEY: You know, I don't know that the -- again
5 that the inference has been made in scientific
6 papers. I don't think that you've got any
7 conclusive proof, and that I think you'd have to
8 look at the variability in the amount of fish
9 that's going out there and compare it with the
10 variability and survival of our own populations.
11 And I think you can show examples where that you
12 might see a different result when releases have
13 gone down, and -- or gone down, and wild
14 populations have gone down at the same time.

15 So it's not as clear-cut as that it might
16 appear. And I think that there's many fish
17 species living in the North Pacific and whether
18 there may not have been as many salmon that
19 originated from Asia or Alaska in the past, at the
20 same time there were other species that were
21 occupying some of the habitat out there and we
22 don't know what the health of those are in any
23 given time. And so there may be as much -- there
24 may have previously been as many other fish
25 competing for the same food, they just weren't
26 other salmon. They were other species.

27 MR. BLAIR: Anyone else? Thank you, Mr. Commissioner.

28 MR. WALLACE: Thank you, Mr. Blair.

29 The next participant on the list is the
30 Seafood Producers Association and I just realized
31 I have broken one of our rules, which is inasmuch
32 as we have a panellist who is associated with the
33 Seafood Producers Association, they should have
34 gone next after the Commission. But they didn't,
35 so any questions from the B.C. Seafood Producers?
36 Aquaculture Coalition? Empty chair.

37 Conservation Coalition? Mr. Leadem. Thank
38 you.

39 MR. LEADEM: For the record, my name is Tim Leadem. I
40 represent the Conservation Coalition. You may not
41 be aware who the Conservation Coalition are, but
42 they're basically six groups and one individual
43 whose primary focus through these hearings is
44 conservation. So your remarks are quite apt and
45 timely.

46
47

PANEL NO. 2
John Reynolds/David Close
Cross-exam by Mr. Leadem (CONSER)

1 CROSS-EXAMINATION BY MR. LEADEM:
2

3 Q We seem to have arrived at some consensus in the
4 panel with respect to the meaning of biodiversity,
5 and we also seem to have arrived at some consensus
6 amongst the panel with regard to the term
7 "conservation". But you were billed as the panel
8 that was going to handle not only conservation and
9 sustainable development, or sustainability, but
10 also stewardship. So I am going to see if I can
11 prompt you into arriving at some workable
12 definition of stewardship. And so I'll throw open
13 the question to the panel at large to see what you
14 mean or what we can mean by that term
15 "stewardship".

16 DR. REYNOLDS: We need a huddle here for two minutes
17 and I'll bet we could come up with an agreed-upon
18 definition and make everybody's life simpler.

19 Q Well, maybe I can prompt you and maybe we can --
20 maybe I can help you or lead you along.

21 DR. REYNOLDS: All right.

22 Q Because that's what lawyers like to do.
23 In my way of thinking, stewardship connotes
24 responsibility, that you have a resource and you
25 have some connotation of responsibility for the
26 resource, for ensuring that it is conserved, that
27 it is preserved. Does that accord with what
28 you're thinking? I see some nods, but I'm going
29 to need something more than a nod of the head.

30 DR. CLOSE: I'll take a crack at this thing. I think
31 from a First Nations perspective or tribal
32 perspective from the States, there is a
33 stewardship with regards to the aquatic resources,
34 and I think it's instilled through belief system,
35 and what I talked about early in -- earlier on,
36 the perspective of these aren't just open
37 fisheries. There's a responsible for the future
38 generations of the people. And where I'm from,
39 it's basically you look forward seven generations
40 in thinking about the future of the children and
41 also the resource. And it's supposed to take care
42 of us. I mentioned earlier about how the promise
43 that we made to these fish also, they would take
44 care of us and we will take care of them, honour
45 them when they return. And so that's coming back
46 to ceremonies and such. And so I think this is
47 all tied in to what you're referring to as

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David Close/Terry Glavin/Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 stewardship and responsibility for the resources,
2 and it's been going on a long time. And so I
3 would say that that's briefly what I'm thinking of
4 with regards to stewardship and responsibility.

5 Q Anyone else want to take that one on?

6 MR. GLAVIN: I don't really. I think part of the
7 difficulty with a word like "stewardship", it's
8 sort of like it's the air we breathe when we're
9 talking about conservation and biological
10 diversity and sustainable resource use and so on.
11 I think you're right, it does imply a duty of
12 care. And I think it probably burdens people,
13 burdens players who are stakeholders in the
14 industry in different sorts of ways; burdens the
15 Crown differently. But if we don't talk about
16 this kind of thing explicitly, it's because it's
17 kind of like the plinth upon which all else
18 arises, yes.

19 Q I think, Mr. Morley, you talked a little bit about
20 stewardship and about stakeholders, and I think we
21 can all agree, at least members of the panel can
22 agree that it's not sufficient to leave
23 stewardship to the Department of Fisheries and
24 Oceans alone, that it implies a lot more players
25 enter into the scene in terms of who is going to
26 be the stewards of the resource. Do I have that
27 right, Mr. Morley?

28 MR. MORLEY: I would agree that it's part of a shared
29 responsibility, and certainly the -- everyone who
30 is invested in utilizing and caring about the
31 resource shares some of that responsibility for
32 taking care of it.

33 Q And certainly that would include environmental
34 groups and non-governmental environmental groups,
35 would it not?

36 MR. MORLEY: Well, I think it can include everyone. I
37 guess the question is that how do you include
38 everyone? You can't rent, you know, every time
39 you want to make a decision, B.C. Place and bring
40 everyone forward. So I think that there's a place
41 for everyone with a special interest in, and we
42 can find an efficient way to involve them all,
43 yes.

44 MR. GLAVIN: Actually, this has got a bit of traction
45 in the relationship that we've begun to develop
46 with the Department of Fisheries and Oceans. And
47 by "we", I mean stewardship groups and public

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Terry Glavin/Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 interest groups, environmental organizations.
2 Stewardship groups were specifically identified as
3 being a necessary function of, or accommodating
4 stewardship groups was identified as being a
5 necessary function of the Marine Conservation
6 Caucus. The Marine Conservation Caucus was
7 established sort of, actually for DFO's
8 convenience, as a way to consult or engage
9 conservation organizations in decision-making.
10 It's not just about salmon, by the way, it's
11 across the board in fisheries and DFO decision-
12 making. It's slow in development in the way that
13 has taken place. But stewardship groups, the
14 people that we would normally mean when we use
15 that term, are also engaged to some extent by the
16 Department in that -- in habitat protection
17 initiatives and so on, such as they are. They've
18 really withered over the years.

19 Q And certainly it would include indigenous people
20 as stewards of the resource as well, Dr. Close,
21 would it not.

22 I want to switch now to conservation. Some
23 of you refer to the *Wild Salmon Policy*, and I'm
24 not going to go into it in any great depth,
25 because that will be the subject of proceedings to
26 come. But my understanding of the *Wild Salmon*
27 *Policy* is that conservation is the primary focus
28 of the Policy. Do I have that right? In other
29 words, conservation must come first.

30 DR. REYNOLDS: Yes.

31 MR. GLAVIN: Yes.

32 Q And yet the entity that's charged with the
33 enforcement and the implementation of the *Wild*
34 *Salmon Policy* also has competing mandates, and I
35 think you reference this in part, Mr. Glavin. For
36 example, some competing mandates that the
37 Department of Fisheries and Ocean had are it has
38 to deal with commercial fisheries. It has to deal
39 with indigenous fisheries. It has to deal with
40 this new mandate that's coming out with
41 aquaculture. How do you see conservation still
42 being the primary focus, given these competing
43 mandates?

44 MR. MORLEY: First of all, I don't agree entirely that
45 the *Wild Salmon Policy* is all about conservation.
46 Okay. It's about conservation and sustainable
47 use. And quite clearly it sets up a process by

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Terry Glavin/Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 which you arrive at decisions that will strike the
2 appropriate balance.

3 Q Okay. Well, with that clarification from Mr.
4 Morley...

5 MR. GLAVIN: If you actually look at the *Wild Salmon*
6 *Policy*, I think what you'll find is that there
7 isn't that kind of a distinction drawn, actually,
8 between the conservation and sustainable use.
9 Sustainable use is intended to be a conservation
10 purpose in and of itself. It's not something that
11 necessarily has to be pitted against conservation.
12 The presumption in the *Wild Salmon Policy* is that
13 all of these values that we would conserve salmon
14 for can actually coexist and have to be
15 accommodated and recognized.

16 MR. LEADEM: Mr. Wallace has risen.

17 MR. WALLACE: Mr. Commissioner, There has been, I
18 think, one reference too many to the *Wild Salmon*
19 *Policy* and it's getting fairly specific. I think
20 it would be appropriate to mark the *Wild Salmon*
21 *Policy* as an exhibit at this point. Three out of
22 the four panellists have referred to it and it's
23 becoming a focus of Mr. Leadem's questions.

24 MR. LEADEM: I have no difficulty with Mr. Wallace's
25 suggestion.

26 THE COMMISSIONER: Have you provided that to Mr.
27 Registrar, Mr. Wallace?

28 MR. WALLACE: It's all in, Mr. Registrar has
29 everything.

30 THE REGISTRAR: That will be marked as Exhibit number
31 8. Thank you.

32
33 EXHIBIT 8: *Wild Salmon Policy*

34
35 MR. LEADEM: Now that we've marked it, I'm going to
36 move off the topic, Mr. Commissioner. And it's
37 just as well because sooner or later you are going
38 to hear a lot about it.

39 Q I want to actually talk about an expression that
40 some of my clients have used with me, and it's
41 called "gauntlet fishery". And by that, the way
42 they describe it is that if you take the Fraser
43 River sockeye fishery, the fish basically run a
44 gauntlet at first at the mouth, they have to run a
45 gauntlet past the array of fishing vessels, the
46 mostly commercial fishing vessels that are there
47 at the mouth of the Fraser. And then as they

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Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 continue on their course, they have to encounter
2 whatever fisheries are in the river. And
3 eventually at the end you're left with the
4 spawning population. And it's with the spawning
5 population that the real issue of conservation
6 takes place.

7 So one of my clients tells me that it's kind
8 of viewed backwards, that you really should start
9 with the spawners, if you're focusing upon
10 conservation, and then look back towards the
11 escapees.

12 Do you know what I'm talking about when I
13 refer to gauntlet fishery? Some of you are
14 nodding your head, so obviously I'm striking some
15 responsive chords.

16 Perhaps you can tell me if I've got that
17 right: If you're going to focus on conservation
18 should you be really focused upon the spawning
19 brood?

20 MR. MORLEY: Well, I think the gist of what I was
21 trying to say in terms of the lifecycle of salmon
22 and conservation is that every stage of the
23 lifecycle is critical to the -- to the survival of
24 the -- of the population. And you could -- again
25 it's kind of the question of where does life
26 start, you know, with the -- with the spawners or
27 with the eggs. And I -- but at the same point,
28 clearly at every stage when you go from the 4,000-
29 odd eggs that are laid down by each female to the,
30 as Mr. Lapointe said, the average of five fish
31 that come back, and then have to run the gauntlet
32 of fisheries to get up to the spawning grounds,
33 that there are mortalities that take place that
34 impact on the survivability of that population at
35 every stage.

36 So if you are going to conserve, and I think
37 again the *Wild Salmon Policy* quite clearly says
38 that a critical aspect of the conservation is that
39 habitat in which these fish live and what happens
40 to them in that habitat, then they are -- for
41 salmon certainly the spawning grounds are part of
42 the critical habitat, but there is critical
43 habitat at every life stage, right from egg to
44 fry, fry to smolt, smolt as they migrate out
45 through Georgia Strait and Johnstone Straits, out
46 to the open ocean. So they're all important from
47 a conservation point of view.

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John Reynolds/Terry Glavin

Cross-exam by Mr. Leadem (CONSER)

1 Q Is that generally accepted by the panel?

2 DR. REYNOLDS: Not by me. Different stages of the
3 lifecycle are more important to the population
4 dynamics than others. And when Mike Lapointe gave
5 his illustration on Monday, he went on to point
6 out that the way to look at this from a population
7 dynamics point of view in terms of how many fish
8 are going to be spawned by the next generation,
9 you need to consider the number of eggs, for
10 example, that those few females that make it back
11 to the stream will be spawning, and then you're
12 back up to your three or four thousand number.

13 The way an ecologist of a population dynamics
14 biologist would put it, is that different stages
15 in the lifecycle have different reproductive
16 value. And reproductive value is a very specific
17 term in population dynamics, and it refers to the
18 -- basically to the impact that a given individual
19 will have on the total productivity of that
20 population, the rate of reproduction. And so the
21 reproductive value of a single -- of an adult
22 female as she has entered -- begun to enter the
23 river, is much, much higher than the reproductive
24 value of an egg or of a juvenile, because they are
25 going to have a much lower probability of making
26 it to spawn. So if you wanted to look after the
27 most sensitive stage in the lifecycle of any
28 species, it's generally accepted that the stage of
29 the lifecycle that you need to protect are adult
30 females just around the time that they're getting
31 ready to breed or spawn.

32 MR. GLAVIN: I think I get what your client may have
33 been suggesting to you, though, if the point is
34 that where it all starts. And the key thing is
35 the protection of the spawning population, the
36 stock, the evolutionarily significant unit, the
37 conservation unit, that those are the components
38 of salmon that we're actually trying to -- that
39 we're trying to keep our eye on here. That's what
40 we mean when we're talking about what we're trying
41 to conserve and everything else follows from that.
42 I don't disagree at all with what Rob said about
43 the various stages and the critical -- you know,
44 and the lifecycle of salmon, and how each is as
45 critical as the other.

46 But I think that's probably where the *Wild*
47 *Salmon Policy* actually does represent a bit of a

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Terry Glavin

Cross-exam by Mr. Leadem (CONSER)

1 shift - sorry to bring up the *Wild Salmon Policy*
2 again - in that it actually does tend to say
3 actually this is where it starts. This is what
4 it's all about is maintaining the health of
5 populations at those levels, and there's still a
6 lot of room for debate and disagreement, and
7 argument and trade-offs, in and amongst the
8 various values and between salmon populations and
9 so on, but that's it.

10 Q Sustainability, that's the other topic I want to
11 come back to. I'm guided by the Brundtland
12 concept of sustainability, or at least the
13 definition from the Brundtland Commission years
14 ago, that sustainability is something that "meets
15 the needs of the present without compromising the
16 ability of future generations to meet their own
17 needs". This definition has actually found its
18 way into legislative draft in many federal
19 statutes when they talk about sustainable
20 development actually incorporate the Brundtland
21 Commission definition of sustainable.

22 Your focus on sustainable use and
23 sustainability, I didn't hear very much talk about
24 preserving for the future. That it's all right
25 for us here using the salmon in this present day
26 and age, but what are we doing about the future
27 generations, and to me that's the sustainability
28 concept that I hear lacking in some of your
29 discussion. And I was wondering was that
30 purposefully lacking, or is this something that
31 you actually think ought to be taken into
32 consideration in developing a sustainable resource
33 such as the salmon.

34 MR. GLAVIN: I don't know, you might not have been
35 listening to me, if you didn't hear it.

36 Q I can hear, but --

37 MR. GLAVIN: If you didn't hear it.

38 Q -- you tended to go a little bit quick.

39 MR. GLAVIN: Okay. Part of the difficulty I think with
40 the term is that it's usually -- it's quite often
41 misapplied. And if you forgive me, I think you
42 may have just done it.

43 The sustainability of the resource. The
44 resource actually doesn't need our help. It
45 doesn't need to be sustained by us. What we're
46 trying to do is sustain human harvests and human
47 use of these resources in perpetuity for our

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Terry Glavin/John Reynolds/Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 future generations. And that's -- it's usually
2 the most appropriately and accurately used in that
3 sense. It's sustainable human activity that is
4 the objective there.

5 Q I take your point, Mr. Glavin. What you're saying
6 is that the fish will do all right, quite well
7 without us, except that we interfere a lot in
8 their -- in their lifecycle.

9 MR. GLAVIN: I don't mind interfering in their
10 lifecycle, by the way.

11 DR. REYNOLDS: Yes. So I think that was something I
12 tried to capture in the definition that I've
13 offered to the Commission, that it is very much
14 about the human benefits that we derive in all
15 forms from, in this case, salmon, in the future
16 and present.

17 MR. MORLEY: I mean, I generally support what the other
18 panellists are saying. One of the things I need,
19 I want to come back on say, the Brundtland
20 definition though is -- I find very difficult to
21 deal with because when it talks about whatever
22 future generations may want to do, I have a great
23 deal of difficulty understanding or planning for
24 something that is completely unknown. And that's
25 -- so I certainly would suggest that we maintain
26 ourselves to the terminology that's really in the
27 terms of reference which is talking about
28 sustainability of the sockeye salmon fishery, and
29 goes back onto the idea that we do want a fishery
30 to last for ever.

31 Q Well, with respect, Mr. Morley, the definition I
32 gave you from the Brundtland Commission is that it
33 meets the needs of the present, so the human needs
34 of the present without compromising the ability of
35 future generation to meet their own needs. So
36 it's not some largesse that we're going to visit
37 on the future generations.

38 Dr. Close, I found your presentation
39 interesting because traditional knowledge is
40 something that I think that we all understand to a
41 certain extent, but it's difficult to grasp
42 because we can't go to a journal article, like a
43 scientific journal article and find out what the
44 traditional knowledge is on any given topic. Do
45 you have any ideas how we can start to get at a
46 resource where we can actually access traditional
47 knowledge? I know we do consultations on a case-

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David Close

Cross-exam by Mr. Leadem (CONSER)

1 by-case basis, but is there any -- any way that
2 you can conceive of that we can start to actually
3 get a catalogue?

4 DR. CLOSE: Yes. Well, I think that's a good question
5 and it's fair. I think the issue is, is we have a
6 lot of work and the universities build their
7 reputation on doing good research and good
8 science, and of course you have to publish papers
9 and -- but with, as I mentioned earlier, with
10 traditional knowledge, when you communicate your
11 results, as is the case with manuscripts where you
12 can go to the library and pull them, you have the
13 oral history and oral traditions, and so it's
14 being passed along that way.

15 So I think one of the things, the key things
16 that we would like to do in the future is try to
17 work on this and actually elevate traditional
18 knowledge up. We still need to have oral
19 transmission, but we can also include some of
20 that, some of that knowledge into peer-reviewed
21 journals, and that's -- you know, we've done that
22 with some work on lamprey where we published
23 traditional knowledge.

24 It gets a little bit sticky sometimes because
25 people are afraid to put forward some of the
26 information, sacred sites and such. But if we're
27 able to remove that and just focus on the biology
28 and the questions of the species of concern, then
29 I think it's very valuable and I think that we can
30 move forward and make that available. But we need
31 to be pushed into that. Now, for science,
32 fisheries scientists to do that, it's a little bit
33 hard because it's more on the social sciences side
34 of things, and so it means it's important to have
35 integrated research and such. So that's -- and I
36 think that's what we're trying to do, so...

37 MR. LEADEM: Mr. -- sorry, I see Mr. Wallace wants to
38 rise.

39 MR. WALLACE: Mr. Commissioner, I notice it's three
40 o'clock. We're halfway through the afternoon. I
41 don't know how much longer Mr. Leadem intends to
42 be. I would, if this is -- if you're almost done
43 we could continue, Mr. Leadem, or...

44 MR. LEADEM: I'm about 15 or 20 minutes and I will be
45 finished, Mr. Commissioner.

46 MR. WALLACE: In 15 or 20 minutes.

47 MR. LEADEM: But I also have some issue with respect to

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Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 the introduction of some documents that might
2 preoccupy us.

3 MR. WALLACE: Well, then, perhaps this would be a
4 convenient time, Mr. Commissioner, to break for a
5 short break, and I'll do some logistics.

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

8

9 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS)

10 (PROCEEDINGS RECONVENED)

11

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

13 MR. WALLACE: Mr. Commissioner, we've done a canvass
14 and it appears as though we have about an hour and
15 a half's worth of witnesses beyond what we can
16 accommodate this afternoon, so perhaps two hours
17 worth all together. So it appears we will be back
18 and fully engaged tomorrow morning.

19 So Mr. Leadem?

20 MR. LEADEM: For the record, Leadem, initial T., for
21 the Conservation Coalition. I'll repeat the
22 question, because my mike was off.

23

24 CROSS-EXAMINATION BY MR. LEADEM, continuing:

25

26 Q I heard you say something about the Cultus Lake
27 sockeye, when you were giving your evidence
28 earlier this morning, and I did not quite
29 understand your role with respect to whether you
30 got involved with the COSEWIC process or not.
31 Could you describe that for me again?

32 MR. MORLEY: I was a member of the recovery team that
33 was put together to develop a recovery strategy --

34 Q Yes?

35 MR. MORLEY: -- under the Department of Fisheries and
36 Oceans.

37 Q Do you know whether that stock, or that
38 conservation unit, the Cultus Lake conservation
39 unit, is actually recognized as an endangered
40 species within the confines of SARA, the species
41 at risk --

42 MR. MORLEY: It is not. It was not listed under SARA.
43 The cabinet decided not to list it.

44 Q Now, I want to take advantage of your being here,
45 Mr. Glavin, before you head back to Afghanistan or
46 wherever the story next takes you, and I wanted to
47 show you two documents, both of which you've

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Terry Glavin

Cross-exam by Mr. Leadem (CONSER)

1 offered, and I want to tender those into evidence.
2 The first one is entitled, "Transferable
3 Shares in British Columbia's Commercial Salmon
4 Fishery", and it should be coming up. Do you
5 recognize that document?

6 MR. GLAVIN: Yes.

7 Q And is that a document that you authored on behalf
8 of Watershed Watch Salmon Society?

9 MR. GLAVIN: Yeah, with the help of a lot of
10 contributors and editors, yeah.

11 MR. LEADEM: And in the interest of full disclosure,
12 Mr. Commissioner, the Watershed Watch Salmon
13 Society is one of my clients, one of the members
14 of the Conservation Coalition.

15 Q In that document - I'm not going to take you
16 through it in any great detail - but basically you
17 argue for what you call a transferrable share.
18 And just could you briefly describe what that is?

19 MR. GLAVIN: Well, generally they're called quotas. It
20 would work a little bit differently in salmon.
21 Quota fisheries are the rule, rather than the
22 exception to the rule, now, in Canada, on Canada's
23 west coast. Something like 60 percent of all the
24 fish by volume, value and species falls into that
25 category, known as groundfish. It's all quoted.
26 And most of the other fisheries are quoted. And
27 the hope and the point and the purpose of the
28 recommendations that we were making for
29 transferrable shares in the salmon fishery, was to
30 precisely and directly address the difficulty, the
31 dilemma that this new paradigm of fisheries
32 conservation pose -- poses unavoidably to the
33 commercial fishery. It's a way to equip the
34 commercial fisherman to harvest surpluses from
35 conservation units in -- with a maximum degree of
36 flexibility to free up the innovation and
37 imagination, the entrepreneurial energy that
38 you'll find in fisherman, such that in those
39 years, where there are difficulties prosecuting
40 fisheries of any consequence in mixed stock areas,
41 that there would be opportunities for the
42 surpluses -- available surpluses to be harvested
43 by commercial fisherman by alternative means.

44 It would also, for instance, we were talking
45 about sockeye, but in the case of, say, pink
46 salmon in the lower Fraser River, we're all
47 astonished, this year, to hear about numbers like

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Terry Glavin

Cross-exam by Mr. Leadem (CONSER)

1 35 million, if I'm not mistaken, 35 million pink
2 salmon returning to the -- pink salmon in recent
3 years is -- we've reached 35 million a couple of
4 times, I believe.

5 MR. MORLEY: Not quite.

6 MR. GLAVIN: Not quite, but close.

7 MR. MORLEY: Maybe next year.

8 MR. GLAVIN: We may next year. I think about five
9 years ago we had a run that was the largest that
10 we'd seen since 1912. Now, pink salmon don't have
11 that much value to the commercial fishery,
12 generally speaking, but there are a lot of
13 fisherman who would like to be able to harvest
14 pink salmon and market pink salmon in their own
15 ways.

16 This is a classic case of how if you had
17 shares in the allowable catch it would divide it
18 up among the licence holders, those fisherman who
19 didn't want to use the shares, didn't want to go
20 fishing, could trade, transfer, sell, rent their
21 quotas so that fisherman who actually saw some
22 benefit from this could harvest those fish in such
23 a way with technologies that did not produce
24 unacceptably high mortalities of co-migrating,
25 say, Coho and steelhead, to give you an example.

26 That was the point of -- the whole point of
27 it.

28 Q All right, thank you. The second paper I want to
29 show you is entitled, "A Strategy for the
30 Conservation of Pacific Salmon". Is that a
31 document that you authored?

32 A Yeah.

33 MR. LEADEM: Mr. Commissioner, I'm going to seek to
34 tender both of these documents as exhibits in
35 these proceedings. I don't know whether -- they
36 can certainly be combined, for my purposes.

37 MR. WALLACE: I would suggest, Mr. Commissioner, that
38 they be marked separately, for clarity.

39 THE COMMISSIONER: Very well.

40 THE REGISTRAR: The first document will be marked as
41 Exhibit number 9; the second document will be
42 marked as Exhibit number 10.

43

44 EXHIBIT 9: Paper entitled, "Transferable
45 Shares in British Columbia's Commercial
46 Salmon Fishery", authored by Terry Glavin

47

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John Reynolds

Cross-exam by Mr. Leadem (CONSER)

1 EXHIBIT 10: Paper entitled, "A Strategy for
2 the Conservation of Pacific Salmon", authored
3 by Terry Glavin
4

5 MR. LEADEM: For the record, then, the Transferable
6 Shares in British Columbia's Commercial Salmon
7 Fishery is Exhibit 9 in these proceedings, and the
8 Strategy for the Conservation of Pacific Salmon,
9 also authored by Mr. Glavin, is Exhibit 10?

10 THE REGISTRAR: That's correct.

11 MR. LEADEM:

12 Q Now, Dr. Reynolds, I want to show you a couple of
13 documents, but before I do so, I want to ask you
14 about the process that led up to the documents
15 coming into being. Were you associated with a so-
16 called think-tank of scientists that met sometime
17 in December of 2009, in Vancouver?

18 DR. REYNOLDS: Yes.

19 Q And could you just briefly describe for the
20 Commissioner that process of why it came into
21 being and roughly who attended?

22 DR. REYNOLDS: Yes, when it became clear that the runs
23 were not materializing last year, as had been
24 forecast, sometime around late August, I would
25 think, approximately, a few people at Simon Fraser
26 University and elsewhere started saying, "What the
27 heck's going on? What could have caused this?
28 What could we do about it to get to the bottom of
29 it?" and Pat Gallagher, at the Centre for Coastal
30 Studies at Simon Fraser University, has a long
31 history of holding workshops and dialogues to help
32 bring scientists together, and also members of the
33 public, to try to deal with topical issues.

34 And so she gathered a few of us together,
35 myself and Mark Angelo from BCIT, co-chaired a
36 get-together. We invited about 22 scientists. So
37 we decided to do this. This was before the -- I
38 believe this was actually before the commission
39 had actually been announced by the Federal
40 Government. We invited about 22 scientists. We
41 were told that scientists from the Federal
42 Department of Fisheries and Oceans were not
43 allowed to attend because they were concerned
44 about going to meetings and making statements,
45 perhaps, that might come back to haunt them in the
46 future in the course of this inquiry. So they
47 were forbidden from attending.

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John Reynolds

Cross-exam by Mr. Leadem (CONSER)

1 But we still brought people together from the
2 Pacific Salmon Commission, including Mike
3 Lapointe, for example, and Katherine Mickelson,
4 who is one of the key stock assessment biologists
5 for the Commission, various academics, and people
6 from -- let's see, we couldn't bring people from
7 DFO's ocean sciences branch, because that was DFO,
8 so we had some other people who tried to cover for
9 that as best we could. A total, I believe, about
10 18 people attended. It was a two-day workshop at
11 Simon Fraser University, and at the end of that we
12 produced a two-page document and followed that
13 with a public meeting in the evening, and then we
14 had a follow-up workshop, a much bigger, more
15 inclusive workshop, in, I believe, March of this
16 year.

17 Q All right. The document that should be on your
18 screen before you now, is a document entitled,
19 "Adapting to Change: Managing Fraser Sockeye in
20 the Face of Declining Productivity and Increasing
21 Uncertainty". Is this the two-page document that
22 you have just referenced as being the statement
23 from that think-tank that met in December of 2009?

24 DR. REYNOLDS: Yes, it is.

25 MR. LEADEM: Next exhibit, please, Mr. Commissioner.

26 THE COMMISSIONER: You wish this marked?

27 MR. LEADEM: Yes, please.

28 THE REGISTRAR: Marked as Exhibit 11.

29
30 EXHIBIT 11: Paper entitled, "Adapting to
31 Change: Managing Fraser Sockeye in the Face
32 of Declining Productivity and Increasing
33 Uncertainty"
34

35 MR. LEADEM:

36 Q You referenced, just a few moments ago, a workshop
37 that was held in March of 2010, and there were
38 some proceedings that were prepared as a result or
39 as a consequence of that workshop, were there?

40 DR. REYNOLDS: That's correct.

41 Q So the next document that I want you to identify
42 is a document that should be entitled, "Speaking
43 for the Salmon - Proceedings - Summit on Fraser
44 River Sockeye Salmon: Understanding Stock
45 Declines and Prospects for the Future". Is that
46 the document that contains the various papers and
47 submissions that were received over that two-day

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John Reynolds, Rob Morley

Cross-exam by Mr. Leadem (CONSER)

1 period?

2 DR. REYNOLDS: Yes.

3 Q And I notice that you are listed as one of the
4 presenters, at page 7 of the Table of Contents; is
5 that right?

6 DR. REYNOLDS: Yes, I was.

7 MR. LEADEM: And I also note, for the record, Mr.
8 Commissioner, that Mr. Lapointe and Dr. Welch were
9 also in attendance and are listed as attendees
10 during that conference.

11 MR. LEADEM: Now, Mr. Morley, back to you just for a
12 moment -- oh, sorry, next exhibit.

13 MR. WALLACE: Did you mark that -- so the Proceedings
14 of the Summit on the Fraser River Sockeye Salmon
15 would be the next exhibit? It would be --

16 THE REGISTRAR: Exhibit number 12.

17 MR. WALLACE: -- Exhibit number 12?

18

19 EXHIBIT 12: Paper entitled, "Speaking for
20 the Salmon - Proceedings - Summit on Fraser
21 River Sockeye Salmon: Understanding Stock
22 Declines and Prospects for the Future"

23

24 MR. LEADEM:

25 Q Mr. Morley, back to you. When you were giving
26 your evidence, I heard you make a reference to a
27 certification process through something entitled
28 the MSC; is that the Marine Stewardship Council?

29 MR. MORLEY: That's correct.

30 Q Were you aware of two recent papers that have been
31 produced that are very critical of that process,
32 the certification process, one paper authored by a
33 scientist from Department of Fisheries and Oceans,
34 called Trevors, T-r-e-v-o-r-s, and in that paper
35 he basically finds that there are no biodiversity
36 benefits that can be shown to be derived from the
37 MSC certification process? Are you aware of that
38 paper?

39 MR. MORLEY: You didn't make me aware of it ahead of
40 time, and I'm not aware of it. I would have liked
41 to have had an opportunity to review it, so I
42 could debate it with you.

43 Q Right.

44 MR. MORLEY: Because I think there are other studies
45 that have shown the opposite.

46 MR. WALLACE: Thank you. Mr. Commissioner, this is the
47 first I have heard of this document. It hasn't

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John Reynolds

Cross-exam by Mr. Leadem (CONSER)

1 been provided. In the interest of fairness, I
2 wonder if we could --

3 MR. LEADEM: I'll just withdraw the question.

4 MR. WALLACE: All right.

5 MR. LEADEM: In the interest of fairness, I'll just
6 withdraw the question, Mr. Commissioner.

7 Q Now, Dr. Reynolds, the last question for you:
8 When we were discussing the Wild Salmon Policy and
9 the first principle being one of conservation; and
10 I think the second one is Aboriginal fishery, or
11 respect and honouring of the Aboriginal fishery;
12 third one is sustainable use, are you able to, in
13 your mind, come to some understanding of how the
14 Department of Fisheries and Oceans can maintain
15 those mandates and, at the same time, maintain a
16 mandate to look after the commercial fishery and
17 its new mandate for aquaculture?

18 DR. REYNOLDS: No, I'm not sure, offhand, how they're
19 going to do that.

20 Q Do you see that being a big problem for them?

21 DR. REYNOLDS: Oh, I think it's going to be a very big
22 challenge for them.

23 DR. REYNOLDS:

24 Q And how so?

25 DR. REYNOLDS: Well, I think there will be,
26 essentially, there are going to be trade-offs
27 between some of those objectives. The use of
28 benchmarks, for example; you could have a lower
29 benchmark, as is mandated by the Wild Salmon
30 Policy, and I'm sure you'll be wanting to explore
31 that at another meeting with people who are more
32 familiar with it than I, but that would be an
33 example of, you know, minimum criterion that must
34 be met. And I think the idea is, if there are
35 enough fish, then we can have commercial fisheries
36 and, of course, Aboriginal fisheries would take a
37 precedence over that, is my understanding of it.

38 The issue of -- what was the other one you
39 asked me about?

40 Q Sustainable use. Conservation was the primary
41 principle; Aboriginal fishery --

42 DR. REYNOLDS: Right.

43 Q -- sustainable use, and then I also said the
44 competing mandate with this new mandate of
45 aquaculture.

46 DR. REYNOLDS: Oh, right. So I think aquaculture is
47 going to be a difficult one for the Department to

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Terry Glavin

Cross-exam by Mr. Rosenbloom (GILLFSC)

1 square with some of those other principles.

2 MR. LEADEM: Thank you, those are my questions.

3 MR. WALLACE: Thank you, Mr. Leadem. I think we,
4 perhaps, have time for one more counsel. The Area
5 D Salmon Gillnet Association, Mr. Rosenbloom.

6 MR. ROSENBLOOM: Thank you. For the record, Don
7 Rosenbloom. I appear for Area D Gillnet, Area B
8 Seiner.

9

10 CROSS-EXAMINATION BY MR. ROSENBLOOM:

11

12 Q My questions are for you, Mr. Glavin. Today, you
13 were reading from a submission that you obviously
14 had prepared, but the material that was supplied
15 to us last night appeared to be a précis of one
16 page. I assume that you have, for distribution to
17 the commission, your entire submission?

18 MR. GLAVIN: That was just my speaking notes.

19 Q I see. The reason I say that is that we are
20 privileged here at the inquiry to have overnight
21 transcription, so tomorrow at some point, probably
22 11:00 a.m., we will have the benefit of your
23 remarks in transcript, but it won't be until then,
24 and there are counsel that will be following me in
25 cross-examination that would benefit from seeing
26 your full address, but it is obviously not in a
27 form that you can distribute.

28 MR. GLAVIN: I think I have one copy that I've got
29 scratches all over.

30 Q Well, if you have your own, personal notes, no, I
31 don't think it's appropriate.

32 Mr. Gavin, I also want to make very clear to
33 you that I appreciate that you have been invited
34 to this proceeding, to this inquiry, that you have
35 given your opinions, and that your opinions are
36 welcome, as are the opinions of many other people
37 who have testified or will, in the future,
38 testify; however, I have these questions for you.

39 You raise issues regarding biodiversity, and
40 you would agree with me, would you not, that
41 clearly these questions are very, very complex?

42 MR. GLAVIN: I think they can be.

43 Q Well, you would agree with me that issues of
44 biodiversity obviously have some significant
45 scientific complexion to them?

46 MR. GLAVIN: Yeah. The way the United Nations
47 Convention on Biological Diversity describes, I

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Terry Glavin

Cross-exam by Mr. Rosenbloom (GILLFSC)

1 think, this complexity is by an iteration of
2 several different kinds of values that biological
3 diversity presents to human society, one of which
4 is scientific.

5 Q Well, you would agree with me that a scientific
6 perspective to biodiversity is obviously of great
7 value to this commission?

8 MR. GLAVIN: I would hope so.

9 Q I would hope so, too. Having said that, I have
10 had an opportunity to review your bio or resume,
11 as supplied to this commission, and conspicuously
12 missing from your bio, at least from my review of
13 it, is your academic background, and without being
14 in the slightest disrespectful of you, I wonder if
15 you would tell us what that background is?

16 MR. GLAVIN: My academic background consists only of a
17 journalism degree, a two-year college degree, and
18 some post-secondary courses, that's all. I don't
19 come to you as an academic expert of any kind.

20 Q And recognizing that you do not come forward with
21 an academic background, and appreciating that the
22 Commissioner, at the end of the day, is obviously
23 going to have to weigh opinions of parties that
24 have testified before these proceedings, do you
25 join me in agreeing that the Commissioner should
26 give greater weight, at the end of the day, to
27 those that are presenting to him in respect to
28 biodiversity who have scientific backgrounds?

29 MR. GLAVIN: Well, I don't think you'll find the --
30 it's possible that you will find people with a
31 scientific background who might agree with that.
32 I think it would have to be up to the commission
33 to decide. I mean, I was summonsed to appear here
34 and I'm doing my best, so the commission will take
35 my evidence with as much -- as many grains of salt
36 as it might like.

37 Q Yes. And Mr. Glavin, I want to be totally
38 respectful of you, and that's why I commenced my
39 cross-examination by stating that I appreciated
40 you were invited here and your opinions are very
41 welcome.

42 But I ask you to join me in agreeing that at
43 the end of the day a scientific perspective to the
44 issues of biodiversity are of the utmost
45 importance to this commission and should bear
46 greater consequence than the remarks of somebody
47 without that background?

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Terry Glavin

Cross-exam by Mr. Rosenbloom (GILLFSC)

1 MR. GLAVIN: Oh, I see what you're saying. Certainly,
2 anything I might say about the scientific value of
3 biological diversity should be taken with several
4 grains of salt, given the fact that I'm not a
5 scientist. I mean, you also might suggest that a
6 scientist will think of the scientific and genetic
7 values that might be associated with the diversity
8 of species would come with a bias as well.

9 But if I were to start giving out of myself
10 about the scientific importance, or making
11 scientific arguments about the importance of
12 biological diversity, I wouldn't be paying too
13 much attention to what I had to say.

14 Q And recognizing that, you also recognize that in
15 the world of academia, scientists who have
16 opinions on these issues subject themselves to the
17 rigors of scientific analysis by way of peer
18 review, and things of that sort; you recognize
19 that, don't you?

20 MR. GLAVIN: Yeah, generally speaking.

21 Q And you would --

22 MR. GLAVIN: Although evidence to a commission is not
23 usually peer reviewed.

24 Q Pardon me?

25 MR. GLAVIN: Evidence to a commission is not usually
26 peer reviewed.

27 Q No, I appreciate that, but those that put
28 themselves before this commission to testify, are
29 normally publishers of papers who have had their
30 papers under peer review.

31 MR. GLAVIN: If they're scientists, yeah.

32 Q Yes. You testified briefly, today, about
33 appearing or contributing to one of the panels in
34 the past in respect to fishery issues, and you
35 said, in passing, about doing it on behalf of
36 environmental groups. You also state in your
37 resume supplied to the commission that you have
38 represented environmental groups and First
39 Nations. I wonder if you would be kind enough to
40 inform us to what extent you are currently on
41 retainer with any group?

42 MR. GLAVIN: I'm not on retainer with any group,
43 tribal, environmental, or anything.

44 Q And never have been?

45 MR. GLAVIN: No, of course I have been. As you
46 mentioned --

47 Q Yes.

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Terry Glavin

Cross-exam by Mr. Rosenbloom (GILLFSC)

- 1 MR. GLAVIN: -- just a second ago, I think it actually
2 appears in my resume.
- 3 Q Yes, it does, and that's why -- but you're saying
4 at this moment --
- 5 MR. GLAVIN: No, no, no, I haven't -- no, not for quite
6 some time. I haven't worked for an Aboriginal
7 group probably in a decade. I don't know.
- 8 Q I appreciate that, thank you. The next question I
9 have for you is this: Do you advocate the
10 elimination of all mixed stock fisheries?
- 11 MR. GLAVIN: If I didn't make that plain enough this
12 morning, no. In fact, I think I was quite
13 explicit in saying that I live in hope that
14 fisheries of all kinds, including fisheries that
15 are prosecuted safely and sensibly in mixed stock
16 areas might also persist in perpetuity.
- 17 Q Yes. And you would agree with me, would you not,
18 that in the Fraser main stem, virtually all
19 fisheries are a mixed stock?
- 20 MR. GLAVIN: Well, you'd have to get pretty far up
21 river before -- or into the tertiary rivers before
22 you are actually engaging in a very, very stock
23 specific --
- 24 Q Yes. So put another way, you would agree with me
25 that the main stem of the Fraser is a, obviously,
26 mixed stock?
- 27 MR. GLAVIN: For the most part, yeah, I think that's a
28 fair statement.
- 29 Q And Mr. Lapointe, who testified here on Monday of
30 this week, pointed out in his presentation, if I
31 heard him correctly, that even in Shuswap and
32 Stuart Lakes there are approximately 40
33 populations. You have no reason to disagree with
34 that, do you?
- 35 MR. GLAVIN: No, I wouldn't have any reason to disagree
36 with that.
- 37 Q And you would agree with me, would you not, that
38 the elimination of mixed stock fisheries in the
39 Fraser would preclude any harvest by First Nations
40 groups, such as Tsawwassen, Musqueam, Sto:lo, so
41 on and so forth, until the stock reached the
42 individual spawning ground?
- 43 MR. GLAVIN: Yeah, it's a bit of a theoretical
44 argument, because I've never heard anybody make
45 it.
- 46 Q Well, I'm making it now and inviting your comment.
- 47 MR. GLAVIN: Well, as I've said, twice, you would be

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John Reynolds

Cross-exam by Mr. Butcher (SGAHC)

1 wrong in making the assumption that I would oppose
2 a fishery simply because it was being prosecuted
3 in a mixed stock area.

4 Q But you recognize the mixed stock nature of the
5 resource leading right up into the tributaries?

6 MR. GLAVIN: Yeah. You could put it that way.

7 MR. ROSENBLOOM: Thank you, I have no further
8 questions.

9 MR. WALLACE: Southern Area E Gillnetters Association?
10 West Coast Trollers -- yes, West Coast Trollers.

11 MR. BUTCHER: Yes, I can start now, or --

12 MR. WALLACE: Is there -- sorry, the Southern -- so
13 we've had Area D and B. Southern Area
14 Gillnetters.

15 MR. BUTCHER: Sorry?

16 MR. WALLACE: Southern Area Gillnetters. I had
17 Southern Area E -- oh, I'm sorry. Now I'm getting
18 confused. Sorry. So we're up to the Trollers?

19 MR. BUTCHER: No.

20 MR. WALLACE: We're not? Who are you?

21 MR. BUTCHER: I'm David Butcher.

22 MR. WALLACE: Who do you represent?

23 MR. BUTCHER: I represent the Area E Gillnetters
24 Association.

25 MR. WALLACE: Thank you.

26 MR. BUTCHER: Amongst others.

27

28 CROSS-EXAMINATION BY MR. BUTCHER:

29

30 Q I want to begin with you, Dr. Reynolds. And
31 perhaps, Mr. Lunn, if you could bring up Exhibit 4
32 for a moment?

33 MR. LUNN: Which document?

34 MR. BUTCHER: It's probably the fourth page.

35 MR. LUNN: Of his C.V.?

36 MR. BUTCHER: Of the PowerPoint presentation. Stop.
37 Thank you.

38 Q I took it from your evidence, Dr. Reynolds, that
39 you concede that there are costs and benefits of
40 biodiversity.

41 DR. REYNOLDS: There are costs -- yes, there would be
42 costs to different sectors of maintaining
43 biodiversity, depending on how much biodiversity
44 people are attempting to maintain. For example,
45 the forestry industry may have to pay considerable
46 costs in maintaining biodiversity of small streams
47 if regulations are tightened up which would

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John Reynolds, Rob Morley

Cross-exam by Mr. Butcher (SGAHC)

1 prevent them from logging in a manner in which
2 they would otherwise enjoy near streams.

3 Q And the commercial fishery might have to pay a
4 cost if they were not permitted to fish a healthy
5 stock because a weak stock was being protected?

6 DR. REYNOLDS: They would lose an opportunity to fish,
7 yes.

8 Q And perhaps for a moment, if I can switch to Mr.
9 Morley, the benefits of -- sorry, the costs of
10 biodiversity, which might mean reduced fishing
11 effort, would include, firstly, a perhaps
12 significant reduction in the economic value of the
13 fishery?

14 MR. MORLEY: Yes.

15 Q And a loss of a very significant food source, not
16 just for Aboriginal people, but for all consumers
17 of sockeye salmon in the community?

18 MR. MORLEY: That's correct.

19 Q And Dr. Reynolds, the task I might suggest
20 ultimately for this commission might be to try to
21 work out how we balance these competing benefits
22 of the fishery with the need to protect
23 biodiversity and the need to conserve the
24 resource; is that --

25 DR. REYNOLDS: Yes.

26 Q So for a moment, if I can just look at some of --
27 you did not, in your PowerPoint presentation, set
28 out any reasons or any of the costs of
29 biodiversity, did you?

30 DR. REYNOLDS: No. I pointed out, I believe, that I --
31 oh, in the PowerPoint presentation it does not
32 mention costs, that is correct. I think that my
33 presentation may certainly recognize that they
34 exist.

35 Q You certainly -- no, I agree, you certainly
36 mentioned it. Let's go through some of these
37 benefits of biodiversity for a moment. You have,
38 as the first item, the cultural and aesthetic
39 value, and I take it that what you mean from that
40 is that we, as a community, and perhaps
41 particularly as Canadians, take a personal -- or
42 derive a personal and perhaps emotional benefit
43 from knowing that we're still maintaining our
44 ecosystem in as close to a natural state as
45 possible?

46 DR. REYNOLDS: Yes, but I certainly am under no
47 illusions about what, you know, "natural" might

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1 mean and terms like that, but certainly I agree
2 with the gist of your comment.

3 Q And many people have mentioned the Cultus Lake
4 stock today, and that's partly because of its
5 status and partly because it's been well studied;
6 is that fair?

7 DR. REYNOLDS: Yes.

8 Q And when we're talking about maintaining a
9 cultural and aesthetic value, we also have to take
10 into account things like the fact that we, as a
11 society, have decided that that lake should be
12 heavily used for recreational use and be semi --
13 and its shores be almost urbanized?

14 DR. REYNOLDS: Yes.

15 Q This issue of the maintaining the ability to
16 evolve, does that include an ability perhaps in
17 the context of sockeye salmon for there to be
18 occasional interbreeding between the different
19 stocks by accident almost?

20 DR. REYNOLDS: That's not what I had in mind. Could
21 you --

22 Q Okay.

23 DR. REYNOLDS: Can you elaborate on that?

24 Q No, I -- then perhaps you can tell me what you
25 meant by that?

26 DR. REYNOLDS: If there's genetic variation among
27 stocks, then it may be that -- sorry, if there is
28 genetic variation within a given population, then
29 those are the building blocks on which natural and
30 artificial selection and sexual selection can act
31 and lead to -- potentially to a change in some
32 life history trait that might help them to cope
33 with whatever new aspects of their environment are
34 coming along.

35 Q Okay. Dealing with the third issue, maintaining
36 fisheries through portfolio effects, you drew an
37 analogy to a private stock portfolio.

38 DR. REYNOLDS: Yes.

39 Q And I was just looking at the, just randomly,
40 really, the numbers of the escapement for 2002,
41 which showed almost eight million fish returning
42 in that year. If some of our endangered or -
43 maybe that's the wrong word - some of our
44 threatened conservation units, like Cultus Lake,
45 have very, very small runs, don't they?

46 DR. REYNOLDS: That's why they're threatened.

47 Q In that particular year, the run on Cultus Lake

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1 was about 4,000.

2 DR. REYNOLDS: I'll take your word for it.

3 Q Not many investors managing their stock portfolio
4 would take an undue amount of care over managing
5 those small parts of their portfolio, would they?
6 They'd be much more concerned about the portfolios
7 that contained hundreds of thousands of dollars of
8 stocks?

9 DR. REYNOLDS: Potentially. It depends on their
10 willingness to accept risk and also how much they
11 would gage prospects for the future of those
12 stocks and, I suspect, also, the term over which
13 they are hoping to recoup an investment. My
14 understanding of some of the research that's been
15 done in Bristol Bay is that managers who might
16 have been betting on some of the stocks back in
17 the '50s or '60s would never have bet on the ones
18 that ended up carrying a very large proportion of
19 the fishery today.

20 I admit that Cultus Lake is a riskier bet.

21 Q Given the habitat changes that have happened
22 there, it is never likely to be a large
23 contributor to the sockeye runs, is it?

24 DR. REYNOLDS: I'm not an expert on Cultus Lake.

25 Q Are you able to answer that question at all?

26 DR. REYNOLDS: My understanding is that historically
27 that stock used to typically number up in the sort
28 of maybe upwards of 70,000, 80,000 fish, I
29 believe. This would be quite some years ago. If
30 we take that as a best case scenario for modern
31 times, that might at least give us a ceiling, the
32 degree to which that ceiling would have dropped as
33 a result of changes that have occurred in the
34 lake, would be the speculation, and I'm not really
35 sure that anyone could put a number on what it is
36 capable of today.

37 Q Okay. You were involved in a study on the Skeena?

38 DR. REYNOLDS: Yes.

39 Q And the trigger for that study was an unexpectedly
40 high sockeye run, and the threat that fishing on
41 that run posed to a steelhead run on the same
42 river?

43 DR. REYNOLDS: I think it wasn't just the fact that
44 there was a large run of sockeye, I think it was
45 controversy over the decisions that local managers
46 made about how long to keep the commercial fishery
47 open for those sockeye through the season.

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1 Q And your report, it wasn't just your report, was
2 it? You were one of four authors?

3 DR. REYNOLDS: That's correct.

4 Q And you concluded that the fishing effort --

5 MR. WALLACE: Excuse me, Mr. Butcher, this is not
6 something which any of us have seen, so we may
7 well need to accommodate this. Will you be
8 providing that?

9 MR. BUTCHER: I can. I only really have one or two
10 questions about it, and I don't think the witness
11 is going to disagree with the proposition that I'm
12 going to put to him.

13 MR. WALLACE: It's also opportunities for participants
14 to understand what's involved as well. So let's
15 see where it goes, and if we have to accommodate
16 this we will.

17 MR. BUTCHER: Certainly.

18 Q The first recommendation at the end of that report
19 was this:

20
21 There is a need to confront the major trade-
22 off decisions that are implied by the Wild
23 Salmon Policy and the impacts of mixed-stock
24 ocean fisheries on Skeena stocks. There
25 should be an explicit public decision about
26 the loss of biodiversity (number of weak
27 stocks allowed to remain overfished or at
28 risk of extinction) that is deemed acceptable
29 and changes required to fisheries in order to
30 achieve particular harvest objectives.

31
32 Do you understand --

33 DR. REYNOLDS: Yes.

34 Q -- that comment?

35 DR. REYNOLDS: Mm-hmm.

36 Q
37 Such a decision should be based on trade-off
38 relationships that can now be estimated from
39 historical data on escapement trends and
40 exploitation rates, as shown by the examples
41 provided in this report.

42
43 Now, the question that I have here is: What
44 you were concluding at the end of that report was
45 that there was a need for public input into some
46 value decisions that had to be made about
47 balancing biodiversity, resource exploitation and

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John Reynolds

Cross-exam by Mr. Butcher (SGAHC)

1 protection of the weaker stocks.

2 DR. REYNOLDS: That's correct.

3 Q And really, exactly the same process has to be
4 undertaken on the Fraser River?

5 DR. REYNOLDS: I would agree with that, and think
6 that's fairly consistent with the testimony I've
7 given today.

8 MR. BUTCHER: Mr. Commissioner, I note the time. I'm
9 going to be about 10 or 15 more minutes. I prefer
10 to come back tomorrow.

11 THE COMMISSIONER: Yes, thank you, Mr. Butcher.

12 Might I respectfully ask -- I'm sorry, I
13 didn't mean to -- Mr. Taylor, did you want to say
14 something, or...?

15 MR. TAYLOR: I don't mean to interrupt, Mr.

16 Commissioner. Before we close today, I do want
17 to, but not while you're speaking at the moment.

18 THE COMMISSIONER: I'm grateful for that, Mr. Taylor.
19 I was going to respectfully ask counsel who have
20 not yet cross-examined to just wait behind, and my
21 plan is to sit tomorrow morning at 10:00 until
22 12:30, and then adjourn for the day. I want to
23 make sure that everyone has an opportunity to ask
24 those questions. I would ask if you would just
25 stay behind and divide up the time that is
26 available in that session so that everybody gets
27 an opportunity. I would, if I were you, I would
28 all seek advice from Ms. Gaertner, who seems to be
29 able to negotiate more time for herself on
30 occasion, so I would just ask you to do that.

31 I plan to adjourn at that point. Those who
32 haven't had a chance are not going to get a
33 chance, because we're really tight on time, and I
34 know counsel are concerned about having some time
35 off on Friday to prepare for the following week,
36 so I want to be fair about this. And so thank
37 you, Mr. Butcher, for that, and we'll hear from
38 you for the balance of your questions tomorrow
39 morning at ten o'clock.

40 Now, Mr. Taylor?

41 MR. TAYLOR: I wanted to seek a point of clarification,
42 Mr. Commissioner, on witnesses going overnight.
43 We're at a point where some witnesses have been
44 questioned and they now will be back. I have a
45 thought on what should be done, but importantly, I
46 think we should be consistent throughout the
47 course of this inquiry.

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Discussion

1 THE COMMISSIONER: I agree.

2 MR. TAYLOR: So I'm inquiring whether, Mr.

3 Commissioner, you are going to give any direction
4 to the witnesses as to what they should or should
5 not do overnight in terms of speaking.

6 THE COMMISSIONER: I'm grateful, Mr. Taylor, for you
7 reminding me.

8 What I can say to the witnesses is what I say
9 to witnesses at a trial. I think it's appropriate
10 to incorporate some of the practices we follow as
11 judges and lawyers at trials to this inquiry, not
12 all but some. And I will explain to the witnesses
13 that it's not because it's them, it's witnesses
14 who are under cross-examination not to discuss
15 their evidence with any person until their cross-
16 examination is concluded. If they have any
17 questions about the procedure here, or any matters
18 such as that, they can certainly address that with
19 Mr. Wallace, and he will let me know whether there
20 is a matter that has to be raised for the benefit
21 for all participants' counsel to discuss.

22 But again, I would ask these witnesses, and
23 I'm sure they'll honour this request, not to
24 discuss their evidence with any person until their
25 cross-examination has been concluded.

26 Mr. Harvey?

27 MR. HARVEY: Mr. Commissioner, I think it might
28 streamline things a little tomorrow if Mr. Glavin
29 would be so kind as to e-mail around a clean copy
30 of his speaking notes so that we don't get into a
31 controversy as to what he said or didn't say.

32 THE COMMISSIONER: I'm not sure. I'll ask Mr. Wallace
33 to -- I hope counsel don't mind, I've just given a
34 direction to the witnesses not to speak to any
35 person, but I think I can say it would be all
36 right, with your permission, counsel, to have Mr.
37 Glavin speak to Mr. Wallace and see if that can be
38 organized.

39 MR. WALLACE: Yes, certainly.

40 THE COMMISSIONER: Thank you. If there are no other
41 immediate matters, then again, I will ask counsel
42 to just divide up the time for tomorrow amongst
43 you, by agreement, and we will see each other at
44 ten o'clock tomorrow morning. Thank you very
45 much.

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

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Discussion

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(PROCEEDINGS ADJOURNED AT 4:04 P.M. TO
OCTOBER 29, 2010 AT 10:00 A.M.)

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

Pattie Kealy, C.V.R., C.M.

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

Pat Neumann

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

Karen Hefferland