

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



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

Public Hearings

Audience publique

Commissioner

L'Honorable juge /
The Honourable Justice
Bruce Cohen

Commissaire

Held at:

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

Friday, September 16, 2011

Tenue à :

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

le vendredi 16 septembre 2011



Errata for the Transcript of Hearings on September 16, 2011

Page	Line	Error	Correction
43	40	sea assessment	CEAA assessment
49	16	Sue Leong (phonetic)	Celia Wong
54	40	allegation	allogation (phonetic)
54	45	draught, draught management	drought, drought management
56	33	rational	rationale
62	9	boards	board
74	18	MS. KRIWOKEN:	MS. KRIWOKEN: Yes.
81	9	whole are of sensitive streams	Whole area of sensitive streams

APPEARANCES / COMPARUTIONS

Patrick McGowan Jennifer Chan	Associate Commission Counsel Junior Commission Counsel
Mark East Charles Fugère	Government of Canada ("CAN")
Boris Tyzuk, Q.C. D. Clifton Prowse, Q.C.	Province of British Columbia ("BCPROV")
No appearance	Pacific Salmon Commission ("PSC")
No appearance	B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("BCPSAC")
David Burse Matt Keen	Rio Tinto Alcan Inc. ("RTAI")
No appearance	B.C. Salmon Farmers Association ("BCSFA")
No appearance	Seafood Producers Association of B.C. ("SPABC")
No appearance	Aquaculture Coalition: Alexandra Morton; Raincoast Research Society; Pacific Coast Wild Salmon Society ("AQUA")
Tim Leadem, Q.C. Karen Campbell	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")
No appearance	Area D Salmon Gillnet Association; Area B Harvest Committee (Seine) ("GILLFSC")

APPEARANCES / COMPARUTIONS, cont'd.

No appearance	Southern Area E Gillnetters Assn. B.C. Fisheries Survival Coalition ("SGAHC")
No appearance	West Coast Trollers Area G Association; United Fishermen and Allied Workers' Union ("TWCTUFA")
Keith Lowes	B.C. Wildlife Federation; B.C. Federation of Drift Fishers ("WFFDF")
No appearance	Maa-nulth Treaty Society; Tsawwassen First Nation; Musqueam First Nation ("MTM")
No appearance	Western Central Coast Salish First Nations: Cowichan Tribes and Chemainus First Nation Hwlitsum First Nation and Penelakut Tribe Te'mexw Treaty Association ("WCCSFN")
Brenda Gaertner Michael Bissonnette	First Nations Coalition; First Nations Fisheries Council; Aboriginal Caucus of the Fraser River; Aboriginal Fisheries Secretariat; Fraser Valley Aboriginal Fisheries Society; Northern Shuswap Tribal Council; Chehalis Indian Band; Secwepemc Fisheries Commission of the Shuswap Nation Tribal Council; Upper Fraser Fisheries Conservation Alliance; Other Douglas Treaty First Nations who applied together (the Snuneymuxw, Tsartlip and Tsawout); Adams Lake Indian Band; Carrier Sekani Tribal Council; Council of Haida Nation ("FNC")
No appearance	Métis Nation British Columbia ("MNBC")

APPEARANCES / COMPARUTIONS, cont'd.

Nicole Schabus	Sto:lo Tribal Council Cheam Indian Band ("STCCIB")
No appearance	Laich-kwil-tach Treaty Society Chief Harold Sewid, Aboriginal Aquaculture Association ("LJHAH")
No appearance	Musgamagw Tsawataineuk Tribal Council ("MTTC")
No appearance	Heiltsuk Tribal Council ("HTC")

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PANEL NO. 64
In chief by Mr. McGowan

1 Vancouver, B.C./Vancouver
2 (C.-B.)
3 September 16, 2011/le 16
4 septembre 2011
5

6 THE REGISTRAR: The hearing is now resumed.

7 MR. MCGOWAN: Good morning, Mr. Commissioner. Today
8 you have before you the second panel on the
9 hearings dealing with hydro, water flow and
10 temperature. I'll just introduce the panel to
11 you, starting on my left. We have Lynn Kriwoken
12 and Glen Davidson, both from the Province of
13 British Columbia, Jason Hwang, who you'll be
14 familiar with, he's been here before, and finally
15 Paul Higgins, who is from BC Hydro.

16 If the witnesses could be sworn, please.

17 THE REGISTRAR: Good morning. Could you turn on your
18 microphones, please.
19

20 LYNN KRIWOKEN, affirmed.
21

22 GLEN DAVIDSON, affirmed.
23

24 JASON HWANG, re-affirmed.
25

26 PAUL HIGGINS, affirmed.
27

28 THE REGISTRAR: State your name, please.

29 MS. KRIWOKEN: Lynn Kriwoken.

30 THE REGISTRAR: Thank you.

31 MR. DAVIDSON: Glen Davidson.

32 THE REGISTRAR: Thank you.

33 MR. HWANG: Jason Hwang.

34 THE REGISTRAR: Thank you.

35 MR. HIGGINS: Paul Higgins.

36 THE REGISTRAR: Thank you. Counsel.

37 MR. MCGOWAN: If we could have our Tab 13 up, please,
38 Ms. Panchuk.
39

40 EXAMINATION IN CHIEF BY MR. MCGOWAN:
41

42 Q I'm going to start with you, Mr. Davidson. We
43 have your biography on the screen there. You have
44 a Bachelor's degree in Civil Engineering from UBC?

45 MR. DAVIDSON: I do, yes.

46 Q And you're a Registered Professional Engineer.

47 MR. DAVIDSON: Yes, I am currently. yes.

September 16, 2011

2
PANEL NO. 64
In chief by Mr. McGowan

1 Q You have worked for the Province of British
2 Columbia for 26 years in the area of water
3 resource engineering?

4 MR. DAVIDSON: I have, yes.

5 Q And you're currently the Director of the Water
6 Management Branch with the Ministry of Forests,
7 Lands and Natural Resource Operations?

8 MR. DAVIDSON: I am, yes.

9 Q And you've been appointed as the Comptroller of
10 Water Rights for the Province.

11 MR. DAVIDSON: I am currently, yes.

12 MR. MCGOWAN: If Mr. Davidson's biography could be the
13 next exhibit, please.

14 THE REGISTRAR: That will be 1866.

15

16 EXHIBIT 1866: Biography of Glen Davidson

17

18 MR. MCGOWAN:

19 Q Ms. Kriwoken, you have a Bachelor's degree in
20 Geography and a Master's degree in Natural
21 Resources Management from Simon Fraser?

22 MS. KRIWOKEN: Yes.

23 Q You've been with the Province since 1994 working
24 in the area of water resources and land use
25 policy?

26 MS. KRIWOKEN: Since 1988.

27 Q 1988, thank you. You're currently the Director of
28 Water Protection and Sustainability Branch, for
29 the Environmental Sustainability Division of the
30 Ministry of Environment?

31 MS. KRIWOKEN: That's correct.

32 Q And you're the provincial Lead on **Water Act**
33 modernization?

34 MS. KRIWOKEN: Yes.

35 MR. MCGOWAN: If Ms. Kriwoken's c.v., which is on the
36 screen, could be the next exhibit, please.

37 THE REGISTRAR: Exhibit 1867.

38

39 EXHIBIT 1867: *Curriculum vitae* of Lynn A.
40 Kriwoken

41

42 MR. MCGOWAN: Thank you.

43 Q Could I have Exhibit 647 on the screen, please.

44 Mr. Hwang, you've been here before, but just to
45 remind the Commissioner, you hold a Bachelor of
46 Science in Biology from Simon Fraser University?

47 MR. HWANG: Yes.

1 Q And a Diploma in Fisheries, Wildlife & Recreation,
2 from BCIT?

3 MR. HWANG: That's right.

4 Q You've been with DFO in its Habitat Division since
5 1994?

6 MR. HWANG: Yes.

7 Q And you're currently the Area Manager of the
8 Ecosystems Management Branch in the B.C. Interior?

9 MR. HWANG: Yes.

10 Q A position which you've held since 2006?

11 MR. HWANG: That's correct.

12 Q And you're responsible for managing DFO's
13 involvement with the Nechako watershed?

14 MR. HWANG: Not singularly, but, yes.

15 Q Okay. And, finally, Mr. Higgins, you hold a
16 Bachelor's degree, Bachelor of Science
17 specializing in Ecology from SFU?

18 MR. HIGGINS: Yes, I do.

19 Q And a Master's degree in Natural Resource
20 Management, also from SFU?

21 MR. HIGGINS: Yes, I do.

22 Q And you've been with BC Hydro for 19 years holding
23 a number of positions?

24 MR. HIGGINS: That's correct.

25 Q Your current position is as Manager of the
26 Environment Program for the Site C Clean Energy
27 Project?

28 MR. HIGGINS: That's true.

29 Q From 2004 to 2010, however, you were the Manager
30 of the Environmental Resources Department?

31 MR. HIGGINS: That's correct.

32 MR. MCGOWAN: Mr. Higgins' c.v. is on the screen. If
33 that could be the next exhibit, please.

34 THE REGISTRAR: Exhibit 1868.

35

36 EXHIBIT 1868: *Curriculum vitae* of Paul S.
37 Higgins

38

39 MR. MCGOWAN: Thank you.

40 Q Mr. Davidson, I'm going to start with you, some
41 questions about the issuing of water licences.
42 You told the Commissioner when I was asking
43 questions about your qualification that you're the
44 Water Comptroller for the Province. I wonder if
45 you could just briefly explain to the Commissioner
46 what that position entails.

47 MR. DAVIDSON: The **Water Act** has a variety of decision-

- 1 makers identified. I would characterize the
2 Comptroller of Water Rights as sort of a senior
3 decision-maker with regard to issuing water
4 licences, orders, there's a number of sort of
5 powers under the **Act** that are identified that the
6 comptroller is responsible for. So think of it as
7 a senior decision-maker under the **Water Act**.
- 8 Q And is one of those responsibilities the ability
9 to issue licences for water extraction --
- 10 MR. DAVIDSON: Yes.
- 11 Q -- around streams and rivers, including those in
12 the Fraser watershed?
- 13 MR. DAVIDSON: The Comptroller and Regional Water
14 Managers can do that, yes.
- 15 Q You're ultimately the chief person in charge of
16 issuing water licences in the Province?
- 17 MR. DAVIDSON: Yeah, the roles are similar between
18 Regional Water Managers and Comptroller when it
19 comes to water licences issuing, yes.
- 20 Q Okay. Where does the Comptroller look when
21 attempting to identify criteria which ought to be
22 considered prior to issuing the water licence?
- 23 MR. DAVIDSON: You get direction from a number of, I
24 guess, documents. I mean, the most, the singular
25 piece is the **Water Act**. I mean, you know, you
26 have to adhere to the **Water Act** and the
27 **Regulations** around issuing licences. But there's
28 a lot of other also internal sort of guidance,
29 guidelines for issuing, guidelines for water use,
30 guidelines for fish flows, guidelines for a number
31 of things associated with water licensing and
32 water use.
- 33 Q Okay. If we're speaking of legislation and
34 looking at the **Water Act**, to your understanding
35 does it mandate you to consider in-stream flows or
36 impacts on fish or fish habitat when deciding
37 whether to issue a water licence?
- 38 MR. DAVIDSON: Current **Water Act**, I wouldn't
39 characterize it as mandating it; it allows for it.
- 40 Q Okay. Is there any specific direction in the
41 **Water Act**, to your understanding, that requires
42 you to do that?
- 43 MR. DAVIDSON: A specific direction in the **Water Act**
44 that requires you to do that? I would say no.
- 45 Q Okay. Do you nonetheless in practice engage in a
46 consideration of in-stream flows or impacts on
47 fish or fish habitat prior to issuing the water

- 1 licence?
- 2 MR. DAVIDSON: Yeah, it's pretty common in issuing any
3 of the water licences these days.
- 4 Q Do you seek -- is there a document that requires
5 it, or is this a practice that's developed over
6 time?
- 7 MR. DAVIDSON: It's a practice that's developed over
8 time, and say in modifications of the **Water Act**
9 it's allowed for it.
- 10 Q When considering matters related to fish or fish
11 habitat when making decisions about issuing water
12 licences, do you consult with the Department of
13 Fisheries and Oceans?
- 14 MR. DAVIDSON: Yeah, we consult with our fisheries
15 folks with our Ministry, or Ministry of
16 Environment, as well as DFO.
- 17 Q Okay.
- 18 MR. DAVIDSON: And may be other consultants working on
19 that issue.
- 20 Q Does that happen as a matter of course? Is it a
21 routine engagement before issuing a water licence?
- 22 MR. DAVIDSON: Yeah. It depends on the size of the
23 licence, but it is quite routine, yes.
- 24 Q Does the Province of British Columbia have in
25 place a program requiring reporting on water use
26 by licensees?
- 27 MR. DAVIDSON: I wouldn't say there's an across-the-
28 board program that requires water use. Various,
29 some licences require water use because of their
30 terms and conditions in the licence. Some require
31 water use because of the way we bill for water
32 licences. So it depends on the size of the
33 licence and the requirements of each specific
34 licence. But I wouldn't say across the board
35 reporting, no.
- 36 Q Can you give the Commissioner any sense of what
37 proportion of water licences in this province
38 require reporting on consumption?
- 39 MR. DAVIDSON: Well, there's 44,000 water licences in
40 the province, and roughly half of those are for
41 domestic use, and they don't require reporting, so
42 it's something less than half. I'm not sure if I
43 could guess, but it's probably more maybe a
44 quarter of the licences.
- 45 Q Okay. Does the province engage in monitoring of
46 water use by any licensees?
- 47 MR. DAVIDSON: There's a number of --

1 Q Independent monitoring.

2 MR. DAVIDSON: Yeah. So the individual licensee is
3 required to report water use or conditions. The
4 Province also does some audits of certain
5 licences, so there is some of that. And there's
6 also some independent, you know, sort of stream
7 flow analysis. I mean, many of the stream flows
8 exist downstream of projects, so if there's, you
9 know, if there's requirements to release certain
10 flows and verify that by some of the -- the
11 federal-provincial network, as well.

12 Q Is there a quantity threshold above which if a
13 licence is of a certain size, is there a certain
14 size above which monitoring requirements or
15 reporting requirements would be triggered?

16 MR. DAVIDSON: There's nothing specific that I would
17 say that triggers that, or guidelines like that.
18 I would say that it's the larger licences that
19 require monitoring. Certainly the hydroelectric
20 sector comes to mind. Some of the big water
21 users, some of the big industrial users. Some of
22 the water user communities or water supply
23 facilities require that. It's part of their
24 billing, as well.

25 Q If as you've told us, the majority of water
26 licence holders in the province aren't required to
27 report on their use, how in practice does the
28 Province ensure compliance with the water licence
29 and ensure that the limits that are prescribed in
30 the licence are not exceeded?

31 MR. DAVIDSON: I'd say the -- you mentioned the
32 compliance and the monitoring, so there's one
33 method we use. And we really focus that on the
34 big users. The smaller users, they are, they tend
35 to be -- we tend to address that more on a, I want
36 to say, complaint or problem basis, something of
37 the small domestic users. Usually there might be
38 several users downstream, so often if the folks
39 are taking more than their allotted requirement,
40 you'll get some complaints that you'll have to
41 investigate. So it's either policing by their
42 neighbours, if you will, so it's looking into
43 problems, for the most part.

44 Q Thank you. Mr. Hwang, does the Department of
45 Fisheries and Oceans Habitat Section engage in
46 monitoring water withdrawals or the impacts of
47 water withdrawals on fish or fish habitat?

1 MR. HWANG: Yeah, a little bit.

2 Q I wonder if you can explain to the Commissioner
3 the extent to which the Department engages in that
4 in the Fraser watershed.

5 MR. HWANG: Well, within the B.C. Interior operating
6 area, for example, we've got about 16 practising
7 Habitat staff, and out of that a small proportion
8 of those staff's time is assigned to monitoring
9 stream flow conditions in areas where we've got
10 high salmon values and known limitations on water
11 supply, especially in dry years. So we have some
12 ongoing monitoring that we do jointly with the
13 Province and other partners, and we are also
14 involved on a bit more of a circumstantial basis
15 when we find a stream is running relatively low.

16 Q Okay. Could we have Exhibit 662, please. This is
17 a memorandum I think you're probably familiar
18 with. Just to remind the Commissioner, you're the
19 author of this document?

20 MR. HWANG: Yes.

21 Q And you've addressed it previously in testimony
22 dealing with other topics?

23 MR. HWANG: Yes.

24 Q I'm going to take you to the second-to-last
25 paragraph on this one-page document and just ask
26 you about your note here. The document's entitled
27 "OHEB Key issues Habitat", and this is under the
28 -- I suppose the first words say:

29
30 Water use - we have no standards like we do
31 for things like riparian - we should set some
32 as the department. We also are stretched
33 beyond our limits to support various
34 processes looking at water-use and
35 availability, and have limited capacity to
36 deliver true expertise. Many needs for
37 data, little ability to gather the data.

38
39 I wonder if you could just perhaps expand on the
40 concern you're expressing there and tell the
41 Commissioner if it's a concern you still hold and
42 explain what the difficulty you face is.

43 MR. HWANG: Well, it's certainly a concern that we
44 still hold. Water use and establishing needs for
45 fish is a very complicated thing. It's difficult
46 even in the best of times when we have a lot of
47 data, monitoring and cooperation. It's very

1 difficult to understand the interaction between
2 natural fluctuations in water, and the additional
3 effect of human use and activity. And the
4 challenge we have with it is that there are
5 thousands of streams, there's all kinds of water
6 activity, and we've got very, very few people on
7 the ground between our agency and the provincial
8 ministries that are actually able to monitor and
9 assess the habitat quality and the habitat impacts
10 of water use.

11 Q Okay, thank you. Have you or the people working
12 under you observed impacts to sockeye which to
13 your observation appeared to be related to water
14 withdrawals?

15 MR. HWANG: Generally not. We have seen many impacts
16 to salmon, primarily chinook and coho, and that's
17 largely by nature of the streams that they live
18 in, versus the streams that sockeye live in. But
19 we can foresee those kinds of things emerging into
20 the future as water demand continues.

21 Q Okay. Do you work together with the Province to
22 address drought conditions which pose a threat to
23 salmon?

24 MR. HWANG: Yes, we have historically, and more
25 recently the Province has established a drought
26 response strategy, and they've invited DFO to be
27 part of that and we're doing our best to engage in
28 that regard.

29 Q Okay. Do you have the capacity to engage?

30 MR. HWANG: To a degree. I think there is more
31 potential work that could be done in that regard
32 than we have the capacity to work on, but we're
33 certainly an active part of their Drought Response
34 Plan.

35 Q Thank you. Could we have Tab 18, please. Mr.
36 Davidson, I'm just pulling up a document on the
37 screen. Is this the Drought Response Plan that
38 Mr. Hwang was just referring to?

39 MR. DAVIDSON: I believe it is, yes.

40 Q Okay. That's the most up-to-date version, June
41 2010?

42 MR. DAVIDSON: It is, yes.

43 MR. MCGOWAN: Okay. If that could be the next exhibit,
44 please.

45 THE REGISTRAR: Exhibit 1869.

46
47

1 EXHIBIT 1869: British Columbia Drought
2 Response Plan, June 2010
3

4 MR. MCGOWAN:

5 Q Mr. Davidson, as the Comptroller, do you
6 understand yourself to have the authority to
7 unilaterally change existing licences to address
8 water scarcity?

9 MR. DAVIDSON: I wouldn't say unilaterally change it.
10 There's some conditions in a number of licences
11 that we can change, that I can change as
12 Comptroller.

13 Q Are there licences which do not have conditions
14 and with respect to which you understand you're
15 not able to change them?

16 MR. DAVIDSON: There are, yeah, many of them.

17 Q You're familiar with s. 9 of the **Fish Protection**
18 **Act**?

19 MR. DAVIDSON: I am, yes.

20 Q Which I think, just for the record, provides the
21 Minister authority to restrict water use during a
22 drought if a fish population is at risk?

23 MR. DAVIDSON: That's correct. So I would say he can
24 go beyond what the Comptroller can do in
25 restricting water use.

26 Q Okay. To your observation, how often has s. 9 of
27 the **Fish Protection Act** been used in recent years
28 to address concerns surrounding drought
29 conditions?

30 MR. DAVIDSON: In the scheme of water allocation, the
31 **Fish Protection Act** is a relatively new tool and
32 has not been used much. It was used the last time
33 we had a very significant drought, which was a
34 couple of years ago.

35 Q Okay. Mr. Hwang, does the Department enforce the
36 **Fisheries Act** or to your observation have they
37 enforced the **Fisheries Act** or sections of the
38 **Fisheries Act** to address water withdrawals and
39 potential impacts on fish?

40 MR. HWANG: Generally not, and it ties to the
41 complexity of linking the effect of a water
42 withdrawal to the authorities of the **Fisheries**
43 **Act**.

44 Q I wonder if you could perhaps just explain that in
45 a little more detail, please, for the
46 Commissioner, the challenges associated with
47 enforcing the **Fisheries Act** and the context of

1 trying to deal with water withdrawals.

2 MR. HWANG: I'll try to be brief, recognizing time is
3 limited. But the **Fisheries Act** isn't designed
4 implicitly as a direct measure to manage water.
5 The provisions that would apply would generally be
6 s. 35, which prohibits harmful alteration to fish
7 habitat, which can occur certainly if water's
8 taken out of a stream to the effect that the
9 habitat's limited. And also s. 22(3), which the
10 Minister can order the owner/occupier of a
11 diversion or structure to have minimum flows go
12 past that structure. So and then there's also s.
13 32, which prohibits killing a fish.

14 So none of those -- all those things can
15 potentially apply to a water withdrawal situation,
16 but there's enormous complexity in taking those
17 specific authorities and applying them to a water
18 withdrawal situation. Many streams have multiple
19 water users and have multiple points of
20 withdrawal, multiple rates, multiple timings of
21 withdrawal, and it's very difficult to go to
22 stream at any point in time that has that
23 multiplicity kind of situation and put your finger
24 on exactly which water user may be causing what
25 effect.

26 so in terms of taking the **Fisheries Act** and
27 saying this particular individual did this, and it
28 harmed habitat, it's very difficult. There are
29 occasions when you may be able to do that, and to
30 say this particular user did this and it caused,
31 you know, these fish to be stranded and die, is
32 also very difficult, and there's an added
33 complexity of teasing out the effect of the human
34 activity to whatever nature may be doing, which,
35 on occasion, will dry up the stream on its own.

36 Q Right.

37 MR. HWANG: So that's a brief summary, anyway, of that
38 complexity.

39 Q Thank you, that clarifies it. Let me ask you
40 this, then, to your observation and based on your
41 experience, do you feel that you and those that
42 work under you have the regulatory tools at your
43 disposal -- have regulatory tools at your disposal
44 that are sufficient for you to address concerns
45 surrounding water withdrawal?

46 MR. HWANG: The tools we have federally are very
47 limited and are not particularly well-suited to

- 1 managing water use to the benefits of fish.
- 2 Q Okay. Mr. Davidson, from the provincial
3 perspective, do you have provincially the
4 regulatory tools available such that you and those
5 that work for you can address water withdrawals,
6 concerns surrounding water withdrawals?
- 7 MR. DAVIDSON: Yeah, there's a number of tools within
8 the **Water Act** and the **Fish Protection Act** that you
9 also mentioned. So there's a number of ways that
10 preserve in-stream flows, if that's what you're
11 asking, both within the licence conditions within
12 water reserves that are done under OIC, so there
13 is a number of tools in there. It becomes a
14 little bit more problematic with rights that were
15 granted some time ago that don't have those types
16 of provisions in them.
- 17 Q Do either of you have any suggestion for
18 additional regulatory framework which may assist
19 you in addressing concerns about water withdrawals
20 and potential impacts on salmon?
- 21 MR. DAVIDSON: Yeah, let me start. I mean, the
22 Province -- and we're going to talk about that I
23 think a little bit later, about some of the **Water**
24 **Act** Modernization.
- 25 Q Yes, we will come to that.
- 26 MR. DAVIDSON: Where we're considering some of those
27 tools. So there is some tools being proposed that
28 we're looking into right now to look at some of
29 the existing water allocations.
- 30 The tools, going forward, with new water
31 allocations are being used and are pretty good. I
32 think that the problem primarily exists with some
33 of the existing allocation, that's a way to
34 characterize it.
- 35 Q Thank you. Mr. Hwang, do you have anything to add
36 to that?
- 37 MR. HWANG: I think currently and linking into **Water**
38 **Act** Modernization, a big thing that would help
39 would be to have mandatory metering and
40 monitoring. Because right now you can go out to a
41 licensed water user, many of the older historic
42 ones, and you don't know how much they have taken
43 today, how much they've taken this year, and how
44 that effect may or may not be contributing to the
45 current circumstances in a stream. So having some
46 sense of that would then allow more regulatory
47 control, I think.

- 1 Q Okay, thank you. I'd like to turn now to the
2 issue of groundwater briefly. Mr. Davidson, does
3 the Province issue licences for groundwater
4 extraction?
- 5 MR. DAVIDSON: No, there's no tenuring of groundwater
6 in British Columbia at this point.
- 7 Q Does the Province monitor the extraction of
8 groundwater?
- 9 MR. DAVIDSON: Yeah, there is some groundwater
10 legislation right now. It's fairly limited. It's
11 more aimed at, I would say, the quality of the
12 groundwater. So it's around the siting and design
13 of wells.
- 14 Q So is it fair to say from the answer you've just
15 given that the province does not at present
16 routinely monitor groundwater extraction?
- 17 MR. DAVIDSON: No, no, that's not fair. The province
18 has monitored groundwater for a number of years.
19 We do some aquifer mapping. We've monitored
20 ground water levels. We operate a number of wells
21 ourselves where we do track, but it tends to be
22 more of a science exercise at this point as
23 opposed to a rights exercise, and we've been in
24 that business for a number of years.
- 25 Q Yes. I was drawing a distinction between
26 monitoring extraction and monitoring levels.
- 27 MR. DAVIDSON: No, we don't monitor extraction, per se,
28 no.
- 29 Q Okay. But you do monitor in some circumstances or
30 some areas of the province levels?
- 31 MR. DAVIDSON: Yes.
- 32 Q What has the monitoring of the levels of
33 groundwater that is conducted by the Province
34 disclosed in terms of any trend in terms of the
35 level of groundwater?
- 36 MR. DAVIDSON: I mean, I wouldn't draw an across-the-
37 province trend, but I mean it's certainly showing
38 that in some areas where we have -- the drier
39 areas of the province where there's heavy
40 groundwater use and surface water use, we are
41 seeing some decline in groundwater levels.
- 42 Q Thank you. Could I please have our Tab 19. And
43 just looking at this, this is the report of the
44 Auditor General on the Management of Groundwater
45 Resources in British Columbia. You're familiar
46 with this document?
- 47 MR. DAVIDSON: Yes, I am.

1 Q If we could please go to page 8. I'm just going
2 to read to you, sir, some of the overall
3 conclusions of this review under the bottom right
4 quadrant. Now, I'm looking at a page that says at
5 the bottom 2010 -- page 9, pardon me, yes. The
6 bottom right quadrant under the heading "Overall
7 Conclusion". If we could just enlarge that,
8 please.
9

10 We concluded that government is not
11 effectively ensuring the sustainability of
12 the province's groundwater resources.
13 Specifically, we found that:

- 14 • the ministry's information about
15 groundwater is insufficient to enable it
16 to ensure the sustainability of the
17 resource;
18
- 19 • groundwater is not being protected from
20 depletion and contamination or to ensure
21 the viability of the ecosystems it
22 supports; and
23
- 24 • control over access to groundwater is
25 insufficient to sustain the resource and
26 key organizations lack adequate
27 authority to take appropriate local
28 responsibility.
29
30

31 The concerns raised there, are these concerns that
32 you're familiar with?

33 MR. DAVIDSON: They are, yes.

34 Q Okay. And what, if anything, is the Province
35 doing to address the concerns that were raised in
36 this report?

37 MR. DAVIDSON: The Province actually has a response,
38 the Minister of Environment at the time actually
39 responded to this report, so there was a number of
40 pieces contained in there. But from my point of
41 view, a couple of these points speak specifically
42 to quantity of groundwater and allocating or
43 licensing groundwater. It's something that we are
44 considering in the **Water Act** Modernization.

45 Q Okay.

46 MR. DAVIDSON: So those two pieces, I would point to
47 that initiative by government as something that

1 we're -- as a response to this.

2 In terms of the information, I mean, we've
3 long had a database system, an inventory system of
4 groundwater. Is it adequate? I think we just --
5 I heard some discussion on that yesterday. I
6 think any data on water, surface or groundwater,
7 we could always use more. So I'm a big fan of
8 increased hydrometric or groundwater data, yes.
9 It's always something you can do better at.

10 Q Okay, thank you. Well, that's a nice segue,
11 perhaps, into **Water Act** Modernization. You
12 mentioned that as one area which the Province is
13 pursuing to at least in part address the concerns
14 raised here. Ms. Kriwoken, I wonder if you can
15 just briefly explain the **Water Act** Modernization
16 process to the Commissioner, tell him what that
17 is.

18 MS. KRIWOKEN: So the **Water Act** Modernization project
19 initiated out of the Living Water Smart
20 government's water plan in 2008, and it's been
21 well in play since that time. The process started
22 off with a discussion paper that laid out a range
23 of policy proposals and proposed solutions to a
24 number of key themes. Government's direction on
25 scope on that initiative focused on stream health,
26 groundwater regulation, introducing flexibility
27 and adaptability into the allocation system and
28 improving water governance arrangements.

29 Q Thank you.

30 MS. KRIWOKEN: We --

31 Q Sorry, go ahead.

32 MS. KRIWOKEN: Would you like the whole process laid
33 out?

34 Q Well, maybe I can -- you've mentioned at least one
35 document and maybe I'll sort of walk you through
36 it a bit to make sure we can get a couple of the
37 documents in. Could I have our Tab 15, please.
38 The present **Water Act** has been in place for quite
39 some time; is that fair?

40 MS. KRIWOKEN: Yes.

41 Q And the **Water Act** Modernization process is the
42 process of the Province of British Columbia
43 exploring the possibility of enacting new water
44 legislation to replace the old **Water Act**, which
45 addresses some concerns that have been raised over
46 the years; is that fair?

47 MS. KRIWOKEN: That's fair. And I would add that over

1 the years since the **Water Act** first came into play
2 that there have been a number of improvements and
3 enhancements as societal values and pressures on
4 the resource have changed.

5 Q Thank you. You mentioned that the Province had
6 produced a Discussion Paper. This is the
7 Discussion Paper you were speaking of?

8 MS. KRIWOKEN: That's correct.

9 Q If that could be the next exhibit, please.

10 THE REGISTRAR: Exhibit 1870.

11

12 EXHIBIT 1870: British Columbia's **Water Act**
13 Modernization, Discussion Paper

14

15 MR. MCGOWAN: And just before we move on, I believe I
16 neglected to mark the Auditor General's report,
17 which was our Tab 19. Perhaps we could assign
18 that an exhibit number.

19 THE REGISTRAR: Exhibit 1871.

20

21 EXHIBIT 1871: Office of the Auditor General
22 of British Columbia, An Audit of the
23 Management of Groundwater Resources in
24 British Columbia, December 2010

25

26 MR. MCGOWAN: Thank you.

27 Q The Discussion Paper which we see on the screen
28 here, along with that did the Province also
29 produce a Technical Background Report that was
30 released with the Discussion Paper?

31 MS. KRIWOKEN: That's correct.

32 Q And if we could have Tab 3 from B.C.'s list of
33 documents. This is the Technical Background
34 Report?

35 MS. KRIWOKEN: Yes.

36 MR. MCGOWAN: If that could be the next exhibit,
37 please.

38 THE REGISTRAR: Exhibit 1872.

39

40 EXHIBIT 1872: British Columbia's **Water Act**
41 Modernization, Technical Background Report

42

43 MR. MCGOWAN:

44 Q And were the Discussion Paper and the Technical
45 Background Report distributed for feedback and
46 consultation?

47 MS. KRIWOKEN: That's correct.

16
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1 Q And the Province did receive feedback and
2 consultation from various stakeholders and
3 interested parties?

4 MS. KRIWOKEN: Yes.

5 Q And was that feedback summarized in a report
6 called The Report on Engagement?

7 MS. KRIWOKEN: Yes.

8 Q If we could have Tab 4 from B.C.'s list, please.
9 Is this the report that reports on the engagement
10 on the Discussion Paper and Technical Report?

11 MS. KRIWOKEN: Yes.

12 MR. MCGOWAN: If that could be the next exhibit,
13 please.

14 THE REGISTRAR: Exhibit 1873.

15

16 EXHIBIT 1873: British Columbia's **Water Act**
17 Modernization, Report on Engagement

18

19 MR. MCGOWAN:

20 Q Now, the Province, in addition to consulting
21 broadly, had some specific consultations, I take
22 it, with the Department of Fisheries and Oceans
23 about the Discussion Paper?

24 MS. KRIWOKEN: Yes.

25 Q Mr. Hwang, were you involved in those
26 consultations?

27 MR. HWANG: Not directly. Other individuals
28 represented Fisheries and Oceans in those direct
29 consultations, but I was part of the background
30 group of DFO people providing some input.

31 Q Okay. Could we have our Tab 17, please. Is this
32 a document produced by the Department, Mr. Hwang,
33 responding to the Discussion Paper and expressing
34 some thoughts of the Department on **Water Act**
35 Modernization?

36 MR. HWANG: Yes.

37 MR. MCGOWAN: Thank you. If that could be the next
38 exhibit, please.

39 THE REGISTRAR: Exhibit 1874.

40

41 EXHIBIT 1874: DFO Discussion Document, BC
42 **Water Act** Modernization Technical Workshops

43

44 MR. MCGOWAN: If I might just have a moment. Thank
45 you.

46 Q Following the consultative process, the Province
47 produced another document, which is Exhibit 1856,

- 1 Policy Proposal on B.C.'s new **Water Sustainability**
2 **Act**; is that correct?
- 3 MS. KRIWOKEN: Yes.
- 4 Q And that's this exhibit we see on the screen here?
- 5 MS. KRIWOKEN: That's correct.
- 6 Q I wonder if you can explain to the Commissioner
7 what the purpose of this document is, please.
- 8 MS. KRIWOKEN: So this paper is a further convergence
9 of the Discussion Paper range of policies and
10 proposals in response to also the feedback we
11 received from respondents to our round 2 of
12 engagement in the spring of 2010. So it frames
13 those four goals that were outlined in the
14 Discussion Paper into seven key policy directions,
15 and those represent the essence of the proposed
16 new **Water Sustainability Act** on which we received
17 further comment in consultation in spring 2011.
- 18 Q So there's been further comment and consultation
19 on the intended approach set out in this policy
20 document?
- 21 MS. KRIWOKEN: That's correct.
- 22 Q Okay. As a result of that additional
23 consultation, and additional work done by the
24 Province, are there any dramatic or significant
25 changes in direction which the Province is
26 anticipating, any departures from what's set out
27 in this document?
- 28 MS. KRIWOKEN: Well, the Discussion Paper was framed on
29 the four goals that we're -- government directed
30 us to look at in terms of scope, and those four
31 goals are still foundational to the proposal.
- 32 Q If you could just articulate those four goals,
33 please, for the Commissioner.
- 34 MS. KRIWOKEN: The first goal is around protecting
35 stream health and environmental flows, the second
36 goal is protecting and regulating the groundwater
37 resource - I'm paraphrasing here - and the third
38 goal was introducing regulatory flexibility and
39 adaptability into the allocation system, and the
40 fourth goal is improving water governance.
- 41 Q Does the direction that the Province is presently
42 planning to take with respect to **Water Act**
43 Modernization contemplate greater regulations or
44 the requirement for the licensing of groundwater
45 extractions?
- 46 MS. KRIWOKEN: Yes, that's in the proposal.
- 47 Q Okay. What is the Province's present intention of

1 thinking with respect to whether all groundwater
2 extractions will require a licence, or whether
3 some threshold will have to be achieved first
4 prior to the requirement being triggered?

5 MS. KRIWOKEN: So what the proposal speaks to is
6 regulating large withdrawals and all withdrawals,
7 large withdrawals province-wide, and all
8 withdrawals in priority or sensitive areas. So
9 we've laid out in the policy paper some thinking
10 around what those thresholds might be, and our
11 team of scientists are looking at further refining
12 some of those thresholds so that they're easy to
13 administer and practical and make a lot of sense.

14 One thing I might add is that of the 90 to 95
15 percent of the wells drilled in the province are
16 single family domestic, and the intention is not
17 necessarily, unless those wells are in water-short
18 areas, to be regulating that use.

19 Q You were at the hearings yesterday?

20 MS. KRIWOKEN: Yes.

21 Q You heard then Dr. Orr urge upon the Commissioner
22 the suggestion that what's needed in this province
23 is blanket coverage for groundwater, just not for
24 high volume or sensitive extractions. I wonder if
25 you have a response to that and whether you can
26 address issues relating to the potential
27 practicality of that suggestion.

28 MS. KRIWOKEN: In terms of identifying a threshold to
29 guide what's large and what's small, we're looking
30 to a practical threshold that's easy to implement.
31 What I'm hearing from the science and the
32 information around the resource to regulate an
33 individual well in West Coast of British Columbia
34 may not be practical or pragmatic, so that's why
35 we're taking an area-based critical area approach.
36 We know the Gulf Islands, the Okanagan, local
37 jurisdictions there are requesting regulation of
38 groundwater and no distinction between large and
39 small. And because those are critical areas,
40 we're looking to tailor the proposal to address
41 that.

42 Q Is there any reason that you're aware of that
43 would make it difficult for the Province to simply
44 institute a system like with surface water
45 extraction requiring a licence for any groundwater
46 extraction?

47 MS. KRIWOKEN: The first part of your question,

1 anything that would make it -- could you repeat
2 that?

3 Q Why couldn't the Province or shouldn't the
4 Province simply institute a system requiring a
5 licence for all ground water extraction?

6 MS. KRIWOKEN: The Province could do that.

7 Q Okay.

8 MS. KRIWOKEN: And in fact --

9 Q Is there a practical reason why that would be a
10 bad idea?

11 MS. KRIWOKEN: Administratively it may be focusing on
12 100,000 wells rather than five percent or ten
13 percent of that.

14 Q Thank you.

15 MS. KRIWOKEN: The system that we're building is
16 recognizing there's one water, that the
17 groundwater licensing would be integrated with the
18 surface regime.

19 Q Okay, thank you. If we could please turn to page
20 8 of this document, that's Exhibit 1856. One of
21 the things **Water Act** Modernization proposes to
22 address, I take it, is ensuring environmental
23 flows or adequate stream flows; is that fair?

24 MS. KRIWOKEN: Yes.

25 Q I just want to read the first sentence under the
26 heading "Policy Direction - Protect Stream Health
27 and Aquatic Environments", and ask you a question
28 about it. The sentence reads:

29
30 Instream flows will be protected as an
31 environmental value. Guidelines will be used
32 to determine the instream flow, and decision
33 makers will be required to consider these in
34 new water allocation decisions for both
35 ground and surface water.
36

37 It's the word "new" that I want to focus on in
38 this sentence, and ask you why are these
39 considerations only going to apply to the issuance
40 of new licences and not apply to existing
41 licences, especially in areas where the existing
42 licences are already causing or potentially
43 contributing to difficulties with environmental
44 flows.

45 MS. KRIWOKEN: So the statement references new in the
46 sense that the new **Act**, once it's enacted,
47 henceforward environmental -- in-stream flows will

1 be required and considered. That doesn't take
2 away from the existing tools that we have in the
3 **Water Act** to address existing -- that we have an
4 existing **Act** to address in-stream flows during
5 times of scarcity, and Mr. Davidson alluded to
6 some of that earlier in terms of the fish clauses
7 or in-stream flow requirements that are in modern
8 licences and the ability to regulate allocation
9 and rights during times of scarcity.

10 Q At present, as I understand it, Mr. Davidson, the
11 approach that's taken to priority of water
12 licensing is first in time, first in right; is
13 that a fair understanding?

14 MR. DAVIDSON: It is, it's in British Columbia as well
15 as most of western North America.

16 Q Okay. Ms. Kriwoken, is the Province through the
17 **Water Act** Modernization process considering any
18 alteration to that priority scheme?

19 MS. KRIWOKEN: The proposal includes a stage process
20 that retains the first in time, first in right
21 principle, but under extenuating circumstances
22 gives the decision-maker an opportunity to deviate
23 from that.

24 Q What is the Province doing, if anything, through
25 **Water Act** Modernization or other legislative or
26 policy development to address what some have
27 described as areas of the Province which are
28 presently oversubscribed?

29 MS. KRIWOKEN: One of the mechanisms that's proposed is
30 water resource assessments and watershed
31 sustainability plans. I've mentioned that some of
32 the blanket province-wide provisions around in-
33 stream flow requirements and groundwater
34 regulation for large will be province-wide. As we
35 get into more water stressed areas and problem
36 areas, the toolkit that we want to provide the
37 decision-makers expands, and that includes tools
38 like water resource assessments and watershed
39 sustainability plans that can apply to both
40 existing and new licences.

41 Q Thank you. Mr. Hwang, you've, I guess, spent some
42 time looking at the documents associated with
43 **Water Act** modernization.

44 MR. HWANG: Yes.

45 Q And you've worked in this area for some time on
46 the ground?

47 MR. HWANG: Yes.

1 Q Do you have any comments about the proposed
2 direction that is being contemplated in this
3 policy document, and any suggestions which you
4 might like to make to the Commissioner about the
5 **Water Act** Modernization?

6 MR. HWANG: Well, overarching, I think, from a
7 Fisheries and Oceans' perspective, it's generally
8 very positive. There's certainly many historic
9 issues related to water management as they affect
10 fish that will be improved once this lands. I
11 think it doesn't mean that we think it's going to
12 be perfect. The biggest challenge I think is how
13 this lands and gets implemented, because there are
14 lots of decent ideas in the **Water Act**
15 Modernization, but I don't see from where I sit
16 currently the Province or any other entity being
17 resourced to actually follow through and deliver
18 and ensure that the results that are contemplated
19 in the new guidance or legislation is necessarily
20 going to be followed through in a way that's going
21 to achieve those objectives. So I don't say that
22 it's impossible, but I'm not sure right now that I
23 see all the measures in place or the means to
24 follow through on that.

25 There are other things like how well this may
26 attend to historic licences in terms of
27 oversubscribed streams, and there's also an
28 ongoing tension of competing priorities that, you
29 know, other provincial agencies have, like
30 Ministry of Agriculture in terms of expanding
31 agricultural production, which is often in the
32 same valleys and watersheds that have water flow
33 problems.

34 Q When did the **Water Act** Modernization process
35 start, Ms. Kriwoken?

36 MS. KRIWOKEN: The process officially started in
37 December 2009; early January 2010 was the release
38 of the Discussion Paper. It's genesis is Living
39 Water Smart, government's water plan which was
40 released in 2008. And in that plan there are a
41 number of commitments that speak to water law
42 reform.

43 Q Okay. What is the present intention of the
44 Province in terms of a timeline for finalizing the
45 process and having in place and in force
46 legislation addressing the various matters which
47 are discussed in the policy paper?

1 MS. KRIWOKEN: So where we're at right now, having
2 consulted on the policy proposal from December
3 2010, is further refining those proposals, drawing
4 the input that we've received from respondents,
5 we're identifying implications for government,
6 government and users, and we'll be taking that
7 recommendation to the Minister. The Minister has
8 indicated he wishes to further engage on draft
9 legislation in 2012, and so we're gearing towards
10 that timeline.
11 Q Is that for engagement, or for having legislation
12 in force?
13 MS. KRIWOKEN: I can't speculate on timing for
14 legislation in force. Engagement in 2012, the
15 water plan commitment was that water law would be
16 reformed by 2012.
17 Q Based on your observation at this stage, the
18 process is that in your experience working in
19 government is it realistic to expect that
20 commitment can be met?
21 MS. KRIWOKEN: It's possible.
22 Q Okay.
23 MS. KRIWOKEN: In all the years that --
24 Q Is it probable?
25 MS. KRIWOKEN: In all the years that I've been
26 developing various types of legislation in my
27 career, there are many steps to the process.
28 Q Yes.
29 MS. KRIWOKEN: Many decision milestones and with an eye
30 on the prize at the end, there's steps we take and
31 processes and decision points we go through.
32 MR. MCGOWAN: Thank you. Mr. Commissioner, if I might
33 just have a moment.
34 Q Mr. Hwang, one of the issues that you raised in
35 your evidence was concern about the resourcing of
36 the Province in addressing the intended direction
37 set out in the policy paper, a direction which
38 you're supportive of. Are you aware of whether
39 the Department has taken steps to address the
40 Province with respect to those concerns and
41 whether it has urged the Province to ensure that
42 there is sufficient resourcing available to carry
43 out the mandates which -- the new mandates which
44 will be put in place with the new **Water Act**.
45 MR. HWANG: I'm not aware of that. To my knowledge,
46 the Department's been fairly silent on that, and
47 leaving that to the domain of the Province.

- 1 Q I'm going to turn now to ask some questions about
2 BC Hydro projects. Mr. Higgins, you've been
3 avoiding questions so far, so I'm going to turn to
4 you and --
- 5 MR. HIGGINS: Wake up here.
- 6 Q -- give you a chance to weigh in a little bit.
7 You were present at the hearings yesterday?
- 8 MR. HIGGINS: I was.
- 9 Q You heard Dr. Bradford discuss, set out for the
10 Commissioner the various BC Hydro projects that
11 are in place in the Fraser watershed?
- 12 MR. HIGGINS: I did.
- 13 Q And did he do that accurately, to your
14 observation?
- 15 MR. HIGGINS: He did so.
- 16 Q And you heard him describe the various impacts,
17 and those are impacts you are familiar with?
- 18 MR. HIGGINS: I am.
- 19 Q Okay. I'm going to then not re-cover that ground
20 with you. Instead I'm going to ask you about
21 opportunities for addressing some of the impacts.
22 I'd like to start with the Alouette and Coquitlam
23 example, historic blockages of sockeye runs. Has
24 BC Hydro explored opportunities for restoring
25 sockeye habitat and access to these areas?
- 26 MR. HIGGINS: We certainly have.
- 27 Q And have you gone so far, let's start with
28 Alouette, have you gotten to the stage of
29 assessing the feasibility and cost of installing
30 some sort of apparatus that would allow fish
31 passage both in and out?
- 32 MR. HIGGINS: We haven't quite got to that point, but
33 we're on the cusp of that.
- 34 Q Okay. Has the work so far exposed, revealed
35 anything with respect to the feasibility of
36 installing a fish passage for in-migrating and
37 out-migrating sockeye?
- 38 MR. HIGGINS: So with fish passage, we're very
39 interested in first demonstrating the biological
40 feasibility and the work that's been done so far
41 has shown that there's a good potential that this
42 could be the case, and now we would turn to the
43 engineering feasibility of that.
- 44 Q I wonder if you can just address for the
45 Commissioner some of the challenges associated
46 with trying to retrofit a passage to allow both
47 in-migration and out-migration, accepting that --

1 well, I'll allow you to address it.

2 MR. HIGGINS: Addressing a fish passage is a highly
3 site-specific issue and has to take into
4 consideration the characteristics, behaviour, and
5 habitat condition -- of the species present and
6 the habitat conditions that are available. Part
7 of the problem is ensuring that there is -- you
8 need to ensure that there is adequate upstream --
9 the habitats upstream will be used, and there will
10 be fish that will use those. So you have to make
11 sure that you have a population that's showing up
12 at the dam, that is, that will use habitats.

13 The next step is really you need to assess
14 whether the habitats are there to produce a viable
15 population, and this would not only be spawning
16 habitats, but you would need to have productive
17 rearing habitats available.

18 So once those general characteristics are in
19 place, then you must be looking at not only how
20 you get the fish in, but how you get the fish out.
21 And getting fish in is a very difficult issue,
22 because behaviourally the fish are not accustomed
23 to ascending engineered structures. So in some
24 cases that's very difficult to accomplish.

25 And then you need to ensure that they can
26 migrate through the reservoir, the storage
27 reservoir that's been created, to find those
28 spawning habitats.

29 And then as juveniles, being anadromous and
30 requiring to go out to sea, you need to be able to
31 get those fish down safely, because with the
32 bringing the fish up into the reservoir you now
33 have a legal obligation to get those fish out
34 safely.

35 Q Looking at the Alouette Dam, can you give the
36 Commissioner any indication as to potential cost
37 that might be associated with putting in place the
38 infrastructure necessary to allow passage in and
39 out?

40 MR. HIGGINS: The costs, the costs are very difficult
41 to estimate, you know, and it also depends how you
42 define costs. So you know, the way I think of
43 costs is first of all the studies that are
44 required to ensure that you have an application
45 that would likely be successful. You need to
46 consider the design of the facility, the
47 construction of the facility, and the construction

1 of the downstream works to ensure that fish can
2 pass safely.

3 The costs vary from structure to structure.
4 There has been a preliminary estimate, which I
5 don't have the details for the Alouette, for the
6 structure itself would be in the range of \$3
7 million. But I'm not sure that that's really the
8 case. Because I look at similar dams where
9 fishways have recently been completed, for
10 instance, Thompson Falls in Montana, which is at
11 approximately the same height, the cost is more in
12 the range of \$7.5 million to about \$10 million.
13 So that's just for the cost of the structure. The
14 studies usually are in the range of about a
15 million dollars, and the cost of ensuring
16 downstream passage we haven't addressed, safe
17 downstream passage we haven't fully addressed at
18 Alouette, but that could -- the range of the
19 structures could be equal to that that are
20 required for maintaining upstream passage.

21 Q Okay. With respect to the Coquitlam site, what's
22 the state of BC Hydro's assessment of the
23 feasibility and cost of addressing that dam and
24 potential fish passage?

25 MR. HIGGINS: The studies are currently underway to
26 address, as I said before, the biological
27 feasibility, and I think that the Commissioner did
28 hear some evidence yesterday on the relative level
29 of success. There's great hope, but the
30 biological success has not yet been demonstrated.

31 As far as the costs of producing a structure
32 that will get those fish up, I had seen costs in
33 the range of -- preliminary costs in the range of
34 \$7.5 million to \$10 million, but I have not seen
35 the details of how those were pulled together. So
36 it's in the right range.

37 Q Okay, thank you. There's also been some
38 exploration, I understand, of a possible fish
39 passage at Wilsey Dam in the Shuswap area; is that
40 correct?

41 MR. HIGGINS: That's correct.

42 Q I wonder if you can explain the thinking behind
43 that potential addition and what it might open up
44 potentially in terms of habitat for sockeye.

45 MR. HIGGINS: Well, sockeye historically didn't ascend
46 above Shuswap Falls, so that would be -- the dam
47 is not built, is not necessarily blocking passage,

1 it's the falls that block the passage. And there
2 has been plans contemplated since the early 1990s
3 to improve passage up the falls for particularly
4 for other species, coho and chinook, in
5 particular. Sockeye, we are aware that sockeye do
6 accumulate below the falls and in years of high
7 abundance and recent years we've seen large
8 numbers there. So we figure there's some
9 potential that there would be sockeye that could
10 use spawning habitat above the falls. The falls
11 are -- they're approximately a 12-metre rise over
12 about 61 metres, and I think early cost estimates
13 derived back in that period in the 90s was in the
14 range of \$5 million to blast out that fishway,
15 blast out the falls to create a series of pools
16 which the fish could ascend.

17 Q Okay, thank you. I wonder if you could explain to
18 the Commissioner BC Hydro's Bridge Coastal
19 Restoration Program.

20 MR. HIGGINS: The Bridge Coastal Restoration Program
21 was developed and started in 1999, and it's a
22 program to compensate for the footprint impacts of
23 the development of hydro facilities in the Coastal
24 region of the province. There are similar
25 projects that occur in the Interior, in the
26 Columbia and the Peace, and this was to address
27 facilities in the Coastal region.

28 The model for it, it's governed by a
29 collaborative group that consists of a nine-member
30 board, which has member representatives from the
31 regulatory agencies, DFO and the Ministry of
32 Environment, members of environmental groups, and
33 First Nations and BC Hydro.

34 The program works on an endowment of about
35 \$1.7 dollars annually, and it's a competitive
36 process for a bid process for projects to improve
37 the productive capacity of those watersheds, for
38 not only fish, but also for wildlife.

39 Q I take it with a budget of \$1.7 million annually
40 that it doesn't have the capacity to fund things
41 like fish passage projects.

42 MR. HIGGINS: Yes. That was recognized early on, and
43 so the way that that was dealt with was that we
44 developed a partnership, BC Hydro developed a
45 partnership with the program, whereas the program
46 would be responsible for investigating the -- on a
47 preliminary basis the biological and engineering

- 1 feasibility and making recommendations for BC
2 Hydro to proceed on fish passage initiatives.
- 3 Q And what's the process for getting funding
4 approved for a fish passage project?
- 5 MR. HIGGINS: Well, from my perspective, the project
6 starts when it's first conceived. So the first
7 parts of those, ensuring the biological and --
8 preliminary biological and engineering feasibility
9 comes through the Bridge Coastal Program. Once
10 there is endorsement from the Board of the Bridge
11 Coastal Program to proceed, then it is turned over
12 to BC Hydro and BC Hydro will do an assessment
13 that looks at the environmental benefits, the
14 social benefits and the economic cost, the so-
15 called triple bottom line approach. And then
16 where it's deemed to have positive and net
17 benefits, there would be a recommendation that
18 would be put to the Board of Directors of BC Hydro
19 to fund the initiative.
- 20 Q Thank you. You heard yesterday the Commissioner
21 heard some reference to the water use planning
22 process that's engaged in at BC Hydro, with
23 respect to BC Hydro facilities?
- 24 MR. HIGGINS: I did.
- 25 Q And you've been involved in that process
26 previously?
- 27 MR. HIGGINS: Most certainly.
- 28 Q Yes. And were you involved in the water use
29 planning process with respect to the Bridge-Seton
30 system?
- 31 MR. HIGGINS: Yes, I was.
- 32 Q Okay. To your observation, based on your
33 experience, was that a beneficial process?
- 34 MR. HIGGINS: It was beneficial in a number of
35 different ways. I think that as a group we worked
36 together with regulators, stakeholders and the
37 St'at'imc Nation to not only develop a plan that
38 had biological benefits, but we also were able to
39 develop stronger relationships that have helped us
40 to move farther forward in our management of water
41 in that watershed.
- 42 Q Speaking of the -- looking at the Bridge-Seton Dam
43 system, you heard some of the historic concerns
44 associated with potential impacts on sockeye
45 discussed yesterday by Dr. Bradford?
- 46 MR. HIGGINS: Yes.
- 47 Q As a result of both engagement with various

1 stakeholders and as a result of water use planning
2 process, have provisions to address some of these
3 concerns been put in place?

4 MR. HIGGINS: Yes, they have.

5 Q Okay. I wonder -- and the ones that I heard
6 yesterday were issues with respect to homing,
7 holding at the outflow from the generation tunnel,
8 perhaps delay at the tailrace, and entrainment
9 issues.

10 MR. HIGGINS: Correct.

11 Q And I wonder if you can just address for the
12 Commissioner the manner in which some of these are
13 now being addressed, and provisions that are in
14 place, either in the Water Use Plan or otherwise
15 to address them moving forward.

16 MR. HIGGINS: So I'll start off with the getting the
17 fish up part, the upstream passage. So the
18 upstream passage issue, as was heard -- the
19 Commissioner heard from Dr. Bradford's testimony
20 that that, it's a longstanding issue and there was
21 research conducted by the International Pacific
22 Salmon Commission in the '80s, which helped us to
23 come to a conclusion that the way that we operate
24 the facility, the dilution ratio between the
25 Cayoosh and Seton, the way that that was
26 implemented, would provide benefits. And so since
27 then, there's been attempts to meet that target
28 dilution rate. And that was included in the Water
29 Use Plan, and because currently there's
30 uncertainty on the effectiveness of that, so in
31 the Water Use Plan a research program was
32 developed that would help us better understand
33 that effectiveness and alter those ratios as
34 required.

35 With respect to getting the fish down, the
36 entrainment part, there's a long history of trying
37 to mitigate that problem, five decades of research
38 has been undertaken and the most recent thing that
39 has proven to be -- which we have found that has
40 been effective is just shutting down the
41 generating stations, and that has been implemented
42 since 2006, and we're currently monitoring the
43 effectiveness. And that program was further
44 carried into the water use planning program.

45 Q Okay. Could we please have our Tab 20. Is this a
46 copy of the Bridge River Power Development Water
47 Use Plan?

1 MR. HIGGINS: Yes.

2 MR. MCGOWAN: If that could be the next exhibit,
3 please.

4 THE REGISTRAR: Exhibit 1875.

5

6 EXHIBIT 1875: Bridge River Power Development
7 Water Use Plan, March 17, 2011, BC Hydro

8

9

MR. MCGOWAN:

10 Q Mr. Hwang, were you also -- did you also have some
11 involvement in the water use planning process?

12 MR. HWANG: Not in development of the Water Use Plan,
13 because that was done before I was involved, but
14 certainly since it's been developed, myself and my
15 staff work with it and use it on an ongoing basis.

16 Q Okay. And to your observation, based on your
17 experience with it, is the existence of a plan and
18 the process that was undertaken to develop it, a
19 beneficial one?

20 MR. HWANG: Yes, tremendous.

21 Q I'll ask perhaps then, Mr. Davidson and Mr. Hwang,
22 has either the Department of Fisheries and Oceans
23 or the Province considered instituting a similar
24 process in other areas where large withdrawals are
25 contemplated, or perhaps with respect to other
26 hydro facilities, such as independent power
27 projects?

28 MR. DAVIDSON: Yeah. I think what's unique about the
29 BC Hydro process is it's being that BC Hydro is a
30 Crown corporation, they were directed by
31 government to undertake this planning process, and
32 enabled by the Comptroller's office and that kind
33 of stuff. Directing other non-Crown corporations
34 is a little bit more problematic. Having said
35 that, there is a number of places that are
36 exploring a similar water use planning process to
37 this now, and we've engaging with a number of
38 existing dam owners and they've been talking about
39 would this work for us to resolve of a number of
40 ongoing issues that we have.

41 Q Okay.

42 MR. HWANG: And from a Fisheries and Oceans side, we're
43 not in a position or have an authority to direct
44 that these occur. But when they are out there and
45 there's an opportunity, we've generally found it
46 useful to be involved and quite helpful, the
47 Okanagan being an example where there's something

1 we call a "fish water" management tool that's been
2 very beneficial for fish, as well as for other
3 uses of water.

4 MR. MCGOWAN: Thank you. Mr. Commissioner, I note the
5 time. It's 11:25. Would you like to take a short
6 morning adjournment now?

7 THE COMMISSIONER: That would be fine, thank you.

8 MR. MCGOWAN: Thank you.

9 THE REGISTRAR: The hearing will now recess for ten
10 minutes.

11
12 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)
13 (PROCEEDINGS RECONVENED)

14
15 THE REGISTRAR: The hearing is now resumed. We're
16 still missing a witness here. We're missing one
17 witness.

18 MR. MCGOWAN: Mr. Giles, do we have the ability to
19 page?

20 THE REGISTRAR: No, we don't.

21 MR. MCGOWAN: The witness is just on her way, Mr.
22 Commissioner. I apologize. Perhaps while the
23 witness is coming, there's a matter I can address
24 which only impacts on two of the witnesses that
25 are here.

26 If we could pull up the Police and Practice
27 Report number 21, please. If we could go firstly
28 to page 44. Mr. Commissioner, there's two
29 statements in this Policy and Practice Report
30 which we have identified which may not be entirely
31 accurate, and I'm going to ask a couple of
32 questions in hopes of clarifying the true state of
33 affairs.

34
35 EXAMINATION IN CHIEF BY MR. MCGOWAN, continuing:

36
37 Q Looking at paragraph 102, Mr. Hwang, I'm going to
38 ask you about this -- or actually, Mr. Higgins, I
39 think perhaps you're the right person to ask about
40 this one.

41 Paragraph 102 reads:

42
43 Specific circumstances delayed the
44 comptroller's approval of the Bridge River
45 WUP until March 2011. The Consultative
46 Committee report was completed in 2003 and
47 supported by all participants, except for one

1 abstention (the St'at'imc Nation).
2

3 I understand that to be an inaccurate statement,
4 Mr. Higgins. I wonder if you can just explain to
5 the Commissioner what the true state of affairs
6 was, who the abstention was and what St'at'imc's
7 degree of participate was.

8 MR. HIGGINS: That's correct, it is an error. The
9 St'at'imc Nation were observers in the process.
10 They were not participants in the process. They
11 were observers, and it was the town of Lillooet
12 that was the abstention.

13 Q Thank you for that clarification. Turning over
14 the page to page 45 and paragraph 106, Mr. Hwang,
15 there's a question I'd like to ask you about
16 paragraph 106 which states that the Department has
17 issued **Fisheries Act** authorization for B.C.
18 Hydro's Shuswap Project. I understand that
19 statement is in error. I wonder if you could
20 correct it for us, please.

21 MR. HWANG: You're correct in that it's in error. The
22 authorization is under development and largely
23 close to closure, but it's not complete yet.

24 Q Okay, so it's close but just not quite there?

25 MR. HWANG: Right.

26 Q Okay, great. While we've got you, Mr. Hwang, I'd
27 like to address several questions related to the
28 Kemano Project to you. You were DFO's
29 representative on the Nechako Fisheries
30 Conservation Program from 1998 to 2004?

31 MR. HWANG: I was the Technical Committee
32 representative over the alternate during that
33 time, yes.

34 Q Okay, thank you. During the time of your
35 experience with that project, what were your
36 observations with respect to the effectiveness of
37 the summer temperature management program in
38 achieving its target?

39 MR. HWANG: It was largely effective, not perfectly so,
40 but within the bounds and limits of the operating
41 infrastructure, it was meeting objectives as far
42 as the committee was concerned.

43 Q Okay. You have some familiarity with the Nechako
44 Environmental Enhancement Fund?

45 MR. HWANG: Yes.

46 Q I wonder if you could please explain to the
47 Commissioner what that fund is.

- 1 MR. HWANG: Briefly, it comes out of the 1997 agreement
2 between the Province of British Columbia and what
3 was then Alcan, reconciling issues coming out of
4 the decision to cancel Kemano completion, and the
5 fund - at least as I would describe it - is one
6 where Alcan has committed to put up to \$50 million
7 into the fund on a matching basis by -- based on a
8 contribution first coming from some other party.
9 Q I see. Is the other party specified?
10 MR. HWANG: No, not to my knowledge.
11 Q And how much of that 50 million, if you know, is
12 still available?
13 MR. HWANG: I think most. There's been somewhere in
14 the neighbourhood of one to two million, to my
15 understanding, used for studies that were done
16 investigating the feasibility of a cold water
17 release facility, but I'm not absolutely certain
18 on those numbers.
19 Q To your knowledge, are there any other parties who
20 have agreed to put up money on a matching basis?
21 MR. HWANG: Not at this time, except for the portion
22 that I was describing. I think British Columbia
23 also put some money in towards those studies on
24 the cold water release. I'm not sure if, Glen,
25 you know more detail than that?
26 Q Yeah, Mr. Davidson, if you can assist with that,
27 that would be helpful.
28 MR. DAVIDSON: Sure. I mean, yes, so both the province
29 and Rio Tinto Alcan has put money into those
30 commitments under the NEE fund, yes.
31 Q Does the province have an amount of money such as
32 the \$50 million that Rio Tinto Alcan has pledged
33 that's available?
34 MR. DAVIDSON: The province has not set aside funds for
35 that yet, no.
36 Q Okay. Have they committed to contribute funds to
37 a certain dollar amount?
38 MR. DAVIDSON: Not over and above the agreement. This
39 comes out of the 1987 agreement, but I mean the
40 partitioning of funds or anything like that,
41 there's been no more agreement by the province
42 other than what's in that agreement. Is that what
43 you're asking, or...?
44 Q Has the province, as a result of that agreement,
45 pledged a certain dollar amount?
46 MR. DAVIDSON: No.
47 Q We heard some evidence with respect to potential

1 release facilities at the Kenney Dam that have
2 been considered, one a deepwater release facility
3 and one a surface water release facility. I
4 understand, as a result of some conversations with
5 Dr. Macdonald and others, you have enquired as to
6 the present thinking on potential costs of both of
7 those two types of release facilities; is that
8 right, Mr. Hwang?

9 MR. HWANG: Yes, I got some information just clarifying
10 a few numbers yesterday.

11 Q Okay. I wonder if you can share with the
12 Commissioner the results of your inquiries.

13 MR. HWANG: Just with regard to costs?

14 Q Yes.

15 MR. HWANG: I think, as I understand the issue, it's
16 trying to understand the comparative costs between
17 a surface water release facility and a coldwater
18 release facility. There was a study done in 2009
19 to put an all-in cost for a surface water release
20 facility at about \$259 million. Of that, about
21 150 million was the construction of the facility
22 itself, and then the rest of it is other necessary
23 things to operate the facility.

24 There is a previous calculation done for
25 slightly different purposes for a coldwater
26 release facility and that put it in the
27 neighbourhood of 190 million. So the closest that
28 I can sort of generate that compares roughly
29 equivalent things is a surface water release
30 facility, just its construction would cost about
31 \$150 million. A coldwater release facility would
32 cost about 190 million, but the coldwater release
33 facility numbers are a little bit older, so those
34 costs would likely be proportionately a little bit
35 more.

36 Q Okay. And, of course, as you've alluded to in
37 your evidence, other costs in the tens of millions
38 of dollars which would be associated with putting
39 in place the operation of these facilities.

40 MR. HWANG: Yes, that's my understanding, and I think
41 it's addressed in some of the material that is in
42 the Rio Tinto Alcan binder there.

43 Q Okay, thank you. You're aware, Mr. Hwang, that
44 the province and Rio Tinto Alcan have recently
45 decided to reconvene the NEEF, the Nechako
46 Environmental Enhancement Fund Management
47 Committee?

1 MR. HWANG: Yes.

2 Q Have you received information as to why that's
3 happened?

4 MR. HWANG: Not formally, but in conversations with
5 people that I know who have been involved with me
6 on the file over the years, it's recognizing that
7 the original decision, which was to pursue a
8 coldwater release facility at Kenney Dam has now
9 -- not feasible or viable or going to meet all the
10 objectives that it was originally thought it
11 might. There is a desire to move past that point
12 and say, well, what do we do now?

13 Q So it's for the purpose of exploring alternative
14 uses for the funds that are available, is your
15 understanding.

16 MR. HWANG: That's my understanding, yes.

17 Q Mr. Davidson, does that accord with your
18 understanding?

19 MR. DAVIDSON: It is. I would describe it as --
20 there's been ten years of work since the original
21 NEEF, or in the order of ten years of work. Since
22 then, we've realized the costs are considerably
23 higher. The risks are high. It might not meet
24 objectives, so it's, I think, appropriate to
25 reconvene NEEF, put the information in front of
26 them and see if there's a better use of the fund.

27 Q Thank you. I'd like to turn now to the issue of
28 independent power projects, Mr. Hwang. With
29 respect to any independent power projects that may
30 have impacts on anadromous fish, what is the
31 Department of Fisheries and Oceans' degree of
32 involvement in the process for approval of those
33 projects and in monitoring the projects once
34 they're in place?

35 MR. HWANG: It would fall under the umbrella of our
36 Habitat Management Program and largely follows the
37 pattern for any type of development or if there is
38 a project proposed that has the potential for a
39 significant impact in a highly sensitive or
40 important fish habitat - for instance, a place
41 where salmon live - that Fisheries and Oceans
42 would review it pursuant to our authorities under
43 the **Fisheries Act** and the guidance in our Habitat
44 Policy. If something would potentially trigger a
45 regulatory decision like a **Fisheries Act**
46 authorization under s. 35 for alteration of fish
47 habitat, we would also do an environmental

1 assessment, **CEAA**, that would be linked to whether
2 we would make a favourable decision on that
3 project.

4 Q Does the Department, prior to issuing an
5 authorization for a project such as this, engage
6 in any form of public consultation?

7 MR. HWANG: If there was an authorization for -- if
8 there was a statutory decision such as issuing an
9 authorization to harm fish habitat under s. 35, we
10 would have to do an environmental assessment under
11 **CEAA** before we could make that decision, and part
12 of that environmental assessment would typically
13 provide for public engagement.

14 Q What proportion of independent power projects that
15 have gone forward have gone down that path and
16 actually had the formal public engagement?

17 MR. HWANG: I couldn't say for sure. I'd have to say
18 I'm not aware of any that haven't, but I can't say
19 for sure about that.

20 MR. MCGOWAN: Okay. I wonder if we could have our
21 document 25 on the screen, please.

22 Q Mr. Hwang, can you please explain to the
23 Commissioner what this document is?

24 MR. HWANG: This one here or the one with the colours
25 on it?

26 Q No, the colourful one that was up a moment ago.
27 Yes, that's the one.

28 MR. HWANG: So this document is largely a summary of
29 work done by an internal working group that we
30 have within Fisheries and Oceans that tries to
31 categorize potential in-stream flow diversions or
32 works into sort of streams, so that we can
33 identify both for ourselves and to potential
34 project proponents, the considerations that
35 Fisheries and Oceans would have, and what the
36 likelihood of certain decisions or outcomes or
37 pathways would be.

38 The intent was to make sure that a project
39 proponent would understand that if you're
40 proposing something that was going to have a
41 potential significant effect in a sensitive or
42 high-value fish habitat, that there was going to
43 be difficulty in getting that approved and
44 potentially a decision that would not be
45 supportive of that, and to try to push proponents,
46 if they were going to be exploring projects for
47 significant water use or in-stream flow use,

1 towards the green side of this matrix that would
2 have lower risk to fish and fish habitat.
3 Q Was this document created and is it used
4 specifically for independent power projects?
5 MR. HWANG: Initially that was the focus, but it's not
6 exclusive to that.
7 Q Has the Department authorized the construction or
8 implementation of any independent power projects
9 in salmon-bearing waters?
10 MR. HWANG: I don't know for sure. I don't think so.
11 Q In your area.
12 MR. HWANG: In my area? I have to say again I don't
13 know for sure. None that I'm aware of recently.
14 I'm aware that there are some that are sort of in
15 various stages of proposal, but there's none that
16 I'm aware in anadromous waters that we've approved
17 recently.
18 Q Are you aware of any existing or proposed
19 independent power projects that have the potential
20 to impact on sockeye migration?
21 MR. HWANG: Not in any substantive way, no.
22 Q Mr. Davidson, what's your answer to that question?
23 MR. DAVIDSON: I was just considering that. There's
24 about 650 applications right now so I can't speak
25 to all of those, whether there's -- there could
26 potentially be, but I can't speak to that.
27 Q Okay, thank you. With respect to the independent
28 power projects that are presently operating, Mr.
29 Hwang, what active role, if any, does the
30 Department play in monitoring the operation of
31 these and their potential impacts on fish or fish
32 habitat?
33 MR. HWANG: Well, there aren't many in our operating
34 area, and our monitoring is sort of fit in, in the
35 context of monitoring all other types of land use
36 and water use that have the potential to affect
37 fish and fish habitat, so we do go out and have a
38 look, but I would not describe it as extensive.
39 Q Okay, thank you.
40 MR. MCGOWAN: If I might just have a moment, Mr.
41 Commissioner
42 Q Mr. Hwang, does the Department of Fisheries and
43 Oceans - I'm coming back to the Kemano issue just
44 for a moment - does the Department have a position
45 or have they expressed a position on what the new
46 funding ought to be used for in their view?
47 MR. HWANG: No, not at this time.

37
PANEL NO. 64
Cross-exam by Mr. Fugère (CAN)

1 MR. MCGOWAN: All right, thank you. Mr. Commissioner,
2 those are my questions for this panel.
3 If we could just mark the last document as an
4 exhibit before I sit down.
5 THE REGISTRAR: Yes, Tab 25 will be marked as 1876.

6
7 EXHIBIT 1876: DFO, Instream Flow Risk
8 Management Framework, March 2011
9

10 MR. FUGÈRE: Good morning, Mr. Commissioner, it's
11 Charles Fugère, spelled F-u-g-e-r-e, counsel for
12 Canada. I'm here with my co-counsel Mark East. I
13 was allocated 30 minutes.
14

15 CROSS-EXAMINATION BY MR. FUGÈRE:
16

17 Q I'd like to start with the topic of **Water Act**
18 modernization and Water Regulations. Lots of
19 these topics have been touched upon by yesterday's
20 panel, but I mostly direct my questions to Mr.
21 Hwang. I want to give him a chance to weigh in
22 from a DFO management perspective.

23 MR. FUGÈRE: If we could please have document Tab 15 on
24 Canada's list on the screen, please?

25 Q Mr. Hwang, do you recognize this document?

26 MR. HWANG: Yes.

27 Q Could you explain briefly what this is?

28 MR. HWANG: It's a brief summary, I guess, of DFO's
29 review and engagement and key points on **Water Act**
30 modernization.

31 Q So is it true that these would be the comments
32 that DFO forwarded to B.C. after looking at a
33 draft version of the **Water Act** modernization
34 discussion paper, which is now Exhibit 1870.

35 MR. HWANG: This would reflect the main points, yes.

36 MR. FUGÈRE: Could I please have this marked as the
37 next exhibit?

38 THE REGISTRAR: Exhibit 1877.
39

40 EXHIBIT 1877: Fisheries and Oceans Canada
41 Preliminary Comments on the Province of BC
42 Draft **Water Act** Modernization Public
43 Discussion Paper
44

45 MR. FUGÈRE: Thank you.

46 Q If we could please go to page 3, bullet 9. Thank
47 you. I'll just read that bullet.

1 Metering is proposed as a requirement for
2 large water users, but the problems facing
3 aquatic ecosystems are often the result of
4 many small, cumulative and incremental
5 withdrawals. How is it contemplated that the
6 broader array of withdrawals will be
7 monitored?
8

9 Now, this is something that Dr. Orr has discussed
10 yesterday, and I wonder, Mr. Hwang, if you can
11 elaborate on whether it is something that you
12 consider important in the management for the
13 sustainability of sockeye?

14 MR. HWANG: Well, I think it's important. Certainly
15 the -- I wasn't here yesterday, but I understand
16 that the relationship between groundwater, surface
17 water and fish habitat was discussed to some
18 degree. From a Fisheries and Oceans perspective,
19 what we are concerned about are changes to the
20 water regime in a stream that can have negative
21 effects to fish and their fish habitat.

22 With the groundwater interaction, it is not
23 always an obvious interaction, but nonetheless, it
24 can be a significant one in terms of contributing
25 cooler water during warmer times of year,
26 contributing consistent water during dry times of
27 year, and even contributing warm water during cold
28 times of year. So there are numerous ecological
29 benefits from groundwater to fish and fish
30 habitat. I think from a Fisheries and Oceans
31 perspective, we would be supportive of measures
32 that would allow for thoughtful and hopefully
33 effective regulation in that regard.

34 Q Thank you. And on the issue of focusing on large
35 users, is this something that you have concerns
36 with?

37 MR. HWANG: Well, I don't think we are opposed to
38 regulating large users, but the concern would be
39 not having an effective degree of regulation and
40 monitoring on the small users for the point that's
41 illustrated in this bullet about the effect of
42 small cumulative incremental withdrawals.

43 Q And another topic of concern that we -- the
44 Commissioner heard about yesterday is the fact
45 that some streams in the Fraser watershed might be
46 over-subscribed in terms of the water licences
47 issues. Is this a concern that you share as a

1 habitat manager?

2 MR. HWANG: Certainly. We have seen the results of the
3 interaction between low flow conditions. It might
4 be starting with a natural situation compounded by
5 effects of human water use in many salmon streams,
6 particularly in the southern Interior. It's an
7 ongoing issue.

8 Q Do you see the **Water Act** modernization process as
9 a good opportunity to address some of these
10 issues?

11 MR. HWANG: I think from a Fisheries and Oceans
12 perspective, we see potential there. There is
13 certainly some uncertainty at least within DFO's
14 side as to how the **Water Act** modernization may or
15 may not create opportunities to deal with historic
16 water licences. It's our general impression that
17 new water licences moving forward will have the
18 potential to address some of the things that we've
19 seen emerge as shortcomings historically.

20 Q Thank you. Mr. Davidson, you've heard Mr. Hwang
21 respond to Mr. McGowan earlier about the fact that
22 he has a concern that B.C. possibly does not have
23 all the resources it needs to fully implement the
24 regime that will come out of the new **Water Act**.
25 Do you share some of his concerns?

26 MR. DAVIDSON: Moving forward, I mean, with any new
27 legislation, we do a lot of economic analysis that
28 would be part of that, so there would be various
29 resource requirements to implement any kind of new
30 regime, and that would be part of the entire **Water**
31 **Act** modernization package. So I can't speak to
32 what resources will be in the future, but that
33 will be part of the package.

34 Q Thank you. Back at you, Mr. Hwang. How much of
35 the success of the new regime that will follow
36 from the **Water Act** modernization process will
37 depend on its successful implementation?

38 MR. HWANG: Well, from sort of a manager level, not too
39 far from the ground level, I guess. I would say
40 that it's very important and it's not necessarily
41 something that is only going to be achieved
42 through dollars. It also would require policy
43 commitments and regulatory commitments. All the
44 good ideas in the world written on paper don't
45 necessarily mean much if they don't translate to
46 effective results. I think all of us in
47 government can see that and have experienced that.

1 Q Thank you. Before we leave that topic, how would
2 you assess the current cooperation between DFO and
3 B.C. on the issue of **Water Act** modernization?

4 MR. HWANG: It's my impression that it's very good and
5 very cooperative. B.C. has been very open to
6 involving DFO in the process and it's our
7 impression that the input we're providing seems to
8 be well received.

9 Q Thank you. I'll move now to the water use
10 planning process. The first question for you, Mr.
11 Hwang, are -- the water use plans currently in
12 place, do you consider them an effective
13 management tool to mitigate the impacts of hydro
14 operations on Fraser sockeye?

15 MR. HWANG: Yes. Certainly much better than the
16 circumstances that existed before, and with the
17 benefit of the research and the multi-party input
18 and perspectives that went into those, I think we
19 find them to be very effective.

20 Q And has B.C. Hydro been a helpful partner for DFO
21 in terms of managing environmental issues?

22 MR. HWANG: Certainly. I wouldn't necessarily want to
23 say that everything is perfect all the time. We
24 do have our occasional points of friction, but at
25 the same time, my understanding of how major hydro
26 utilities across Canada operate in terms of
27 fisheries considerations, I would describe B.C.
28 Hydro as at the forefront in terms of considering
29 fisheries and environmental circumstances.

30 Q Thank you. Mr. McGowan has discussed with you
31 briefly the Bridge Coastal Fish and Wildlife
32 Restoration Project. Can you elaborate briefly on
33 what DFO's contribution and role is as part of the
34 BCRP?

35 MR. HWANG: Sure. I think Mr. McGowan raised that to
36 Mr. Higgins.

37 Q Yeah, sure.

38 MR. HWANG: But Fisheries and Oceans has been invited
39 by B.C. Hydro to be part of the Steering Committee
40 and we've also been involved technically in terms
41 of providing in-kind support or steerage and
42 guidance to numerous projects that have occurred
43 under the umbrella of that program.

44 Q Thank you. Mr. Higgins, we've heard that the
45 water use planning process is quite adaptable and
46 that B.C. Hydro is open to new inputs. Has there
47 been a situation where disagreement on how to

1 interpret the water use plan, at the Bridge-Seton
2 facility for example, may have led to specific
3 concern affecting sockeye.

4 MR. HIGGINS: Yes, I think that there has been some
5 difficulty in interpreting particularly the
6 upstream migration component and the dilution
7 rates, and so there's been lots of dialogue and
8 part of that is a learning process on both sides
9 as new staff are integrated into the system to
10 support the operational function. I think that's
11 on both sides, but yes, what we have done is work
12 together to find the solution.

13 So as Mr. Hwang pointed out, there are at
14 times friction, but at other times over-archingly
15 we've successfully found our way through those
16 issues.

17 Q Thank you. I'll follow up on your answer with
18 discussion on the dilution ratios. It's something
19 that has been presented to me as a true sockeye
20 issue, so it might be worth exploring.

21 You've mentioned, Mr. Higgins, that one of
22 the objectives of the water use plan at the
23 Bridge-Seton facility is to ensure that the
24 returning adult sockeye migration is not impeded
25 by the dilution ratios. I understand that to
26 deliver on this objective, one of the things that
27 B.C. Hydro is doing is it operates a fish-counting
28 station to monitor the passage of these returning
29 adults; is that correct?

30 MR. HIGGINS: That's correct.

31 Q And would you agree with me that, to be successful
32 at meeting this objective and for the fish-
33 counting station to be efficient, it's fair to say
34 that the data from the fish-counting station must
35 be assessed in real time in case a response is
36 needed?

37 MR. HIGGINS: That's a fair statement.

38 Q And have you been successful at collecting and
39 processing the data in real time to meet the
40 objective under the WEP (sic) thus far?

41 MR. HIGGINS: The -- pardon me, the W...?

42 Q Have you been successful at basically collecting
43 and processing the data from the fish-counting
44 station in real time so far?

45 MR. HIGGINS: I would say we have not been successful,
46 though we're trying to improve on that.

47 Q Thank you. Mr. Hwang, do you agree with what Mr.

1 Higgins just said?

2 MR. HWANG: Yes, I think we share the same perspective.
3 The concern Fisheries and Oceans has is making
4 sure that we've got the information available in
5 real time such that if fish passage is being
6 impeded, that a suitable response could be
7 considered. What I should say at the end is we
8 haven't seen a problem in that we can see the fish
9 showing up on the spawning grounds for the most
10 part, but we are also -- with the limitations that
11 Mr. Higgins was describing, not currently having
12 available a tool that would be able to detect en
13 route issues at this time.

14 MR. FUGÈRE: Thank you. I'd like to go to Canada Tab
15 13, please.

16 Q Mr. Higgins, this question will be for you. This
17 is the terms of reference for the DFO, B.C. Hydro,
18 Fish-Hydro Management Committee. Do you recognize
19 this document?

20 MR. HIGGINS: Yes, I do.

21 Q Could you explain briefly what this committee is
22 about?

23 MR. HIGGINS: This committee was put together to
24 provide a forum for us to explore fisheries and
25 aquatic issues so that we could do that with the
26 province and with DFO.

27 MR. FUGÈRE: Thank you. Could that be the next
28 exhibit, please?

29 THE REGISTRAR: Exhibit 1878.

30
31 EXHIBIT 1878: Terms of Reference for
32 Fisheries and Oceans Canada (DFO), Ministry
33 of Environment (MOE) and BC Hydro (BCH) Fish-
34 Hydro Management Committee, Dec 9 2004
35

36 MR. FUGÈRE: Could we please have document 14 on
37 Canada's list? Sorry, if I may have a moment?
38 Okay, thank you. This is the right document.

39 Q Mr. Higgins, is this what is usually referred to
40 as the compliance protocol?

41 MR. HIGGINS: No, this is not.

42 Q Oh. I'll ignore that, sorry. I'll move on to
43 Kemano. One quick question for Mr. Hwang.

44 The Commissioner has heard from the science
45 panel about the several options that have been
46 studied to change the current status quo of the
47 operation of the summer temperature management

1 program on the Nechako River. From a management
2 perspective, what is DFO's main priority when
3 assessing whether or not to support any of these
4 alternatives?

5 MR. HWANG: Well, there are several considerations. I
6 think one that DFO has developed fairly recently,
7 like over the last three or four years, has been
8 to make sure that conditions are not worse for
9 sockeye including the sections downstream of the
10 Stuart confluence. That came as a result of some
11 of the work that Dr. Macdonald did with his
12 counterparts.

13 We also are interested and concerned about
14 effects it may have on chinook salmon in the
15 Nechako as well as chinook salmon migrating up in
16 the Nechako and other places.

17 There are concerns about how decisions would
18 affect white sturgeon, which are **SARA** listed in
19 that area as well as other resident fish species,
20 fish in the Nechako reservoir, fish in the
21 Murray/Cheslatta system and even so far as how it
22 affects fish in the Kemano system at the other end
23 of the infrastructure.

24 MR. FUGÈRE: Thank you. I'll be moving on now to the
25 issue of IPPs. If we could please have Exhibit
26 1876? That was Commission Tab 25.

27 Q Now, Mr. Hwang, when I'm looking at this chart
28 trying to understand where sockeye would fit in
29 this situation, I am using the first row which is
30 called "Fish Presence". I see that the reference
31 to anadromous fish is in the fourth column
32 labelled "High to Unacceptable Risk". Is that a
33 proper reading of the chart?

34 MR. HWANG: Yes.

35 Q So does that mean that any proposed IPP that would
36 potentially affect sockeye or sockeye habitat
37 would be processed or reviewed according to what's
38 outlined in the fourth column?

39 MR. HWANG: Yes, that's certainly where it would start.

40 Q That includes a sea assessment as you have
41 described for Mr. McGowan earlier; is that
42 correct?

43 MR. HWANG: Yeah, it would -- a decision that looked
44 like it may be leading to considering and
45 authorization would require a **CEAA** screening
46 before we could issue that authorization.

47 MR. FUGÈRE: Thank you. Can we please have document

1 number 4 on Canada's list of documents?

2 Q Mr. Hwang, do you recognize this document?

3 MR. HWANG: Yes.

4 A Can you explain briefly what this is?

5 MR. HWANG: This is a two-page document that
6 essentially gives some description that would
7 align with the table that was just shown
8 previously, and the intent is to provide this to a
9 potential IPP proponent so they could understand
10 the prospective of Fisheries and Oceans on
11 projects. I think as I described earlier, the
12 hope was to steer proponents who were
13 contemplating a project from those on the red side
14 of that matrix and down towards the green side,
15 which would be situations that would have a lower
16 risk or a lower impact to fish and fish habitat.

17 MR. FUGÈRE: Thank you. Could that be the next
18 exhibit, please?

19 THE REGISTRAR: Would be 1879. Mr. Fugère, did you
20 wish to mark Tab 14?

21 MR. FUGÈRE: No, thank you.

22 THE REGISTRAR: Thank you.

23

24 EXHIBIT 1879: Fisheries & Oceans Canada's
25 Small Hydro Instream Flow Risk Management
26 Framework
27

28 MR. FUGÈRE: And if we can please have now document
29 number 5 on Canada's list. The DFO Pacific Region
30 Small Hydro Instream Flow Working Group Terms of
31 Reference.

32 Q Are you familiar with this document, Mr. Hwang?

33 MR. HWANG: Yes.

34 Q Could you explain briefly what this working group
35 is about?

36 MR. HWANG: Within Fisheries and Oceans Ecosystem
37 Management Branch, we have provision for working
38 groups that would work on collective issues that
39 occur throughout our region. The idea is to share
40 expertise to provide for some degree of
41 consistency and sort of have multiple people
42 looking at common problems. These terms of
43 reference is to just establish what the group is
44 going to work on and how they'll function within
45 our organization.

46 MR. FUGÈRE: Thank you. Could I have this marked as
47 the next exhibit, please?

1 THE REGISTRAR: That's already been marked as Exhibit
2 1848 on the Commission's list from yesterday.

3 MR. FUGÈRE: Okay, thank you.

4 Q Before I leave this topic, Mr. Hwang, to close a
5 loop, as a habitat manager --

6 MR. MCGOWAN: Sorry, I'll just rise. I wonder if we
7 could pull up 1848 because my note is that 1848 is
8 something different.

9 MR. FUGÈRE: Mine too, but...

10 MR. MCGOWAN: I wonder if we could please pull up
11 Exhibit 1848. My note is that it is something
12 different than the document that's on the page,
13 yes.

14 THE REGISTRAR: We're just realizing that now. It
15 looks very similar.

16 MR. MCGOWAN: Okay. Perhaps Mr. Fugère would again
17 like to seek to have the last document marked.

18 MR. FUGÈRE: Yes, I would seek to have the terms of
19 reference marked, please.

20 THE REGISTRAR: Right. That'll be 1880.

21

22 EXHIBIT 1880: DFO Pacific Region Small
23 Hydro-Instream Flow Working Group Terms of
24 Reference, Nov 2010
25

26 MR. FUGÈRE:

27 Q So just again to close a loop, Mr. Hwang, as a
28 habitat manager, are you concerned about IPPs
29 right now in relation to sockeye populations?

30 MR. HWANG: I would say that we don't see them as a
31 particular imminent concern specifically because
32 most of the IPPs that are coming in, are in places
33 that are not interacting or intersecting with
34 sockeye. It's not to say that there is no concern
35 ever. If IPPs continue to be something that is
36 emphasized and development is pursued across a
37 wide portion of the landscape, we can foresee that
38 becoming a potential issue, but at this time, it's
39 not one that's high on the list.

40 MR. FUGÈRE: Thank you. Now, I guess a housekeeping
41 matter, if we could please call again document 14
42 on Canada's list of documents. We had an issue
43 with this earlier. I believe the document 14 on
44 our list is the compliance protocol. I have the
45 ringtail number that's 437263. I believe what we
46 have on the screen is not our Tab 14.

47 MR. MCGOWAN: Yes, Mr. Commissioner, I've just

1 consulted with my friend from the province. They
2 have -- I believe that somehow the wrong document
3 has been loaded on by the Commission, that Mr.
4 Fugère did in fact give us the compliance protocol
5 at number 14.

6 Ms. Panchuk, it's a document that looks like
7 this if that assists at all.

8 MS. PANCHUK: I'll just need a few minutes.

9 MR. MCGOWAN: Thank you.

10 MR. FUGÈRE:

11 Q Perhaps while we wait for this, Mr. Hwang, just my
12 last category of questions was on the issue of
13 drought response and tools. You've said a bit
14 earlier that the **Fisheries Act** was not an ideal
15 tool to manage water, and you've explained to the
16 Commissioner the difficulties in moving forward
17 with s. 35 prosecutions in respect of water use.
18 Would you agree that the **Fisheries Act** nonetheless
19 gives you the authority to engage users and apply
20 pressure in order for them to do actions that are
21 less harmful for fish?

22 MR. HWANG: Yes, certainly. I think I may have
23 undervalued the potential of the **Fisheries Act** as
24 a tool. It's not to say that it's a perfect tool,
25 but there's value in terms of being able to apply
26 pressure and there are certain circumstances where
27 it can be used very directly in terms of issuing
28 an order under s. 22(3) or advising someone that
29 their activities are either currently or
30 imminently going to be causing a harmful
31 alteration to fish habitat and being able to apply
32 regulatory authority in that regard.

33 Q Thank you. Mr. McGowan has marked the new June
34 2010 B.C. Drought Response Plan as Exhibit 1869.
35 Mr. Hwang, since that new Drought Response Plan
36 has been in place, how do you assess the
37 relationship between the province and DFO on
38 drought response issues?

39 MR. HWANG: It's better than it's been in my time at
40 DFO. I would say that it's been very useful in
41 terms of the leadership and coordination that the
42 province have taken on drought response. We saw
43 that last year and we've seen that very recently
44 this year even in the southern Interior which had,
45 I think, the driest August on record, and we went
46 from the situation where no drought was foreseen
47 to having some fairly serious conditions, and

1 having the Drought Framework and Response Plan in
2 place has helped considerably.

3 MR. FUGÈRE: Mr. Commissioner, those were my questions
4 subject to clarifying. I was hoping to mark our
5 Tab 14. Perhaps one of my friends can deal with
6 this later.

7 MR. MCGOWAN: Mr. Commissioner, there's I guess a
8 couple of ways we can do it. Subject to your
9 approval, I'm content for a hard copy to be put to
10 the witness and Mr. Fugère can ask his question
11 and we can attend to having an electronic copy put
12 in place over the lunch hour if that is agreeable
13 to you.

14 THE COMMISSIONER: Certainly.

15 MR. MCGOWAN: The alternative, I guess, is somebody
16 else could ask or Mr. Fugère could ask the
17 question later.

18 THE COMMISSIONER: Do we have a hard copy available?

19 MR. MCGOWAN: We do. I provided Mr. Giles with a clean
20 copy which can be put before the witness.

21 MR. FUGÈRE: I was simply hoping to have Mr. Higgins
22 identify the document and briefly tell us what the
23 compliance protocol is about and have it entered
24 on the record.

25 Q So, Mr. Higgins, is this something you're familiar
26 with?

27 MR. HIGGINS: I am.

28 Q Could you please describe what's the context for
29 this compliance protocol?

30 MR. HIGGINS: The context for this protocol, it was in
31 the face of conflicts we found we needed to find a
32 way that we could engage with the regulators in a
33 predictable way. So through that Fish/Hydro
34 Committee that you showed me the terms of
35 reference for, we developed this protocol so that
36 there would be a predictable way that we could
37 resolve conflicts.

38 MR. FUGÈRE: Thank you. So could that please, Mr.
39 Giles, be entered as the next exhibit?

40 THE REGISTRAR: Yes, it'll be marked as 1881.

41
42 EXHIBIT 1881: Compliance Protocol Between BC
43 Hydro - The Department of Fisheries and
44 Oceans - British Columbia Ministry of
45 Environment, March 8 2006
46

47 MR. FUGÈRE: Thank you, panel. Thank you, Mr.

1 Commissioner, those are my questions.

2 MR. MCGOWAN: Yes, Mr. Commissioner, the Province of
3 British Columbia will be next and we will attend
4 over the lunch hour to having an electronic copy
5 entered as the exhibit.

6 MR. PROWSE: Yes, Mr. Commissioner, the Province of
7 British Columbia, Cliff Prowse. From time to
8 time, it's possible you may see my lips moving but
9 hear Mr. Tyzuk's voice, but we're going to do our
10 best to let me do the talking.

11
12 CROSS-EXAMINATION BY MR. PROWSE:

13
14 MR. PROWSE: Ms. Panchuk, could you turn to B.C. Tab 1,
15 please.

16 Q Ms. Kriwoken, this is the 2008 Living Water Smart,
17 B.C.'s water plan. Can you say how that relates
18 to the discussion plan that's been marked as an
19 exhibit this morning -- or I think it may have
20 been yesterday.

21 MS. KRIWOKEN: Yes. The Living Water Smart plan
22 contains a number of commitments which speak to
23 reforming B.C.'s water laws in the province, and
24 it's from this document that the **Water Act**
25 modernization process originated.

26 Q All right.

27 MR. PROWSE: And if you can turn to the end of the
28 document, pages 90 and following, please, Ms.
29 Panchuk.

30 Q That's the correct page, so the first heading is
31 called "Doing Business Differently", and then we
32 follow with different headings through pages 91
33 through 95, two of which are "Preparing
34 Communities for Change" and "Choosing to be Water
35 Smart". What's the significance of this "Plan at
36 Glance" part of the document, Mr. Kriwoken?

37 MS. KRIWOKEN: So the "Plan at a Glance" document
38 contains the 45 government commitments around
39 water, and 19 of those 45 specifically speak to
40 water law reform.

41 MR. PROWSE: All right. Mr. Commissioner, might that
42 be the next exhibit?

43 THE REGISTRAR: Exhibit 1882.

44
45 EXHIBIT 1882: Living Water Smart - British
46 Columbia's Water Plan, 2008
47

- 1 MR. PROWSE:
2 Q Ms. Kriwoken, I'm not going to go to the documents
3 marked as Exhibits 1870 and 1872, which are the
4 discussion paper and the technical background
5 report dating to February and March of 2010. But
6 there has been engagement with the Department of
7 Fisheries and Oceans up to and since those
8 February/March 2010 dates?
9 MS. KRIWOKEN: That's correct.
10 Q And there's also different technical committees
11 and groups that are working on the **Water Act**
12 modernization. I think Dr. Bradford said he was a
13 participant. Are there other participants from
14 Department of Fisheries and Oceans?
15 MS. KRIWOKEN: Yes, Dr. Bradford, Kim Hyatt, Dean Watts
16 (sic), a few other - Melody Farrell, Sue Leong
17 (phonetic) --
18 Q All right.
19 MS. KRIWOKEN: -- are some of the few individuals that
20 we --
21 Q And I think we've heard that the working
22 relationship with DFO on this issue has been very
23 good.
24 MS. KRIWOKEN: Yes.
25 MR. PROWSE: So, Mr. Commissioner, if we could turn,
26 then, to Exhibit 1873, which is the report on
27 engagement, and at page 3, it's the executive
28 summary.
29 Q So, Ms. Kriwoken, I wanted you to turn to the
30 fourth paragraph if we could highlight that, Ms.
31 Panchuk, in addition to -- so can you just
32 describe what the report is telling us as of the
33 date of the report in September 2010?
34 MS. KRIWOKEN: Would you like to hear the key -- what
35 in general we heard?
36 Q The key points as outlined in the -- starting from
37 what's outlined in writing there and just
38 elaborate it a bit.
39 MS. KRIWOKEN: So the process of engagement, once the
40 discussion paper was released, involved 12
41 workshops, three First Nation workshops and
42 written submissions. The input from those
43 engagement meetings culminated in this report on
44 engagement. If you scroll down the page, you'll
45 see a highlight of some of the key themes that we
46 heard from respondents.
47 Q And the first one at the bottom of the page is to

1 do with protecting stream health, clear standards.
2 Can you -- so that was one of the themes that you
3 heard?

4 MS. KRIWOKEN: Clear standards and certainty around
5 process and clarity around rules and
6 responsibilities.

7 MR. PROWSE: And then turning to the next page, Ms.
8 Panchuk?

9 Q So groundwater extraction and use, that's
10 something that we've heard discussed yesterday and
11 today already?

12 MS. KRIWOKEN: We heard a strong call from respondents
13 to regulate groundwater use in the province.

14 Q The next bullet is:

15
16 Improved current groundwater governance
17 arrangements.

18
19 What did you hear about that, in a nutshell?

20 MS. KRIWOKEN: We heard that British Columbians want
21 more of a say in water decisions and have a number
22 of proposals and suggestions around how local
23 water boards or local advisory bodies may help
24 inform water management functions and decision
25 making.

26 Q All right. And the next one is:

27
28 Proactively protect drinking water, food
29 production, clean energy and ecological
30 health.

31
32 So that's, again, something that you heard from
33 the participants?

34 MS. KRIWOKEN: We heard this mix from a variety of
35 sectors, drinking water as a priority of use. The
36 agriculture sector spoke to the importance of
37 water for food security. We heard the importance
38 from the energy industry around importance of
39 water to clean energy, and we heard from many
40 across those sectors including NGOs and First
41 Nations, the importance of protecting the
42 ecological health.

43 Q All right. And the next heading is:

44
45 Recognize land-water connection.

46
47 MS. KRIWOKEN: So we heard overwhelmingly while we --

1 the **Water Act** modernization is focusing on the
2 water resource, but from respondents, it's not
3 just about water resource. It's also about
4 watersheds and that what happens on the land base
5 affects the health of the water. So this, in
6 particular, was a response to the policy direction
7 around better linking land and water, and we heard
8 support for that.

9 Q All right. And the next heading says:

10
11 Balance ecological protection with economic
12 priorities.
13

14 MS. KRIWOKEN: So this spoke to two sides, the
15 importance of environmental protection, and the
16 important natural goods and services that
17 ecosystems provide to communities, to environment
18 and economies. We also heard the importance of
19 water as an underpinning to virtually every
20 industrial process in the province and a certainty
21 around water allocation regimes for water users
22 and the economy was equally important.

23 Q All right. The next bullet is:

24
25 First Nations interests must be respected.
26

27 I'm not going to ask you to turn to it, but
28 there's some elaboration on this topic at pages
29 67, I think, and 68 of the document, as I recall;
30 is that right?

31 MS. KRIWOKEN: Yes.

32 Q And the bullet identifies key themes that emerged
33 from what you heard from First Nations?

34 MS. KRIWOKEN: Yes, and in particular, we heard concern
35 about provincial ownership of the water resource,
36 we heard concern about aboriginal rights and
37 title, we heard concern about the process of
38 engagement around **Water Act** modernization from
39 First Nations and a strong plea for more time so
40 that draft legislation could be reviewed and be
41 further consulted on.

42 Q And then the next heading leads to the province's
43 timelines for modernizing the **Water Act** are too
44 short. That was something you heard up to
45 September 2010?

46 MS. KRIWOKEN: That's correct. We heard resoundingly
47 on the first round with the discussion paper in

1 the spring of 2010 government had not planned to
2 produce a further policy proposal with hearing the
3 resounding call for more engagement on proposals
4 that led to the release of the proposal paper in
5 December 2010.

6 We've heard this again on the second round of
7 engagement this past spring that more engagement
8 on the details of the legislation is warranted and
9 requested.

10 Q And so I understand from your comment this morning
11 that in fact the expectation now is that there
12 will be draft legislation in 2012 and further
13 engagement there is --

14 MS. KRIWOKEN: That's correct.

15 MR. PROWSE: And following on from that was the policy
16 proposal which is found at Tab 5 of the province's
17 documents. I believe it's already been marked as
18 an exhibit, Mr. Commissioner, we believe, 1856.
19 Thank you.

20 Q So this is the policy proposal that followed from
21 the engagement; is that correct?

22 MS. KRIWOKEN: Yes, from the first round of engagement.

23 Q The **Water Act** modernization continues as a heading
24 on page 3, and again, the objective of the
25 document is explained in the two bullets,
26 including summarizing where we're at and provide
27 further opportunities for engagement. If you turn
28 then to what I believe is page 7, Table 1?

29 So can you explain the approach that's set
30 forth here? We've heard from questions this
31 morning and, in particular, concerns yesterday,
32 that there should be a blanket approach and
33 everything should be licensed everywhere. What's
34 the approach that's set forth on page 7 here,
35 Table 1. Can you explain the concepts?

36 MS. KRIWOKEN: So this framework really underpins the
37 basis on which we're building the proposed new
38 **Act**. It recognizes the hydrological diversity in
39 the province and that no one size fits all across
40 the province. There are some provisions and tools
41 in the toolkit that would apply province-wide, and
42 that's addressed in the first box.

43 The second and third speak to known problem
44 areas and then areas where we have chronic
45 problems. The tools in those respective areas are
46 increased to incorporate more detailed water
47 resource assessments and watershed sustainability

1 plans. So it embodies the area-based approach
2 that is being taken where we need to raise the bar
3 across the province for some provisions and really
4 focus efforts specifically on some key tools in
5 key areas.

6 MR. PROWSE: Mr. Commissioner, it appears to be 12:30
7 or close to it. Would you like to take the break
8 now?

9 THE COMMISSIONER: Thank you very much.

10 THE REGISTRAR: The hearing will now adjourn till 2:00
11 p.m.

12
13 (PROCEEDINGS ADJOURNED FOR NOON RECESS)
14 (PROCEEDINGS RECONVENED)

15
16 THE REGISTRAR: The hearing is now resumed.

17 MR. PROWSE: Yes, Mr. Commissioner, Cliff Prowse for
18 British Columbia.

19 Ms. Panchuk, if we could have page 7 of
20 Exhibit 1856, which is the Table 1.

21
22 CROSS-EXAMINATION BY MR. PROWSE, continuing:

23
24 Q So, Ms. Kriwoken - and this is actually summarized
25 at Table 6, but - essentially the approach that's
26 being taken here is that province-wide there will
27 be a number of requirements under the policy
28 proposal including protecting instream flows,
29 regulating groundwater use and requiring more
30 efficient use of water and incentives. But in
31 areas experiencing declining water supply, water
32 quality or deteriorating ecosystems, known chronic
33 problem areas, additional and more stringent
34 requirements will apply, so the approach is to go
35 to areas based on that kind of criteria; is that
36 correct?

37 MS. KRIWOKEN: Yes, that's correct.

38 Q And dealing with the list of policy directions in
39 Table 1, which of those policy directions have the
40 potential to help sockeye salmon if the
41 legislative proposal is carried forward, of the
42 seven areas listed.

43 MS. KRIWOKEN: I would say all of them do.

44 Q All right.

45 MR. PROWSE: And just if we could turn to page 12, Ms.
46 Panchuk, under "Policy Direction 6".

47 Q There was a suggestion made, I think yesterday and

1 for all licensees, and then, that fails to address
2 the situation, their first-in-time/first-in-right
3 priority of date would come into play. In
4 extenuating circumstances, there's an opportunity
5 for the decision-maker to deviate from first-in-
6 time/first-in-right.

7 An example of that, a junior licensee may be
8 a municipality and a senior licensee may be a hay
9 farmer. It may mean foregoing a third crop of hay
10 in a season to ensure that the municipality
11 doesn't have to curtail use.

12 MR. PROWSE: Thank you. The Auditor General's report I
13 believe is now an exhibit, 1871. Could we have
14 that?

15 Q The provincial government made a response to this,
16 did it not, as part of this document, Ms.
17 Kriwoken?

18 MS. KRIWOKEN: Yes. Yes.

19 MR. PROWSE: So I'll just ask, Ms. Panchuk, if you can
20 turn to page 4 of the report and at the top
21 paragraph on the left.

22 Q So just speaking generally, the province responded
23 to the seven recommendations and that's found on
24 the next three pages of the Auditor General's
25 report; is that correct, Ms. Kriwoken?

26 MS. KRIWOKEN: Yes.

27 Q And part of that response will come back to the
28 **Water Act** modernization process. On the top left,
29 there's some discussion of the current groundwater
30 program. Can you explain the current program as
31 it's set out there?

32 MS. KRIWOKEN: Well, the current groundwater program
33 has been in existence for over 50 years. While
34 there's no explicit regulation of groundwater use
35 in the province, the groundwater program over the
36 last number of years has drawn on a number of
37 regulatory tools to protect the groundwater
38 resource including its monitoring program, its
39 aquifer classification and mapping, a lot of
40 outreach work, and a provision of well protection
41 toolkits, wellhead protection plans, to name a
42 few.

43 In addition, the groundwater protection reg,
44 as Mr. Davidson mentioned earlier, addresses
45 drilling of wells, operation, construction,
46 maintenance as well as certification of well-
47 drillers and pump installers.

1 MR. PROWSE: All right. Then turning back, Ms.

2 Panchuk, to Exhibit 1856 at page 9, please.

3 Q So, Ms. Kriwoken, can you explain the policy
4 direction to regulate groundwater use as embodied
5 in this document?

6 MS. KRIWOKEN: Mm-hmm. So the proposal is to regulate
7 groundwater use in problem areas and all large
8 groundwater withdrawals for large uses across B.C.
9 The document speaks to some thresholds that we're
10 continuing to refine and further develop.

11 As I mentioned earlier, we look at
12 approximately 100,000 wells in the province that
13 we have in our WELLS database. The large
14 majority, even 95 percent, of those wells are
15 single-family domestic small uses. The remaining
16 ten percent are larger uses, ranging from
17 municipalities, industry, agriculture irrigation,
18 hatcheries. It's that five or ten percent that
19 the focus of regulation of use would be on.

20 In addition, where there are water-stressed
21 areas, critical priority areas in the province,
22 regulation of the individual well-owners, and
23 there's some examples; in particular, Gulf
24 Islands, Okanagan and others.

25 Q So, Mr. Davidson, if I can ask you to give your
26 perspectives now. So continuing with respect to
27 groundwater and, I guess, putting in a broader
28 context, you were asked a question this morning
29 that suggested that all surface water use was
30 licensed in the province, and I understand that
31 neither -- for domestic uses, neither surface
32 water nor groundwater is licensed. Is that
33 correct, and can you explain what the rationale
34 would be for that?

35 MR. DAVIDSON: Well, I think this morning we were
36 talking a little about the extent of potential
37 groundwater licensing, and to be clear, there is
38 no groundwater licensing at present. But I think
39 there were some statements around how far do you
40 get into the domestic licensing?

41 In British Columbia right now, you don't
42 require a licence for domestic use. There's a few
43 exemptions from use itself. Even though half of
44 our 44,000 water licences in B.C. are in fact
45 domestic licences, on a system that's not fully
46 recorded, you do not require a domestic water
47 licence so you can use water out of a large body

1 for domestic purposes.

2 Q And how important is it to regulate those 22,000
3 surface domestic uses in your view?

4 MR. DAVIDSON: It's somewhat important because I
5 suspect the reason that people are actually
6 getting water licences is they are on systems that
7 are perhaps small or fairly heavily used, so
8 they're trying to protect their rights there
9 before they become fully recorded, so that's one
10 of the reasons.

11 But in considering a future licensing regime
12 for groundwater, we would probably mirror that
13 approach where you would require licensing in
14 heavy-use areas, and perhaps in areas that's not
15 so heavily used where there's lots of groundwater
16 or surface water, licensing may be optional. So
17 perhaps mirroring that, a mirror image of the
18 surface water licensing system.

19 Q So if there's lots of surface water and
20 groundwater, why would one want to regulate it?

21 MR. DAVIDSON: Because it won't always --

22 Q What would be the benefit cost of that?

23 MR. DAVIDSON: Yeah, again, it's like any regulation
24 that we do. You tend to focus on the higher -- I
25 want to say higher risk or higher use or where you
26 can actually start to feel an impact. But some of
27 it is a choice with the individuals when it comes
28 to surface water. They can choose to get a water
29 licence or not. In some areas, you have no
30 choice. If it is close to fully-recorded, that
31 might be your only choice. But if you're in a
32 large water body with very little licensing, a
33 homeowner has a choice about whether to get a
34 licence or not.

35 Q The term "over-subscription" has been used
36 yesterday and today. Given a focus on instream
37 flows, how would you explain to the Commissioner
38 the importance of the term "over-subscription" as
39 opposed to the term "fully-recorded", which is the
40 term you just used. Can you explain that to the
41 Commissioner?

42 MR. DAVIDSON: Yeah, it is an interesting one because
43 it's -- I think those of us in the water licensing
44 business don't use the term "over-subscribed" as
45 much. We tend to use "fully-recorded". That
46 means there is no more available flow for the
47 licensing.

1 "Over-subscribed" implies that there is more
2 licences than there is water. That is the case in
3 a number of areas. Really, what that comes down
4 to is it means that not all licences can get
5 satisfied at all times of the year. There is more
6 licence capacity than there is water. That might
7 be a problem for individual licensees because they
8 can't make full use of their allocation.

9 It may or may not be a problem for some of
10 the instream flows. In some cases where instream
11 flows have some protection, either within the
12 licence or some other mechanism, over-subscribed
13 might not have an impact on the instream flows,
14 but it might have an impact on other water users.

15 So we term "fully-recorded" when it means you
16 can't issue any more water licences for certain
17 times of the year.

18 Q Turning to the current system, what tools do you
19 have for instream flow protection under the **Water**
20 **Act**?

21 MR. DAVIDSON: I can think of three or four tools
22 within the **Water Act** that we use to protect
23 instream flows. The ones that we're using quite a
24 bit, particularly with respect to some of the
25 larger licences like power licences, many of them
26 have terms -- most licences have terms and
27 conditions associated with them. The modern
28 licences will often have an instream flow clause
29 that requires the licensee to keep certain flow in
30 the water body at certain times of year, and it
31 might depend on the time of year, but it is a
32 condition of the licence. On the big licences,
33 the power licences, that's very common these days.

34 A second approach is - and I kind of alluded
35 to this - it's regulating at times of scarcity,
36 but some of the licences actually have clauses
37 that enable the Regional Water Manager, the
38 comptroller, to change the conditions of licence,
39 so we might vary instream flow conditions, use
40 conditions, at a time of low flow. So it's direct
41 regulation of the licensee.

42 Sort of going up the list a little bit --
43 well, I guess another instream flow under -- there
44 actually is conservation licences. Of the 44,000
45 licences, a number of them are strictly in place
46 for conservation.

47 Q And what are those?

1 MR. DAVIDSON: It's a licence issued to an organization
2 or a government or someone like that just to keep
3 water in a system for conservation purposes. A
4 couple of big examples come to mind: Ducks
5 Unlimited is one of the big licensees for that.
6 They maintain a number of dams and structures just
7 to keep water in place for conservation purposes.

8 I was thinking about this a little bit, and
9 there was quite a bit of discussion here in the
10 last couple days about the upper Nechako River,
11 and I note that DFO actually holds a conservation
12 licence on the upper Nechako for water for fish.
13 So it is a licensable quantity.

14 Another tool that we use, it's an Order-in-
15 Council, and it's available to Cabinet to set
16 water aside for certain purposes. We do that for
17 a number of uses. A fairly common use is where
18 there's a significant ecological resource that
19 we're trying to protect. The one that comes to
20 mind, particularly to this process here right now,
21 is I can note that there's a water reserve on the
22 Adams River, obviously a very significant sockeye
23 resource. A number of years ago, the government
24 decided to put that off limits to licensing, so it
25 really preserves the flow in the Adams River, and
26 that's the intent.

27 Q I want to turn very briefly to IPPs.

28 MR. PROWSE: First of all, Ms. Panchuk, could we have
29 provincial Tabs 8 and 9? Sorry, provincial Tab 8.

30 THE REGISTRAR: It only goes to 7.

31 MS. PANCHUK: Did you send them in today?

32 MR. PROWSE: Mr. Commissioner, we might be able to deal
33 with this later. We sent them in by letter on
34 September the 12th.

35 Q Mr. Davidson, you're aware of books that have been
36 put out about, first of all, "Independent Power
37 Production in B.C.", and "Inter-agency Guidebook
38 for Proponents", and this edition is in 2010.
39 You're aware of that?

40 MR. DAVIDSON: I am, yes.

41 Q I think you said you may have written an earlier
42 version?

43 MR. DAVIDSON: Yeah, that one's had several revisions
44 to it, yeah.

45 Q And then you're also aware of a July 2011
46 document, "Clean Energy Project Development Plan
47 Information Requirements."

1 MR. DAVIDSON: Yes, I am, yes.

2 MR. PROWSE: So, Mr. Commissioner, when we get a
3 chance, we'll mark those if we can.

4 Q The question I have is, very briefly, how are
5 instream flow requirements dealt with under a
6 water licence for IPPs? Very briefly.

7 MR. DAVIDSON: Generally, I mean, it's a condition of
8 the licence. If there is an instream flow
9 concern, that's identified during the licensing
10 process and it's written into the document, either
11 directly or some clause related to the comptroller
12 or Regional Water Manager will set instream flows
13 as necessary or whatever, so there might be future
14 documents that describe those instream flows, but
15 it's a condition of the licence.

16 Q All right. And, finally, we've heard general
17 enthusiasm about water use planning and B.C. Hydro
18 over the last couple of days. First of all, I
19 think you've been involved in those processes,
20 have you?

21 MR. DAVIDSON: Yes, I have, I signed a number of them.

22 Q And so you'd agree that they're successful
23 projects?

24 MR. DAVIDSON: Yes, I agree.

25 Q For the most part.

26 MR. DAVIDSON: Yup.

27 Q My question is what do they cost and who ends up
28 paying for them?

29 MR. DAVIDSON: There's a number of costs associated
30 with them, but basically B.C. Hydro has put the
31 plan together and done the consultation and paid
32 much of the cost in assembling the plan itself.
33 Once the planning gets implemented, there's a
34 number of costs associated with studies, with
35 capital works, with loss of power or revenue
36 because of the implication (sic) of the plan.
37 Some of those costs are remittable to B.C. Hydro
38 through their water rentals that they're owed the
39 province at the end of the year. We remit a
40 certain amount of that money. It's capped, the
41 program is capped to a maximum of \$50 million
42 annually and we haven't hit that yet in the
43 implementation of the water use planning process.
44 But there's a clear expectation that this will
45 cost the proponent, B.C. Hydro, over the long term
46 and that cost will be shared with the province.

47 Q And \$50 million annually is a cap. That's there

1 for -- so we're talking about many millions of
2 dollars for these processes.

3 MR. DAVIDSON: Yes.

4 MR. PROWSE: Those are my questions, Mr. Commissioner.
5 Oh, no, sorry, one more thing, as they say in the
6 Columbo programs.

7 Ms. Panchuk, could have provincial Tabs 6 and
8 7? Oh, 7 has been entered, so it's just Tab 6.

9 Q Mr. Davidson, this is a Handbook for Water
10 Suppliers updated July 2009, dealing with drought?

11 MR. DAVIDSON: Yes.

12 MR. PROWSE: Thank you. If that might be marked, Mr.
13 Commissioner.

14 THE REGISTRAR: It'll be marked as 1883.

15

16 EXHIBIT 1883: BC Ministry of Environment,
17 Dealing with Drought - A Handbook for Water
18 Suppliers in British Columbia, June 2004
19 updated July 2009

20

21 MR. BURSEY: Thank you, Mr. Commissioner. David Bursey
22 for Rio Tinto Alcan. We have no questions. Thank
23 you.

24 MS. CAMPBELL: Good afternoon, Mr. Commissioner. I'm
25 Karen Campbell here for the Conservation Coalition
26 this afternoon. I believe I have 25 minutes
27 allocated.

28

29 CROSS-EXAMINATION BY MS. CAMPBELL:

30

31 Q I'd like to start with just returning back to the
32 timelines associated with the **Water Act**
33 modernization.

34

35 Ms. Kriwoken, just before lunch, there was a
36 slide put up on the screen that was summarizing
37 the consultations and some of the stakeholder
38 feedback around the **Water Act** modernization
39 process. One of the points that was made was that
40 the timelines were too short. I know that some
41 stakeholders are of the view that sometimes the
42 timelines are too long, so I'm wondering if you
43 tell us which stakeholders think the timelines are
44 too short?

44

45 MS. KRIWOKEN: We've had some 2500 submissions on **Water**
46 **Act** modernization. So to be specific on who, that
47 was a general message from respondents that (a)
48 they wanted more time to review the details in the

1 legislation, and (b) take more time.

2 Q Right. And were there any sort of broad interests
3 that were reflected, like the ranchers or the
4 industrial users that would like the process to be
5 extended?

6 MS. KRIWOKEN: It came from First Nations, in
7 particular, around time. The call for more input
8 to detailed legislative provisions came
9 universally across the boards.

10 Q Great.

11 MS. KRIWOKEN: That translates into more time.

12 Q Thanks very much. Still on the topic of **Water Act**
13 modernization, and I think I'd like to go to
14 Exhibit 1856 which is the proposed **Water**
15 **Sustainability Act**. I'd like to go to page 8, the
16 first policy direction which is:

17
18 Protect stream health and aquatic
19 environments.

20
21 I know we've looked at this already. We heard
22 yesterday from Dr. Orr that regulations would be
23 more robust than guidelines and we know that
24 you're proposing to do instream flow guidelines in
25 this **Act**, and I'm wondering if you can give me a
26 sense of how the Ministry ranks guidelines,
27 standards and regulations. The reason I'm asking
28 this is because if we look at this bubble on the
29 right-hand side, it says:

30
31 We heard...support for both guidelines and
32 standards but a preference for standards.
33 [Because] Guidelines are too flexible or not
34 enforceable.

35
36 I'm a bit confused as to how the Ministry ranks
37 guidelines, standards and regulations in terms of
38 bindingness.

39 MS. KRIWOKEN: So guidelines, standards discussion has
40 confused a lot of people and we probably could
41 have been clearer with our language in presenting
42 this. I'm going to defer to Mr. Davidson to speak
43 to how guidelines and standards are incorporated
44 into licensing decisions, and in particular, with
45 respect to instream flow needs.

46 Q Okay. So in that sense, then, are guidelines and
47 standards interchangeable substantially?

1 MS. KRIWOKEN: I'm going to ask Glen to further
2 elaborate.

3 Q Yes.

4 MR. DAVIDSON: I mean, I don't find either guidelines
5 or standards terribly enforceable on their own. I
6 mean, enforceability really comes from the **Act** or
7 some sort of tenuring document like a water
8 licence, or it's either in an **Act** or a regulation
9 to an **Act**.

10 Standards and guidelines are useful for the
11 decision-maker to make a decision and gives him
12 some guidance on what to put into those documents.
13 Sometimes standards are actually even referenced
14 in legal documents: You must comply with these
15 standards, or something like that. So then they
16 become useful. But on their own, I'm not sure I
17 would make too much of a distinction about which
18 is more enforceable, standards or guidelines.

19 What really brings them into force is in the
20 case of a water licence or some sort of tenuring
21 document. So I can't say that I get too hung up
22 on what's in -- they're largely guidance to the
23 decision-maker and the proponent.

24 Q Thank you. I know there were some questions also
25 about the development of the instream flow
26 guidelines. Do you expect that the development of
27 those guidelines will be based primarily on
28 science?

29 MS. KRIWOKEN: I've got a group of scientists working
30 on the team.

31 Q Great. Thank you. I've got some questions now
32 about groundwater, and I think we'll stick with
33 the same document. It's page 9, which is the
34 policy direction on regulating groundwater use.
35 We've talked about the fact that the intention is
36 to regulate groundwater use in problem areas, and
37 a bit about how problem areas might be defined.

38 Has the province given any consideration to
39 whether the Fraser watershed or parts of the
40 Fraser watershed might be a problem area?

41 MS. KRIWOKEN: Yes.

42 Q And do you expect that, at the end of the day, the
43 Fraser watershed will be identified as a problem
44 area?

45 MS. KRIWOKEN: We haven't yet determined that we will
46 be drawing lines on a map on the basis of what's a
47 problem area and what's not. We laid out the

1 framework and the policy, three levels of action
2 in the policy proposal paper, but it'll be based
3 on more detailed analysis of the local site, a
4 site-specific situation.

5 Q And would you agree that the province would be
6 better able to anticipate problem areas if you
7 were licensing, monitoring and tracking all
8 groundwater extraction across the province?

9 MS. KRIWOKEN: All groundwater extraction across the
10 province relevant to the Fraser?

11 Q I'm taking my question away from the Fraser
12 specifically, and over to the province. This has
13 to do with the notion that if we were licensing,
14 monitoring and tracking groundwater extraction
15 across the province, and keeping those sorts of
16 records, that we would be better able to
17 anticipate where the problem areas are going to
18 be.

19 MS. KRIWOKEN: Yes.

20 Q Thank you. And we've also talked quite a bit
21 about over-subscription or water stress and
22 whether an area is fully recorded. The sense that
23 I have from reading these materials, and from the
24 evidence that we've heard so far, is that the
25 problem areas are being defined primarily by human
26 uses and not necessarily by ecosystem needs, or
27 not to the same extent by ecosystem needs. So the
28 problem areas that have been mentioned in the Gulf
29 Islands and the Okanagan, which have a lot of
30 human use, do you think that salmon habitat might
31 be a factor or other ecosystem values would be a
32 factor in defining problem areas?

33 MS. KRIWOKEN: Yes.

34 Q And one of the things we heard yesterday is that
35 groundwater is crucial to maintaining Stuart
36 sockeye. Would you agree that the province might
37 consider including the Stuart River watershed as a
38 problem area, given its importance to sockeye?

39 MS. KRIWOKEN: Based on what I've heard from the
40 science, yes.

41 Q Thank you. I've got a couple of questions that
42 I'd like to ask a bit more about the water
43 licensing system that we have in the province.

44 Mr. Davidson, are there occasions where
45 you've turned down licence applications in areas
46 where there's severe pressures on a stream?

47 MR. DAVIDSON: Yes, I mean, I'm speaking broadly for

1 the -- I've personally turned down water licence
2 applications when there's been not enough water.
3 But it's quite common for our Regional Water
4 Managers to do that.

5 Q Thank you. And, at this time, in the current
6 scheme, are you directly considering fisheries
7 impacts in licensing decisions?

8 MR. DAVIDSON: Yes. Yes.

9 Q And does that happen sometimes, always, rarely?

10 MR. DAVIDSON: I don't know if I would go so far as to
11 say "always". If you're doing a small extraction
12 on a very large water body, the consideration of
13 fishery resources is probably very small. But
14 anything else where there's a significant
15 withdrawal of water, yes, fisheries resources are
16 considered.

17 Q And under the new scheme, is that going to
18 increase? Will it happen more frequently or will
19 that consideration of fisheries impacts be
20 substantially the same?

21 MR. DAVIDSON: Well, what we're talking about in a new
22 regime is not just that you may consider; it's
23 that you must consider. So it changes the
24 decision-maker's role a little bit, forcing him to
25 turn his mind to that. Again, it's a proposal at
26 this time that we're talking about.

27 Q No, I understand that. Thank you very much, I
28 appreciate that.

29 With respect to some of the water use
30 reporting issues we discussed earlier, I think one
31 of the points that was raised this morning is that
32 water use reporting is required on about a quarter
33 of the licences at this time; is that
34 approximately correct?

35 MR. DAVIDSON: Yeah, that was a rough estimate and it
36 may be even less than that.

37 Q Okay. And under the new **Water Act** has there been
38 any discussion of water use reporting being a
39 condition in all new water licences?

40 MR. DAVIDSON: I think I'll defer to Lynn a little bit,
41 but I'm not sure that we're talking about all, but
42 certainly increasing the reporting.

43 MS. KRIWOKEN: And the proposal speaks of starting with
44 large, large being not single individual
45 domestics.

46 Q Right. And so it would be just large single
47 users, not necessarily areas where there's a

1 number of cumulative uses.

2 MS. KRIWOKEN: Certainly if there are water-stressed
3 areas that point to the need for monitoring
4 individual wells, yes. So there may be
5 requirements imposed on individual well owners.

6 Q Okay.

7 MS. KRIWOKEN: Or surface licensees as well.

8 Q And, Mr. Davidson, you've talked about auditing of
9 water licences that's done also for big users, and
10 you mentioned independent power projects. Is it
11 routinely done for independent power projects?

12 MR. DAVIDSON: The auditing of them? Yes, yes, it is.

13 Q And is the auditing done by the Ministry of
14 Environment or is it done by an independent
15 entity?

16 MR. DAVIDSON: There's been a variety in the last few
17 years where we've been looking at these in
18 cooperation with some of our federal counterparts.
19 Sort of maybe a bit of a team approach where we've
20 got a few people together, whether it's
21 conservation officer service, some of our water
22 staff as well as some DFO staff, and looked at
23 some specific projects for compliance.

24 Q And are there occasions in the past few years sort
25 of taking -- as I see it, there's two big baskets
26 or ways of looking at it. There's the major users
27 and then there's the cumulative small incremental
28 users that create stress on a region. Have you
29 paid any specific attention to monitoring and
30 auditing on this latter category of where there's
31 a number of users in a region?

32 MR. DAVIDSON: I would say we haven't done monitoring
33 of the specific use in those ones and probably, by
34 definition, those are the small users that
35 individually perhaps aren't causing issues for the
36 environment or for fish specifically. I think
37 there you would take more of a watershed approach
38 and see how heavily allocated is this, how heavily
39 impacted it is. But I'm not sure looking at an
40 individual water user would get you much further
41 ahead there.

42 Q Right.

43 MR. DAVIDSON: So we've done that as part of some of
44 our water allocation planning, or looking to see
45 what's left that could be allocated, available
46 flow, that type of thing.

47 Q Okay. Thank you.

1 MS. CAMPBELL: I'd like to go to Exhibit 662 which I
2 believe was up on the screen already this morning.
3 It's the DFO memo. Right, thank you.

4 Q As I heard this morning, I understand that this
5 has been before the Commission before as well.
6 There's a couple of parts of this I'd like to ask
7 you about, Mr. Hwang. In the fourth paragraph of
8 this memo, there's a reference to project
9 splitting and there's a statement that:

10
11 Project splitting is a current issue
12 resulting from a poorly coordinated referral
13 system.
14

15 I'm wondering if you could describe for me what
16 you mean by project splitting? What's the issue
17 that's being referred to here?

18 MR. HWANG: Well, certain kinds of development projects
19 -- and I can use an example, say, a typical condo
20 and marina development will often come into DFO
21 for review as separate pieces. So we'll get a
22 piece for a marina, and then we'll get a separate
23 referral for, say, a boat launch, and then we may
24 or may not get a separate referral for upland
25 development. But it tends to all be part of the
26 same development activity. It would be more
27 effectively managed and regulated if we were able
28 to review it and consider it as a one singular
29 project instead of three individual pieces of a
30 project.

31 So this point is describing that, and the
32 challenge of connecting the dots sometimes that go
33 with making the regulatory decisions related to
34 that.

35 Q Thank you. And are you aware of any project
36 splitting that is occurring with regard to
37 independent power projects?

38 MR. HWANG: A little bit. We have on occasion seen
39 situations where parts of an IPP are not
40 necessarily wrapped up in the specific proposal
41 that we see. Things, say, like road access and
42 other things like that, that might be being
43 treated as separate components.

44 Q Okay. And in paragraph 7 of this same note,
45 there's a comment that says that:

46
47 We don't coordinate on referrals in any

1 consistent way.

2
3 What kind of referrals are you referring to here?
4 MR. HWANG: I was referring in general. And the point
5 of this is that the coordination that I see
6 happening from a management level in regional or
7 in area office happens largely as a result of
8 local relationships which isn't, in itself, bad.
9 But what it does is it can leave gaps if the local
10 views on things aren't necessarily covering all of
11 the bases, and it can lead to fairly significant
12 inconsistency across a large management area like
13 we have in the B.C. Interior.

14 Q Right. Thank you. And just on the theme of
15 project splitting and environmental assessment --
16 I'm just going to talk a little bit about
17 environmental assessment for a moment.

18 Ms. Kriwoken, do independent power projects
19 require that provincial environmental assessments
20 be conducted before they're built?

21 MS. KRIWOKEN: I'll defer to Glen on that.

22 Q Thanks. Mr. Davidson?

23 MR. DAVIDSON: Yeah, the trigger for the formal
24 environmental assessment process is 50 megawatts.
25 So under that, they're not required to have
26 certificate.

27 Q And would it be possible to split a project into
28 smaller projects to avoid the requirement to
29 conduct an environmental assessment?

30 MR. DAVIDSON: There is a bit of oversight on that from
31 the EA. They may choose to include a project
32 because they feel it's splitting. You could go
33 the other way too, you could combine several small
34 projects and ask that it be reviewed as an
35 entirety under the EA process as well. But I
36 would say not generally I'm seeing projects being
37 split to do that. It's kind of obvious if that's
38 the case.

39 Q Yeah, okay. I'm wondering -- there's an example
40 of a project in the Fraser River watershed, and
41 it's on the Holmes River, and I'm just wondering
42 if you're aware of an independent power project
43 where it appears that there's a total of ten
44 licences that have been granted for a total of 76
45 megawatts of power production, so it's ten
46 licences on a row of streams that go into the
47 Holmes River. Are you familiar with this project

1 at all?

2 MR. DAVIDSON: Not directly, but I've heard of that one
3 and I know where the Holmes River is, yes.

4 Q Great. Thanks very much. Onto the issue of the
5 -- excuse me, one moment. I'd like to just
6 discuss the 2009 drought very briefly, and I know
7 that we had already had up on the screen the B.C.
8 Drought Response Plan which I'm not sure if I
9 captured the exhibit number for it. I might have
10 missed that.

11 MR. MCGOWAN: It's 1869, Mr. Commissioner.

12 MS. CAMPBELL: Thank you very much, Mr. McGowan.

13 Q I'm wondering if we could go to page 9, which is
14 pdf 12, of that plan, and I note that there's a
15 section here, 2.2.4, on water bailiffs. It's the
16 part of the drought plan that discusses **Water Act**
17 provisions for water bailiffs which can come and
18 be used to manage conflicts in a stream before or
19 during a drought, and it's under the authority of
20 the existing **Water Act**.

21 Mr. Davidson or Ms. Kriwoken, do you know if
22 this provision was used at all during the 2009
23 drought?

24 MR. DAVIDSON: I'm not sure if it was used specifically
25 for the 2009 drought, but water bailiffs are used
26 particularly in dry areas. So, yeah, I can't
27 confirm that there were water bailiffs in place
28 there, but I suspect that there were because we
29 use them even not only in drought conditions.
30 There's often a number of water bailiffs
31 regulating systems where there's multiple users.

32 Q Right. And in that context too, I know we also
33 talked about s. 9 of the **Fish Protection Act** which
34 was brought into force in 2009, and that was the
35 section that deals with temporary water
36 withdrawals by licence holders in cases of
37 drought. I'm not sure I heard your evidence
38 correctly. Did you say that that was actually
39 used in the 2009 drought?

40 MR. DAVIDSON: It was.

41 MS. KRIWOKEN: Yes.

42 Q Great. Thank you very much. I'm not sure whether
43 this would be for Ms. Kriwoken or Mr. Davidson,
44 but are you also aware of some of the other
45 sections of the **Fish Protection Act** that are not
46 in force?

47 MS. KRIWOKEN: Yes.

1 Q And specifically I'm interested in some of the
2 sections that talk about the ability to authorize
3 the water comptroller to consider fish and fish
4 habitat considerations in licensing. This is s. 5
5 of the **Fish Protection Act** which isn't in force.

6 Based upon the information you've just
7 provided, Mr. Davidson, when you're saying that in
8 the future the government must consider fisheries
9 impacts under the new **Water Act**, is that really
10 the same as s. 5 of the **Fish Protection Act**?

11 MS. KRIWOKEN: I don't know about the specifics. We're
12 certainly looking at the unproclaimed provisions
13 of the **Fish Protection Act** as we produce the **Water**
14 **Sustainability Act**. There's the requirement for
15 consideration of fish and fish habitat, there's
16 the stream flow protection licence provision,
17 there's another one respecting reduction of use
18 where there's a water management plan.
19 Collectively we're looking at all of those
20 unproclaimed provisions as part of this exercise
21 in **Water Act** modernization.

22 Q Right. So you're definitely giving consideration
23 to proclaiming into force those unenforced
24 provisions of the **Act**?

25 MS. KRIWOKEN: In fact they -- it may be **Fish**
26 **Protection Act** stand alone, or that may be
27 amalgamated into a broader **Water Sustainability**
28 **Act**. How that's packaged is yet to be determined.

29 MS. CAMPBELL: That's great. That's very much. Those
30 are all my questions, Mr. Commissioner. Thank
31 you.

32 THE COMMISSIONER: Thank you, Ms. Campbell.

33 MS. GAERTNER: Good afternoon, Mr. Commissioner. It's
34 Brenda Gaertner, and with me, Michael Bissonnette.
35 Good afternoon, panel. I have chosen the
36 time of late afternoon on a Friday, so bear with
37 me and we'll see how well we do together.

38

39 CROSS-EXAMINATION BY MS. GAERTNER:

40

41 Q I am going to start with some of the matters that
42 were summarized a little bit with counsel from the
43 province, and then I'm going to probably end up
44 having some discussions about water use planning.
45 So we'll start there and hopefully within the time
46 allotted that I have, I can cover all the areas
47 that I want.

1 I'm just going to start with some basics.
2 That's part of an evidentiary challenge, but can
3 all of the panel confirm that it's your working
4 knowledge and understanding that water management
5 within the Fraser watershed has the potential to
6 infringe the exercise of s. 35 fishing rights; is
7 that correct? All of you are working with that
8 knowledge, that you have the -- that water
9 management has the potential to infringe.
10 MR. DAVIDSON: Let me start there. There was --
11 MR. MCGOWAN: I'm sorry, I just see Mr. Tyzuk coming
12 forward, so I'll --
13 MR. DAVIDSON: Yeah, I mean, there's a --
14 MS. GAERTNER: This is an operative question. They're
15 all acting on behalf of the Crown, three of them,
16 and one of them is for a Crown corporation. It's
17 the application of the law in their minds. When
18 they're looking at the application of the law, do
19 they recognize that there's a potential to
20 infringe s. 35 fishing rights when dealing --
21 MR. TYZUK: Thank you.
22 MS. GAERTNER: That's what I said --
23 MR. TYZUK: No, you --
24 MS. GAERTNER: Section 35 fishing rights.
25 MR. TYZUK: No, you said "s. 35 rights" of fish --
26 that's the --
27 MS. GAERTNER: Section 35 fishing rights.
28 MR. MCGOWAN: If the question is the witness's
29 understanding that they carry with them into their
30 work each day, then I think the question is a fair
31 one, Mr. Commissioner.
32 MS. GAERTNER: Thank you.
33 MR. DAVIDSON: Sure. Let me start there. We make a
34 number of **Water Act** decisions and statutory
35 decision-makers consider possible infringements on
36 each one of those decisions, yes.
37 MS. GAERTNER:
38 Q Mr. Hwang, in your work with First Nations and
39 fish, you're clearly aware that water management
40 issues has the potential to infringe their s. 35
41 fishing rights; is that correct?
42 MR. HWANG: Yes, I would agree with that in the same
43 kind of context as other development issues that
44 would come under our regulatory regime.
45 Q All right. And you'll all agree that establishing
46 the necessary consultative processes has been a
47 challenge.

1 MR. HWANG: That's a fairly broad statement. There's
2 certainly plenty of challenges there, but I'm not
3 sure if there's something more specific you're
4 referring to.

5 Q We're going to get to way more specifics, but
6 you'll agree that you don't have consultative
7 processes in place that are agreeable to First
8 Nations, yet the application of the law is
9 somewhat challenging for you given the number of
10 First Nations that we have and the complexity of
11 the issues.

12 MR. DAVIDSON: Across a number of statutory decisions,
13 some of the consultation with some of the First
14 Nations goes very well. The processes seem to
15 work very well. Other ones, not as well.

16 Q All right. So let's start. When the **Water**
17 modernization **Act** (sic) proposal came in, there
18 was a call for submissions from interested groups;
19 is that correct, Ms. Kriwoken?

20 MS. KRIWOKEN: Yes.

21 MS. GAERTNER: And if I could have Tabs 2, 3, 4 and 5,
22 I'll begin with Tab 2.

23 Q You're familiar with the UBCIC submission dated
24 April 30th, 2010 that was in response to the call
25 for submissions?

26 MS. KRIWOKEN: Yes.

27 MS. GAERTNER: Could I have that marked as the next
28 exhibit?

29 THE REGISTRAR: It'll be 1884.

30

31 EXHIBIT 1884: Submission of the Union of BC
32 Indian Chiefs on Water Act Modernization,
33 April 30, 2010

34

35 MS. GAERTNER:

36 Q And Tab 3, that's the First Nations Fisheries
37 Council who's a client of my First Nations
38 Coalition, their submission dated April 30th,
39 2010, you're familiar with that?

40 MS. KRIWOKEN: Yes, I am.

41 MS. GAERTNER: I'll have that marked as the next
42 exhibit.

43 THE REGISTRAR: Exhibit 1885.

44

45

46

47

1 EXHIBIT 1885: Letter from First Nations
2 Fisheries Council to Penner, Minister of the
3 Environment Re: Water Act Modernization,
4 April 30, 2010
5

6 MS. GAERTNER:

7 Q And Tab 5 is the B.C. Assembly of First Nations
8 response, also dated April 30th, 2010, you're
9 familiar with that?

10 MS. KRIWOKEN: Yes.

11 MS. GAERTNER: I'll have that marked as the next
12 exhibit.

13 THE REGISTRAR: Exhibit 1886.
14

15 EXHIBIT 1886: Letter from Grand Chief
16 Stewart Phillip of Okanagan Nation Alliance
17 to Penner Re: Water Act Modernization, April
18 30, 2010
19

20 MS. GAERTNER:

21 Q And finally at Tab 5 is the ONA submission which
22 is the Okanagan Nation Alliance whose territory is
23 within the Okanagan. You're familiar with that
24 submission?

25 MS. KRIWOKEN: Yes.

26 Q And that's an example. I didn't want to put all
27 of them in, but you got many submissions from
28 First Nations in response to your call for
29 submissions, correct?

30 MS. KRIWOKEN: We received 25.

31 Q Yeah, all right. And just while I'm marking
32 exhibits, let's go to Tab 6 which is the First
33 Nations Leadership Council letter which includes
34 the UBCIC, the Summit and the AFN's response most
35 recently to the policy document. You're familiar
36 with that?

37 MS. KRIWOKEN: Yes, I am.

38 MS. GAERTNER: And can I have that marked as the next
39 exhibit?

40 THE REGISTRAR: Exhibit 1887.
41

42 EXHIBIT 1887: Letter from First Nations
43 Leadership Council to Murray Coell, Minister
44 of the Environment Re: Water Act
45 Modernization, March 9 2011
46
47

1 MS. GAERTNER:

2 Q So now that we've got the exhibits, you summarized
3 in your material, and I don't need to belabour
4 this, but that there was some similarities of
5 concerns that were raised by First Nations across
6 the board; that's correct?

7 MS. KRIWOKEN: That's correct.

8 Q And one of them included the provincial assertion
9 of jurisdiction over water within the traditional
10 lands and watersheds of First Nations, and that
11 that must be reconciled with the existing
12 aboriginal rights and title as it relates to
13 water.

14 MS. KRIWOKEN: Yes.

15 Q And another one is that they wanted a more robust
16 consultative process for addressing water issues
17 within their territory; is that correct?

18 MS. KRIWOKEN:

19 Q And that they needed a more appropriate and
20 inclusive government to government process for the
21 **Water Act** modernization process.

22 MS. KRIWOKEN: Yes.

23 Q And finally, that their deep connection to water
24 and water resources, and their sacred relationship
25 included a responsibility to manage and protect
26 that water, and that needed to be considered.

27 MS. KRIWOKEN: Yes.

28 Q Thank you. Now, I want to try and see if we can
29 zero in - we're not going to obviously have the
30 time to deal with all of the issues on **Water Act**
31 modernization and the Crown relationships to First
32 Nations but let's try to stick to fish and see
33 where we go with that.

34 For that, I'm going to turn to what was Tab 3
35 which is now Exhibit 1885, which is the First
36 Nations Fisheries Council's response submissions.
37 If I could go to -- I believe it's about pdf page
38 8. If you go to the page just before it, that'll
39 familiarize yourself with where we are in the
40 document, or the page before it again.

41 So Appendix B was setting out a list of
42 specific comments and concerns around the
43 modernization discussion paper, and they started
44 with "Principles". If you keep scrolling down
45 now, they set out all the principles that they
46 wanted to have a dialogue and had some concerns
47 about. Keep going, I just want to familiarize --

1 and then specifically they set out a number of
2 concerns starting on that page 3 of the document
3 with "Improved Water Governance".

4 In particular, they sought a collaborative
5 development of watershed plans completed at the
6 watershed level as a basis for more effective and
7 accountable watershed management and governance.
8 Do you recall that?

9 MS. KRIWOKEN: Yes.

10 Q And how have you responded to that suggestion and
11 proposal?

12 MS. KRIWOKEN: Well, in fact, improving water
13 governance is one of the goals of **Water Act**
14 modernization, and in the policy proposal, even
15 the lead-in discussion paper, we've identified the
16 need to enhance our governance arrangements and
17 look for opportunities through local entities,
18 whether it a First Nation, a local government or
19 regional government, to take on some functions
20 related to water management that incorporate local
21 interest with the proviso that there still be
22 provincial oversight.

23 Q So is there any specific requirement for the
24 development of watershed plans completed at a
25 watershed level as it relates to water management
26 and fish?

27 MS. KRIWOKEN: In the current **Water Act** under Part IV,
28 there's water management plans are enabled to do
29 just that.

30 Q But is there any plans under the **Water Act**
31 modernization to implement that at a more
32 strategic level to deal with the over-arching
33 concerns within the Fraser watershed?

34 MS. KRIWOKEN: That is part of the proposal.

35 Q How are you going to do it?

36 MS. KRIWOKEN: Water resource assessments and watershed
37 -- the proposal makes reference to watershed
38 sustainability plans.

39 Q So these are approaches that would need budgeting
40 and they would need direct engagement with First
41 Nations; is that correct?

42 MS. KRIWOKEN: These are broad-based consultative
43 processes that would include every party that has
44 an interest in a given watershed.

45 Q All right. So let's go to the next one which is,
46 I think, on the next page. Now, we've heard a
47 little bit about this, so I'm going to dive into

1 this one, "Protect[ion] of Stream, Health and
2 Aquatic Environments". You'll see specifically
3 within that paragraph that they're -- it's the
4 second paragraph down.
5

6 The First Nation Fisheries Council is
7 supportive of measures that will directly
8 protect the health and integrity of streams
9 and aquatic environments. By legislating
10 environmental flow standards on fishbearing
11 streams that account for water flow needs at
12 various life history stages (...spawning,
13 incubation, emergence, migration and
14 rearing), fish and other aquatic organisms
15 may be considered "priority users" of the
16 water resources and be offered some measure
17 of protection within the water allocation
18 system. Environmental flow standards may
19 also protect overall watershed health by
20 recognizing the value and function of
21 "ecosystem services".
22

23 Now, I'll just stop there for a second. Mr.
24 Hwang, would you agree that that would be a useful
25 thing for fish management?

26 MR. HWANG: You're talking about the statement as a
27 whole, or just the last part?

28 Q
29 ... legislating environmental flow standards
30 on fishbearing streams...
31

32 MR. HWANG: From a Fisheries and Oceans perspective,
33 that would be fine.

34 Q It would be excellent in fact.

35 MR. HWANG: Sure.

36 Q Would you agree with me on that?

37 MR. HWANG: Well, it would certainly provide for more
38 protection than fish have now.

39 Q Thank you. And in fact if we can go to your DFO
40 document, which is now Exhibit 1874 -- I've got to
41 find your quote. Somewhere in there -- sorry,
42 I've got it down in here. Perhaps you'll remember
43 this and I'll find it if -- oh, there it is.
44 "Analysis", second bullet.
45

46 Current federal legislation protects fish
47 habitat but does not provide explicit

1 direction about restoring water flows for
2 fish in over-subscribed systems.
3

4 That's a problem that you recognized when looking
5 at the **Water** modernization **Act** (sic)?

6 MR. HWANG: Yes.

7 Q And in fact, legislating environmental flow
8 standards would help that problem, wouldn't it?

9 MR. HWANG: We would think so, yes.

10 Q Yesterday we talked -- I think all of you were
11 mainly in the room when we were talking about
12 Exhibit 1863 which is the report in which they
13 suggest maintaining instream flows. Now, if I go
14 to Exhibit -- if we could go to Exhibit 1856 now,
15 which is your policy -- sorry. Yes, 1856, let's
16 go to page 8 and 9. If I read this document, we
17 don't have legislating environmental flow
18 standards at all; is that correct? We've got
19 policy directions and some standards, but we've
20 got no move towards legislating environmental flow
21 standards; is that correct?

22 MS. KRIWOKEN: We may not use those words in the
23 proposal. The response back to the proposal was
24 that environmental flow standards in this
25 particular example that you're using is being
26 recommended.

27 Q Are you intending to legislate the requirements
28 for environmental flow standards?

29 MS. KRIWOKEN: We're intending to require decision-
30 makers to consider instream flows in their
31 decisions.

32 Q But that will be for future applications; isn't
33 that correct?

34 MS. KRIWOKEN: Yes, but that doesn't take away from the
35 existing framework for allocation and protection
36 of instream flows of existing licensees and a
37 staged approach to draw on other tools like s. 9
38 of the **Fish Protection Act**.

39 Q So essentially at this point in time, we still
40 have the same problem which is that we don't have
41 environmental flow standards that take into
42 consideration fish when managing streams within
43 the watershed.

44 MS. KRIWOKEN: I think the end goal is to protect fish,
45 fish habitat, streams, stream health. The
46 technical working group working on instream flow
47 needs is getting to the -- into the technical

1 details of what that looks like and how it's
2 operationalized.

3 Q Are there First Nations representatives on the
4 technical working group?

5 MS. KRIWOKEN: We've got First Nations representatives
6 on our Technical Advisory Committee.

7 Q Is there any on the technical working group?

8 MS. KRIWOKEN: No, but we bring the instream flow needs
9 discussion into our Technical Advisors Group.

10 Q All right. So let's go to the next one, then,
11 back to Tab -- or Exhibit 1885. We go back to pdf
12 page 8, and then go down to probably about 10 now.
13 Right at the beginning, the articulation of the
14 concern around groundwater was:

15
16 Due to the connections and interactions
17 between groundwater and surface water, the
18 First Nations Fisheries Council is supportive
19 of the intention to regulate groundwater, but
20 the regulations should be applied across
21 British Columbia and not just in priority
22 areas. As a source of stored water and as a
23 contributor to surface flows, regulation of
24 groundwater is necessary to protect an
25 important water supply from extraction and
26 exploitation and to protect against what may
27 be irreversible changes to the hydrological
28 cycle if groundwater reservoirs are allowed
29 to be fully extracted.

30
31 I'll just stop there. That's a pretty concise
32 statement of the nature of the concerns.

33 Mw. Hwang, when you were talking earlier
34 today about some of the challenges under the
35 **Fisheries Act** and, in particular, s. 35, as I
36 heard your evidence, you were speaking mainly
37 about even surface water and the challenges there.
38 You'll agree with me that you're even more
39 challenged to prove direct causation between the
40 use of groundwater and fish habitat; is that
41 correct?

42 MR. HWANG: Yes, I'd agree with that.

43 Q And so in the areas of fish protection,
44 groundwater it will even become more important to
45 have strong legislative tools.

46 MR. HWANG: Yeah, I think I spoke earlier this morning,
47 it's very challenging to use the provisions of the

1 **Fisheries Act** to achieve that.

2 Q Now, if I heard it right, Ms. Kriwoken, that the
3 priority areas so far that you've identified are
4 two areas where the municipalities have made it
5 clear to you or the local governments have made it
6 clear to you that those are priorities, and that's
7 in the Okanagan and in the Gulf Islands; is that
8 correct?

9 MS. KRIWOKEN: Those are but two examples that I cited.

10 Q So I want to know is it important for us to have
11 our First Nations clients complaining a lot in
12 order for priority areas to be identified, or how
13 are we going to get priority areas identified that
14 are meaningful for fish.

15 MS. KRIWOKEN: That's a good question, and it's one
16 we're currently looking at as we identify the
17 goals of the **Water Sustainability Act** and how we
18 operationalize it, whether we designate areas in
19 the **Act** or by regulation, through further detailed
20 assessment, water supply/demand, further technical
21 analysis that would follow through the regulation.
22 Those operational details have not been fully
23 worked through yet.

24 Q All right. And just finally -- and these are all
25 topics we've talked about, but I think it's
26 important that the Commissioner see the details in
27 which First Nations responded to your call for
28 submissions. I want to go to the last item which
29 is "Introduce[tion] of More Flexibility and
30 Efficiency in the Water Allocation System" and if
31 you go the next page, you'll see a whole list of
32 concerns they've raised, and you're familiar with
33 these concerns as it relates to the water
34 allocation system; is that correct?

35 MS. KRIWOKEN: Yes.

36 Q And at the end of those concerns, what they're
37 calling for is a meaningful consultation process;
38 is that correct?

39 MS. KRIWOKEN: That's what I read.

40 Q Have you had direction to develop a robust
41 tripartite consultative process between First
42 Nations, the province and the Department of
43 Fisheries and Oceans to address these concerns
44 regarding water and fish through the water
45 modernization process?

46 MS. KRIWOKEN: What are you reading from? I don't --

47 Q I'm asking you a question. Have you got direction

- 1 yet to develop a robust tripartite consultative
2 process between First Nations, the province, and
3 the Department of Fisheries and Oceans to address
4 concerns regarding water and fish through the
5 **Water** modernization **Act** process (sic).
- 6 MS. KRIWOKEN: No, I haven't.
- 7 Q Will you seek those directions?
- 8 MS. KRIWOKEN: If you'd like me to speak to the
9 engagement process we have underway, I'm happy to
10 do that.
- 11 Q You recognize that in the letter that was sent to
12 you, subsequent to the policy being addressed,
13 that the Leadership Council has asked for a direct
14 consultative process at a strategic level between
15 the province and the Department and yourself as it
16 relates to fish and other matters.
- 17 MS. KRIWOKEN: So as I recall that letter, we want to
18 bring it up --
- 19 MR. MCGOWAN: Sorry, I'll just interrupt the witness.
20 I see Mr. Tyzuk...
- 21 MR. TYZUK: Yeah, I mean, Ms. Kriwoken is here to deal
22 with the WAM process. If there's a request that's
23 been made to the Minister, that would be a
24 response that would come from the Minister. She's
25 here to explain what the process is right now.
- 26 MS. GAERTNER: She has the wonderful job of trying to
27 implement this process as I've understood it.
- 28 Q Well, let's go this way. Do you think it would be
29 a useful thing for you to have a clear tripartite
30 consultative process between First Nations,
31 yourself and the Department of Fisheries and
32 Oceans to see how to implement the **Water**
33 modernization **Act** (sic) in a manner that looks
34 after fish and First Nations' concerns?
- 35 MS. KRIWOKEN: Those three entities that you've
36 described, absolutely. It doesn't stop there.
- 37 Q No, but having that one is a good start, would you
38 agree?
- 39 MS. KRIWOKEN: Yes, and I'm fully aware of the request
40 of the First Nations Leadership Council to further
41 engage government to government, and the Minister
42 has responded in a favourable response, over this
43 next year, to consult on a legislative draft as
44 well as have further technical workshops with
45 First Nations on some of these specific policy
46 directions.
- 47 Q Great. Mr. Hwang, would you agree that that would

1 also be helpful for you, as a representative of
2 DFO, when dealing with the complexities associated
3 with fish and First Nations issues, to have a
4 clear tripartite consultative process in place
5 between yourselves, the province and First
6 Nations.

7 MR. HWANG: I can certainly see the benefits of that.

8 Q I'm going to move on to something perhaps a little
9 simpler. That's in this whole area of sensitive
10 streams. Now, Mr. Davidson, I think these are
11 questions for you, and I'll take you to the
12 documents if you need them, but they're the
13 Auditor General reports that already are exhibits
14 particularly, if you want to bring it up, Exhibit
15 1862.

16 Now, in those reports, and that was a 2004
17 and a 2005 report, and I'm sure you're familiar
18 with them, correct?

19 MR. DAVIDSON: It's probably been a while since I've
20 looked at any of that, but okay.

21 Q Well, let's go to page 37. On that page, it says
22 that the **Fish Protection Act**:

23 ...provides for the development of "recovery
24 plans" for sensitive streams, but no current
25 provincial efforts are underway to develop
26 these plans.
27

28
29 Is that correct?

30 MS. KRIWOKEN: Which recovery plans?

31 Q Yeah, recovery plans for sensitive streams.

32 MS. KRIWOKEN: There have been none to my knowledge.

33 MR. DAVIDSON: Yeah, and I'm just trying to confirm
34 whether there's any ongoing work on it. I'm not
35 aware of any, but...

36 MS. GAERTNER:

37 Q All right. And then there were 15 streams
38 designated back in 1997, but there haven't been
39 any other stream designated since then; is that
40 correct?

41 MR. DAVIDSON: That's correct.

42 Q So just tell me, earlier today you talked about
43 the -- or the suggestion was made about it's great
44 to have legislation, but it's challenging to
45 implement it and have the resources. Your
46 response to that was, well, if we do the
47 legislation under the **Water** modernization **Act**

1 (sic), we'll have to have a legislative package
2 that includes implementing it. What comfort are
3 we going to get? If there was 15 sensitive
4 streams designated in 1997 and there haven't been
5 any since then - the Auditor General has concerns
6 about that - what comfort can we take that you'll
7 have the resources to implement the **Water**
8 modernization **Act** (sic) given the high policy
9 goals and standards that are set out there?

10 MR. DAVIDSON: Are you addressing it specifically to
11 me? I think --

12 Q Yes.

13 MR. DAVIDSON: -- I responded to it. I can't speak to
14 -- I mean, it's a package. You know, you put in a
15 package with legislature. There's also a number
16 of analyses that goes on related to the costs of
17 implementing it, the resources required. It is a
18 package. I can't speak to what government will do
19 with that package or -- and I don't know that I'm
20 going to speculate on my confidence that
21 government is going to do, reflect on work done by
22 Lynn and myself. It's a question for government
23 at the time they consider it.

24 Q And, Ms. Kriwoken, do you have anything to add
25 around that? I mean, you're doing a consultative
26 process that includes broad policies and broad
27 standards which, on the face of it, are clearly
28 going to be difficult to implement on the ground,
29 going to require resources. What confidence do
30 you have and could you provide my clients, for
31 example, that the principles and the approaches
32 that are set out in this policy are actually going
33 to -- the rubber is going to hit the road and
34 we're going to see differences for fish.

35 MS. KRIWOKEN: I draw from my experience in developing
36 legislation over the course of my career and
37 defining -- once the proposals are defined, we
38 clearly articulate the resource requirements to
39 implement. We look at different approaches,
40 different phasing, all that fall within the broad
41 construct and the broad vision, and we put that to
42 government for consideration.

43 Q One of the things that I got concerned earlier
44 today when you were talking about the -- I'm just
45 going to get my notes so that I don't overstate
46 things, which I have a tendency sometimes of doing
47 -- I heard that there were guidelines and

1 standards around instream flows that may be more
2 regulated in times of scarcity, and that there may
3 be more flexibility in extenuating circumstances
4 for drought management.

5 But I kept hearing that, when describing
6 that, we're really talking about competition
7 between human uses, and I really don't know how
8 fish are going to have a place at this table, and
9 given that it's often very difficult to deal with
10 competing human consumptions, how is fish going to
11 have a place at this table. How are they going to
12 have a voice?

13 MS. KRIWOKEN: One of the most significant shifts in
14 the **Water Sustainability Act** from the **Water Act** is
15 sustainability and consideration of stream health
16 on which fish are reliant. It's a fundamental
17 shift from an allocation tool to a sustainability
18 tool. Fish can't speak in terms of their licences
19 and pay their annual rentals, but the goal is to
20 ensure that fish are considered in statutory
21 decisions. That's the instream flow requirements,
22 the groundwater protection regulation, the
23 connecting the water and the land provisions so
24 that what happens on the water -- on the land base
25 affects water and ultimately affects fish.

26 The whole collection of the seven policy
27 directions collectively work towards protecting
28 stream health on which fish rely.

29 Q Would you agree with me that one of the clearest
30 ways, perhaps, of ensuring that fish have a place
31 at the table is to ensure that First Nations, who
32 have a direct and long-standing historic sacred
33 relationship to those fish, have a place at the
34 table?

35 MS. KRIWOKEN: Yes.

36 Q And everybody else on the panel would agree with
37 that. You're going to have to say "yes" into your
38 mikes.

39 MR. DAVIDSON: Or no, as the case may be.

40 Q Or no, as the case may be.

41 MR. DAVIDSON: Yeah, I'm not sure that I can make a --
42 agree with a blanket agreement, because I think
43 each First Nation is different and their interests
44 are all different. Some are power producers and
45 some are not. Some have quite a link with salmon,
46 some have not. So I -- it sounds like kind of a
47 broad statement to agree with.

1 Q All right. You're having difficulty with that.
2 Mr. Hwang, in your work with First Nations,
3 would you agree that when they come to the table
4 to deal with fishing matters and water matters,
5 that one of the ways of ensuring that fish have a
6 place at the table is to ensure that First Nations
7 have a place at the table.

8 MR. HWANG: I would say, in general, in my experience
9 First Nations are generally very passionate and
10 effective advocates for fish. But much like
11 Glen's saying, I can't say that always at all
12 times. There are some instances where certain
13 First Nation communities have other interests that
14 don't always reflect a fish-first approach.

15 Q All right. Mr. Higgins, I saw you nodding "yes"
16 earlier. Are you staying with that one?

17 MR. HIGGINS: I'm considering what my esteemed panel
18 members said. But what I've experienced is that
19 when First Nations come to the table, they're very
20 passionate and they do provide that voice.

21 Q Thank you I'm going to just clean up a couple of
22 things that arose on the evidence, and then
23 perhaps it would be an appropriate time...

24 Ms. Farlinger, the present Regional Director,
25 on December 16th gave evidence and she was
26 answering questions of Mr. Leadem at the time and
27 specifically talking about **Water Act** and
28 authorizations under the **Water Act** and
29 specifically mentioned that she didn't believe she
30 has -- that DFO has access to all of the
31 information under **Water Act** authorization -- for
32 **Water Act** authorizations.

33 I just wondered if we could clear up this
34 evidentiary question, because does DFO have access
35 to **Water Act** and **Water Act** authorizations -- or
36 just say **Water Act** authorizations and particular
37 stream authorizations and the understanding of
38 who's using how much water and where?

39 MR. HWANG: I'm not sure I can help that much. I can
40 speak locally in terms of our area operations and
41 I would say that if we were looking for that kind
42 of information, I've never seen a situation where
43 we've had a problem getting that from our
44 provincial counterparts, but I can't say
45 specifically what Ms. Farlinger was speaking to.

46 Q Mr. Davidson, do you know, is there a way and a
47 clear way of providing information to the

1 Department of Fisheries and Oceans, not only on
2 what's licensed, but on what's used?

3 MR. DAVIDSON: Yeah, I was going -- to speak to what's
4 licensed is relatively easy. It's actually all on
5 the web. So that's the primary decisions that we
6 do. So that information is readily available.
7 The data -- I mean the data on water use that we
8 collect is all public information. It's probably
9 -- we don't distribute it probably as easy as we
10 do our water licences, but it's there for the
11 asking, I would say.

12 MS. GAERTNER: All right. I note the time. Would this
13 be an appropriate time to take the break, Mr.
14 Commissioner?

15 THE COMMISSIONER: Yes, thank you, Ms. Gaertner.

16 THE REGISTRAR: The hearing will now recess for ten
17 minutes.

18
19 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS)

20 (PROCEEDINGS RECONVENED)

21
22 THE REGISTRAR: The hearing is now resumed.

23 MS. GAERTNER: Thank you, Mr Commissioner. I
24 understand I have approximately seven minutes
25 left, and I'm going to focus the last seven
26 minutes of my questions on what I characterize as
27 a good news story. And the reason why I want to
28 do this is that I think it's a good example of how
29 First Nations and proponents and governments can
30 work together to resolve very long and outstanding
31 issues.

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

34
35 Q I am going to take you first to paragraph 102 of
36 the Policy and Practice Report, and this is the
37 paragraph that summarized a little bit about what
38 happened with the Bridge River system Water Use
39 Plan, and in particular it says:

40
41 Specific circumstances delayed the
42 comptroller's approval of the Bridge River
43 [Water Use Plan] until March 2011.

44
45 Mr. Davidson, one of the primary delays in the
46 approval of the Water Use Plan was the hopefully
47 and eventually the achievement of an agreement

1 between BC Hydro and the St'at'imc Nation; is that
2 correct?

3 MR. DAVIDSON: Yes, that's correct.

4 Q And in fact your approach was that because those
5 negotiations were underway and that you knew that
6 they may inform the Water Use Plan, you encouraged
7 the completion of those negotiations before a
8 ruling a ruling on the Water Use Plan?

9 MR. DAVIDSON: That's correct. I think -- I think all
10 parties involved kind of saw that as kind of an
11 important factor to kind of nail before the Water
12 Use Plan was completed.

13 Q And in fact the plan that was originally submitted
14 in December 2003 got revised as a result of the
15 negotiations that occurred between BC Hydro and
16 the St'at'imc; is that correct?

17 MR. DAVIDSON: That's correct.

18 Q And I'm going to take you now to Tab 8, which is
19 Exhibit 1861, but I'm going to ask my questions of
20 Mr. Higgins, who has more, I think, direct
21 understanding of this. And what I'm first taking
22 you to is page 14 of this agreement, and this is
23 the St'at'imc (PC) Settlement Agreement between
24 the St'at'imc (PC), the BC Hydro, and the Province
25 of British Columbia that was concluded on May 10th
26 of this year. You're familiar with that
27 agreement, Mr. Higgins?

28 MR. HIGGINS: I certainly am.

29 Q And you're familiar with this section, in
30 particular the "Generation Operations" section of
31 that agreement?

32 MR. HIGGINS: Yes, I am.

33 Q And in fact, many of the matters that we've talked
34 about, including an operating regime, the Seton
35 sockeye smolt monitoring program, if you continue
36 on, the Seton Lake levels, and the Lower Bridge
37 River flows that have now been implemented into
38 the Water Use Plan, came from the agreement that
39 was first reached between BC Hydro and the First
40 Nations, and St'at'imc; is that correct?

41 MR. HIGGINS: Yes, I believe all of those with the
42 exception of the Lower Bridge River flows, which
43 were already in there, but they were substantively
44 modified through discussions between BC Hydro and
45 St'at'imc.

46 Q In fact, the Lower Bridge River flows was an
47 active part of the discussions between BC Hydro

1 and the St'at'imc for quite a long time; is that
2 correct?
3 MR. HIGGINS: Yes.
4 Q And figuring out an approach to those flows was a
5 necessary part of reaching agreements.
6 MR. HIGGINS: Very much so.
7 Q And an approach to monitoring and implementing the
8 agreement was also a part of that, correct?
9 MR. HIGGINS: Yes.
10 Q Now I want to take you to Schedule 5 and 6, which
11 we saw a little bit yesterday, and I have lost the
12 PDF number -- thank you. You're familiar with
13 this document?
14 MR. HIGGINS: Yes.
15 Q And if I take you also to Schedule 6 of this
16 document, you're also familiar with this document?
17 It's useful to go through these page-by-page
18 because it will remind you of what's in there.
19 MR. HIGGINS: I haven't forgotten.
20 Q Now, you were actively a part of the discussions
21 that resulted in these documents; is that correct?
22 MR. HIGGINS: I was.
23 Q And you'll agree with me that one of the
24 fundamental components of these discussions was
25 trying to marry the complex relationship between
26 hydroelectric -- the production of
27 hydroelectricity and the release of flows for the
28 purposes of fish.
29 MR. HIGGINS: Yes.
30 Q And that what these documents do is provide a
31 staged approach for analyzing and monitoring
32 different options that includes both traditional
33 ecological knowledge, St'at'imc knowledge, and the
34 tradeoffs that are going to be necessary to make
35 those decisions.
36 MR. HIGGINS: That's true.
37 Q And what was useful for the parties was to
38 actually articulate that in a clear and measurable
39 way so they could see that their values and
40 interests and concerns were going to be addressed.
41 MR. HIGGINS: Yes.
42 Q And now I want to quit asking you yes and no
43 questions and have you comment on both the
44 challenges and the value of developing these types
45 of approaches in your relationships with First
46 Nations.
47 MR. HIGGINS: The challenges were great because we --

1 none of us sitting around the table really knew
2 how to do this when we first started. But it was
3 through the exploration of our values and that the
4 time we spent together that we did find a way that
5 we could bring this information in. And in my
6 experience in in-stream flow across the system,
7 this has not been repeated anywhere else, and it
8 was through those discussions and the
9 collaborations which we were able to get a deeper
10 understanding of each other's values and a deeper
11 respect for those. And that ultimately led to a
12 place where we had agreement on what the best way
13 forward was. So it was a very high value.
14 Q And you'll agree that some of those objectives
15 included salmon and riparian health and cultural
16 and spiritual qualities and BC Hydro's financial
17 impacts. Those were all clearly articulated and
18 are clearly articulated in these documents.
19 MR. HIGGINS: Yes, that's correct.
20 Q And in fact you also articulated various
21 alternatives and consequences and tradeoffs
22 specifically that could result; is that correct?
23 MR. HIGGINS: Yes.
24 Q And the goal, in fact, in terms of the Bridge
25 River flows is to now implement the monitoring
26 process; is that correct?
27 MR. HIGGINS: That is underway already. Yes.
28 Q And St'at'imc are going to be actively involved in
29 that monitoring program; is that correct?
30 MR. HIGGINS: That's true.
31 Q And that's going to be of benefit to BC Hydro and
32 to the implementation of the Water Use Plan.
33 MR. HIGGINS: That's true.
34 Q Now, the other thing I wanted to bring to the
35 Commissioner's attention with respect to this
36 agreement is something a little bit more perhaps
37 complicated. You'll also agree that one of the
38 things that had to be negotiated out as a part of
39 this agreement was the socioeconomic impacts
40 associated with Hydro's facilities on the
41 St'at'imc; is that correct?
42 MR. HIGGINS: Can you clarify what you mean by that?
43 Q As part of the negotiations between the St'at'imc
44 and BC Hydro --
45 MR. HIGGINS: Mm-hmm.
46 Q -- we were looking to resolve the footprint
47 impacts on their territories, including their

1 relationship to fish; is that correct?

2 MR. HIGGINS: Yes.

3 Q And there was a fair bit of work done, to your
4 knowledge, is that correct, on socioeconomic
5 impacts?

6 MR. HIGGINS: That there was, yes.

7 Q And do you agree that that was a difficult process
8 for the parties to come to terms with how to
9 assess socioeconomic impacts to First Nations and
10 particularly the St'at'imc as a result of the loss
11 of fish.

12 MR. HIGGINS: Hundred percent, I agree.

13 Q And in fact there were numbers of studies that
14 were done that required very flexible approaches
15 by BC Hydro and the St'at'imc in order to
16 understand the socioeconomic impacts?

17 MR. HIGGINS: I agree, yes.

18 Q And in fact at the end of the day one had to look
19 at not only those studies, but the benefits this
20 hydroelectric facility provided to BC Hydro.

21 MR. HIGGINS: That's part of it, yes.

22 Q I'm wondering if you could identify for the
23 Commissioner our exhibit -- or Tab 9. Are you
24 familiar with this document? This was the
25 document and you'll see it's attached to an
26 affidavit that was filed by -- you know Tribal
27 Chief Mike Leech?

28 MR. HIGGINS: Yes, I know Mike Leech.

29 Q And right now he's the Chair of the St'at'imc
30 Chiefs Council.

31 MR. HIGGINS: Yes.

32 Q And are you familiar with this document? This was
33 the information package that was provided to the
34 communities during the voting process on this
35 agreement.

36 MR. HIGGINS: I have just recently seen it, yes.

37 MS. GAERTNER: Could I have that marked as the next
38 exhibit.

39 THE REGISTRAR: Exhibit 1888.

40

41 EXHIBIT 1888: St'at'imc Hydro Agreement,
42 St'at'imc - BC Hydro Settlement Agreement,
43 2011
44

45 MS. GAERTNER:

46 Q And if you turn to page 7 of 11 of that agreement,
47 you'll see that some of the financial payments

1 associated with this agreement are summarized.
2 And I just want to point to one of them in
3 particular, which is the Annual Nation Payments.
4 It's your understanding that there are
5 requirements for BC Hydro to pay to the St'at'imc
6 over a 99-year period \$440,000 per year for
7 environmental and natural resource purposes,
8 correct?

9 MR. HIGGINS: That's correct.

10 Q And to your knowledge was that one of the goals of
11 that payment was to ensure that the St'at'imc
12 rather than BC Hydro could engage in mitigation
13 measures on the ground as it relates to fisheries.

14 MR. HIGGINS: That was my understanding, yes.

15 Q And you'll agree that one of the goals and one of
16 the reasons for that was that the St'at'imc felt
17 that it was better for them to be doing fisheries
18 mitigation in their territory than BC Hydro.

19 MR. HIGGINS: I couldn't conclude on why, and under
20 those terms, but I do believe that what you're
21 saying is true. I can't -- I don't know what the
22 St'at'imc were thinking on that. I know what I
23 was thinking.

24 Q Do you agree on that?

25 MR. HIGGINS: I do.

26 Q That it's better for them to be doing the
27 fisheries mitigation in their territory than BC
28 Hydro?

29 MR. HIGGINS: I believe it's better that we do it
30 together than singly.

31 Q And in fact, part of doing it together, another
32 component of this agreement, and it's marked
33 already, but I just want you to confirm it, and we
34 don't have the time to go through it, and a
35 necessary part of the implementation of this
36 agreement is something called the Relations
37 Agreement; is that correct?

38 MR. HIGGINS: Yes.

39 Q And that Relations Agreement is an ongoing working
40 relationship between BC Hydro and the St'at'imc as
41 it relates to matters in their territory; is that
42 correct?

43 MR. HIGGINS: That's correct.

44 Q Including matters related to fish and included
45 matters related to the implementation of the Water
46 Use Plan.

47 MR. HIGGINS: Yes, that's correct.

1 Q And in fact it was necessary for the St'at'imc to
2 ensure that the Water Use Plan would be
3 implemented in a collaborative way with them and
4 they sought agreement with BC Hydro to do that.

5 MR. HIGGINS: That's the reason for it.

6 Q And so one of the -- now, are you looking forward
7 to implementing this agreement?

8 MR. HIGGINS: If I was still working at the Bridge, I
9 would be. I think it would be very exciting.

10 MS. GAERTNER: Thank you, those are my questions. Oh,
11 sorry.

12 Sorry, I am finished except for a document
13 clear-up, I think. Ms. Panchuk, I'm understanding
14 that it's not clear that I have all the documents.
15 Could we look at Tab 5 of the First Nations
16 Coalition's documents. Is that marked as an
17 exhibit already?

18 THE REGISTRAR: Exhibit 1886.

19 MS. GAERTNER: And then Tab 6?

20 MR. MCGOWAN: I believe it's Tab 4 that may not have
21 been marked if you had intended to mark it.

22 MS. GAERTNER: So let's just go through it
23 methodically. Tab 6 is 1887; is that correct?

24 THE REGISTRAR: That's correct.

25 MS. GAERTNER: All right. And Tab 4?

26 THE REGISTRAR: has not been marked.

27 MS. GAERTNER: Ah, there we go. Magic, thank you. May
28 I have that marked as an exhibit.

29 THE REGISTRAR: That will be marked as 1889.

30

31 EXHIBIT 1889: Letter from BC Assembly of
32 First Nations to Minister Penner re "Water
33 Act Modernization", April 30, 2010

34

35 MS. GAERTNER: Thank you. And thank you, panel
36 members.

37 MS. SCHABUS: Nicole Schabus, counsel for Sto:lo Tribal
38 Council and Cheam Indian Band. If the Commission
39 could please pull up Exhibit 1871, going to page
40 -- it's either respectively page 21 or 25, it's
41 page 25 of the PDF, I believe, or the numbered
42 page 21. Correct, that's the one. If you could
43 zoom on in the table, it's named Exhibit 6. Thank
44 you.

45

46

47

1 CROSS-EXAMINATION BY MS. SCHABUS:
2

3 Q So my first question is generally to the panel.
4 One of the recommendations coming out of the
5 Auditor General's report regarding groundwater,
6 but it's a general -- I see it as a general
7 recommendation when it comes to water management,
8 it's one to actually implement an integrated
9 watershed management process. And if you look at
10 the way that's being presented, it presents a way
11 of looking at environment, economy and society,
12 and some of the points to be pointed out. For
13 example, under "Society" points to taking into
14 account land uses, flood risk, et cetera. So
15 looking at this and being aware of the Auditor
16 General's report and the recommendation, you'd
17 agree that this is actually where we should be
18 moving when it comes to water management and
19 generally moving to integrated watershed
20 management processes.

21 MS. KRIWOKEN: I think it depicts an end goal for
22 integrated watershed management. I've seen many
23 schematics of integrated watershed management, and
24 this one is a good one.

25 Q And it's -- so it's a goal that the Province would
26 be working towards to actually achieve integrated
27 watershed management processes?

28 MS. KRIWOKEN: It's a goal that we're working on right
29 now, aside from any legislative reform.

30 Q And I'm just going to pass it on to your colleague
31 from DFO, as well. Mr. Hwang, from a DFO
32 perspective when looking at those, obviously you
33 probably want to add to that a priority for
34 conservation of fish stocks and also indigenous
35 uses.

36 MR. HWANG: Well, those are certainly things that are
37 priorities on DFO's mandate, and I could see it
38 fitting into a model like this.

39 Q Now, and you'd agree with me, again to the panel,
40 that such a -- that this is basically a holistic
41 approach, as looking at water management, and also
42 land uses, et cetera, and that indigenous peoples
43 would have a key role to play in this process
44 within their territories, as rights holders, land
45 users and knowledge holders. Mr. Hwang, I'll pass
46 it on to you.

47 MR. HWANG: Certainly I can see value in that.

1 Q And I take it the Province does, too. Could you
2 confirm that on the record?

3 MS. KRIWOKEN: Yes.

4 Q Thank you. And when looking at the column over,
5 "Lesson Two", on the same page with the exhibit.
6 Ms. Panchuk, if you could zoom in on "Lesson Two".
7 But basically the warning that's enshrined in
8 "Lesson Two" is:

9
10 Taking a fragmented, issue based approach to
11 managing our environment is time consuming
12 and expensive.

13
14 And in the context here of groundwater management:

15
16 The focus on source protection does little to
17 build capacity to deal with other
18 environmental hazards. Source protection
19 should be nested into a broader planning,
20 policy and program approach called integrated
21 watershed management.

22
23 You'd agree with that?

24 MS. KRIWOKEN: Yes.

25 Q And but looking at groundwater today and
26 groundwater management, and I'm suggesting to you
27 water management generally, this is not the
28 approach that's currently being employed; we're
29 not there yet.

30 MS. KRIWOKEN: I would disagree with not there yet.
31 We've got a number of ministries in the provincial
32 government and agencies that have specific
33 mandates around in this particular case, source
34 water protection, health authorities, the Ministry
35 of Health, the Ministry of Environment, the
36 Ministry of Forest, Lands and Natural Resource
37 Operations, all have an integrated approach to
38 water resource management.

39 Q But all together have not been integrated to
40 actually employ a fully integrated approach to
41 have everybody at the table to make those
42 decisions jointly.

43 MS. KRIWOKEN: There's a lot of tables in the province.

44 Q But --

45 MS. KRIWOKEN: You're speaking in general concepts
46 and --

47 Q But there's not a table for actually integrated

1 watershed management.
2 MR. MCGOWAN: If the witness could please be permitted
3 to finish.
4 MS. SCHABUS:
5 Q Sorry.
6 MS. KRIWOKEN: I can point to tables in the province,
7 in basins or watersheds where there's exactly this
8 happening.
9 Q Correct. But there is not an overall integrated
10 watershed management process that's yet being
11 employed throughout the province, correct?
12 MS. KRIWOKEN: As a provincial framework?
13 Q Yeah.
14 MS. KRIWOKEN: The **Drinking Water Protection Act**
15 enables that, and we've got memorandum of
16 understanding --
17 Q But, for example, when it comes to -- I didn't
18 want to cut you off if you wanted to add something
19 else.
20 MS. KRIWOKEN: That's fine.
21 Q But when it comes, for example, to groundwater
22 protection and even surface waters, you don't have
23 an integrated approach to managing both yet in
24 place.
25 MS. KRIWOKEN: We haven't yet incorporated groundwater
26 regulation into water allocation, no.
27 Q So going onto the regulation issue, some of you
28 were in the room, and I think, Mr. Hwang, you
29 heard it, as well, that we heard yesterday about
30 the complexities of surface and groundwater flows,
31 and that it's important when it comes to
32 hydrologically active areas like riparian zones,
33 lakeshore, et cetera, to actually conduct geo-
34 morphological studies and take all these issues
35 into account, so to look at the complex
36 interactions of surface and groundwaters; you're
37 aware of that?
38 MR. HWANG: Yes, I am. Yes.
39 Q But again, that is actually not what is currently
40 happening. You don't have those fully integrated
41 approaches to assessing developments, for example,
42 in riparian areas in light of those interactions
43 of ground and surface water flows.
44 MS. KRIWOKEN: In some areas not.
45 Q Now, speaking just briefly with the example of
46 **Riparian Area Regulation**, this has been downloaded
47 from the -- well, it's basically in the hands, the

1 decision-making is in the hands of the
2 municipality?

3 MS. KRIWOKEN: I'm not intimately familiar with **RAR**.

4 Q Okay. I'll come to you, Mr. Hwang. There is an
5 agreement between DFO and the Province that if **RAR**
6 requirements have been met, it's also deemed to
7 have met the **Fisheries Act** requirements?

8 MR. HWANG: Yes, that's correct.

9 Q And one of the concerns in that regard is actually
10 that that can lead to problems. If you could pull
11 up Exhibit 662, please. And one of the issues
12 there that you're actually specifically mentioning
13 is that:

14
15 **RAR** is hugely problematic. Many local
16 governments are not meeting the spirit and
17 intent with regard to fish and are taking the
18 minimum compliance required approach, which
19 is resulting in higher impact results than we
20 had before **RAR**.

21
22 MR. HWANG: Well, that statement, just for some
23 context, I wrote that back in 2007. **RAR** was
24 relatively new out of the gate at that time. The
25 problem still exists, but to a lesser extent than
26 it did when I wrote this.

27 Q But one of the problems is that the decision-
28 making regarding around you are aware that has
29 been downloaded to the municipalities. That's
30 what you're stating in your paragraph, right?

31 MR. HWANG: Yeah, but the statement is not so much the
32 problem with municipalities being involved. It's
33 that certain municipalities are, I guess, not
34 necessarily taking the approach that I think
35 reflects the spirit and intent of the **RAR**.

36 Q And also that sometimes they lack actually
37 internally within the government structure or the
38 municipality the capacity to actually
39 independently assess the scientific information?

40 MR. HWANG: Yes, that's correct.

41 Q And so there is actually cases today where
42 developments could be deemed **RAR** conformed, but
43 they previously would have been considered to
44 constitute a HADD?

45 MR. HWANG: Yes, that's correct. Although it's
46 important to know that there are other sort of
47 safety nets in the process where it's possible for

1 government to intervene if we believe that a
2 decision that is going to be functional under **RAR**
3 is going to be significantly deviating from the
4 expected intent, but there's still possibilities
5 for, I would say, unintended results from the **RAR**
6 exercise.

7 Q But generally within the **RAR** decision-making
8 process, actually DFO has been removed as a
9 decision-maker. You're just notified of the
10 information. You're not firstly a decision-maker.

11 MR. HWANG: In certain circumstances, but when that
12 occurs, the intent of **RAR** was to have those
13 circumstances be ones that were not causing a
14 harmful effect to fish habitat, so there wouldn't
15 -- the reason DFO is removed is there would be no
16 need for us to render a regulatory decision in
17 those circumstances.

18 Q And it sometimes puts your local staff actually
19 exactly in that position, that they have to say,
20 look, we are actually not decision-makers in
21 regard to this.

22 MR. HWANG: That has happened, yes.

23 Q Now, so in some cases then DFO is basically
24 relegated to a decision -- to a position where
25 when it comes to developments, you're mainly a
26 recipient of referrals?

27 MR. HWANG: I'm sorry, I didn't quite follow that.

28 Q Where you are mainly -- in regard to many
29 developments where you are mainly a recipient of
30 referrals, but not necessarily the decision-maker
31 in regard to the development.

32 MR. HWANG: I'm not sure, there are times we get --
33 there are projects that occur that do not come to
34 our desk for a regulatory decision. And the **RAR**
35 is one example where it's possible by following
36 the provisions in **RAR** that a developer would be
37 able to comply with the **Fisheries Act** and so there
38 would be no need for it to come to us.

39 Q And it's deemed to be under the protocol you have
40 in place with the Province.

41 MR. HWANG: Right.

42 Q Now, also, when it comes to flood hazard
43 assessments, for example, that is also delegated
44 to the municipalities within their areas, right?

45 MR. HWANG: I would defer to Glen on that.

46 MR. DAVIDSON: Yeah, I'm not sure, most or many
47 municipalities that are in flood hazard areas do

1 flood hazard assessments. I'm not sure that
2 there would be --

3 Q The responsibility for that has been - sorry, just
4 to clarify - the responsibility for that has been
5 downloaded to the municipalities. It's no longer
6 -- actually flood hazard assessments are now
7 within the municipalities, are no longer
8 administered by the provincial government.

9 MR. DAVIDSON: I'm not sure that I would say it has
10 been downloaded. I mean, both municipalities and
11 the Province have done that type of work in the
12 past. There's no legislative downloading, or
13 anything like that.

14 Q Now, Mr. Hwang, remaining with that exhibit, you
15 specifically addressed the issue of water use, and
16 that you have no standards when it comes -- DFO,
17 you're speaking internally, and that you're
18 stretched to your limit:

19
20 ...to support various processes looking at
21 water-use and availability, and have limited
22 capacity to deliver true expertise. Many
23 needs for data, little ability to gather the
24 data.

25
26 That's the reality you're faced with when it comes
27 to water use decisions?

28 MR. HWANG: Yes, and I think I said as much earlier
29 today.

30 Q And talking that back also to context of when
31 you're speaking with your relationship between the
32 Province and DFO, you're addressing that in
33 paragraph 7, that there is difficulties, or that
34 it's in a state of dysfunction, there isn't
35 sufficient coordination regarding referrals, et
36 cetera, if we were to look at this in the context
37 of, for example, integrated watershed management,
38 as we initially discussed.

39 MR. HWANG: Again, there is some dysfunction there. I
40 think I spoke earlier about that it's not meaning
41 that there's nothing useful happening. There's a
42 lot of local coordination. But it sort of
43 functions on the basis generally of effective
44 local relationships. Where those exist, I think
45 things work reasonably well. Where we don't have
46 those working, we don't really have a particularly
47 good structure that coordinates the federal and

- 1 provincial mandate as a crossover on fish and fish
2 habitat.
- 3 Q So again the area to actually evolve into when it
4 comes to integrated, for example, watershed
5 management, would be to actually have the
6 governments and also indigenous peoples at the
7 table to ensure a more integrated and considerate
8 decision-making in that regard?
- 9 MR. HWANG: I could see that being very helpful in
10 contrast to the situation we're in today.
- 11 Q Now, finally, I just have a few questions
12 regarding surface water, unless my friend cuts me
13 off right now. In the Fraser Valley, or
14 generally, when it comes to water allocations for
15 surface waters, indigenous uses of the area and
16 also indigenous water uses are not taken into
17 account?
- 18 MR. HWANG: I would argue that most water allocations
19 are done with some sort of a referral to the local
20 First Nations to explore those uses or interests.
- 21 Q Okay. And in the Fraser Valley, you're looking at
22 situations of oversubscription of water licences.
- 23 MR. HWANG: I'm not -- there could be a number of areas
24 that are fairly heavily allocated. I'm not aware
25 of the Lower Fraser Valley as being generally like
26 that.
- 27 Q Now, but you are aware of concern over pollution
28 of water resources, including bio-fertilizers and
29 other land uses?
- 30 MR. HWANG: Yes.
- 31 Q And including concern over overuse and pollution
32 of groundwater.
- 33 MR. HWANG: Yeah, there's a fairly heavily used aquifer
34 in the Lower Fraser, yes.
- 35 Q The Sardis-Vedder Aquifer?
- 36 MR. HWANG: Yes.
- 37 Q Which is also the main water supply for the City
38 of Chilliwack, right?
- 39 MR. HWANG: I'm not sure --
- 40 Q Am I putting you on the spot on this one?
- 41 MR. HWANG: A little bit, yeah, I mean --
- 42 Q Sorry.
- 43 MR. HWANG: -- because we don't actively regulate
44 groundwater and use, I'm not familiar with some of
45 the aquifers (indiscernible - overlapping
46 speakers).
- 47 MS. SCHABUS: Point well taken and I think it's also

1 referred to in the report by the Auditor General.

2 Those are all my questions, thank you.

3 THE COMMISSIONER: Thank you, Ms. Schabus.

4 MR. MCGOWAN: Mr. Commissioner, I understand that

5 Canada has no questions in re-exam, but the

6 Province does have a matter to clear up. We have

7 sorted out the document issue and I'll just allow

8 them to pursue that now.

9 Mr. PROWSE: Yes, Clif Prowse, for the record. If we

10 could have, and we believe that's Provincial Tab

11 8.

12

13 CROSS-EXAMINATION BY MR. PROWSE, continuing:

14

15 Q Mr. Davidson, this is the booklet that we spoke of

16 earlier that you had said you were a drafter of an

17 early version?

18 MR. DAVIDSON: I had some input into earlier versions

19 of it, yes. It's a Guidebook for Independent

20 Power Production in B.C.

21 Mr. PROWSE: If that might be an exhibit, Mr.

22 Commissioner.

23 THE REGISTRAR: Exhibit 1890.

24

25 EXHIBIT 1890: Independent Power Production

26 in B.C.: An Inter-agency Guidebook for

27 Proponents, British Columbia Integrated Land

28 Management Bureau, 2010

29

30 Mr. PROWSE:

31 Q And then, the next document at Tab -- there. This

32 is the other document, July 2011. You're aware of

33 this document with the Information Requirements?

34 MR. DAVIDSON: I am, yes, and this is a very recent

35 document, it's just come online.

36 Mr. PROWSE: All right. If that might be an exhibit,

37 Mr. Commissioner.

38 THE REGISTRAR: Exhibit 1891.

39

40 EXHIBIT 1891: Province of British Columbia,

41 Clean Energy Project Development Plan

42 Information Requirements, July 2011

43

44 Mr. PROWSE: And, Mr. Commissioner, one of the things

45 that I had advised Commission counsel -- I was

46 going to say you may recall, but that's always a

47 bad thing to say. Several months ago we had a

1 session on **RAR** and the recent cross-examination,
2 of course, went over some of that same territory.
3 But since that session, I just wanted to put on
4 record that the Court of Appeal of British
5 Columbia has issued a decision in a case called
6 **Yanke**, and so that's something that we'll all need
7 to be aware of for final submissions on this
8 issue. So I wanted to make that comment on the
9 record. Thank you.

10 THE COMMISSIONER: Thank you, Mr. Prowse.

11 MR. MCGOWAN: Mr. Commissioner, I have no questions in
12 re-examination for the panel.

13 THE COMMISSIONER: Mr. McGowan, you may not know. I'm
14 not sure what our start time is on Monday. One of
15 those days next week is a nine o'clock start but
16 I'm not recalling, Ms. Panchuk may...

17 THE REGISTRAR: Tuesday (indiscernible - overlapping
18 speakers).

19 THE COMMISSIONER: Tuesday, all right.

20 MR. MCGOWAN: Mr. Commissioner, I believe we're going
21 to ten o'clock on Monday, which is the
22 commencement of the hearings on cumulative
23 impacts.

24 THE COMMISSIONER: Right.

25 MR. MCGOWAN: Or at least the analysis of the authors
26 of that, examination of the authors of that
27 report.

28 THE COMMISSIONER: Tuesday is the nine o'clock start.
29 Well, yes, thank you very much to counsel, to
30 Commission counsel who prepared for this session,
31 yesterday and today, and today, Mr. Davidson, Mr.
32 Higgins, Mr. Hwang again, we have lost count how
33 many times you've been here, Mr. Hwang, and Ms.
34 Kriwoken, thank you all very much for
35 participating and for being here today. Thank
36 you. We're now adjourned.

37 THE REGISTRAR: The hearing is now adjourned until ten
38 o'clock on Monday morning.

39

40 (PROCEEDINGS ADJOURNED TO SEPTEMBER 19, 2011
41 AT 10:00 A.M.)

42

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1 I HEREBY CERTIFY the foregoing to be a
2 true and accurate transcript of the
3 evidence recorded on a sound recording
4 apparatus, transcribed to the best of my
5 skill and ability, and in accordance
6 with applicable standards.
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10 _____
11 Pat Neumann
12

13 I HEREBY CERTIFY the foregoing to be a
14 true and accurate transcript of the
15 evidence recorded on a sound recording
16 apparatus, transcribed to the best of my
17 skill and ability, and in accordance
18 with applicable standards.
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23 Diane Rochfort
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