

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.

Monday, January 31, 2011

Tenue à :

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

le lundi 31 janvier 2011

APPEARANCES / COMPARUTIONS

Wendy Baker, Q.C. Maia Tsurumi	Associate Commission Counsel Junior Commission Counsel
Mitch Taylor, Q.C. Jonah Spiegelman	Government of Canada ("CAN")
Boris Tyzuk, Q.C.	Province of British Columbia ("BCPROV")
Tam Boyar	Pacific Salmon Commission ("PSC")
No appearance	B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("BCPSAC")
No appearance	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.	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")
No appearance	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	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)
No appearance	Adams Lake Indian Band
No appearance	Carrier Sekani Tribal Council ("FNC")
No appearance	Council of Haida Nation

APPEARANCES / COMPARUTIONS, cont'd.

No appearance	Métis Nation British Columbia ("MNBC")
Tim Dickson Nicole Schabus	Sto:lo Tribal Council Cheam Indian Band ("STCCIB")
James Hickling	Laich-kwil-tach Treaty Society Chief Harold Sewid Aboriginal Aquaculture Association ("LJHAH")
Lisa Fong Benjamin Ralston	Heiltsuk Tribal Council ("HTC") Articled Student
No appearance	Musgamagw Tsawataineuk Tribal Council ("MTTC")

TABLE OF CONTENTS / TABLE DES MATIERES

	PAGE
PANEL NO. 14 (affirmed)	
In chief by Ms. Baker	1/4/7/8/10/12/17/22/25/26/28/29/45/ 47/49/50/52/55/56/59/63/75/79/84/87/90/93/94
Cross-exam by Mr. Spiegelman	96
Cross-exam by Mr. Hickling	101
Cross-exam by Mr. Boyar	105
Cross-exam by Mr. Leadem	107
PAUL RYALL	
In chief by Ms. Baker	3/10/11/16/23/26/27/29/31/48/50/52/ 62/74/89/92/93
Questions by the Commissioner	80
Cross-exam by Mr. Spiegelman	95
Cross-exam by Mr. Hickling	100/103/104
Cross-exam by Mr. Leadem	107
BRIAN ASSU	
In chief by Ms. Baker	2/7/8/22/25/29/47/54/59/79/86/87/93
Cross-exam by Mr. Hickling	99/102/103/104
Cross-exam by Mr. Leadem	108

EXHIBITS / PIECES

<u>No.</u>	<u>Description</u>	<u>Page</u>
363	<i>Curriculum vitae</i> of Jim Cave	2
364	<i>Curriculum vitae</i> of Brian Assu	3
365	<i>Curriculum vitae</i> of Paul Ryall	4
366	Policy for Fraser River Panel Authorized Fraser Sockeye and Pink Salmon Test Fisheries	5
367	Joint Project Agreement between Canada and The Pacific Salmon Commission and The BC Wild-Harvest Salmon Producers Association	32
368	Extended Departmental Management Committee Mid-Year Review Record of Decisions dated November 1, 2006	34
369	Departmental Policies and Guidelines Developed in Response to the Larocque and APPFA Federal Court Decisions 2008	35
370	The Larocque Decision and Cost Implications for Science October 2006	35
371	Summary of Test Fishing Program Costs 2007-2010	46
372	Possible Options to Reduce Test Fishing Costs in 2001	52
373	Memo dated April 11, 2007 from Jim Cave to Mike Lapointe	55
374	Two-page document showing return abundance and Total exploitation rate prepared by Mr. Cave	65
375	Review of Area D Assessment Fishery	76

1
PANEL NO. 14
In chief by Ms. Baker

1 Vancouver, B.C. /Vancouver (C.-B.)
2 January 31, 2011/le 31 janvier
3 2011
4

5 THE REGISTRAR: The hearing is now resumed.

6 MS. BAKER: Thank you. Mr. Commissioner, today we are
7 starting a panel dealing with the topic of Test
8 Fishing, and we have three new witnesses for you
9 today: Mr. Jim Cave, from the Pacific Salmon
10 Commission, Mr. Paul Ryall, from Fisheries and
11 Oceans, and Mr. Brian Assu from, I'm going to say
12 Cape Mudge, but I know you've got a different
13 name, but I'll ask you to pronounce it when you're
14 introduced. So these witness all need to be sworn
15 in, please.
16

17 JIM CAVE, affirmed.
18

19 PAUL RYALL, affirmed.
20

21 BRIAN ASSU, affirmed.
22

23 THE REGISTRAR: State your full name, please.

24 MR. CAVE: My name is Jim Cave.

25 MR. RYALL: My name is Paul Ryall.

26 MR. ASSU: Brian Assu.

27 THE REGISTRAR: Thank you.

28 MS. BAKER: Thank you. And those mikes, you need to be
29 about six inches from them for people to hear you,
30 so you may have to move them around as you answer.
31 Thank you.
32

33 EXAMINATION IN CHIEF BY MS. BAKER:
34

35 Q I'll start with you, Mr. Cave. You work with the
36 Pacific Salmon Commission currently?

37 MR. CAVE: That's correct.

38 Q And you worked at the previous Commission,
39 starting in 1978; is that right?

40 MR. CAVE: That's correct. That was the International
41 Pacific Salmon Fisheries Commission.

42 Q Okay. And have you been at the old Commission and
43 the new Commission since '78?

44 MR. CAVE: Yes, that's correct. I started with the
45 Pacific Salmon Commission in 1986.

46 Q Okay. And right now you are the Head of Stock
47 Monitoring at the Salmon Commission?

January 31, 2011

2
PANEL NO. 14
In chief by Ms. Baker

1 MR. CAVE: That's correct.

2 Q And just by way of introduction, what does that
3 group do?

4 MR. CAVE: The Stock Monitoring group puts the Test
5 Fishing Program together, the Hells Gate Program
6 together, and the Hydroacoustics Program together.
7 We also have a role in analysis of all of those
8 data in Stock Monitoring. And we do the fishery
9 modelling work and run size estimation models.

10 Q Okay. And at Tab 9 of the binder before you,
11 which is not a Ringtail document, but your c.v. is
12 at Tab 9. Have a look at that and just confirm
13 that that is...

14 MR. CAVE: Yes, that is my c.v.

15 MS. BAKER: Thank you. I'll have that marked, please,
16 as the next exhibit.

17 THE REGISTRAR: Exhibit number 363.

18
19 EXHIBIT 363: *Curriculum vitae* of Jim Cave
20

21 MS. BAKER:

22 Q Mr. Assu, you have also provided a c.v. and that's
23 at Tab 8 in the binder.

24 MR. ASSU: Yes, that's...

25 Q Okay. And you are a Councillor with the We Wai
26 Kai, is that the...

27 MR. ASSU: We Wai Kai, yes.

28 Q We Wai Kai, and that is also related to the Cape
29 Mudge Band, is the same name?

30 MR. ASSU: That's right, same...

31 Q Same organization.

32 MR. ASSU: Yes.

33 Q All right. You have been a Councillor since '85
34 with that First Nation?

35 MR. ASSU: That's correct.

36 Q All right. And you've been an alternate on the
37 Fraser River Panel of the Pacific Salmon
38 Commission since 1992?

39 MR. ASSU: Yes.

40 Q And you are also involved with an organization
41 known as A-Tlegay Fisheries Society?

42 MR. ASSU: Yes.

43 Q And what's that organization?

44 MR. ASSU: It's an organization that was formed to
45 receive AFS funding in 1999 and it represents five
46 bands, We Wai Kai, We Wai Kum, Komox, Tlowitsis
47 and Kwiakah.

January 31, 2011

3
PANEL NO. 14
In chief by Ms. Baker

1 Q And previous to that, or I guess at that time, how
2 long have you been involved in A-Tlegay?
3 MR. ASSU: Since the inception.
4 Q In '99?
5 MR. ASSU: Yes, that's correct.
6 Q Okay. And there was an interval from 2002 to 2007
7 you were also the Chair of the First Nations
8 Marine Society?
9 MR. ASSU: That's correct.
10 Q Okay. And we will talk about that society a
11 little bit today. You are also since 1995 a test
12 fisher for Fisheries and Oceans and the Salmon
13 Commission; is that right?
14 MR. ASSU: Yes.
15 Q And where do you operate your vessel?
16 MR. ASSU: Area 13.
17 Q Okay. In Johnstone Strait?
18 MR. ASSU: Yes.
19 Q And have you also been involved with the
20 Commercial Salmon Advisory Board?
21 MR. ASSU: Yes, I have been.
22 Q For how long?
23 MR. ASSU: About six years now, I think.
24 MS. BAKER: I'd like Mr. Assu's c.v. to be marked as
25 the next exhibit, please.
26 THE REGISTRAR: Exhibit number 364.
27
28 EXHIBIT 364: *Curriculum vitae* of Brian Assu
29
30 MS. BAKER: Thank you.
31 Q And, Mr. Ryall, I'll just take you to your c.v.
32 It's at Tab 1 of the binder. Now, you have been
33 with the Department since 1986; is that right?
34 MR. RYALL: Since 1989.
35 Q '89.
36 MR. RYALL: Before that I worked for the Salmon
37 Commission for a couple of years, as well.
38 Q Okay.
39 MR. RYALL: Maybe that's what you were looking at.
40 Q Yes. And you have a Masters in Natural Resource
41 Management?
42 MR. RYALL: I do.
43 Q You were the Area Chief of Resource Management in
44 the Lower Fraser from '99 to 2003?
45 MR. RYALL: Yes, part of that time it was the Area
46 Chief for the Fraser River, which was the whole
47 area. It was split into two areas, Lower Fraser

January 31, 2011

1 and BCI about 2002, I think it was.

2 Q Okay. And you were the lead on the Salmon Team
3 from 2003 to 2009?

4 MR. RYALL: That's correct.

5 Q You were also the Canadian Chair of the Fraser
6 River Panel for five years, 2004 to 2009?

7 MR. RYALL: About four years. It was from late 2004
8 into 2009.

9 Q And while you were in that role, you were also the
10 Chair of the Fraser River Integrated Management
11 Team, FRIMT?

12 MR. RYALL: I was, that's correct.

13 Q And in 2006 you were a member of a group known
14 within the Department as the **Larocque** Working
15 Group?

16 MR. RYALL: I was for a short period of time, about
17 three-and-a-half months, I think it was, in 2006,
18 the fall of.

19 MS. BAKER: Okay, and we'll come back to that. And I'd
20 like your c.v. marked, please, as the next
21 exhibit.

22 THE REGISTRAR: Exhibit number 365.

23

24 EXHIBIT 365: *Curriculum vitae* of Paul Ryall

25

26 MS. BAKER:

27 Q I would like to start with some technical
28 information, and I'll direct these questions
29 primarily to Mr. Cave. And the first document I'd
30 look to go to is at Tab 2. This is the Policy for
31 Fraser River Panel Authorized Fraser Sockeye and
32 Pink Salmon Test Fisheries. Yes?

33 MR. CAVE: Yes. Yes, it is, sorry.

34 Q That's okay. Were you involved in drafting this
35 document?

36 MR. CAVE: I had some involvement, yes.

37 Q Okay. And this document sets out the policies
38 under which the Salmon Commission carries out
39 Panel-approved test fisheries in both Panel and
40 non-Panel waters; is that right?

41 MR. CAVE: That's correct.

42 MS. BAKER: I'd like that marked, please, as the next
43 exhibit.

44 THE REGISTRAR: Exhibit number 366.

45

46

47

1 EXHIBIT 366: Policy for Fraser River Panel
2 Authorized Fraser Sockeye and Pink Salmon
3 Test Fisheries
4

5 MS. BAKER:

6 Q And this document also sets out the key elements
7 of the Test Fishing Program. It sets out the
8 purpose of the program and on the pages 2 and 3
9 sets out the key elements of the operations?

10 MR. CAVE: That's correct.

11 Q Okay. And just so that we've got some things to
12 locate ourselves here, I just wanted to put the
13 maps for the test fishing operations in front of
14 you. If we can just take a second to get that
15 document up. Yes, Exhibit 330, if Mr. Lunn can
16 just put that up to page 408 and 409.

17 So page 408, are there any changes to this
18 map in terms of what's currently being operated as
19 a test fishery?

20 MR. CAVE: The troll test fisheries indicated by "Xs"
21 in Canadian Statistical Areas 123 through 127 are
22 no longer operated.

23 Q Okay. So that would be the "Xs" in 127, 126, 124
24 and 123, those are all not active at the moment?

25 MR. CAVE: That is correct.

26 Q All right. And as you can see on this map, it
27 indicates different kinds of test fisheries, troll
28 fisheries, gillnet and seine, and those are the
29 three kinds of marine test fisheries you run?

30 MR. CAVE: That is correct. I should add that there is
31 a Panel-approved test fishery in the U.S.
32 Statistical Area 5, which is in Juan de Fuca
33 Strait, and that is a small test fishery that's
34 operated for a period of time until that
35 commercial fishery starts operating.

36 Q Is that the reef net observations indication?

37 MR. CAVE: No, it's a gillnet test fishery --

38 Q Okay.

39 MR. CAVE: -- in Area 5.

40 Q Okay. And if you could turn, Mr. Lunn, to the
41 next page in that document, which is the following
42 page, page 410; there.

43 This RMS document, Exhibit 330, sets out the
44 fisheries strategies that were employed in 2009.
45 So I'm just putting this to you as an example of
46 what happened in 2009. There is a schedule
47 prepared every year that sets out what the test

1 fisheries will be and what their start dates will
2 be, and that's prepared in advance of the season;
3 is that right?
4 MR. CAVE: That is correct.
5 Q Okay. And this document for 2009 sets out all of
6 the different test fisheries that the Salmon
7 Commission will be running in that year?
8 MR. CAVE: That is correct, there is -- yes, that is
9 correct. Sorry.
10 Q And it shows start dates for the test fisheries
11 and anticipated end dates. Do those dates, are
12 those fixed in stone, or is there some flexibility
13 around those start dates?
14 MR. CAVE: As a starting point we look at what we did
15 four years earlier and modify them accordingly.
16 But also they reflect data needs and some of these
17 we don't change very often. The Area 20 gillnet
18 typically starts in the last ten days in June,
19 somewhere in there, usually somewhere between the
20 20th and the 22nd. Now, if in the case of Early
21 Stuart sockeye there are specific conservation
22 concerns, we will sometimes not run that test
23 fishery. So it might start, and in some years has
24 started as late as July 14.
25 Q That's where you don't anticipate there being any
26 fishery permitted at all on that run?
27 MR. CAVE: That's correct, and it just reflects a
28 conservation concern that we would likely not use
29 the data for in-season management on such a small
30 run size. And it's just any catch on that run is
31 not necessary.
32 Q Okay. I'd like you to just go through the
33 different fisheries just to describe where they're
34 located, and just in an overview sense what they
35 are comprised of, what they do. So starting with
36 the gillnet fishery. Where are those located and
37 can you give us an overview of that program.
38 MR. CAVE: We have three marine gillnet test fisheries.
39 One in Area 20, one in Area 4B, 5 and 6E, actually
40 it's technically Area 5 in the U.S., and one at
41 Round Island. Those are gillnet test fisheries.
42 Q And where is Round Island?
43 MR. CAVE: Round Island is in the vicinity of Port
44 Hardy.
45 Q What area is it in?
46 MR. CAVE: Statistical Area 12, the subarea I don't
47 recall.

7
PANEL NO. 14
In chief by Ms. Baker

1 Q Okay.

2 MR. CAVE: Those test fisheries run at night. Area 20
3 gillnet starts about eight o'clock at night. They
4 fish two sets with a 300-fathom net that's 90
5 meshes deep. Typically the set times are from
6 8:00 until midnight, and then again from about
7 1:00 in the morning until 5:00 or 6:00 in the
8 morning, depending on catch levels.

9 In Area 12 they run between three and four
10 sets a night at Round Island, with a 200-fathom
11 net that is 60 meshes deep. And again they run
12 from approximately eight o'clock at night until
13 six o'clock the following morning.

14 Area 5 can run a broader duration, depending
15 on the nature of that fishery, but we still need
16 the data as soon as possible in the morning, so
17 we're typically getting that one wound up by about
18 9:00 in the morning. That's a longer net. I
19 believe it's 550 fathoms. It's a very long net
20 and quite deep, about 200 meshes deep, and that's
21 a monofilament net.

22 The seine fishery, we have three seine
23 vessels that we have chartered. One fishes
24 Canadian Statistical Area 20, one fishes Canadian
25 Statistical Area 12, and another one fishes
26 Canadian Statistical Area 13, and that is Brian
27 Assu's area.

28 In Area 20 we fish what's called an outside
29 seine net that is eight-and-three-quarters strips
30 in depth. It's a 300-fathom net. They fish six
31 sets per day across an area, a location in Area 20
32 known as the "Blue Line".

33 In Area 12 again we fish six sets per day in
34 the vicinity of Blinkhorn, Robson Bight, at
35 standard tie-off spots in Area 12. It's not at
36 different depth intervals, it's at specific tie-
37 off spots. And that is using an inside seine net
38 that I understand is 5.75 strips, and depending
39 on, I believe, there's a 25-mesh border on the
40 bottom, and a 50-mesh border on the top. Is that
41 correct, Brian?

42 MR. ASSU: Other way around.

43 MR. CAVE: A 50-mesh border on the bottom, sorry.

44 We've got a technical representative here and
45 understands the gear better than I do. Those nets
46 are the same for both 12 and 13. And similarly in
47 Area 13 we fish six sets from approximately

January 31, 2011

1 Chatham Point down to almost Browns Bay, I
2 suppose, and those are standard tie-off spots, as
3 well. And if Brian wants to clarify the Area 13,
4 he can.

5 MR. ASSU: I guess the only thing I would add, Jim, is
6 from Ripple Point to just outside of Deepwater
7 Bay.

8 MR. CAVE: Okay. Thanks, Brian. We also have two
9 gillnet test fisheries in the Fraser River, one at
10 Cottonwood, located near Deas Island in Area 29 in
11 the Fraser River. That test fishery is primarily
12 a stock composition test fishery. It fishes a
13 variable mesh net that's 175 fathoms in length -
14 sorry, no - correction, 120 fathoms in length.
15 And we also fish a variable mesh net at Whonnock,
16 and that's very near where the former Albion Ferry
17 used to operate. That is primarily a species
18 composition test fishery, but it also collects
19 data for biological samples for stock ID as well.

20 We have another test fishery that's
21 experimental at this time that we operate during
22 pink salmon years, those are odd-numbered years,
23 and that's at Mission. And that is a combined
24 driftnet and set net test fishery that operates
25 three days a week, and that's to provide
26 information on species composition in the vicinity
27 of the Mission hydroacoustic site.

28 And finally we have -- or not finally,
29 actually, I'll back up. There's a reef net
30 program that collects observations in U.S.
31 Statistical Area, Washington State Statistical
32 Area 7 at three sites at Lummi Island: at Lummi
33 Island, San Juan Channel and another location in
34 Haro Strait near the top end of San Juan Island.
35 There is no fish that are caught during the course
36 of the reef net observations. However the test
37 fishery there is paid for with pay fish that are
38 taken again by another reef net operator.

39 And finally we have a troll test fishery that
40 operates in Canadian Statistical Area 29, subareas
41 1 through 6, and that is targeted on Late run
42 sockeye for estimation of potential delay of those
43 stocks.

44 Actually, there's another test fishery which
45 I will mention. It's Naka Creek that operates
46 near Robson Bight in Canadian Statistical Area 12
47 for a handful of days in the year.

9
PANEL NO. 14
In chief by Ms. Baker

1 Q What kind of fishery is that?

2 MR. CAVE: It's a gillnet test fishery. It fishes a
3 twisted monofilament, so-called Alaska twist, and
4 it's 90 meshes deep.

5 Q Thank you. Just backing up a little bit on the
6 gillnet fishery. Are any fish retained and
7 sampled at the gillnet fisheries?

8 MR. CAVE: The gillnet fishery, all fish are typically
9 killed as a consequence of running that fishery,
10 and they are retained for samples, and those are
11 used for stock ID, length and sex and age
12 composition. And, yes, that's the case in all of
13 our gillnet test fisheries, all fish are
14 sacrificed.

15 In the case of the seine test fisheries, we
16 limit our sample to between 100 and 150 fish a
17 day, if possible, if we can get that many fish,
18 and generally we can. And there has also been the
19 take of some sets in odd years, in pink years, to
20 get species composition to confirm our estimates
21 of catch of sockeye and pink salmon in those sets,
22 but there's only a limited number of those, two or
23 three a year.

24 Q And those are where the fishery would keep the
25 whole set?

26 MR. CAVE: We'd keep the whole set, yes.

27 Q And with a gillnet fishery, are all of the fish
28 sampled, or just a subset of the fish that are
29 caught?

30 MR. CAVE: A subset of the fish that are caught, up to
31 115 fish, between 100 and 115 fish, depending on
32 the type of sample required.

33 Q Where do the samples go?

34 MR. CAVE: The DNA samples are sent to the DNA lab at
35 Nanaimo Biological Station, Terry Beacham's group.

36 Q Which is a Fisheries and Oceans lab?

37 MR. CAVE: It's a Department of Fisheries and Oceans
38 Canada lab, that's correct. And the scales come
39 directly to our office.

40 Q So you do the scale sampling work in-house at the
41 Salmon Commission?

42 MR. CAVE: That's correct.

43 Q is there an E-log system used in the seine
44 fisheries?

45 MR. CAVE: Yes, there is. and also the Round Island and
46 Naka Creek gillnet are also handled by E-log.

47 Q What is the E-log system?

January 31, 2011

1 MR. CAVE: I'm going to let either Paul or Brian answer
2 that, because I'm not as familiar with that
3 program.

4 MR. RYALL: Just going back to test fisheries for a
5 second. There's one other test fishery that's
6 operated by DFO at Qualark, which is just upstream
7 of Hope, and it's run in conjunction with the
8 hydroacoustic facility there, as well, that's
9 operated for the last number of years.

10 As far as the E-log system, it's a national
11 program and the intent is to gather information,
12 biological information on test fisheries, or could
13 be as well on commercial fisheries. So that
14 information is entered into a database and is
15 provided on a very timely manner. So there's gear
16 that's put onto either it be a test vessel or a
17 commercial vessel that gather that information and
18 transmit it.

19 I don't know if Brian wants to add anything
20 to that.

21 Q Is the program in Areas 12 and 13 administered
22 differently, and I'm talking of, I guess, here
23 about the seine fishery. Is the program in Areas
24 12 and 13 administered differently than the seine
25 fishery in area 20?

26 MR. CAVE: There are some differences that relate to
27 how the pay fish are handled there, how the fish
28 are handled there and sold. In Area 20, all of
29 the fish that are sold as part of the biological
30 samples are sold to the same buyer as the gillnet.
31 And so we deal with that buyer directly, the
32 Pacific Salmon Commission does. In the case of
33 Area 12 and 13, seine and gillnet, the fisherman
34 deals with the sale of those fish, but identifies
35 what the sale of those fish are, and the amount of
36 money that we would pay him after he has sold
37 those fish would be adjusted accordingly.

38 Q Is the Department of Fisheries and Oceans more
39 involved in the Area 12 and 13 fisheries?

40 MR. CAVE: Yes, they are. The contracts are in our
41 name. We handle the *Larocque* funds, which I
42 believe Paul will speak to later, on behalf of
43 those test fisheries, but the actual direction of
44 the people, of the individual test fishermen,
45 typically comes from the technicians based out of
46 Nanaimo, Carmen McConnell and Lee Keary.

47 Q Who are Fisheries and Oceans technicians?

1 MR. CAVE: They are Fisheries and Oceans technicians.

2 Q And why is that, why is the Area 12 and 13
3 somewhat different in that DFO technicians are
4 involved?

5 MR. CAVE: Well, they're the people most familiar with
6 that test fishery, and they are the people that
7 ran that entire program up until **Larocque**, the
8 change in procedure under **Larocque**. And so we're
9 keeping them involved and, well, actually they are
10 involved, they continue to be involved. But we
11 historically have administered, the Pacific Salmon
12 Commission has historically administered the Panel
13 area waters test fisheries and the Department of
14 Fisheries and Oceans historically administered the
15 non-Panel area water test fisheries, and some of
16 the changes that have come about have come about
17 because of the requirements under **Larocque**.

18 Q Okay. So that's really the distinction is that
19 Area 12 and 13 are not Panel water areas?

20 MR. CAVE: That's correct.

21 MR. RYALL: Could I just add on other thing to that, as
22 well?

23 Q Yes.

24 MR. RYALL: I think it's important to note that
25 regardless of who is operationalizing test
26 fisheries as far as some day-to-day activities,
27 the schedule that you brought up earlier of these
28 starts and end times of the planned test fisheries
29 is done through the Fraser River Panel. It's done
30 bilaterally. There's a lot of discussion that
31 goes into setting up these schedules. They are
32 schedules as planned and there's a number of
33 footnotes on the actual schedule that talks about
34 that they'll be maybe terminated, based upon
35 different abundances and how the runs migrated.
36 You have to adjust, depending on what actually
37 returns. So they're more of a guide than an
38 actual we start and end on these dates.

39 My point is that there's a lot of discussion
40 between the parties about what's needed to do the
41 stock assessment in each one of the years. And as
42 Jim was talking about, historically the test
43 fisheries that were done in non-Panel waters were
44 operated by DFO, and the ones in the Panel waters
45 were operated by the PSC. But starting in 2007,
46 the test fisheries operated by the PSC with a lot
47 of input from DFO staff, as well, about the

1 schedules and the timing and how they would
2 operate.

3 I think I'd like to add, as well, that
4 there's some guidance on how these would operate.
5 There's a policy document, as well, that's on
6 Policy Approaches for Interim Adjustments and
7 Strategies that provides the guidance to all test
8 fisheries that occur in Canada about the
9 disposition of fish, and ensuring that we're
10 conforming with the **Larocque** decision and what
11 that disposition of fish are.

12 Q Okay. I'd like to move to the use of the data
13 that is collected from the test fisheries, and
14 again back to Mr. Cave. We've talked a bit about
15 the fact that the fish go to the DNA lab in
16 Nanaimo and the scales come to the PSC. What kind
17 of analysis is actually done on the fish when they
18 go to their different labs, and what kind of
19 analysis is done by your group with that data once
20 it's received by you?

21 MR. CAVE: Okay, thank you. I'll speak just very
22 briefly on the analysis of the biological data
23 that come to our office and we collect length and
24 sex and scales. The scales are read for age of
25 the returning fish, and that's work that is
26 processed in part for production analysis, as well
27 as other things. But the DNA analysis is done.
28 It's a fairly involved work. I'm not an expert on
29 that. But the purpose of the DNA analysis, using
30 microsatellite DNA, is to identify the likely
31 stock of origin of the individual fish in the
32 mixture, and there's a series of statistical
33 models that are used to do that. Once that work
34 is done, our geneticist reviews those results and
35 may make adjustments to those once he receives
36 them. And that's just set aside for the moment.

37 We collect also the catch per unit effort
38 data. So in the morning we collate all those
39 data, the catches, the effort, which is in the
40 case of seines is the number of sets that have
41 been made, in the case of gillnet it's a
42 calculation of the average soak time times the
43 length of the net, expressed in thousand fathom
44 minutes, and with the goal to get the catch per
45 unit effort. And in the case of the DNA data it's
46 applied to either catch data, or to the CPUE data,
47 and also to the Mission hydroacoustics data, so

1 that we're not interested just in Fraser sockeye,
2 but we're interested in the stocks of origin of
3 those at any given point in time, at any given
4 location, within our sphere of management.

5 So in the case of if we had a catch per
6 effort of 1,000 per set in Area 20, if we had a
7 stock composition that indicated 50 percent Chilko
8 in that, we would estimate the catch per effort
9 uniquely for Chilko River sockeye, or the Summer
10 run complex as a whole, and it's on the basis of
11 that where we then make our assessments.

12 As part of our assessments we also evaluate
13 catchability or expansion line, which catchability
14 is the proportion that is removed from the
15 population from a defined unit of effort. And the
16 combination of the catch per effort by stock and
17 historical measures of catchability are what we
18 use to estimate the abundance in the marine areas.

19 Q Okay. So maybe you can just go through that
20 description of catchability a little slower and
21 kind of maybe get some examples of how that works,
22 because it's a different concept.

23 MR. CAVE: Well, let's say we had a catch per effort on
24 a given day, of 1,000, and you had a million fish
25 going by. The catch per effort of 1,000 divided
26 by a million fish in the migration for that day,
27 would be the catchability. So it's 1,000 divided
28 by a million.

29 Q Okay. And how do you determine the million fish.
30 Is that using the Mission data?

31 MR. CAVE: Well, that would be based on reconstruction,
32 run reconstructions. Now, you can calculate
33 catchability and expansion line for any defined
34 period. It could be an annual estimate. And so
35 it would be summing up the catch per effort for
36 the entire year through an approach or combination
37 of approaches, and dividing it by the total
38 abundance that would have migrated through those
39 areas during the course of that time.

40 Q And are some of these calculations done not at the
41 end of the year, but during the season to --

42 MR. CAVE: Yes.

43 Q -- project what the run size will be?

44 MR. CAVE: Well, we typically work historical data, but
45 we also look to see if there are deviations in-
46 season from historical data. So if we have six
47 days of data, we try and project the six days of

1 fish en route for a given complex of stocks, but
2 say it's the Summer run stocks. Later we
3 reconstruct the run to Mission once all those fish
4 have reached or passed Mission, and then we will
5 look to see if that catchability, or the inverse
6 of that, the expansion line, is consistent with
7 what we were using. If there's a compelling
8 reason to change, we may change. But generally we
9 work with the long-term historical averages.
10 Q Okay. Is there uncertainty in that, or not?
11 THE COMMISSIONER: Ms. Baker.
12 MS. BAKER: Yes.
13 THE COMMISSIONER: I wonder if I could just so I can
14 follow this evidence ask if you could have this
15 witness explain to me what he's talking about in
16 the context of the evidence we've already heard up
17 to this point, which is the forecasting evidence,
18 total available catch and so on. He's talking
19 about something called "catchability", which I had
20 not heard before.
21 MS. BAKER: Yes.
22 THE COMMISSIONER: So I'm trying to put this into
23 context of several days of evidence we've already
24 heard around forecasting and run size assessment
25 and those kinds of things.
26 The other couple of things that would be
27 helpful just to lay the groundwork for me so I can
28 follow this is two things. One, what is a test
29 fishery and what are the protocols for this, and
30 secondly, we've heard a lot about the Wild Salmon
31 Policy and CUs, and you're still talking about
32 stocks. I'm just wondering if you could explain
33 to me whether you're talking about CUs when you
34 talk about the data that you require, or you're
35 talking about something different.
36 MS. BAKER: Okay. So there's three areas there. First
37 let me just quickly make a note of those.
38 Q Well, first of all test fisheries, I think that's
39 outlined in the first document we took you to, but
40 maybe you could give just an overview of what a
41 test fishery is, what the purpose is in the
42 program.
43 MR. CAVE: A test fishery is what we use to understand
44 what is swimming by. We don't know what the
45 abundance of fish is on any given day. It's our
46 goal to find the abundance of fish that are
47 migrating or expected to migrate past Mission.

1 And we don't know what that number is, so we
2 collect data, we fish on the run, and we take
3 samples from the population from the run. So a
4 vessel will go out. He'll complete his test
5 fishery. That individual might catch 300 fish for
6 the night. It's our goal to try and find out what
7 that 300 fish means. And we do that based on
8 looking at past years, historical database that in
9 the case of some of these goes back some 50 years,
10 to understand what the proportion of the fish that
11 are caught, we try and relate that to the
12 population as a whole. We don't catch the whole
13 population. We only catch a very, very small
14 amount.

15 So what we're doing with the catch per effort
16 data is we're expanding it to the abundance that's
17 moving by. So catchability is the proportion
18 that's removed from the run. If you turn it
19 around you can expand that catch per effort to the
20 abundance. So we talk about catch expansion lines
21 and catchability is just simply the inverse of
22 that expansion line.

23 Test fisheries are operated, they're approved
24 by the Panel. They run regardless of whether
25 there's a TAC or not. That separates them from
26 other fisheries. It's they're kind of a cost of
27 collecting data.

28 Q The results from the test fishery help to
29 establish whether there will be a TAC made
30 available; is that fair?

31 MR. CAVE: Eventually, yes.

32 Q Okay. They are part of that information. So we
33 have the Mission hydroacoustics, the daily passage
34 at Mission, and I think Mike Lapointe showed you
35 those graphs, those run timing graphs, which
36 compared to the pre-season forecasts. So there
37 were normal distributions of abundance, expected
38 run timing, expected abundance, and what we try
39 and do is understand the progress of that
40 migration in time during the season.

41 So we have a run through Mission that might
42 be, say, through July 31st. We have data through
43 Mission, we're drawing that curve. And then the
44 next six days come from the test fisheries.
45 They're more uncertain than the hydroacoustics
46 data, but we're trying to look seaward, because if
47 we do, we get a better understanding of the run as

1 it progresses.

2 Q All right.

3 MR. RYALL: Maybe I could add a few words, as well.

4 Q Sure.

5 MR. RYALL: If that would help.

6 Q Yes.

7 MR. RYALL: So it would be helpful maybe if we brought
8 the map back up that shows where these test
9 fisheries operate.

10 Q Sure. I think that's just two pages, like 408,
11 backwards; there.

12 MR. RYALL: So while that map is coming up, just
13 thinking back to maybe some of the other evidence
14 you've heard earlier is that we have a pre-season
15 forecast that starts off giving us some idea of
16 what could return in any one particular year.
17 However, there's a lot of variability around that
18 pre-season forecast, and as the fish start
19 returning, they don't always hit the same area of
20 the Pacific Coast. They could return and make
21 landfall further up around Haida Gwaii. They
22 could also hit landfall much further down around
23 Vancouver Island. It's really going to depend on
24 oceanographic conditions.

25 Regardless, we run what we've called test
26 fisheries. These are very integral to gathering
27 in-season information, whether it be how the
28 timing of the runs returning. We have forecasts
29 on those as well. We also want to know how many
30 fish are coming down through Johnstone Strait, and
31 also how many are coming through Juan de Fuca.
32 And we want to know what those pedigree of those
33 fish are, and that's what the stock ID provides
34 us.

35 Jim was using the word "stock ID". The DNA
36 gives us a very discrete understanding of what
37 those groups of fish are and what lakes they're
38 returning to. But the other part of that is we do
39 roll that up into management groups, is how we
40 manage the fisheries in-season, not by
41 conservation units.

42 The test fisheries provide us all this
43 information, and as Jim was indicating, they occur
44 whether there is a TAC occurring or not. This is
45 how important they are to gather this information.
46 Without this information we would be, I would not
47 say totally blind, but we would be missing how we

1 would conduct fisheries in-season and make
2 decisions to manage those fisheries.

3 They're also linked to the Mission
4 hydroacoustics, as well, which gets into this
5 expansion area, where, where there's fish when we
6 test fish in Johnstone Strait and also in Area 20,
7 Juan de Fuca, we only sample a small part of the
8 population. And so you have to expand it into
9 what we think that abundance is, and then you can
10 link that back to how many fish are estimated as
11 they migrate past Mission, which is giving a total
12 daily estimate of fish that are migrating upriver.

13 You can take those counts and make some
14 adjustments that Jim and his staff does to say how
15 many fish are between where we caught fish and
16 Johnstone Strait, and also in Juan de Fuca Strait,
17 and expand it into that block of fish as they
18 migrate into the river before they hit Mission.
19 So there's some uncertainty there, but we want to
20 know what that total magnitude is from those test
21 fisheries, and that's where the expansion lines
22 come in that Jim was talking about.

23 So I guess I'd probably repeat myself on
24 this, but these test fisheries are very important
25 to the operation of the Pacific Salmon Commission
26 operations. And that we view these, as Jim
27 mentioned as well, they operate without TAC. We
28 will make decisions on whether we need to curtail
29 them or not because we're concerned about stocks.
30 It could be Fraser sockeye, it could be Cultus, it
31 could be other stocks that we identify each year.
32 But nonetheless, without those, we would be having
33 a challenge to know what the actual returns are
34 each year.

35 And these are operated under a Section 52
36 licence, which is different than a commercial
37 licence. And so there's a difference of licensing
38 that goes on with these test fisheries, as well.

39 Q And the test fisheries are done on a schedule that
40 Mr. Cave identified initially, and that is done on
41 that schedule every day that is set to be fished
42 is fished, whether or not there's fish in the
43 water, unless there's a conservation concern like
44 you identified earlier, and is that correct?

45 MR. RYALL: Go ahead, Jim.

46 MR. CAVE: Yes, that's correct, unless there's a
47 commercial fishery operating, those test fisheries

1 operate. Others operate on a schedule of two or
2 three days a week.
3 Q Right.
4 MR. CAVE: But the principal ones, the marine area
5 gillnet, the marine area seine, and the in-river
6 gillnet test fisheries, operate daily unless
7 there's commercial fishing operating.
8 Q And the idea, in part at least, is to identify
9 what the size of the run is as it moves through
10 the marine areas heading towards Mission to allow
11 fisheries to open in those marine areas?
12 MR. CAVE: That's correct. I should clarify one thing
13 I said, that we don't operate the seine tests, we
14 don't operate those fisheries if there's a
15 commercial fishery on. In fact, with under the
16 ITQ we have been operating those test fisheries
17 during the course of the ITQ fishery.
18 Q Okay. And the further away from Mission these
19 test fisheries happen, the more opportunity there
20 is to fish between that test fishery and the
21 Mission site; is that also fair?
22 MR. CAVE: I think it's perhaps fair to say that if
23 there are commercial locations in between those
24 areas, then there would be commercial
25 opportunities taken, should there be an
26 opportunity identified by either the run, strength
27 of the run, through the Panel, or through
28 decisions by Department of Fisheries and Oceans.
29 MS. BAKER: All right. And if I can ask you, Mr. Lunn,
30 to put up in the same document that you're in, the
31 same exhibit, page 170 shows an example, an
32 illustration of the data that's presented to the
33 Panel, it's further down.
34 MR. LUNN: (Indiscernible - away from microphone).
35 MS. BAKER: Yeah, my numbers are different than yours.
36 Q Here we go.
37 MR. CAVE: Yes, these graphs are useful. Perhaps we
38 can move down a little bit further.
39 Q Yes, go down to the third one.
40 MR. CAVE: Okay. Yes.
41 Q So for example, if you when you're at Mission, you
42 know through the calculations that are done at
43 Mission you have an estimate of what the run size
44 is, when you're out in the marine areas and you're
45 receiving test fishing information, this allows
46 you to get a projection six days before Mission of
47 what the anticipated run size is; is that fair?

1 MR. CAVE: That's correct.

2 Q Okay.

3 MR. CAVE: And so if you look at these graphs here, and
4 perhaps the best one to look at here is the Early
5 Summer run migration, you've got these normal
6 distributions. The top dotted line is the 50
7 percent p level forecast. The next one down,
8 normal curve, is a 75 p forecast. And then that
9 solid line is what we're projecting the migration
10 to be in-season. The last six days on that line,
11 which I presume would go to about, say, the 31st
12 of July, the last six days, would be based on
13 marine test fishing. It would be catch per effort
14 times expansion line equals the estimated
15 abundance, and we sum it up for both routes.

16 So you can see that those marine test
17 fisheries are telling you that you haven't got the
18 run on the Early Summer run migration. It's just
19 confirming. If you didn't have those, you would
20 not know, you'd be blind in between Area 20 and
21 Mission.

22 Q And just you said there you sum up both routes.
23 That means you're taking data from the test
24 fisheries in Johnstone Strait and data from test
25 fisheries in the Strait of Juan de Fuca and
26 combining that information to give you the full
27 run size?

28 MR. CAVE: Yes.

29 Q Okay.

30 MR. CAVE: Yes, that's correct.

31 Q And just to go back to a question the Commissioner
32 had. As you said, the 75 p and 50 p forecast
33 lines, which are those normal distributions you
34 see in dotted, those are references to the pre-
35 season forecast expectations?

36 MR. CAVE: That's correct, plus the timing.

37 Q Plus the timing. Okay. And I will ask you some
38 questions towards the end about the Wild Salmon
39 Policy and management, but just to address what
40 the Commissioner has asked, I know that you
41 touched on it, Mr. Ryall, saying that you manage
42 to management groups, not to CUs. But I take it
43 the data that is retrieved from the samples is
44 data which would be relevant to a CU analysis; is
45 that fair?

46 MR. CAVE: Well, they can be. But the DNA is, while
47 very extremely useful, the sample size is only 100

1 individuals. So when you start trying to narrow
2 these things down to smaller and smaller stocks at
3 the CU level, you start to lose resolution.
4 Q Mm-hmm.
5 MR. CAVE: So really, once you start getting below five
6 percent in the sample, there's a lot more
7 uncertainty about that estimate that just relates
8 to sampling efficiencies.
9 Q Right. So would you agree with me then to have a
10 better idea of what CUs are passing by, you
11 actually have to catch a whole lot more fish and
12 keep and retain and analyze a whole lot more fish
13 than what's being kept and retained now?
14 MR. CAVE: That would be correct. And also the
15 associated costs that go with analyzing those DNA
16 samples at \$20 a fish.
17 Q And are there limits also to what DNA can tell us
18 about CUs, as well?
19 MR. CAVE: I would presume so, but I am not as familiar
20 with the Wild Salmon Policy. And when you start
21 getting into these small stocks, it's the needle
22 in the haystack, you know, it's trying to find, to
23 identify them.
24 Q Okay.
25 MR. CAVE: And sometimes you can find indications of
26 them, but...
27 Q Just again, and hopefully this is helpful, but you
28 have talked about two things, expansion lines and
29 catchability. Expansion lines is a function that
30 you use based on historical data kind of
31 projecting forward to estimate what the run size
32 is; is that right?
33 MR. CAVE: That's correct.
34 Q And that happens in-season?
35 MR. CAVE: That's correct.
36 Q And the catchability analysis that you described,
37 that's a post-season calculation, or it's after
38 the runs complete and you have actual data; is
39 that fair?
40 MR. CAVE: We've been using the term "expansion line"
41 because it's easier for people to understand, that
42 you take a number and you multiply it by a number
43 and another number and you get abundance. It's
44 more correct scientifically for a number of
45 different reasons to actually work with the term
46 "catchability", which in a loose sense is the
47 inverse of that. So that's the proportion of the

- 1 population that is removed by your fishing
2 operation. Okay. And I think as we start to get
3 more rigorous approaches and analyzing different
4 models, statistical models that define the
5 relationship between catch per effort and
6 abundance, it's more appropriate to work with
7 catchabilities. And I think we just need to go
8 through that education process. And some of this
9 rigorous analysis that we're doing in a Bayesian
10 context, where we're actually evaluating this and
11 evaluating model uncertainty, parameter
12 uncertainty, all of those key items, it really is
13 a better way to do that is with analyzing
14 catchability in the historical context.
- 15 Q And those uncertainties that you mentioned and the
16 Bayesian analysis that you're doing, has that been
17 implemented now, has the PSC made some efforts to
18 incorporate that uncertainty analysis into run
19 projections --
- 20 MR. CAVE: Yes.
- 21 Q -- in-season?
- 22 MR. CAVE: Absolutely. It's work that Catherine
23 Michielsens, myself and Keith Forrest have been
24 working on. That work is ongoing and it probably
25 will continue for as long as we manage Fraser
26 River sockeye. It's continually updating what you
27 do, how you do it, the sorts of models you would
28 use as you get more data.
- 29 Q All right. Now, in terms of the importance of
30 test fishing data for the Panel in managing the
31 sockeye or the fisheries, you've talked quite a
32 bit about run size as being an important outcome
33 for the test fishing results, and stock ID. Does
34 it also have a role in understanding the diversion
35 rate, the number of fish that are going down
36 Johnstone Strait versus the number of fish that
37 are going on the outside of Vancouver Island?
- 38 MR. CAVE: Yes, it does. We look at the catch per
39 effort data from both approaches and we make an
40 estimate of diversion rate based on that. We use
41 both seine data and gillnet data with the
42 appropriate catchabilities applied.
- 43 Q And migration timing I think we've touched on, as
44 well, but just to identify that clearly, that's an
45 important component also?
- 46 MR. CAVE: Yes. Yes. You get an earlier estimate of
47 timing, an earlier estimate of run size than you

- 1 would if you did not have those data available and
2 all you had was Mission. But you get improved run
3 size estimate and performance.
- 4 Q And is test fishing data published in the industry
5 as it comes in, in-season?
- 6 MR. CAVE: We make those results available daily in a
7 daily report, and they can be accessed either
8 daily or you can download a test fishery for the
9 entire year. You can download it, either Adobe
10 Acrobat or by Excel, if people want to do their
11 own analysis.
- 12 Q All right. And, Mr. Assu, does the industry use
13 test fishing data as it comes in, in-season?
- 14 MR. ASSU: Yes, I guess the simplest is industry, I
15 guess, is looking at what the overall run size is
16 and in trying to plan for whatever they're going
17 to be doing as far as fisheries.
- 18 Q And do First Nations use test fishing data in
19 planning their FSC harvest?
- 20 MR. ASSU: Yes, we do. Typically what we try to do, at
21 least at home, is watch for when there is an
22 abundance starting to occur in Area 12, so that we
23 can start our food fishery. It's just far more
24 cost-effective to be there while there is an
25 abundance to harvest, rather than working on the
26 low abundance. And in recent years, I guess,
27 we've been constrained up in the Strait by the,
28 what do you call it, Sakinaw, you know, which has
29 sort of delayed our timing. So our timing has
30 been pushed back, and so we've sort of been
31 bookended the same as industry.
- 32 Q All right. So it has usefulness in terms of the
33 people who manage the fisheries, but it also has
34 usefulness for people who are hoping to conduct
35 their own fisheries.
- 36 MR. ASSU: Yes.
- 37 Q Is there any other importance, have I covered
38 everything that is important about test fishing
39 data or is there anything to add I haven't
40 covered. Okay.
- 41 I'd like to move on to funding and
42 implementation. First of all, in implementing the
43 test fishing programs, who actually conducts the
44 fisheries and who administers the contracts? How
45 is it actually done, implemented?
- 46 MR. CAVE: Are you asking that question to me or Paul?
- 47 Q I'm asking that question of the panel, but why

1 don't we start with you, Mr. Cave, and then people
2 can chime in if they've got something to add.

3 MR. CAVE: Well, under the current environment we're
4 under, we have dialogues with Canada and let them
5 know, after consultation with the Panel, what our
6 schedule would be, and try and make an estimate of
7 the costs that would be required to run these test
8 fisheries. And if we try and make an estimate of
9 what our realistic catch would be under these
10 scenarios and identify a required funding over and
11 above that. The contracts themselves for all
12 Panel-approved test fisheries are operated out of
13 our office. The contract is between ourselves and
14 the test fishing individual involved. In terms of
15 actually administering the day-to-day operations,
16 we ensure that there's observers on board those
17 boats, that sampling equipment is there.

18 Q Observers from the Salmon Commission?

19 MR. CAVE: Yes, the Pacific Salmon Commission, or in
20 the case of the Johnstone Strait test fisheries,
21 in their instance they actually have to pay for
22 the observers from their part of the contract.

23 Q Okay.

24 MR. RYALL: Maybe I could add to that, as well. Your
25 question is about who administers the test
26 fisheries and how do we plan for them, that was
27 the two parts?

28 Q Yes.

29 MR. RYALL: Okay. So there's a series of steps that
30 are undertaken each year as far as developing a
31 Test Fishing Plan. It really starts back in, I
32 would say, January of the year, thereabouts, or
33 even maybe a bit earlier, through the Fraser Panel
34 process that a Draft Test Fishing Plan would be
35 put together and presented to the Panel about what
36 may be required that year. A lot of it is based
37 upon history, that will be modified by what we
38 know at that time about how things may occur and
39 what constraints there may be, whether it be
40 budgetary or whether it be stock constraints that
41 may also constrain the test fishing plan.

42 It will go through a series of iterations and
43 discussions about what test fisheries are needed,
44 and how they would operate and the starts and end
45 times. There's also a Financial and
46 Administration Committee of the Pacific Salmon
47 Commission, it's a subcommittee that reports to

1 the Commission. There needs to be joint agreement
2 between Canada and the U.S. on what's agreed. The
3 F&A Committee, for short, will get input from the
4 Fraser Panel about what the Test Fishing Plan is,
5 and what sort of budget requirements may be
6 required from each party. These will change each
7 year. What I mean "these will change", I mean the
8 parties' contributions could change each year, and
9 in recent years it's been Canada that's been
10 contributing financial money to the operation of
11 test fisheries within Canadian waters, whether it
12 be within Panel or non-Panel. And within the U.S.
13 waters, the test fisheries have operated much as
14 they have as far as generating income to pay for
15 those services through the use of fish.

16 Within Canada, Canada provides a contribution
17 to the PSC. There's a Joint Project Agreement,
18 JPA for short, that's put together between Canada,
19 and DFO for short, and the Pacific Salmon
20 Commission that outlines the work plan, the agreed
21 upon work plan, who is going to be responsible for
22 what, what test fisheries operate, provides a
23 guide about when those test fisheries will start
24 and stop and what the contributions are of each of
25 the parties, whether it be money that's
26 transferred from DFO to the PSC, or in-kind
27 support as well.

28 So I guess there's a few steps in this, the
29 whole process of coming up with an agreed upon
30 Test Fishing Plan that generally is concluded by,
31 I would say, late May of each year, or could be
32 into June. I think one of the memos you brought
33 earlier here showed June, I think, on the date.

34 So you start with a draft. It goes through
35 the Fraser Panel. The F&A Committee, as well,
36 needs to understand what there could be any
37 financial obligations between the parties, and
38 then make a recommendation to the Commission. And
39 then that test fishing is approved. And as I was
40 talking about earlier, it will modify each year,
41 depending on how these stocks, actually how Fraser
42 sockeye pink salmon return. I mention pink salmon
43 because every second year, every odd year we have
44 pink salmon, as well, that we need to monitor and
45 this could, as well, increase the duration of the
46 test fishery, as well, and that's why these times
47 all change.

- 1 And as Jim was talking about earlier, the
2 stock makeup, the Fraser sockeye changes each
3 year, which also then impacts upon what test
4 fisheries you need and what duration of those test
5 fisheries are going to occur. And as those return
6 each year, you're going to make adjustments.
- 7 Q Okay. And you enter into contracts with
8 individuals who perform the test fisheries; is
9 that fair? That would be that PSC enters into
10 those contracts?
- 11 MR. CAVE: Yes, we do.
- 12 Q And, Mr. Assu, you're an example of a person who
13 administers a PSC test fishing agreement every
14 year?
- 15 MR. ASSU: Yes.
- 16 Q And do you typically have new people coming on
17 board doing the test fisheries every year, or do
18 you have a set group that you have used over and
19 over for years?
- 20 MR. CAVE: It's our preference that we keep working
21 with the same individuals. In the case of
22 Johnstone Strait, these are basically put up to
23 tender every five years. As part of what has
24 always occurred under the DFO, of running of those
25 test fisheries and that was again done again --
26 what year was that, Brian?
- 27 MR. ASSU: I think two years ago.
- 28 MR. CAVE: And then basically we still have the same
29 individuals involved in those test fisheries, even
30 though it went to tender. But in the case of the
31 Panel area test fisheries, if an individual is
32 doing a good job, we prefer to stay with them
33 because it just controls one variable in the
34 variation. Not everybody fishes the same way, no
35 matter how hard you try to do that, there are
36 individual differences. And so we try and stay
37 with the same individual for the longer term if we
38 can.
- 39 Q I'm going to get into the funding in a bit more
40 detail, but has there been a change since the
41 **Larocque** decision in terms of how these contracts
42 are administered by the PSC in Panel and non-Panel
43 waters?
- 44 MR. CAVE: Certainly I think the biggest change is how
45 they're funded. Once we start fishing, it's
46 pretty much as we always have, and I mean we have
47 to fish the same way, otherwise it changes our

- 1 database, our long-term database. So you can't
2 decide, well we're going to cut back to three sets
3 and pay somebody less. You have to basically run
4 that test fishery the same way. That's what the
5 data, to preserve the integrity of the data,
6 that's what has to be done.
- 7 Q All right. Well, let's move, then, to funding and
8 **Larocque**, because that has a big significance for
9 test fishing. First of all, Mr. Ryall, how did
10 Department of Fisheries and Oceans pay for test
11 fisheries prior to the **Larocque** decision in 2006?
12 MR. RYALL: Prior to 2006 it was through use of fish,
13 meaning that we would plan test fisheries as we
14 have done pre- or post-**Larocque**. There's really
15 been no change to planning those. But the actual
16 vehicle for paying for those services pre-**Larocque**
17 was through harvesting fish to compensate the test
18 fishermen for providing those services.
- 19 Q So the test fishers were able to keep the fish and
20 sell the fish that they caught? That's the...
21 MR. RYALL: That's correct, that's what I mean by "use
22 of fish".
- 23 Q Okay.
- 24 MR. RYALL: And there's some policies that were put in
25 place to guide how that would all operate under
26 use of fish, as well.
- 27 Q All right. And did the Department contribute some
28 funds for salaries or administrative costs, or was
29 everything paid for by fish?
- 30 MR. RYALL: No, the Department as well would be having
31 staff that were paid by A-base dollars,
32 Departmental dollars, and providing technical
33 support to operate those test fisheries, as well.
34 And providing funds for operations of collection
35 of those samples, as well.
- 36 Q All right. And in the U.S. test fisheries, is
37 that still the model that's employed?
- 38 MR. RYALL: That's my understanding, but Jim can
39 correct me if I'm wrong.
- 40 MR. CAVE: I missed the question. I heard part of it
41 but not all of it.
- 42 Q I was asking how Canada paid for test fisheries
43 prior to **Larocque** and Mr. Ryall explained that
44 fishers were allowed to keep and sell the fish
45 they caught.
- 46 MR. CAVE: Mm-hmm. But you were asking me the question
47 under U.S.?

1 Q Yes. Are the U.S. administered, or not U.S.
2 administered, but the test fisheries that are in
3 U.S. waters still paid for on that same model?

4 MR. CAVE: Pretty much, yes. Yes.

5 Q But the bulk of the test fisheries are in Canadian
6 water, is that right?

7 MR. CAVE: That's correct.

8 Q And now, Mr. Ryall, since **Larocque**, how does
9 Canada pay for test fisheries?

10 MR. RYALL: Well, the test fisheries have been paid
11 primarily through DFO funds. I say primarily. In
12 the first year, in 2007, post the 2006 **Larocque**
13 decision, the U.S. as well contributed about
14 \$200,000 in 2007 to operation of test fisheries.
15 And since 2007, so for '08, '09, and '10, and end
16 of '07, as well, there was a JPA, the Joint
17 Project Agreement, that transferred funds once
18 there was agreed-upon Test Fishing Plan to the PSC
19 to operate test fisheries.

20 Q All right.

21 MR. RYALL: And those amounts varied depending on what
22 that Test Fishing Plan amounted. I think it was
23 probably in the order of 2007 of about \$450,000,
24 \$500,000, and then thereafter about \$700,000 to
25 \$800,000.

26 Q Okay. Well, we'll get into those details in a
27 minute, so you don't have to stretch your memory
28 on that. I think I've got a document that will
29 help you with that.

30 Are fish sales relied on at all currently to
31 fund test fisheries?

32 MR. RYALL: Well, it depends what you mean "relied
33 upon". There is under the JPA, there are funds
34 provided to PSC to operate those test fisheries.
35 There's guidance in a Policy document that
36 outlines what fish can be retained and what has to
37 be released, and really the operating principle
38 here in that Policy is that anything that can be
39 released and has a high probability, and
40 specifically it says 50 percent or greater
41 probability, of survival must be released. And so
42 really the red-face test, as we might call it, is
43 can those fish be released and will they survive.
44 That's the first thing that needs to be
45 determined.

46 So in the purse seine test fisheries, you can
47 take your sample and release those fish, and they

1 will survive or a high majority of them will.
2 They will swim over the cork line and fish will be
3 counted out and off they go.

4 On the gillnet test fisheries, though, that's
5 not the case. There is a high mortality rate and
6 all those fish are retained, and the disposition
7 of those fish is up to who is authorized under the
8 Section 52 licence to do with those fish what they
9 will. They can be sold. They could be used for
10 other purposes. But in the case of what we're
11 talking about here, for a good part of those fish,
12 or maybe even all of them, are sold and there's
13 value attached to those.

14 Q And is that accounted for somehow in the payment
15 to test fishers?

16 MR. RYALL: Well, there are contracts that are entered
17 into, but I don't negotiate the contracts.
18 They're negotiated through the PSC, what Jim was
19 talking about, what the services are and what will
20 be done each day and how they'll be compensated.

21 Q All right. So, Mr. Cave, if you have...

22 MR. CAVE: All fishermen or all fishers are paid a
23 charter rate, a daily charter rate. It's not
24 expressed in fish. If there are fish that are
25 sold as part of the test fishing sampling, those
26 are used to fund part of the operation.

27 Q Within Panel waters, does the PSC actually receive
28 and sell fish that are caught under the test
29 fishing program, or do the fishers sell their
30 retained fish, and is that accounted for in the
31 funds they're paid, or how does it work?

32 MR. CAVE: I believe the licences are issued to -- I
33 need clarification on this. But what I will tell
34 you is that in Panel area waters we enter into an
35 agreement with the buyers, the Pacific Salmon
36 Commission does.

37 Q Okay. All right.

38 MR. CAVE: Those fish are sold and we handle those
39 monies.

40 Q Okay.

41 MR. CAVE: That's a different approach to what happens
42 in non-Panel area waters. Because there's more
43 buyers involved and it's just a carryover. We
44 tried to do it our way one year and it was messy,
45 and we felt the fishermen had a better handle on
46 things, so...

47 Q All right. So the Salmon Commission pays the

1 fishers, the Salmon Commission receives proceeds
2 from any fish that were sold.
3 MR. CAVE: That's correct.
4 Q In Panel waters.
5 MR. CAVE: That's correct.
6 Q And outside of Panel waters, maybe, Mr. Assu, how
7 is it administered, from your perspective?
8 MR. ASSU: As far as the sale of the samples.
9 Q Yes.
10 MR. ASSU: Well, the sale is done by us, and I guess at
11 the end of the season what happens is whatever is
12 owed to you, that sale is deducted and then the
13 difference is paid by the Salmon Commission.
14 Q Right. Okay.
15 MR. CAVE: That's my understanding, as well.
16 Q Okay. And, Mr. Ryall, after the **Larocque** decision
17 came down in 2002 did the Department do a review
18 of all of the test fishing programs in Canada?
19 MR. RYALL: Yeah, after it came down, the **Larocque**
20 decision came down in 2006, in the fall of 2006
21 there was a national working group put together
22 that wanted to see what programs were operated
23 across Canada that would be affected by that
24 decision. I was a member of that working group,
25 as I mentioned earlier this morning, in the fall
26 of 2006. And one of my main tasks in that working
27 group was to get in touch with all people across
28 Canada that ran various programs that would be
29 impacted by the decision about use of fish and not
30 being authorized, the Minister not having the
31 authority to use fish to run programs like that,
32 and what sort of changes might we have to
33 undertake.
34 Q And that is the **Larocque** Working Group; is that
35 right?
36 MR. RYALL: That's my -- yes, that's my memory of the
37 name.
38 Q And who was the **Larocque** Working Group going to
39 report to, or who did they report to once this
40 review was completed?
41 MR. RYALL: It was in Science Branch, I reported to the
42 ADM of Science, and the ADM of Science made a
43 presentation to DMC, Departmental Management
44 Committee, November the 1st of 2006 outlining what
45 national programs that would be affected.
46 MS. BAKER: Mr. Commissioner, just before we started
47 this morning, I was given a document that was from

1 Canada that was produced for that meeting, which I
2 haven't had a chance to review because we just
3 came in right before we started. So I wonder if
4 we could take the morning break now, and I could
5 look through this document and we could continue?
6 THE COMMISSIONER: There was a reference a few minutes
7 ago. Let me find it. Mr. Ryall may have
8 referenced it. He talked about an agreement
9 between DFO and the PSC, and he gave an overview
10 of that agreement, what it contains. And then
11 other agreements have been referred, that is the
12 agreements between PSC and those that they
13 contract with. But I just wondered whether you
14 have either already referred to or you're going to
15 refer to these different agreements.
16 MS. BAKER: Actually put those agreements into
17 evidence?
18 THE COMMISSIONER: Well, I don't know, the agreement
19 that Mr. Ryall referred to when he talked about an
20 agreement with the DFO and the PSC.
21 MS. BAKER: That's the Joint Project Agreement.
22 THE COMMISSIONER: Well, I don't know if that's what he
23 was referring to or not.
24 MR. RYALL: Yes, that's what I was referring to, the
25 Joint Project Agreement.
26 THE COMMISSIONER: Is that an annual agreement?
27 MR. RYALL: It's an annual agreement between the two
28 parties, yes.
29 THE COMMISSIONER: I see. And is that what you're
30 referring to now, Ms. Baker?
31 MS. BAKER: That was what I just asked you if you were
32 referring to. That's the agreement that is done
33 between the two organizations to set out the terms
34 of the administration of the test fishing program.
35 THE COMMISSIONER: Is that in evidence already?
36 MS. BAKER: It's not in evidence, no.
37 THE COMMISSIONER: Oh, I see. All right.
38 MS. BAKER: And then there would be individual
39 contracts with individual fishers to implement on
40 a local basis each of those test fishing programs.
41 THE COMMISSIONER: But you're coming to that agreement,
42 is that the plan, or...
43 MS. BAKER: I wasn't going to put that into evidence,
44 but I know that Canada was wanting to put that
45 into evidence.
46 THE COMMISSIONER: All right.
47 MS. BAKER: I can certainly raise it with them now if

1 that's helpful to you. I didn't think it needed
2 to be in evidence, but we can certainly put it in.
3 THE COMMISSIONER: I was just trying to keep track of
4 these different agreements --

5 MS. BAKER: Yes.

6 THE COMMISSIONER: -- they're talking about, and just
7 to understand the entire context of how these
8 agreements are worked out, and then the
9 implications for those agreements across the
10 process of the test fishery.

11 MS. BAKER: Okay.

12 THE COMMISSIONER: Thank you. We'll take the morning
13 break.

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

16

17 (PROCEEDINGS ADJOURNED FOR MORNING RECESS)

18 (PROCEEDINGS RECONVENED)

19

20 THE REGISTRAR: Order. The hearing will now resume.

21 MS. BAKER: Mr. Commissioner, just before we broke, you
22 asked us about a joint project agreement and
23 Canada has brought a copy of an example of one
24 from 2009 which I think a copy has been put on
25 your desk or will be passed up to you through Mr.
26 Lunn. Thank you.

27

28 EXAMINATION IN CHIEF BY MS. BAKER, continuing:

29

30 Q And Mr. Ryall, you have a copy of that?

31 MR. RYALL: Yes, I have a copy of the agreement.

32 Q All right. And this is an example of a joint
33 project agreement that basically sets out how the
34 test fisheries will be implemented in a given
35 year, right?

36 MR. RYALL: Yes. It provides detail on the work plan,
37 what those test fisheries will start and stop as a
38 plan, what sort of information will be collected,
39 who's responsible for what between the two
40 parties, DFO and the PSE.

41 Q And it includes not just sockeye but all of the
42 species that are -- where data is collected and
43 fisheries are conducted?

44 MR. RYALL: Yes, it does. I mean, to further
45 complicate this picture a little bit anyhow, I've
46 only mentioned two parties but there is a third
47 party involved in here, the B.C. Wild Harvest

- 1 Salmon Producers Association that we enter into
2 the agreement, as well, that operate or administer
3 test fisheries that are not Fraser River sockeye
4 and pink salmon. Within the Pacific Region, B.C.
5 and Yukon, there are test fisheries that are
6 operated in the Yukon, on the Skeena River --
7 Q But for our purposes in this commission of
8 inquiry, we -- that's probably one bit of
9 information we don't need to worry too much about;
10 is that fair?
11 MR. RYALL: Well, I think it's -- it comes up in
12 another instance where you're asking questions
13 about funding, as well, and we could go that
14 direction now or wait till you start to ask about
15 it is the reason that I raise those other test
16 fisheries, as well.
17 Q Okay. Well, for now let's just leave it and I'll
18 have this marked, I guess, as the next exhibit, if
19 I could.
20 THE REGISTRAR: Exhibit number 367.
21
22 EXHIBIT 367: Joint Project Agreement between
23 Canada and The Pacific Salmon Commission and
24 The BC Wild-Harvest Salmon Producers
25 Association
26
27 MS. BAKER: Three-six-seven?
28 THE REGISTRAR: That's correct.
29 MS. BAKER: And it's CAN065910.
30 Q Thank you. And then just before we broke we were
31 talking about a meeting that was -- or a
32 presentation, I guess, that was done by the ADM of
33 Science to the DMC -- and DMC again stands for
34 what?
35 MR. RYALL: DMC stands for Departmental Management
36 Committee and it has well, senior management, and
37 it's chaired by the Deputy Minister of Fisheries
38 and Oceans.
39 Q Okay. And this morning we were provided with a
40 PowerPoint presentation that I understand was made
41 at that meeting by the ADM Science - it should be
42 in front of you on the screen. Is that the
43 presentation?
44 MR. RYALL: Yes, that is the presentation.
45 Q Okay. There's been some redactions in this
46 document. Basically all of the options appear to
47 be redacted; why is that?

1 MR. RYALL: Are you asking me why they've been
2 redacted?

3 Q Yeah. What was the -- was it --

4 MR. RYALL: Is that the question for me or...?

5 Q I'm just curious. What has -- I don't want him to
6 tell me what the content was, but what was -- what
7 were on these pages that were blacked out? Why is
8 -- what are we missing, just so we understand?

9 MR. SPIEGELMAN: Mr. Commissioner, the **Larocque**
10 working group was -- had participation of DFO
11 legal services and their role was to help analyze
12 the consequences of the decision and so there was
13 legal advice incorporated into the presentation
14 made to the DMC and Canada is asserting
15 solicitor/client privilege over some content of
16 the deck.

17 MS. BAKER:

18 Q So were options presented as to how test fisheries
19 would be funded in the face of **Larocque**; is that
20 what this was about?

21 MR. RYALL: Well, the deck was to provide what the cost
22 implications are for the department on a national
23 -- and you'll see there's a number of graphs in
24 the deck, and trying to look forward about what
25 sort of options there may be.

26 Q Right. In a document which is at Tab 3 of the
27 materials in front of you, which is CAN465 --
28 sorry, CAN146548 page -- CAN number -- page 11 at
29 the bottom of the -- CAN11, so it would be two
30 pages back. Okay. Stop. Stop there at the
31 bottom there it says here number 4, Post-**Larocque**
32 APPFA Test fishing alternatives.

33 Are the -- you'll see some options set out
34 and they carry on to the next page where DFO would
35 pay all costs, industry would pay costs, et
36 cetera. There. Three options. Are those the
37 kinds of options that were put forward at that
38 meeting?

39 MR. RYALL: I don't think they were in that particular
40 detail but, I mean, also within the minutes of the
41 DMC which is in another tab here, talked about
42 guidance that came from the departmental
43 management committee and looking into options into
44 the future.

45 Q Those are in Canada's documents at Tab 2; is that
46 right, the test fishing section? Would...

47 MS. BAKER: Mr. Lunn, can you find it? Document number

1 2 on Canada's list. There. All right.

2 Q Is this what you're referring to? It's on the
3 screen now, Mr. Ryall.

4 MR. RYALL: Yes, that's what I'm referring to.

5 Q All right. That was a little bit faster. We
6 should make use of these electronic tools. All
7 right.

8 MR. RYALL: So further down in that document there is a
9 summary of the meeting. It's pretty brief.

10 Q This is **Larocque** decision and update?

11 MR. RYALL: Yes. Point 4. So the deputy minister
12 asked DMC in a policy lead to develop a policy
13 framework on who pays for science advice.

14 I mean, really, there's a number of options
15 here. One is that the department pays for test
16 fishing; the other is that it be done in a manner
17 of -- collaborative manner which is the other
18 policy document that we were just looking at that
19 have laid out options, that it could be a joint
20 operation between DFO and industry to fund these
21 types of arrangements. It was thought, as well,
22 that this would take time to work that option of
23 joint projects would take some time to develop and
24 that's alluded to in the previous document that we
25 were just looking at.

26 You know, the other option, as well, in this
27 is to go back to use of fish, and that was
28 considered and implemented into a draft of the
29 **Fishery Act** that was tabled in Parliament. That
30 was -- while that was not accepted by Parliament,
31 I'm not saying not because of use of fish, but
32 overall it was -- that **Fishery Act** with the
33 changes were not finalized.

34 MS. BAKER: I'll have the minutes that are in front of
35 us now marked as the next exhibit and then
36 following that, I'd like the policy document
37 marked as the following exhibit.

38 THE REGISTRAR: The first document will be 368.

39

40 EXHIBIT 368: Extended Departmental
41 Management Committee Mid-Year Review Record
42 of Decisions dated November 1, 2006

43

44 THE COMMISSIONER: Sorry, what is the first document?

45 MS. BAKER: It's the one that's on the screen. It's
46 the minutes of the meeting.

47 THE COMMISSIONER: Okay. Thank you.

1 THE REGISTRAR: Second document will be 369.

2 MS. BAKER: And this is Departmental Policies and
3 Guidelines Developed in Response to the **Larocque**
4 and APPFA Federal Court Decisions 2008. And that
5 is, sorry, what exhibit is that?

6 THE REGISTRAR: Three hundred and sixty-nine.

7

8 EXHIBIT 369: Departmental Policies and
9 Guidelines Developed in Response to the
10 **Larocque** and APPFA Federal Court Decisions
11 2008
12

13

MS. BAKER:

14 Q I'm going back to Ringtail number -- page 11 in
15 this document, 369, at the bottom, the options
16 that you just summarized there are DFO pays all
17 costs; industry pays the costs for data collection
18 or collects data during normal commercial fishing
19 opportunities, that's the second, and the third
20 one is DFO and industry partner together
21 cooperatively. Those were your options. And then
22 the fourth one was the continue to use fish.

23 MR. RYALL: Which would require a legislative change.

24 Q Okay. Looking at the PowerPoint presentation
25 which I don't -- has this been marked yet? Which
26 has not yet been marked, but it's the PowerPoint
27 presentation that was provided by Canada this
28 morning and I should probably mark this, please,
29 as the next exhibit.

30 THE REGISTRAR: Three hundred and seventy.

31

32 EXHIBIT 370: The **Larocque** Decision and Cost
33 Implications for Science October 2006
34

35

MS. BAKER:

36 Q All right. Thank you. Three hundred and seventy,
37 if you turn to page 11 of Exhibit 370, it sets out
38 Pacific Cost Analysis Findings - Risk Analysis.
39 What was the risk analysis that was done at that
40 time?

41 MR. RYALL: Well, the previous page looks like 9 gives
42 you an indication of the risk analysis we're
43 looking at on test fisheries.

44 Q Can you -- yeah, I have looked at those briefly,
45 but they didn't provide enough information for me
46 to understand what the risk analysis was, so
47 that's why I'm asking if you can give me some more

1 information on that.

2 MR. RYALL: Well, we were looking at what the risk
3 would be if we did not undertake those test
4 fisheries as far as gathering that stock
5 assessment information and so would it have an
6 impact on conservation, for example? Or was it
7 being used for other purposes? Some of the
8 programs that were being operated pre-**Larocque**
9 could have been information that would have been
10 helpful, but was more primarily being run for
11 purposes of gathering information for industry as
12 far as economic value and really, not being run
13 for conservation purposes and gathering stock
14 assessment information as much as we've talked
15 about here this morning about gathering in-season
16 run size information and other pertinent pieces
17 that would manage the fishery. So that was the
18 type -- one of the types of risk analysis that was
19 undertaken.

20 Q All right. So if you go back, if you could, to
21 page 11 of that document for the Pacific Region,
22 were each of these species which are shown in the
23 right-hand column analyzed, all the test fishing
24 programs for each of those species analyzed as to
25 whether they would have an impact on some of the
26 issues you just described? Is that -- I'm still
27 not really clear what the risk analysis was.

28 MR. RYALL: Well, I guess what I was saying is, for
29 example, there's -- could be a program that's
30 undertaken to determine whether herring roe is --
31 had a good quality, for example, that has a higher
32 economic value. Well, that doesn't really impact
33 upon whether we should harvest those fish or not
34 because of conservation reasons. It really
35 impacts upon whether that's the right time to
36 harvest those fish or not. Our view is that
37 that's more driven by an economic analysis than it
38 is a conservation analysis about what the actual
39 stock is.

40 Q What was --

41 MR. RYALL: So that's the distinction I was making,
42 what -- telling a risk analysis.

43 Q All right. What was the risk analysis that was
44 performed in relation to Fraser River sockeye?

45 MR. RYALL: Similar type of analysis.

46 Q And what was the outcome of that analysis?

47 MR. RYALL: Well, the outcome of that analysis was that

1 the test fisheries that were operating with -- for
2 Fraser River sockeye and pink salmon are very
3 important for the management of Fraser River
4 sockeye and pink salmon and that, as I was
5 speaking to earlier this morning, that we need
6 those test fisheries to operate to gather this
7 information to properly manage Fraser River
8 sockeye and pink salmon.

9 Q All right. Were any of the test fishing programs
10 that were operated at that time, 2006, changed as
11 a result of this risk analysis going forward?

12 MR. RYALL: No. This was providing guidance about what
13 sort of requirements would be to -- nationally to
14 operate test fishing programs, whether it be in
15 Pacific or Atlantic. As we talked about earlier,
16 as well, there's a whole process that comes up
17 with outlining what a test fishing program is
18 going to be for each year on an annual basis,
19 depending on what's returning. So then you make
20 some decisions on what needs to operate.

21 Q All right. Was this -- this was a presentation
22 that was done to -- as a result of a review of all
23 test fisheries, and was it designed to plan for
24 the next year or to set priorities for the future
25 in general or was it set for a five-year plan or
26 what was the context of this meeting?

27 MR. RYALL: Well, the context of this meeting was to
28 gather all this information. This was a -- well,
29 let me backtrack. Since the decision came down in
30 2006 it was that the department could not -- did
31 not have the authority to use fish to pay for this
32 type of service. It did not mean it didn't have
33 the authority to collect this information. It had
34 to do it in a different manner as far as payment
35 for those services. And the intent of this was to
36 figure out across all the problems across --
37 excuse me, all the programs across Canada, what
38 were those programs and what was the end use of
39 that information.

40 And to categorize it here as we've done into
41 a risk analysis of red, yellow and green, to give
42 an indication if we were going to now be
43 responsible for paying for these services within
44 the department or those other options that we
45 talked about here using payments either from DFO
46 or industry, how were we going to move ahead in
47 the short term, and as a result of providing

- 1 guidance to develop a submission to Treasury Board
2 to seek funds for five years to operate test
3 fisheries till a longer-term solution could be
4 developed.
- 5 Q And if -- do I read this graph pie chart on the
6 left-hand side of the page of page 11 as
7 indicating that the bulk of the test fishing costs
8 were paid for -- how can I say this? The bulk of
9 the high likelihood, high-impact test fisheries in
10 the Pacific Region were being at that time paid
11 for by catch, by industry in that sense?
- 12 MR. RYALL: Well, when this analysis was done, all
13 these test fisheries were operated through use of
14 fish. I mean, there could have been some
15 contributions, but the majority of those funds
16 were from use of fish.
- 17 Q Right. But this -- just reading this graph, is it
18 saying here this circle represents all of the
19 funding that's essentially provided by industry
20 through the sale of fish --
- 21 MR. RYALL: Well, what -- this is the interpretation I
22 would put on this graph on the left side --
- 23 Q Okay.
- 24 MR. RYALL: -- where it's coloured red and it has --
25 these are in millions, so \$10.5 million, in our
26 view those are high likelihood in impact and at
27 risk and have impacts on conservation. The other
28 ones where it says yellow is about 900,000 and
29 then low impact and -- is 354,000.
- 30 Q Right. And why is it described as industry
31 contributions to science programs?
- 32 MR. RYALL: Good question. Really, this is at the
33 time, you know, it's use of fish and probably
34 that's not the best label that should be on there
35 as far as industry contributions. These are use
36 of fish and I was -- thinking back to this, it
37 would be at that time this use of fish would come
38 off the TAC overall and more appropriately, it
39 probably should say industry contribution.
- 40 Q Okay. But it represents the value of the test
41 fishing program, I guess, that was funded by the
42 sale of fish --
- 43 MR. RYALL: That's correct.
- 44 Q -- and it's allocated between high impact, medium
45 impact and low impact?
- 46 MR. RYALL: That's correct.
- 47 Q All right. Following the presentation to the DMC

1 was a presentation made to Treasury Board for
2 funding? I think you described this already.
3 MR. RYALL: I don't know if this was presented or not.
4 Q No, I ask --
5 MR. RYALL: I was not involved with that part.
6 Q No, but was there -- ultimately there was a
7 presentation made to Treasury Board --
8 MR. RYALL: Yes.
9 Q -- for funding test fisheries?
10 MR. RYALL: That's correct, there was.
11 Q Okay. Following this meeting?
12 MR. RYALL: Yes.
13 Q And out of that there was a funding -- a policy to
14 fund test fisheries for five years; is that what
15 you said?
16 MR. RYALL: Well, the decision was to fund -- provided
17 funding to DFO to operate test fisheries
18 nationally, and it was an envelope of money with
19 ten million in the first year and 12 million
20 thereafter, and those are -- I'm talking national
21 dollars here, not coming to Pacific Region.
22 Q All right.
23 MR. RYALL: Within the Pacific Region it was about 50
24 percent of that ten -- of that money came to
25 Pacific Region because we're the -- well, we're a
26 large region and we have a lot of these programs
27 within Pacific Region. So roughly, I guess it was
28 about five million in the first year that came to
29 Pacific Region to conduct the stock assessment
30 programs and about 5.5 million thereafter. But
31 that's to do all species, not just salmon. That
32 was to do everything as indicated on here. It
33 covered -- these programs covered everything from
34 geoduck, ground fish, halibut, herring, crab,
35 rockfish, sablefish, salmon, sea cucumber, shrimp.
36 My point is that that five million was to cover
37 all those programs.
38 Q All right.
39 MR. RYALL: And out of that I would say about 1.2 to
40 1.6 is my recollection would go to salmon. And
41 out of that amounts of funds I would say roughly
42 half would end up being contained within the joint
43 project agreement that would go to operate Fraser
44 River sockeye and pink salmon programs.
45 Q All right. And this funding was called **Larocque**
46 relief funding?
47 MR. RYALL: Yes, that's the terminology. I don't...

1 Yeah.

2 Q Okay. And it was a funding agreement or
3 commitment for -- from 2007 to 2011?

4 MR. RYALL: Yes. This would be the last year.

5 Q And why was funding only committed to for five
6 years?

7 MR. RYALL: Well, as I was talking earlier, there was
8 the idea that this was to be until a longer-term
9 solution was found, which was a direction that
10 came from the DMC committee back November 1st,
11 2006. So here is funding for five years while a
12 longer-term solution is developed. It could be
13 any of those options that we were talking about
14 earlier. And the other one, as well, that's not
15 listed in this policy document about use of fish,
16 as I mentioned, was put in in amendments to the
17 **Fishery Act** that were tabled, as well.

18 Q Okay.

19 MR. RYALL: I mean, you really get down to those types
20 of options.

21 Our view going back into why these programs
22 are important and why they operate without TAC, as
23 well, is important, I think, as well, is that they
24 provide in-season information about the health of
25 the stock, whether it's providing this run size
26 information or stock ID information, how -- where
27 and -- where those fish are migrating that manage
28 fisheries that are going to impact on them,
29 whether those fisheries are First Nations FSE
30 fisheries, commercial fisheries or recreational
31 and without that information we don't have the
32 information to manage these fisheries.

33 Q Okay. Has the department decided what it will do
34 after this relief funding ends in 2011?

35 MR. RYALL: Well, I've been off this file for a little
36 bit so I don't know exactly the -- what sort of
37 options might be contemplated at this point.
38 There had been some work done earlier around those
39 four options when I was involved, but I don't know
40 the exact standing at this point in time.

41 Q It's fair to say though that you are not aware of
42 an agreed upon proposal or even an agreed upon
43 solution for -- that will take place after the
44 2011 funding expires?

45 MR. RYALL: It would be -- yes, I would agree with
46 that, that I'm not aware that there is an agreed
47 upon solution, but, you know, I mean this is also

1 not just a Pacific Region issue. This is a
2 national issue. You know, as you can see, as I
3 talked about Pacific Region does about 50 percent
4 of the cost of this, but -- so the other 50 -- my
5 point is that it's going to be a national policy.
6 It won't be a made-in-B.C. solution, I don't
7 think.

8 Q All right. How is the national -- while this
9 relief funding is in place, who makes the decision
10 as to how those funds will be allocated within the
11 Pacific Region?

12 MR. RYALL: Well, there's a national working group that
13 has membership from all the regions. It has
14 representatives from our Science Branch and our
15 Fisheries and Aquaculture Management Branch that
16 will get together on a -- more than an annual
17 basis, but -- so each year right now we have 12
18 million. So for 2011 there's \$12 million
19 nationally that's available to operate programs
20 across the country.

21 After four years, things have kind of settled
22 down into a -- what I mean settled down into a --
23 more of an operating type, so each region pretty
24 much knows what they're going to get on an annual
25 basis. But things change each year and so these
26 funding pressures will come up. The national
27 committee will get together and ask if there's
28 been any changes from the previous year from your
29 requirements. If there has, then what -- how are
30 we going to deal with those funding pressures?

31 In preparation for that national working
32 group, the regional groups will get together and
33 outline all the different programs that they need
34 to operate in a year, whether it's Fraser River
35 sockeye or geoducks or ground fish or halibut or
36 so on. That's then discussed in this national
37 working group and come to agreement about what the
38 regional allocation will be of that \$12 million.

39 Q All right. And who in the region actually makes
40 the decisions on where the funds go?

41 MR. RYALL: Well, it's not quite a, you know, a linear
42 fashion. We talked earlier this morning about a
43 fishing -- test fishing plan gets developed
44 through the Fraser River Panel. That test fishing
45 plan goes through the panel and gets finally
46 approved after some discussion about what's
47 required. That information is provided to the

1 financial administration committee that's also
2 within the Pacific Salmon Commission and that is
3 reported to the commission about what the
4 financial obligations will be for the parties and
5 then is approved by the commission as far as what
6 will happen as far as dollars will be provided to
7 operate test fishing programs.

8 Q So for Fraser River sockeye, is it -- is the
9 decision-making process in the first instance at
10 the Fraser River Panel level and then the
11 commission level and once the commission has made
12 its decision does it go to Canada for a further
13 approval? I know that Canada's part of the
14 commission, but does it go to a different place in
15 Canada for final approval or once the commission
16 is made up as approved the test fishing budget is
17 that binding in essence on Canada?

18 MR. RYALL: I would say it's binding on Canada to
19 deliver that program.

20 But the reason I raise this back and forth
21 discussion is that I know in 2008, for example,
22 there was, as I mentioned earlier, the U.S. had
23 provided \$200,000 roughly in 2007 and we're not
24 able or willing - I don't recall the details, but
25 they were not going to provide those funds in 2008
26 and on for various reasons. And there was also
27 discussion at that time about looking at whether
28 we were going to modify test fisheries within
29 Fraser River sockeye and the outcome of that was
30 is going back to the panel process of looking at
31 what's needed to operate.

32 The final outcome of all this though is that
33 a bilaterally-agreed test fishing program and what
34 the obligations of the parties, whether it's
35 Canada or the U.S. to operate.

36 Q Okay.

37 THE COMMISSIONER: Could I just again, Ms. Baker, just
38 so I understand this evidence, when you talk about
39 the funding that you've just spoken to, you're
40 addressing not just the test fisheries that you
41 described earlier on the map that you showed, but
42 you're also talking about Mission and Qualark as
43 well; is that correct?

44 MR. RYALL: That F-and-A committee will look at the
45 whole budget for the Pacific Salmon Commission and
46 test fishing should be one component as -- of
47 that.

1 THE COMMISSIONER: And hydroacoustic element is part of
2 that consideration?
3 MR. RYALL: It'll be another part of the consideration
4 as well as other aspects that the PSC funds, as
5 well. The F-and-A committee will look at the
6 whole package.
7 THE COMMISSIONER: I see.
8 MS. BAKER:
9 Q Does the PSC approve the costs of Qualark?
10 MR. RYALL: No. The PSC does not approve the cost of
11 Qualark. That's with departmental program.
12 Q All right. So there's some programs that are
13 simply dealt with by DFO outside of the PSC.
14 Qualark would be one. Was there any others?
15 MR. RYALL: For Fraser River sockeye?
16 Q Yes.
17 MR. RYALL: Yes, absolutely. You mean as far as test
18 fishing goes?
19 Q Yes.
20 MR. RYALL: In particular? There is programs that
21 have operated under the Southern Endowment Fund,
22 which is -- that goes back to the PSC and I think
23 in 2008 or '09 there was a feasibility study as --
24 Q Sorry. If I can just interrupt. I'm asking about
25 programs that are funded by DFO, not funded by the
26 Southern Endowment Fund and that are test fishing
27 programs, not -- not stock assessment programs or
28 anything like that, just test fishing programs.
29 MR. RYALL: Yeah. Well, the one I was going to raise
30 was a test fishing program at Siska which is just
31 downstream of Lytton. There was a fish wheel
32 feasibility study done there. There's also been
33 some --
34 Q Sorry, but was that funded by the Southern
35 Endowment Fund or was that --
36 MR. RYALL: That one was and --
37 Q So it wasn't a DFO-funded project.
38 MR. RYALL: No, that's correct. And then I was going
39 to also mention that there have been fish wheel
40 programs in the Lower Fraser that have received
41 funding from a variety of sources, some from DFO
42 and some from other sources, as well.
43 Q Okay. But the test fishing programs, the marine
44 area test fishing programs that we talked about
45 earlier this morning, those are all approved
46 through the PSC process, correct?
47 MR. RYALL: All the ones we talked about this morning,

- 1 that is correct.
- 2 Q Okay. And if I can ask you to turn to Tab 1 in
3 Canada's documents or Mr. Lunn can pull it up on
4 the screen, perhaps it might be simpler. This
5 document sets out test fishing program funding
6 from Canada. The first page is 2009 to 2010 but
7 if you turn through the document it goes back to
8 2007/8 is the first funding year, I think. There.
9 Yes. Stop there.
- 10 And that shows the funding. This is the
11 first program funding that was approved after the
12 **Larocque** came in; is that right?
- 13 MR. RYALL: Yes, 2007 was the first year.
- 14 Q And it shows a total funding of -- I'll just ask
15 you to point out to me where -- show me on -- if
16 you could, on this document where the total
17 funding provided by Canada shows?
- 18 MR. RYALL: Well, the line labelled Canadian
19 contribution under panel areas of 200,000 would be
20 the first part; and then under non-panel areas
21 where it says Canadian contribution of 265,000
22 would be the second part; and just to add a
23 complication to all of this where it's labelled
24 BCWHSPA funds, a further \$22,200 would also be
25 DFO-funded, as well.
- 26 Q And what is the line that says PSC test fishing,
27 what is that? 'Cause that's showing the amount
28 that was spent on PSC?
- 29 MR. RYALL: I would assume that that -- I haven't added
30 these numbers up, but I would -- it seems to me
31 that it adds up to -- oh, the other part is the --
32 or, excuse me, the U.S. contribution of 198,000
33 roughly up at the top under panel areas. So the
34 419,000 --
- 35 Q That's the portion that is simply allocated to PSC
36 test fisheries; is that correct?
- 37 MR. RYALL: I'm sorry, I haven't added these up. Do
38 you see, Jim?
- 39 MR. CAVE: Three-ninety-seven --
- 40 MR. RYALL: Yeah.
- 41 MR. CAVE: -- plus the 22 equals the four -- four-
42 twenty.
- 43 MR. RYALL: Yeah. Perfect. There you go. Jim knew
44 the answer.
- 45 Q So the answer was the three-ninety-seven plus
46 the --
- 47 MR. RYALL: Yes, the --

1 Q -- 22 --
2 MR. RYALL: -- three-ninety-seven plus the 22,000 comes
3 to the --
4 Q All right.
5 MR. RYALL: -- four-twenty.
6 Q Right. And what -- for non-panel waters, two-
7 sixty-five, that is not considered a PSC test
8 fishery and that's why we separate it out from the
9 total?
10 MR. RYALL: I think that's the reason, yes.
11 Q Okay. And then if you go to the 2008/9 year, you
12 see the number is now 665,394 PSC test fishing?
13 MR. RYALL: Yes.
14 Q And then in the current year or the past year,
15 sorry, 2009 to 2010, the number is -- now, when I
16 read this document I was having -- sort of
17 struggling with this 'cause it looked like the
18 number had gone way down. Can you explain to me,
19 is two-fifty-one the total PSC test fishing
20 payment from Canada in the 2009/10 year or is it
21 the 705,000 that you see to the --
22 MR. RYALL: Actually, I think it's the combination of
23 the two.
24 Q Okay.
25 MR. RYALL: I think where it says contributions, and I
26 say think. I actually didn't put this table
27 together and it was put together through the PSC
28 that are administering the funds, but my
29 understanding of this is that where it says
30 Canada's contributions that total up 706,000
31 roughly, it came from fiscal year 2009/2010.
32 Where it says contributions that add up to 251,000
33 was a requirement to find some additional funds to
34 fund test fishing programs in '09/'10 that was
35 also provided. So roughly 951,000 but we'd need
36 to confirm that.
37 Q All right. Do you have any information on that,
38 Mr. Cave?
39 MR. CAVE: This is probably a document that we had put
40 together in part and I think there's -- it looks
41 to me that there's a carry-over from the 2008
42 season, Paul, which is why that \$152,438 looks to
43 me to be a carry-over.
44 MR. RYALL: That's the way I was reading it, as well.
45 MR. CAVE: Yeah. And also, there's a small
46 contribution from the PSC revolving fund in that
47 year, as well, which is -- there was a budget

1 shortfall.

2 Q What is the PSC revolving fund?

3 MR. CAVE: Well, there's a fund that was pre-**Larocque**,
4 if I may, where it was capped at \$500,000 by
5 finance and administration committee of the
6 Pacific Salmon Commission to, in years where there
7 was insufficient fish to fund the program or
8 conservation concerns, that that fund could be
9 used. It has been used only occasionally in a
10 limited extent, and because it was generated pre-
11 **Larocque** by fish sales, there's been a reluctance
12 to use it and it requires bilateral -- I believe
13 bilateral approval to access those funds.

14 Q Does that fund still exist?

15 MR. CAVE: Yes.

16 Q Okay.

17 MR. CAVE: And I believe -- I believe it is fully
18 topped up to the \$500,000. But I can't -- I'm not
19 certain of that.

20 MS. BAKER: All right. I'd like this document, please,
21 marked as the next exhibit.

22 THE REGISTRAR: Exhibit number 371.

23

24 EXHIBIT 371: Summary of Test Fishing Program
25 Costs 2007-2010

26

27 MS. BAKER:

28 Q I think I touched on this question earlier, but if
29 we could just go back, has there been any impact
30 on the Fraser River sockeye test fisheries from
31 the loss of fish sales in the test fishing
32 program? Has that impacted the test fishing
33 program of the PSC? And I'll ask that to Mr. Cave
34 to start.

35 MR. CAVE: We've managed to retain our core programs.
36 There have been some changes. There's been a
37 considerable discussion on this subject. We've
38 managed to retain the -- our core test fisheries,
39 such as the purse seine, the marine purse seine,
40 the marine gillnet, the marine -- the river
41 gillnet test fisheries. There has been some --
42 some of the days where we had for days of overlap
43 between the Area 12 and within the Area 12 and
44 within the Area 13 purse seine test fisheries,
45 those have been removed. And those have removed
46 some flexibility to fund other initiatives.

47 For example, some of the radio tagging work

1 that was carried on by LGL, we were able to fund
2 some of those activities through sale of fish.
3 We're no longer able to do so. So -- as part of
4 test fishing program. They've had to, when
5 they've had to do marine tagging, they've had to
6 find those funds themselves.

7 There has been some removal of some of the
8 fishing time from the river gillnet test
9 fisheries, as well, and -- but by and large we've
10 been able to maintain our core programs, but it's
11 been -- you know, it's been the subject of some
12 discussion.

13 Q Have there been impacts to other non-sockeye
14 fisheries?

15 MR. CAVE: By non-sockeye fisheries, you're referring
16 to pink or...?

17 Q Chum, pink, others.

18 MR. CAVE: I can't speak to those other species.

19 Q Mr. Ryall, can you?

20 MR. RYALL: There has been some impact on some of the
21 other species, I would say.

22 Q There was a Chum fishery in Johnstone Strait which
23 has been eliminated; is that right?

24 MR. RYALL: Well, it was eliminated and -- for a couple
25 of years but it has been re-started and one needs
26 to look at these whole things in a whole
27 comprehensive package. Bottom line to me, though,
28 is that each year that when we go through and try
29 and determine what we need to do as an annual test
30 fishing program is what are the priorities and
31 what are the needs to meet to do the assessment.
32 There has been, I would say, some impact on some
33 of the other species, though, just as a summary.

34 Q All right. And Mr. Assu, have you got anything to
35 add to that?

36 MR. ASSU: I don't think I have any more to add to what
37 Paul has said.

38 Q Okay.

39 THE COMMISSIONER: Ms. Baker, could I just again for
40 clarification, either Mr. Cave or Mr. Ryall, to
41 the extent that the test fisheries contribute to
42 the process of forecasting and escapement
43 information that's supplied to the Pacific Salmon
44 Commission, are the numbers you're talking about
45 within these numbers or -- in other words, to the
46 extent that DFO is using test fisheries to develop
47 pre- and in-season information with respect to

1 escapement or forecasting, are the costs
2 associated with that all part of the numbers
3 you've been talking about or is there another set
4 of numbers?

5 MR. RYALL: No. These three fiscal years that we've
6 been looking at are incorporated in these tables.
7 And the reason that there's not one for 2010 and
8 '11 is that they're still gathering information to
9 complete that one. But as far as -- I think, as
10 well, the question, I think, maybe you're asking
11 as well is were there any impacts on test
12 fisheries as far as the assessment capability
13 either in quantity or quality. I think, as Jim
14 was saying, that we have retained and continue to
15 operate test fisheries to gather the information
16 and provide the assessment that we need to manage
17 Fraser sockeye and pink salmon.

18 I would say, having said that though, this is
19 not a static thing, whether it's use of fish or
20 whether it's use of dollars to pay for these
21 services. If we go back into history when we were
22 using use of fish to pay for the services and
23 gathering this information, that amount went up
24 over the years and I think at the last amount, so
25 we were harvesting probably about 110,000 sockeye,
26 Jim, in that order. I think in recent years we're
27 probably between 30 and 40,000 sockeye, so we've
28 made this change because of the -- we've reduced
29 the impact on the overall stock, but we still are
30 killing fish, 30 to 40,000 on average, I would
31 guess.

32 But whether it was use of fish or dollars,
33 when we go back to use of fish, that came off the
34 overall total allowable catch. This has an impact
35 on other people and they're watching this very
36 carefully. There's always this trade-off. You
37 can gather more information, but it's going to be
38 a cost and whether it's a cost in money or it's a
39 cost in fish and so how -- if you harvest more
40 fish to -- use of fish to pay for those test
41 fisheries, then it's going to have an impact on
42 the resource. So, you know, you've got to balance
43 what your information needs are against the costs
44 that you're undertaking, as well.

45 So whether, you know, we were looking at use
46 of fish or dollars, each year we would be looking
47 at these test fishing programs very carefully

1 about what do we need to provide a program to run
2 and gather this information? And what's the
3 impact going to be? And how are we going to make
4 -- and then make those judgments and go through
5 the whole process of having those discussions
6 within the Fraser River Panel and coming up with
7 agreed test fishing program.

8 I think there are, personally, benefits to
9 use of fish as far as putting the obligation on
10 the resource. It's used to -- as I mentioned, as
11 well, around conservation, this is -- we were not
12 just making these decisions around whether a
13 commercial fishery operates or not. It's a
14 matter, as well, of access for First Nations
15 fisheries, as well. And one needs to gather this
16 type of information.

17 Q Mr. Cave?

18 MR. CAVE: Just to clarify, that the test fishing
19 budget is administered separately from the other
20 budgets. It's not hydroacoustics, it's not part
21 of an overall budget. It's in its own area
22 historically because it has involved use of fish
23 to pay for it. None of the other programs have
24 that. So either the DFO programs for the spawning
25 ground enumeration or any other core programs or
26 our own, the DNA, the hydroacoustics program, in-
27 season management, all of those things are funded
28 from bilateral funds. The test fishing is funded
29 by use of -- has historically been funded up until
30 2007 by use of fish and only beginning in 2007
31 were separate funds made available to fund the
32 test fishing program. I think that clarification
33 is important.

34 Q Mm-hmm.

35 MR. CAVE: I think one other thing that I would add is
36 under this environment, it's more difficult to --
37 we have not made a case for additional test
38 fisheries, so if you wanted another test
39 fishery... One year I -- in fact, in 2009 I
40 specifically asked that we consider a west coast
41 of Vancouver Island troll test fishery in the
42 middle of 2009 because we weren't seeing the fish
43 anywhere and it would be useful to go a little bit
44 seaward to see whether, in fact, there was
45 anything out there, give us a little bit more lead
46 time and it was basically turned down.

47 Q Okay.

1 MR. CAVE: Because -- essentially because of funding
2 issues and for balancing that off against
3 information needs.

4 Q Is it fair to say that there has been pressure to
5 reduce test fishing costs, since 2007?

6 MR. RYALL: Well, I guess I might be repeating myself,
7 but whether it's use of fish or dollars, you're
8 going to be asking yourself those questions about
9 what information you need to run these test
10 fisheries. So I would say yes, each year we,
11 within Canada, and similarly within the U.S. would
12 be looking at what's required.

13 Q Okay. If I could have you turn to Tab 5, which is
14 CAN013783. This is a memo that was written by
15 you, Mr. Cave, March 30, 2007 and it was to Mike
16 Lapointe and Don Kowal at the commission. In this
17 memo you outline a number of options to reduce
18 test fishing costs; do you see that?

19 MR. CAVE: Yes, I do.

20 Q Why was this memo prepared?

21 MR. CAVE: Well, we had met with members of the Fraser
22 Panel and indicated Paul Ryall and Dave Cantillon,
23 some of the technical committee members. I can't
24 recall whether this was a telephone conference
25 call. And what we -- we were asked to review some
26 of our core programs. First option that's
27 outlined there is that we would start Area 20
28 later and largely that was okay. We felt that was
29 reasonable because of the small size of the return
30 that was expected in 2007 for Early Stuart, and
31 that given there would be conservation concerns it
32 would not be unreasonable to start that later and
33 I think it started on July the 14th that year. So
34 there were cost savings that came with that. And
35 I've noted that there's minimal jeopardy, given
36 the forecast Early Stuart sockeye. The Round
37 Island gillnet would remain as July 10th, so I
38 think we actually moved the Area 20 program to
39 July 14 that year, but Round Island remained at
40 July 10.

41 Another one is to operate all Fraser Panel
42 approved test fisheries during August only.
43 Potential concern was summer run sockeye. Felt
44 that I would rather see -- I felt we could get
45 through the early part of the summer run with
46 primarily gillnet test fishing information. But I
47 felt -- I emphasized that if we wanted to

1 understand the Fraser River pink salmon return, we
2 would need to carry -- that those test fisheries
3 were very valuable in September, in particular
4 because there is no escapement estimation program
5 for Fraser River pink salmon and the only way we
6 can estimate the size of the total return of
7 Fraser River pinks is with marine area assessment.

8 Q Were any changes made in reaction to that option?

9 MR. CAVE: Well, in fact, we did start those test
10 fisheries on August 1st, if I recall, but that was
11 largely because there was no abundance of sockeye
12 early in those test fisheries, so we started them
13 late. And that's generally something we typically
14 do. I would prefer to see test fisheries start on
15 some building abundance. If you don't see the
16 building abundance in the gillnet test fisheries,
17 the seine test fisheries are costly to operate,
18 it's prudent fiscally to delay those if there's --
19 if the information is low on it. That's balanced
20 against the need for the individual test fishermen
21 involved to have an income. If we take too many
22 days of test fishing away from them, they can't
23 earn a living. The return does not justify their
24 commitment, their financial commitment to the test
25 fishery.

26 The last, the third one, operate the test
27 fisheries every other day, I was dead set against
28 this. I knew I couldn't sell it to the test
29 fishermen. I knew, for example, for Area 20 my --
30 the test fishermen there would not agree to it.
31 Brian can probably comment as to whether he would
32 agree to that.

33 Test fisheries in the Fraser River, I noted
34 we had no options. If we need to assign a minimum
35 wage, a minimum of \$50,000 to this test fishery --

36 Q Were you introducing a new test fishery that year
37 in the river?

38 MR. CAVE: We did. We wanted the test fishery at
39 Mission was -- and I don't think at this time we'd
40 identified it or discussed that, but I cannot
41 recall when the request for the Sumas test fishery
42 was in place.

43 Q And then just to go back to the beginning of this
44 memo, you indicate you begin by saying that you
45 had:

46
47 ...had this meeting with Mr. Ryall and Mr.

1 Cantillon and various members of the
2 technical committee to discuss options
3 provided to the panel and finance committee
4 and Mr. Ryall at that time indicated that no
5 sale of fish was more likely than Option 2 --
6

7 I'm not sure what Option 2 was.
8

9 -- based on discussion with the lawyers.
10 Paul stated he would like to see a third
11 option reflecting a reduction of test fishing
12 programs.
13

14 And Mr. Ryall, this was in -- this was because you
15 needed to find ways to reduce costs in the test
16 fishing program; isn't that fair?

17 MR. RYALL: Well, I don't know that it's fair to say
18 it's reduced costs. We were looking at ways to
19 what information is required and so do we need to
20 start the Area 20 gillnet later? Is that an
21 option? So the overall impact of that would be,
22 yes, it would reduce costs.

23 Q All right. And that was, I take it, something
24 that Canada was looking to do because all of a
25 sudden Canada was faced with having to fund all
26 these programs when they hadn't in the past, when
27 you hadn't in the past?

28 MR. RYALL: We had not funded them through dollars,
29 that's correct.

30 Q Okay. Now, if you can turn to --

31 MS. BAKER: Sorry. I'd like that marked, please, as
32 the next exhibit.

33 THE REGISTRAR: Exhibit 372.
34

35 EXHIBIT 372: Possible Options to Reduce Test
36 Fishing Costs in 2001
37

38 MS. BAKER:

39 Q And then Tab 6 is a memo, this is in April of
40 2007, so the same year and it looks like there is
41 at this point, again, this is a memo from you, Mr.
42 Cave, to Mr. Lapointe and there was further
43 consideration done of dropping certain test
44 fisheries and this is your response to those
45 proposals. Why was this memo prepared or do you
46 remember the context of that discussion?

47 MR. CAVE: Well, there was a suggestion that some of

1 the test fisheries that there was some redundancy,
2 that perhaps under this environment of funding
3 could not be afforded, was not affordable. And so
4 I felt - and one of the suggestions was - that the
5 Area 13 test fishery is -- did we need it? And I
6 said well, yes, we did. And we did in particular
7 because it's a quantitative argument but one that
8 shows that we can reduce the uncertainty in our
9 overall estimation and this is before Catherine
10 came on staff, so I sort of dug into my own
11 documents and dug this out, that essentially the
12 uncertainty is cut dramatically by having
13 independent estimates of abundance.

14 So as a person who is involved with doing
15 these estimates, I'm -- I felt that it would be a
16 real mistake to get rid of this test fishery
17 because we use it to average the abundance
18 estimates essentially. It doesn't just average
19 the abundance estimates, it comes with increased
20 certainty or let's put it this way, reduced
21 uncertainty is a more correct way of saying that.
22 It reduces your uncertainty in the estimates. And
23 so it gives us tighter probability intervals when
24 we're estimating run size.

25 Q And what happened as a result of that discussion
26 or whatever discussions followed your memorandum,
27 was Area 13 dropped?

28 MR. CAVE: No, it is -- it continues and Brian Assu is
29 the test fisherman there and it continues through
30 2010 and it would be -- it's on our proposed
31 program for 2011, as well.

32 Q All right. And was it changed? Was there a
33 reduction in the test fishery activity in Area 13?

34 MR. CAVE: What was done was we had two test fishermen
35 there and there was -- it was felt that we had
36 more flexibility by going to a single individual
37 and it would allow us to, if we had to restructure
38 the test fishery, it would come with less effect
39 on the income of the individual in part. And as
40 I'd mentioned, what doesn't come out here - and
41 I'm sure Brian can speak to this better than I can
42 - but we're starting to get to the point with
43 fisheries in Canada and on Fraser River sockeye
44 where people are wondering whether they should
45 continue to fish. And we need good people. They
46 need to maintain their investment. They need to
47 maintain their boat. They need to maintain their

1 gear. And if you're not paying them enough from
2 the test fishery and they don't get commercial
3 opportunities, it comes to the point where they
4 wonder whether it's worth them continuing. And so
5 it comes down to income and it's -- they do a job
6 and we have to pay them appropriately for the job
7 they do and on top of that, they have to maintain
8 their investment.

9 Q All right. Mr. Assu, maybe I could just ask you
10 to comment on that. Can a test fisher operate on
11 a reduced schedule on every other day or whatever,
12 a reduction, 50 percent reduction as to what the
13 current operations are that you're involved in?

14 MR. ASSU: Well, I certainly didn't like the every
15 other day proposal. It just -- really because of
16 the gear that you've got. Leaving the seine net
17 on the drum for a day, you know, every other day
18 just doesn't make any sense, and it's hard with
19 the crew. You know, they don't all live in
20 Campbell River and you've got to bring them in, so
21 just the logistics.

22 But the reduced part, I guess we've lived
23 through that, Jim. I guess we shortened up on,
24 you know, the front end of the test fishery and I
25 guess somewhat on the back end too.

26 Q But the idea of cutting out every other day, which
27 may make sense from a science perspective, is it a
28 workable solution from a fisher perspective?

29 MR. ASSU: Well, we're -- no, the every other day, it
30 just -- I remember this being talked about
31 previously and, no, it just didn't make sense.

32 Q Would you be able to continue operating as a test
33 fisher if that was the option available to you?

34 MR. ASSU: Personally I guess I wouldn't have any
35 choice, because I have the contract. But --

36 Q Would you negotiate a new contract on those terms?

37 MR. ASSU: You know, when Jim talks about, you know,
38 the reasons too behind what you're doing is -- the
39 crew play a big part in all of this. It's very
40 difficult to find a good crew nowadays with the
41 way the whole industry is. It's changed. And I'm
42 not just talking about salmon. Salmon and herring
43 both go together in a lot of our communities and
44 it's been a difficult time. You know, getting a
45 good crew is really difficult and you need it.

46 Q Okay. Thank you. Mr. Cave, back to your memo.
47 I'll just try and finish this memo before the

1 lunch break.

2 MR. CAVE: I'd like to add one thing --

3 Q Yeah.

4 MR. CAVE: -- to -- although when you go to every other
5 day, you're losing a lot of information. You
6 might say you can average in between, but it does
7 result in increase in the uncertainty in the
8 estimates, 'cause you're interpolating between
9 days. It's a loss of information.

10 Q Right. And I take it one of the goals that you
11 have is to reduce uncertainties, not increase
12 uncertainties.

13 MR. CAVE: Under this environment, I think I'm looking
14 for more, not less.

15 THE COMMISSIONER: Ms. Baker, could we take the break
16 at this point?

17 MS. BAKER: Could I ask him just a couple of questions
18 on this document and then I'll be done? No?

19 THE COMMISSIONER: I would prefer --

20 MS. BAKER: You've got to go. Okay.

21 THE COMMISSIONER: Thanks a lot.

22 MS. BAKER: Thank you.

23 THE REGISTRAR: Hearing will now adjourn until 2:00
24 p.m.

25

26 (PROCEEDINGS ADJOURNED FOR NOON RECESS)

27 (PROCEEDINGS RECONVENED)

28

29 THE REGISTRAR: The hearing will now resume.

30 MS. BAKER: Thank you.

31

32 EXAMINATION IN CHIEF BY MS. BAKER, continuing:

33

34 Q Mr. Cave, we were looking at a document, a memo,
35 dated April 11, 2007. It was at Tab 6.

36 MS. BAKER: Maybe I'll mark that as an exhibit so it's
37 on the record.

38 THE REGISTRAR: Exhibit number 373.

39

40 EXHIBIT 373: Memo dated April 11, 2007 from
41 Jim Cave to Mike Lapointe

42

43 MS. BAKER:

44 Q And we had talked about the option of dropping
45 Area 13, and you described what your reaction was
46 to that suggestion.

47 The next -- there's two other -- three other

1 points, I guess, in this memo that you set out.
2 One of them is to drop one of the river test
3 fisheries. Was that being proposed to the
4 Commission as a way to reduce costs?

5 MR. CAVE: Yes, that's correct.

6 Q And what was the -- what's your view on the
7 necessity for the river test fisheries?

8 MR. CAVE: Well, first of all, these test fisheries
9 have different objectives. One is a species
10 composition test fishery. The other one is
11 primarily a stock ID test fishery. The design of
12 the nets are different, so you really can't --
13 they're just different, completely different gear.

14 Second of all, we have a problem with low
15 stock sample size, particularly on some of these
16 small years. We've been bumping up against low
17 catches, so small sample size for our work.

18 Finally, again, having different samples, it
19 reduces your overall bias in stock composition, so
20 those were the three main points that I raised
21 there.

22 Q Maybe you could just explain, then, what is the
23 difference between species composition and stock
24 identification?

25 MR. CAVE: Stock identification is only for Fraser
26 sockeye. So we have different Fraser sockeye have
27 different sizes. So Nadina are very small, Weaver
28 are very large. There's five-year-old fish as
29 well that are large. So we have a net that has
30 different mesh sizes to catch the different sizes
31 that represent the different stock mix that we're
32 dealing with.

33 Species composition is we have Chinook, pink,
34 Coho and chum as well as sockeye. We need to try
35 and get an unbiased representation of the
36 proportion of sockeye in the migration that's
37 passing Mission. So if we had a Mission number,
38 we multiply that by the percent sockeye. Let's
39 say it's 90 percent. So we've gone from, say,
40 100,000 total fish to 90,000 total fish. If we
41 want to find out how much Chilko are going by, we
42 multiply that by the stock composition. So it's
43 40 percent Chilko in what's left. It's 40 percent
44 of 90,000 fish, so 36,000 fish. That's kind of
45 what we're doing here.

46 Q Those two different tests provide you with
47 different pieces of data for that analysis.

- 1 MR. CAVE: Different pieces of information, and they're
2 both critical to what we do when we're estimating
3 the daily passage of the different stocks that are
4 going by Mission.
- 5 Q And so were any changes made to that? Was a river
6 test fishery dropped?
- 7 MR. CAVE: No, no, none were.
- 8 Q And in fact you eventually did add in the 2000 --
9 maybe 2007 or '08, you added another test fishery
10 into the river; is that right?
- 11 MR. CAVE: Yes, that's correct. In order to collect
12 additional species composition information at
13 Mission, specifically directed at the sockeye/pink
14 salmon transition period which is a period of
15 difficult -- would have had difficulty estimating
16 the proportion of sockeye and pink at Mission.
- 17 Q This is the Sumas test fishery. We did hear about
18 this from Mike Lapointe, but that's the same
19 program; is that right?
- 20 MR. CAVE: Yes, that's correct, yeah.
- 21 Q Okay. And then another proposal was to reduce
22 seine fishing in July?
- 23 MR. CAVE: Mm-hmm.
- 24 Q What was your reaction to that?
- 25 MR. CAVE: The date of this memo is...?
- 26 Q April 2007.
- 27 MR. CAVE: 2007. In fact, we did this, but we did this
28 for -- we actually had a -- I think we got rid of
29 about two to three days in the schedule. So
30 normally we'd start around somewhere between the
31 20th of July -- I think the final schedule was the
32 23rd of July. In fact, we had such low abundance
33 that we were seeing in the gillnet test fisheries,
34 that we decided to delay the seine test fisheries.
- 35 Q So this is the gillnet. Is that Area 20 or is
36 that...?
- 37 MR. CAVE: Area 20 and Round Island. So Area 20
38 gillnet was providing us feedback as to whether or
39 not we needed to open the Area 20 purse seine.
40 The Round Island gillnet was providing us
41 information as to whether or not we needed to
42 start the Area 12 purse seine, and then later the
43 Area 13 purse seine.
- 44 Q So you delayed the opening of the Area 12 test
45 fishery, but that was, it sounds like, more
46 reaction to the fact that you weren't seeing an
47 abundance that justified Area 12 in that year as

1 it turned out; is that fair?

2 MR. CAVE: Well, it was actually, as I mentioned, both.
3 We actually had a slightly later start date of
4 about three days in the schedule, and then again
5 we actually delayed the start of the test fishery
6 based upon the information we were seeing in
7 season.

8 Q All right. And then the last heading in your memo
9 here is, "Implications of reduced frequency of
10 test fishing." Is this the discussion we had
11 before lunch where you talked about sampling every
12 other day, and so you talked about some of the
13 difficulties scientifically in losing data by
14 going through that process.

15 MR. CAVE: Yes. If I could see that?

16 Q It's the "Implications of reduced frequency for
17 test fishing." There, stop.

18 MR. CAVE: Yeah, so what we're saying here is that it
19 doesn't necessarily reduce the accuracy, but it
20 increases the uncertainty or variability of the
21 run size estimates substantially. Basically what
22 you're doing is if you'd go every other day,
23 you're cutting your data in half, and you're
24 extrapolating between days. So, in a qualitative
25 sense, it actually means that you're less certain
26 about the run size estimates that you generate
27 from that.

28 Q Right. And you also talked about the difficulty
29 in having test fishers that would be willing to
30 take on that assignment on every other day.

31 MR. CAVE: Yes. I had been told it's what do they do
32 when they're in the middle of nowhere on their
33 days off, and their income is cut in half. As
34 Brian alluded, it's hard to keep a crew. A
35 skipper might think that's fine, but then all of a
36 sudden he loses key crew members, and it affects
37 the test fishing operation. He has to find
38 replacements. It's not something I supported at
39 all.

40 Q And has this sort of reduction been implemented?
41 Every other day instead of every day test fishery?

42 MR. CAVE: No.

43 Q So those memos that we just looked at were in
44 2007. Was there continued suggestions from the
45 Panel or from Canada that reductions be found in
46 the test fishing program since 2007?

47 MR. CAVE: I believe in 2008, we had a meeting in June.

1 It was not a Panel meeting, it was a smaller group
2 where some of the test fishing options were
3 discussed.

4 Q And what was the outcome of that?

5 MR. CAVE: I think there was -- I believe there was a
6 call for a certain dollar value of reduction that
7 would not be available to us over our budget.
8 What it did, as far as I was concerned, was that
9 our test fishermen in specifically the river -- a
10 lot of these cuts were directed at the river,
11 cutting down days. If there's no fish, we stop
12 test fishing, but if there are fish, we need to
13 continue test fishing because of sample size
14 restrictions.

15 But also it goes to income, as I mentioned.
16 After it gets to a point where it's not worth that
17 test fisherman's while to continue test fishing.

18 I went to bat for our test fishermen, as I recall.

19 Q And so were any test fisheries reduced as a result
20 of those discussions in 2008?

21 MR. CAVE: They were, simply because the run was quite
22 early. Once the fish dried up, there was no point
23 in continuing. So if there's a data need, we'd
24 like to continue test fishing.

25 Q Okay. Mr. Assu, have you seen reductions in your
26 test fishing program?

27 MR. ASSU: I guess what I would add to what Jim
28 described was Area 13 had two vessels operating
29 there previously, and it was reduced to one vessel
30 to try and make some savings there. I think
31 that's the only one that I can remember.

32 Q I think earlier you had mentioned that some days
33 had been trimmed at the front end and the back
34 end. Have you experienced that as well?

35 MR. ASSU: Well, I think all of the test fisheries'
36 timing has changed for start and ending.

37 Q Okay. Reducing the length of the test fishing?

38 MR. ASSU: I guess it has been reduced a bit, you know,
39 in some cases. I can't remember the exact number
40 of days, though.

41 Q All right. I'd like to move to a new topic and
42 that is quality of information and data gained
43 through the test fisheries. Has the quality of
44 information generated by test fisheries changed
45 over the years? I'd to start with you, Mr. Cave.

46 MR. CAVE: In the case of the seine test fisheries,
47 when I first started working with them, and my

1 first year with them was 1984, you would schedule
2 them a couple or three days, two or three days a
3 week. So if you had a commercial fishery, they
4 may fish Monday through Wednesday -- Monday,
5 Tuesday if they had two days a week, then Monday,
6 Tuesday, Wednesday.

7 Now, in those days the seine fishermen would
8 line up. They called it "line up", and what they
9 would do is when the next week's opening was
10 announced, they'd actually line up for the
11 preferred purse seine spots, locations. So we
12 could test fish for basically Wednesday, Thursday
13 and Friday. So if you had two days of commercial
14 fishing, you might be able to test fish for three
15 days, and then the fishermen would want to go get
16 into the line-up. They called line-up spots, and
17 Brian can speak to these. It's first-come, first-
18 served and you line up and you say what tide you
19 want to go commercial fishing on, because that's
20 your livelihood.

21 Once we started to get into this -- in about
22 1984, when we had the Fraser River Sockeye Review
23 Board, and moving into 1995 when there was area
24 licensing coming into effect, commercial fishing
25 was much, much more reduced. At the same time,
26 there were recommendations that came out of that
27 Fraser River Sockeye Review Board and the Area 13
28 test fishery was one such program. It became
29 clear that for us to -- in the reduction of the
30 commercial fishing, for us to maintain our ability
31 to attempt to make run size estimates, we had to
32 increase our sampling with test fisheries.

33 So currently we run these test fisheries
34 daily, almost without exception. So once those
35 purse seine test fisheries start up, they're
36 running seven days a week. Even under the
37 commercial fishing over the last couple of years,
38 the so-called ITQs, which have been operational,
39 we will test fish through those. If it was what
40 they call a derby-style fishery where it wasn't
41 under individual transferable quota, again, we
42 wouldn't test fish at that time because all the
43 fleet could go out.

44 So, yes, the quality of test fishing has
45 improved, in particular, the purse seine test
46 fishing. We've been doing a little less gillnet
47 test fishing commensurately, in part, because of

1 some conservation concerns later in the run,
2 particularly on Late run sockeye.
3 Q Okay. You did refer to the fact that commercial
4 fishing was taking place in the past more
5 frequently on Monday, Tuesday, or whatever, two to
6 three days a week.
7 MR. CAVE: Yes.
8 Q Were those derby-style fisheries?
9 MR. CAVE: Yes, they were.
10 Q And did you use that information that was obtained
11 from commercial fisheries in doing your analysis
12 of run sizes?
13 MR. CAVE: The major run-size estimation, up until
14 1994, was based on assessment of commercial purse
15 seine test fishing data. Those data were written
16 up. Those models were reviewed and written up in
17 a document called "Pacific Salmon Commission Test
18 Fishing Technical Report #6". So up until that
19 time, we were using these commercial run size
20 models that harvested a substantial fraction of
21 the fish migrating through Juan de Fuca and
22 Johnstone Straits.
23 Q And has that situation changed?
24 MR. CAVE: Yes, it has, and I believe I've provided a
25 document that would show just how that situation
26 has changed.
27 MS. BAKER: Mr. Cave provided me last week with a
28 document that's just been circulated to all the
29 participants. Mr. Lunn, do you have a copy of it?
30 It's got "return abundance" and "total
31 exploitation rates", Areas 11 to 13, and 20 net
32 fisheries and then a graph which shows returned
33 abundance and total exploitation rates in Areas 11
34 to 13 and 20 net fisheries.
35 Q So is this a useful document for you to explain
36 what you want to talk about now?
37 MR. CAVE: Yes, it is. So the first page is just
38 simply a table of the graph. So you have total
39 return, the Area 20 total net catch, the Areas 11
40 through 13 net catch, and then the combined
41 exploitation rate, which is simply Area 20 plus
42 the Area 11 to 13 catch divided by total run. So
43 that final column is what we call "exploitation
44 rate" which is the proportion of the run that has
45 been removed from the total return.
46 So you'll note that there's some interesting
47 data here. So if you go through, looking down

1 that Area 20 net fishing column, you'll notice
2 there's a whole bunch of zeros beginning in 1998.
3 Those zeros, that was due to the Coho conservation
4 restrictions. The net fisheries in Area 20 were
5 completely closed to any kind of fishing, period,
6 in those years from '98 to 2000.

7 In 2001, they had an experimental kind of a
8 fishery to see whether or not they could catch
9 sockeye and still have sufficient conservation for
10 Coho. Those were highly monitored fisheries.
11 Paul can probably speak to these in a bit more
12 detail.

13 You'll notice that there's large numbers of
14 gaps, so we need to have commercial fisheries in
15 both Juan de Fuca Strait and Johnstone Straits in
16 order to have a total run size model.

17 Q Right now, you have test fisheries in both those
18 areas?

19 MR. CAVE: We have test fisheries in both those areas,
20 but if we wanted to have commercial run size
21 models, we'd have to have some level of catch, and
22 it should be weekly, because if it isn't, then you
23 could be -- these were based on the peak catch for
24 the year. So you would fish each week, and at
25 some point you get a peak in your catch for a
26 particular stock, and it's that week you use in
27 your run size model. Well, if you didn't go
28 fishing that week, you lose that information.

29 If we were to continue with marine area
30 assessments, the only way we can do that now,
31 currently, is with purse seine test fishing and
32 gillnet test fishing.

33 Q The only way you can do that is because of various
34 conservation constraints on the runs coming
35 through Area 20?

36 MR. CAVE: Principally, yes.

37 Q And that includes the Late run that come through
38 Area 20?

39 MR. CAVE: Yes.

40 MR. RYALL: I was just going to add one thing. In more
41 recent years, there's also been much lower returns
42 of Fraser sockeye overall as well, is why there's
43 not been commercial fisheries. So looking at
44 2007, '08 and '09, you'll see that the actual
45 total returns there are very much lower with one-
46 and-a-half million, 1.7 million, 1.4 million. So
47 there were not commercial fisheries to any extent

1 in those years, so that's what's limiting this
2 collection of information through commercial
3 fisheries. There's just not enough TAC to have
4 those fisheries go ahead, which increases the
5 reliance on test fisheries to collect that
6 information.

7 Q When Area 20 stopped being available for
8 commercial catch in some of these years, and when
9 the run size began declining generally, did the
10 PSC make changes to the test fishing program? I
11 think you've described that now the test fishing
12 takes place every day, not the first two or three
13 days a week. Is that one of the changes that was
14 done?

15 MR. CAVE: That's the principal one, and we've also
16 added Area 13 --

17 Q Okay.

18 MR. CAVE: -- to our suite of run size estimation.

19 So if we go to the graph, and it might be
20 useful to page down here, to finish my argument.
21 The sweet spot, it appears from this graph - and
22 I'm just trying to show in general here - there's
23 some declines in here. So if you look at it,
24 there's a decline in about '62 to '64. That was
25 low run size.

26 In 1975, there's a major decline. That was a
27 strike year. There were no commercial fishery --
28 very few commercial fisheries that year.

29 In the next low spike there, that low trough
30 there, that's 1988. That was a poor return. As
31 you get to 1995, you can see that that was a poor
32 return relative to forecast. Then we went back up
33 to about 30 percent exploitation rate in these
34 fisheries. Then, after that, we're down to very
35 low numbers and as Paul points out, a lot of these
36 years were poor returns so we could not run these
37 run sizes, we couldn't do these models.

38 But these models were successful because they
39 were harvesting somewhere between 25 and 45
40 percent of the run on these years. When you take
41 that many fish, you have two things going on. You
42 have lower uncertainty. You know much better
43 about what your harvest rates are because they're
44 higher, so the point of variation is much less.
45 Second of all, catch is known, well known. So
46 that means that component of the run that is
47 caught is well known.

- 1 So that reduced your overall uncertainty
2 about run size, so there's two things. If you've
3 caught 75 percent of the run, which is what we
4 were averaging on some of these years, you're
5 already three-quarters of the way there on your
6 run-size estimation. If you catch only five
7 percent, you only know five percent of the run
8 with a great deal of certainty, and then you have
9 this increased uncertainty about the harvest rate.
10 So it's kind of a double whammy if you will.
11 Q So it sounds like when the commercial fishery was
12 active, you had good information from those
13 commercial fisheries to use in doing a run-size
14 estimate. That's correct?
15 MR. CAVE: That's correct, yes.
16 Q Okay. Then when the run size declined and some of
17 those commercial fisheries were curtailed, you
18 didn't have same good quality information coming
19 from the commercial fisheries, and you had to put
20 more emphasis on the test fishing that we've been
21 talking about here today.
22 MR. CAVE: Both test fishing and Mission became key
23 players in the estimation of run size, yes.
24 Q How has the changes in the data available to you
25 in estimating run size affected the quality of
26 estimates that you were able to develop for run
27 size?
28 MR. CAVE: I think it's safe to say that it's a
29 trickier business to do run size estimation now,
30 and part of what a lot of our effort is going into
31 understanding the uncertainty about that run size
32 estimate. The different components of
33 uncertainty, both that pertain to catchability as
34 well as catch per effort. Lots of model
35 uncertainty. There's a lot of parameter
36 uncertainty. There's a lot of things that -- we
37 have to try and understand that uncertainty. It's
38 not just what's your point estimate, 'cause it's
39 quite likely that in season, we don't get the
40 exact run size, and we want to tell people what we
41 think the likely range or the probability of a
42 given run size being true is.
43 Q And how do you think the Commission is doing with
44 understanding those uncertainties? Is it getting
45 better or is it still where we were in '98?
46 MR. CAVE: Oh, I think we've made huge strides in
47 understanding uncertainty, both because we've

1 collected a lot more information -- in 1998, we
2 only had three years or four years -- going into
3 '98, we only had three years of continuous purse
4 seine data. Now we've got over 15, so we've got
5 more information.

6 But second of all, this area of expertise,
7 which is quite technical, and we've hired a
8 particular individual who is an international
9 expert in this area, so it's been an exciting time
10 and a very useful learning curve for us, and we'll
11 continue to learn. We don't take what we've got
12 today and then hang our hats on it. You're
13 constantly updating your knowledge and your
14 understanding of what's going on.

15 MS. BAKER: Could I have the document that's on the
16 screen, the document prepared by Mr. Cave, marked
17 as an exhibit?

18 THE REGISTRAR: Exhibit number 374.

19
20 EXHIBIT 374: Two-page document showing return
21 abundance and total exploitation rate
22 prepared by Mr. Cave
23

24 MS. BAKER:

25 Q Given what you've just described in terms of the
26 changes to run size estimation and the data that
27 you are able to use in doing those run size
28 estimates, are you satisfied with the current
29 methods of data collection that you have available
30 to you?

31 MR. CAVE: Is the question am I looking for more
32 information? Is it enough, or...?

33 Q Is it enough? Are you satisfied with the current
34 data? Is it sufficient for you to provide a
35 comfortable estimate of run size?

36 MR. CAVE: We have two purse seine test fisheries in
37 Johnstone Straits. I'd like another one. And we
38 only have one in Juan de Fuca Strait. Given if we
39 double the test fishing effort in that approach,
40 we'll actually cut the uncertainty in half. So,
41 yeah, I'd like to see a greater frequency of test
42 fishing.

43 Q And that's sort of looking forward. With where we
44 are today, is the data that you have available to
45 you within the test fishing program inadequate for
46 the purposes of estimating run size?

47 MR. CAVE: We can describe the uncertainty right now in

1 our run size models, and it's up to the Panel and
2 others to tell us whether those ranges are
3 appropriate for the decisions that they need to
4 make. So it's kind of -- I'm always looking for
5 more as is our staff generally, because if
6 mistakes are made, we take them personally. So
7 the more information we have that we can analyze,
8 that we can work with, we think we can do a better
9 job of providing better estimates to the panel for
10 decision.

11 Q All right. And is it your view that increasing
12 the test fishing sites or operations, as you've
13 described, an additional one in Johnstone Strait
14 and an additional one in the San Juan (sic) would
15 be the best improvement that you would see in
16 terms of gaining data, or would you be looking to
17 restate commercial fisheries as a way of -- in
18 those particular areas, as a way to improve the
19 data collection?

20 MR. CAVE: I'd like to see assessment fisheries
21 seriously considered again that would operate
22 weekly. However, I understand there are
23 constraints with that because those assessment
24 fisheries require a TAC to operate.

25 Q Okay. I'm going to ask you, then -- I was going
26 to ask you a little bit later to describe the
27 difference between an assessment fishery and a
28 test fishery, but maybe this would be the time to
29 do it.

30 MR. CAVE: A test fishery is usually a single or two or
31 three -- a single individual, maybe two
32 individuals in some cases, that are chartered.
33 It's not part of their commercial catch. So we
34 charter them, they do a job for us, it's clearly
35 defined.

36 The catch in this instance is a deduction
37 from the total run. It's one of the deductions in
38 calculating the TAC. So you don't need -- or the
39 Panel has decided that there doesn't need to be a
40 TAC to go test fishing. There's no sharing. It's
41 a cost to the resource, clearly, because those
42 fish don't make the spawning grounds and they're
43 not available for other harvesters to catch. It's
44 a cost of collecting the data that we need.

45 An assessment fishery is typically a
46 commercial operation where people are not
47 chartered, but are, as part of their -- a

1 condition of them going fishing. An assessment
2 fishery would be that they would fish a certain
3 way for you in a certain pattern with a certain
4 amount of effort. Maybe you'd have, say, ten
5 boats operating for one day in one particular
6 site. They catch their fish, they sell their fish
7 as they choose, and the data are then used for run
8 size estimation.

9 My understanding is - in fact it is the case
10 - that there has to be a TAC in order to do that.
11 That's an area that requires a policy decision.
12 So if you had an estimate of total run, then you
13 have to meet your escapement targets, then you
14 have to meet your test fishing, all those other
15 deductions, the MA, and then on the calculation of
16 that, you'd have some TAC. People need to decide
17 whether that's an appropriate way to catch their
18 TAC, because some harvesters don't really want to
19 be constrained by an assessment fishery,
20 particularly in only a few can do it.

21 So that's the distinction between a test
22 fishery and an assessment fishery. I hope I've
23 explained that.

24 Q Okay. Thank you. The next area I wanted to talk
25 to you about were assessment fisheries and other
26 types of fisheries that would provide information
27 to the Commission in assessing run sizes. The
28 first one I wanted to talk about was, in general,
29 was seaward assessments, and it may not be
30 necessarily an assessment fishery. It may be
31 conceived of as a test fishery. But let me just
32 sort of preface it by asking is there some
33 suggestion that more seaward fisheries, test
34 fisheries or assessment fisheries, would improve
35 the information coming in to the Panel for
36 decision-making?

37 MR. CAVE: It's clear that there's one piece of
38 information that would really be nice to get, and
39 that's an estimate of timing. Because if you know
40 the timing of a return, once you've reached that
41 date and you say, okay, well, we're 50 percent of
42 the way through the run. People call it the
43 "peak", but it's more correct to say that it's the
44 median of the run distribution. It's halfway
45 through the run.

46 Q Mm-hmm.

47 MR. CAVE: You've seen 50 percent of the fish. Once

1 you know that, then it's simply theoretically a
2 case of just doubling the run size to get your
3 total run. So if you could get that earlier, then
4 it makes things a lot better, because right now
5 you have to -- the longer you wait, there's an
6 information lag.

7 The best areas for run size estimation are
8 those areas where the fish are constrained. They
9 have to go through. They either have to go
10 through Johnstone Straits or they have to go
11 through Juan de Fuca Strait. They can't just
12 appear at the mouth of the Fraser River.

13 When you start getting outside of those
14 areas, there's a lot more uncertainty as to what
15 you're fishing on. So you catch fish off the
16 Queen Charlotte Islands, you don't know whether
17 you're fishing on five percent of the run, ten
18 percent of the run, 50 percent of the run, 60
19 percent of the run.

20 If it's going down Johnstone Straits and you
21 can get an idea of the diversion rate, you know
22 that they're fishing likely on 80 percent of the
23 run, but it's much, much more uncertain when
24 you're fishing outside of those areas, and that
25 includes the west coast of Vancouver Island as
26 well as the Queen Charlotte Islands.

27 So the associated uncertainty with that will
28 be larger, potentially a lot larger. That said,
29 if we can get earlier estimates of timing somehow,
30 by going seaward, then I'd like to hear about
31 them.

32 Q In 2009, the PAC staff did an presentation to the
33 Panel and the Technical Committee talking about
34 Area D assessment fisheries.

35 MR. CAVE: Yes.

36 Q Do you remember that?

37 MR. CAVE: Yes.

38 Q Okay. That's in Tab 7 of the material before you,
39 and it's CAN 023346.

40 MR. CAVE: Yes, I'm familiar with this presentation.

41 Q Okay. If you turn to the last -- well, first of
42 all, what was the proposal? What is the Area D
43 assessment fishery that was being talked about?

44 MR. CAVE: The Area D assessment fishery that was one
45 that was run actually by the Area D harvesters to
46 try and provide a buy-in, I guess, if you will, or
47 an ability to participate in the management. They

1 felt that they could convince their membership to
2 put part of their catch that they were allowed
3 into an assessment fishery. So they were sort of
4 at the front end of this.

5 Q And, sorry, where is Area D?

6 MR. CAVE: Area D are those gillnetters that are
7 allowed essentially to fish in Area 11 through 13,
8 but also in Barclay Sound as well.

9 Q So is it an area north of where you currently have
10 your purse seine test fisheries?

11 MR. CAVE: It's right in the middle of it.

12 Q Right in the middle of it.

13 MR. CAVE: So they can fish that whole area all the way
14 down to -- how far down? Campbell River, I
15 suppose, almost Campbell River. So they can fish
16 from the top end of the Island all the way down.

17 Q Okay.

18 MR. CAVE: This particular assessment fishery was
19 located, I believe, in the Robson Bight area in
20 the vicinity of Naka Creek. They were looking to
21 see if they could fish just ten boats and see if
22 there was a relationship between the catch per
23 effort in those boats with run size. So they
24 engaged our staff and DFO staff to help them with
25 understanding this. We did the sort of
26 quantitative work on it. I, myself, was not
27 involved in that, but it showed some promise. But
28 it's only on one approach.

29 Q Okay.

30 MR. CAVE: And that's kind of a bit of a difficult
31 thing. They're not allowed to fish in Area 20.
32 In fact, no gillnetter can now fish in Area 20
33 except for our test boats. So you don't have a
34 similar test fishery going on in Juan de Fuca
35 Strait.

36 Also, one of the problems that you have is
37 that you don't know the end-of-season diversion
38 rate, so all they can do is estimate the total run
39 in their area based on their catch, in theory. If
40 you want to extrapolate that to the total run, you
41 have to apply some sort of a scaler, if you will,
42 increase that to reflect the migration that goes
43 through Juan de Fuca Strait that you're not
44 monitoring.

45 It was after some review of it, it looked to
46 us that it was difficult to make these estimates
47 work, and I think that was the conclusion in this

1 paper.
2 Q All right. And then just some comments at the end
3 of the presentation on the last page, final
4 comments. There's a statement [as read]:
5

6 Marine assessments and seaward approaches
7 currently rely on test fisheries which do not
8 provide timely estimates for marine area
9 fisheries.

10
11 It notes that:

12
13 Large fractions of the TAC in both countries
14 are allocated to commercial fisheries in
15 seaward locations.
16

17 Then there's some options set out.

18
19 Accept increased risk to conservation
20 objectives and conduct seaward fisheries.
21

22 Do not accept risk and fail to achieve
23 allocation objectives.
24

25 Try to reduce the risk by improving seaward
26 assessments and changing commercial fisheries
27 like small bites.
28

29 Shift allocations closer to the river.
30

31 Was anything done with those? What was the
32 outcome of this discussion? Were these options
33 pursued?

34 MR. CAVE: I think the panel was focused on whether or
35 not -- how to proceed when this discussion came
36 up. The panel was focused -- they didn't really
37 answer these options. Specifically they were more
38 interested in what they could do if they couldn't
39 run this test fishery and they then wanted to
40 explore a Naka Creek test fishery.

41 But let me just walk through some of these
42 points here.

43 Q Mm-hmm.

44 MR. CAVE: The easiest one to deal with:

45
46 Large fractions of the TAC in both countries
47 are allocated to commercial fisheries in

1 seaward locations.

2
3 That's true. The first bullet:

4
5 Marine assessments and seaward approaches
6 currently rely on test fisheries --

7
8 True.

9
10 -- which do not provide timely estimates for
11 marine area fisheries.

12
13 I think if we were to think about that we'd
14 be here today discussing that, we would probably
15 phrase it a little bit differently. I think it
16 would be truer to say that the marine area
17 assessments have greater uncertainty than if we
18 were relying on Mission. That would be more
19 specific.

20 Now, what I want to speak to is "do not
21 provide timely estimates". Well, in fact, they
22 are the estimates that we have for Late run
23 sockeye, specifically Adams River sockeye. We do
24 not get Mission information from the Mission
25 hydroacoustics site in time to make run size
26 estimates and run size decisions and fisheries
27 decisions. We don't have the timing. We'd have
28 to wait until the end of September to get that all
29 in.

30 Similarly for pinks. Pink salmon rely
31 entirely on the information we get from those
32 marine test fisheries, so they have increased
33 uncertainty for sure, but they are used.

34 Q Okay.

35 MR. CAVE: So when we walk through these points:

36
37 Accept increased risk to conservation
38 objectives and conduct seaward fisheries.

39
40 I think that risk means something differently to
41 different people. It's hard for me to go through
42 that without having the graphics, but let me try
43 and explain.

44 I think the question that we would ask at
45 this point in the season is we would be looking to
46 open some of these larger-scaled fisheries, but
47 the burden that we'd look at is are we at the

1 level of escapement - and I think Mike talked
2 about that criteria for fishing decision's table -
3 are we on track with our escapement? Do the fish
4 en route, does that look like that makes sense
5 relative to the pre-season planning work that we
6 had done? If so, then we -- then the panel will
7 evaluate that risk and decide whether or not to go
8 fishing.

9 Now, you could actually do that in a risk
10 assessment framework in a much more objective
11 sense. That's something that we're looking at
12 doing and haven't completely got there yet. But,
13 in fact, the panel was provided figures in 2009 on
14 the run size with the probability of meeting the
15 escapement goal. On top of that, what's the
16 probability of ensuring that we have enough fish
17 to get the FSC in the river, and then similarly,
18 if we went fishing next week, what catch might we
19 want to take and what's the probability of
20 obtaining all of those within the run size, and
21 what's that risk?

22 That can be quantified and should be
23 quantified, I think, in future. But who decides
24 what level of risk to take? It's a policy
25 decision.

26 Q What about the third point:

27
28 Try to reduce risk by improving seaward
29 assessments and changing commercial
30 fisheries, e.g. small bites, or shift
31 allocations close to the river.

32
33 Has anything been done in relation to those
34 points?

35 MR. CAVE: At the time of this, not as yet. As I
36 mentioned, we did explore -- well, I don't know
37 whether I did mention. We did explore other test
38 fisheries in Juan de Fuca Strait at Sheringham
39 Point. We tried to understand what gains we could
40 make in our run size assessments by increasing
41 test fishing, and a lot of work was done in 2002
42 on that.

43 But at this time, small-bite fisheries, which
44 means assessment fisheries to me, more needs to be
45 done there.

46 MR. RYALL: Can I just add one thing about assessment
47 fisheries?

1 Q Mm-hmm.

2 MR. RYALL: The test fisheries are operated under s. 52
3 of the *General Fishery Regulations* to collect
4 scientific information. Then assessment
5 fisheries, as we're calling them here, would be
6 operated by people that have a licence to go
7 commercial fishing. One of the regulatory
8 challenges on this type of thing would be that if
9 you open a fishery in a particular area, anyone
10 that has a licence in that area - and let's say,
11 for argument's sake it's a purse seine and it has
12 a B licence - anyone that has that licence could
13 fish in that area. If you're trying to have a
14 limited fishery of rather than 170 purse seines
15 going fishing and only have ten, you have some
16 regulatory challenges around having that with the
17 current tools that we have at hand.

18 Q Okay.

19 MR. RYALL: Now, there's some ways around that, but
20 it's more by agreement than by regulatory control.
21 Some of this is pooling arrangements where vessels
22 get into a pool, but that's not a regulatory
23 thing. That's more by agreement.

24 So I just wanted to point out there are a bit
25 of challenges with this concept around assessment
26 fisheries as well.

27 Q So you have done some initial work on looking at
28 an Area 20 test fishery, that's right? An
29 additional Area 20 test fishery.

30 MR. CAVE: That's correct. We ran some experimental
31 programs in 2002, two of them, two different ones.
32 We looked at another site called Sheringham Point.
33 When we did that analysis, I wasn't altogether
34 pleased with the data we were getting out of that.
35 It was much more variable in nature. I had hoped
36 to do it one more year.

37 It turns out that probably we could have done
38 that in 2006 or 2010, but it would have been
39 harder to do that on other years. You need some
40 fish to sort of make sense of it. With some of
41 these years of high diversion, I think we would
42 have been struggling a bit with it. But I would
43 really like to see another purse seine test
44 fishery in the southern route. It's a case of
45 where.

46 Unfortunately the U.S. waters just
47 geographically are not good places to conduct that

1 kind of work.

2 Q Have you considered making an approach to the
3 Panel or to Canada to develop an Area 20 beyond
4 this experimental work?

5 MR. CAVE: Well, I guess we haven't really thought
6 about it a lot recently, but the more I remind
7 myself the gains that could be made with an
8 independent estimate on uncertainty, I think if
9 people want to see us try and reduce the
10 uncertainty about our run size estimates, then I
11 think we need to do more test fisheries.

12 Q Does the **Larocque** decision factor into why you
13 haven't pursued that more aggressively?

14 MR. CAVE: Oh, I just think it would be hard for us to
15 -- I mean I haven't put that forward under
16 **Larocque**.

17 Q But are you concerned that with the challenges for
18 funding, given that the **Larocque** decision requires
19 that money to come from the country's -- or from
20 Canada, that you have an uphill battle, I guess,
21 to get a test fishery in Area 20 in?

22 MR. CAVE: Well, that would be my perception, but
23 perhaps Paul could say whether he thinks we'd be
24 able to float another \$250,000 test fishery.

25 Q 250,000 is the approximate cost of that test
26 fishery?

27 MR. CAVE: Well, \$5,000 a day for 45 days, something
28 like that.

29 MR. RYALL: I mean, some of the questioning today, just
30 going through each one of the years, there's
31 questions that come up each year about test
32 fishing plans and what programs get operated. I
33 think it's good to put it back into a policy
34 framework as well about how do we make these
35 decisions around test fisheries, and the policy
36 document that was put together and agreed upon in
37 June 18th, 2009, is one such place I would
38 recommend to go as far as making decisions upon
39 any test fishery, whether it's Area 20 or wherever
40 that test fishery might be desired and just see
41 what the value added.

42 Some of the memos that Jim's put together
43 here provide, you know, really clear indications
44 of the value of different options and provide
45 guidance back to the panel about the worth of
46 those test fisheries. As we're going through the
47 questions, the answer was coming back, well, we

1 did carry on with Area 13, for example, and while
2 we might have made some minor changes to it, it
3 operated it.

4 And if there was the need for something like
5 Area 20 or any other area, then I think -- put it
6 back into this policy framework and ask the
7 question: what additional information are we
8 going to get, what it's going to cost in money,
9 and put it in that sort of light.

10 Q Right. But you would agree with me that the
11 pressure from Canada since **Larocque** has been to
12 decrease costs for test fishery, not to increase
13 costs in test fishing.

14 MR. RYALL: I wouldn't totally agree with you on that.
15 My comments earlier were whether it was use of
16 fish or whether it was dollars, we would be asking
17 similar questions one way or the other, and it's
18 not just around money or just around the fish.

19 We are trying to provide the best assessment
20 that we can. We need to do it in light of
21 considering all risks and what does it mean for
22 the population as well, as well as the information
23 we're collecting.

24 One of my functions, I would say, was when I
25 was in the role of the Chair of the Fraser Panel
26 is to ask those types of questions. What
27 information do we need? What is it going to cost?
28 What is the risk if we don't do it? And what
29 benefits are we going to get if we do it? I would
30 ask those questions whether it was pre-**Larocque** or
31 post-**Larocque**.

32 Q We touched very briefly on a small-bite assessment
33 fishery. How would you -- what is a small-bite
34 assessment fishery?

35 MR. CAVE: This language came from Carl Walters. Small
36 bites and drilling down deep he felt was a way of
37 really trying to understand both harvest rate as
38 well as the abundance of the fish that it was
39 working on.

40 I look at this as basically small bite is a
41 small fishery that takes a small amount of fish,
42 but takes it sort of almost surgically in a very
43 short and small clearly-defined area. If I was
44 king for a day, I'd have these things running
45 weekly in a good fishing area in both approaches.
46 You need to run them weekly because you need to
47 see -- there's different stocks that you're

1 fishing on. They have different timing and you
2 need to see how that -- how those change with
3 time. Because these things only work if you are,
4 on average, fishing through the entire migration,
5 because (a) you don't know where the peak is.

6 So if you had your ten-boat assessment
7 fishery and it was ten days early, you'd catch a
8 very small catch and it wouldn't be well related
9 to the total run.

10 Q And is this --

11 MR. CAVE: That's what I think of the small bite
12 fishery as.

13 Q And that -- is that's what's referred to on this
14 document in front of us where it says "e.g. small
15 bites" in quotation marks?

16 MR. CAVE: That's correct, yes.

17 MS. BAKER: Okay. Can I have this document marked,
18 then, this PowerPoint presentation as the next
19 exhibit?

20 THE REGISTRAR: Exhibit 375.

21
22 EXHIBIT 375: Review of Area D Assessment
23 Fishery
24

25 MS. BAKER:

26 Q Are there risks to a small-bite fishery? Are
27 there times when you shouldn't be actually fishing
28 on a run in a way that would be contemplated by a
29 small bite fishery?

30 MR. CAVE: Well, if you're fishing -- let's put it this
31 way: We've talked about ITQ fisheries, and we've
32 talked about derby-style fisheries. A small bite
33 would be basically a derby-style fishery. In a
34 derby-style fishery, the harvest rate determines
35 the catch. So the more fish you have and the
36 higher the harvest rate, the higher your catch.

37 In ITQ, the catch determines the harvest
38 rate, so it's different. They operate
39 differently. So if you had a very small run, your
40 harvest rate will be the same regardless of
41 whether you have a small run or a big run. Your
42 catch drops.

43 Q This is with the small bite, so derby-style?

44 MR. CAVE: Yes. So you might be taking five percent of
45 the fish per week. In a small run, you're still
46 taking five percent, if it's linear.

47 Q Mm-hmm. So are there any -- are the risks -- like

1 would there be times when running an assessment
2 fishery or small-bite fishery like this would
3 introduce an unacceptable level of risk?

4 MR. CAVE: It could be, and that would be for people to
5 define their level of risk that they're willing to
6 take, and whether the gain in information
7 justifies the risks.

8 Q Because if you had a very, very small run, a run
9 where there were conservation concerns, you might
10 not want to run this kind of a fishery; is that
11 fair?

12 MR. CAVE: It's quite possible, yes.

13 Q And if you were to run a small-bite fishery, for
14 it to be of value to the PSC, would it need to be
15 run every year in the same way that the test
16 fisheries are run, to have a steady dataset, or is
17 it something that could be done on a good year and
18 not in a bad year?

19 MR. CAVE: Well, I think you'd have to have a range of
20 returns for it to be useful. You can't establish
21 a relationship. You know, you need a bunch of
22 small returns and a bunch of big returns and
23 you're presumably drawing a line, as you're
24 connecting through those dots of linear
25 regression. If you had them all up in the large
26 returns, you wouldn't be learning a lot about what
27 the underlying relationship is in those data.

28 Similarly, the time when you need your best
29 information is when you're trying to decide
30 whether or not to go fishing or not. So it's kind
31 of a Catch-22. If you need a TAC to go fishing,
32 but you need a good run size estimate to get
33 there, you know, it's -- what can you do?

34 I think it's important that people realize
35 that run size estimation benefits all users. It's
36 not just -- these seaward assessments aren't just
37 useful for seaward fisheries. They're useful for
38 fisheries all up the Fraser River as well. I
39 think that's a key point. Particularly, for
40 example, is Early Stuart. Once we could show that
41 we could get an earlier estimate of run size
42 earlier, there was a real gain to the fishers in
43 the Fraser River and upstream of Mission.

44 Q Why could you not just use the numbers that are
45 extrapolated at Mission?

46 MR. CAVE: Because you lose five days of information.
47 If you're fishing five days to seaward, you're

1 getting additional five days of information that
2 you wouldn't have if you were relying on Mission-
3 only data. So on the 10th of July, you'd only
4 have the data through Mission, whereas if you were
5 seaward of Mission, you'd have another six days
6 which might tell you an awful lot about what the
7 timing of the run is, and it might structure your
8 openings and closures in the Fraser River to
9 accommodate that. It might mean that people get
10 to fish earlier because of that.

11 Q These small-bite fisheries that we've been talking
12 about, would they replace the test-fishing program
13 in any sense?

14 MR. CAVE: No, I don't think they could because the
15 test fishing gives a lot of information over all
16 days of the run, whereas the small bite would be
17 just weekly bites, small removals once a week.

18 Q And you also need the test fishing to establish
19 whether there's TAC which is needed for a small-
20 bite fishery, right?

21 MR. CAVE: Correct. It's a tricky business and in
22 spite of the fact that I've always wanted to see
23 these, it's been hard for the people who make the
24 decisions to wrap their arms around it and provide
25 it. I only know of one small-bite seine fishery
26 that was ever operated, and I can't even remember
27 the year. I think it was 2002.

28 Q Okay. Could an assessment fishery be structured
29 within an ITQ model of fishery?

30 MR. CAVE: It could.

31 Q And the current ITQ model that has been put into
32 play in 2010, would that -- could an assessment
33 fishery be operated within that model?

34 MR. CAVE: It could, but it has to operate in a
35 particular fashion that may or may not be
36 acceptable to the users, the ITQ holders. It
37 would have to take some part of that ITQ catch
38 which was available for the week, and it would
39 have to be taken derby-style, okay? Because the
40 harvest rate, you can't let the catch determine
41 the harvest rate. For an assessment fishery to be
42 useful, the harvest rate must determine the catch.
43 So it means that you have to take some of the ITQ
44 catch and say we're going to take it -- and the
45 fishermen involved are going to have to make sets
46 at particular locations, particular stages of the
47 tide potentially, and they'd have to do those

1 sets.

2 And if they're just under ITQ, quite often
3 people are looking for the big set and taking
4 their 5,000 fish and going home. You can't do
5 that if you're going to use it for a run size
6 estimation model.

7 Q I think you've already talked about whether
8 there's value in having an assessment or a test
9 fishery off of Vancouver Island or off the Queen
10 Charlottes. Did -- Mr. Cave, you've, I think,
11 addressed that already.

12 Was there anything that either Mr. Ryall or
13 Mr. Assu wanted to add to that question?

14 MR. RYALL: Not for myself, thanks.

15 MR. ASSU: Well, I think the only thing that I'll add
16 to that is there was a vessel that we had
17 harvesting at the sea fish for us off the Gordon
18 group. It actually proved out to be quite
19 successful over time. I can't remember how many
20 years we ran it for. I think it was four years
21 before -- it was basically recommended to roll it
22 into an official test fishery at one point in
23 time. But that is just when the **Larocque** decision
24 came down and it was dropped off the table.

25 MS. BAKER:

26 Q Has there been a change in information available
27 since the change in licensing which has impacted
28 information available seaward for Fraser River
29 sockeye? This is a question for you, Mr. Assu.

30 MR. ASSU: Sorry, could you repeat it, please?

31 Q Yeah, there was a change in licensing which split
32 the coast into two areas some time ago. Did that
33 affect the ability -- or the information that was
34 available to assess Fraser River sockeye from your
35 perspective?

36 MR. ASSU: I believe it changed it a bit, and when I
37 say that it -- I don't understand how the Pacific
38 Salmon Commission utilize the information that
39 came in from 2 West, the area just off the Queen
40 Charlotte Islands. There used to be seine
41 fisheries there when we were just under one
42 licence for the whole coast, troll fisheries too,
43 I guess.

44 So I guess there was quite a bit of
45 information that used to flow previously, but I
46 just really don't know how it was being used.

47 MR. CAVE: If I can answer that, the answer was it was

1 not used directly in run size estimation. It was
2 an add-on to the total run at the end of the year,
3 but we did not take information from either the 2
4 West seine fishery or the Area 1 fishery or the
5 troll fishery in 2 West. We could not make run
6 size models out of those.

7 MS. BAKER: Could I keep going, or would you like to
8 take the afternoon recess?

9 THE COMMISSIONER: No, I just had some questions in the
10 evidence. I can wait until you're done, or...?

11 MS. BAKER: I'm going to just ask a few more questions
12 about some of these other fisheries models, and
13 then -- so would you like to ask your questions
14 now, then?

15 THE COMMISSIONER: It might be better so I can keep it
16 in context.

17 I think the witnesses have used references to
18 the commercial fishery and the First Nations FSC
19 fishery and other fisheries. What I'm trying to
20 understand is when you talk about risk. I think
21 Mr. Ryall used that example of what information is
22 being sought and the cost of getting it and the
23 risk if you do or you don't go for it. Maybe
24 you've already said this and I've missed it, but
25 are you measuring this risk against the same set
26 of objectives, be it conservation or FSC or
27 commercial fishery?

28 In other words, is the risk assessment being
29 done the same, or is it prioritized? In other
30 words, is there somewhere I can look in one of
31 these documents, or that you have mentioned, that
32 will tell me what your objectives are against
33 which you're measuring a risk? If it's for
34 conservation purposes, what is the standard you're
35 measuring to in order to be able to meet your
36 duties under the legislation with respect to
37 conservation?

38 In other words, if you have a certain level
39 of test fisheries, that level has to be maintained
40 for conservation purposes, or is this a moving
41 target? Are you constantly changing your view
42 about the objectives?

43 Is there somewhere where - and maybe it's
44 already in one of the exhibits - but is there
45 somewhere where I can understand, over the course
46 of - and I think it's Exhibit 374 - but over the
47 course of time, how have the number of test

1 fisheries changed and why? So if you go back to
2 the early 1990s, how many test fisheries were
3 there? We come up to 2011, how many test
4 fisheries are there now. Is someone keeping a
5 record of why there's been change over the course
6 of those times?

7 I think at one of the public hearings I
8 attended - it was the one, I believe, in Prince
9 Rupert - there were at least one, but maybe more,
10 submitters who talked about the reductions, severe
11 reduction in the number of test fisheries. It was
12 their view that this had an implication for the
13 quality of the data being received and the
14 measurements that were being taken from that data.

15 But is there somewhere where I can look or I
16 can have some sense of what's going on with
17 respect to the test fishery? But more importantly
18 for me, I'm not sure I'm understanding what are
19 the standards against which we're measuring all of
20 this, or is it changing constantly?

21 MR. RYALL: I'll start with the assessment of what
22 we're trying to accomplish in risk. For me, the
23 first is what do we -- meeting our conservation
24 objectives. I think those are getting somewhat
25 more challenging as we implement the Wild Salmon
26 Policy.

27 But regardless of that change or not, the
28 first is conservation and meeting our escapement
29 targets. How many fish to put on the grounds, and
30 what sort of information do we need to collect
31 that? Then the next, under the Salmon Treaty, is
32 meeting international obligations and that would
33 go into the allocation. Thirdly is domestic.

34 And then overriding all the domestic one is
35 meeting First Nations' requirements. So when I
36 look at making decisions about whether we're going
37 to add more test fisheries or not, I'm going to
38 look at whether it's going to improve meeting
39 those obligations.

40 Then I look at -- in those orders, of what we
41 have to try accomplish under the Salmon Treaty and
42 also our First Nation obligations to provide
43 opportunities for FSC.

44 As to your question about looking for a table
45 of providing changes in test fisheries over time,
46 I don't think I have seen one myself, but I think
47 it's something that could be put together. Jim

1 and I have talked about here over the course of
2 today, and it depends how far back you want to go.
3 If you go back into the '70s and '80s, there was
4 less test fishing, I would argue, and there was a
5 much increased reliance on commercial fisheries to
6 provide us the information that we're now trying
7 to get from test fisheries.

8 As the runs have decreased in, I would say,
9 the last decade or so, with more uncertainty,
10 there's been less commercial fisheries, and an
11 increased reliance on test fishing. I think there
12 has been changes and increases to the test fishing
13 to try to provide and compensate for that lack of
14 information that's come from commercial fisheries
15 that used to provide that information.

16 As Jim's been talking about, the information
17 that came from commercial fisheries was better
18 information because it was really a much bigger
19 sample size, if you will. You're getting more
20 fish harvested, increasing your sample size, less
21 uncertainty. 'Cause you then would have many
22 boats fishing and both Johnstone Strait where the
23 fish are migrating and also Juan de Fuca where
24 they're coming in. So you're sampling these both
25 routes with lots of boats, getting a much better
26 estimate of the abundance and decrease in the
27 variability around that estimate.

28 Now you go into no commercial fisheries or
29 much reduced ones, rely on test fisheries.
30 Whether we increase them or not, you're really
31 talking about a much smaller sample size. We're
32 talking about, right now, three boats operating in
33 Johnston Strait, two to three, two to four. It's
34 a pretty small sample size. One to two in Juan de
35 Fuca, and then all these other gillnet test
36 fisheries. So, you know, there's a big scale
37 change between what the information you get from a
38 commercial fishery versus a test fishery.

39 But to try and compensate that, and as the
40 last decade has unfolded, there's been lots of
41 interest. How can we improve our information,
42 because we don't have the commercial fisheries
43 operating that provide us those seaward estimates,
44 and now gather that information through test
45 fisheries.

46 We have made some changes. There's been lots
47 of work done to look at ways to improve upon that

1 information, whether it's been through what we
2 call test fisheries, that operate under s. 52, or
3 whether it's these small bite or assessment
4 fisheries which would operate under a regular
5 commercial licence, which has some regulatory
6 challenges as I was pointing out. It doesn't mean
7 they can't be overcome, but there would be some
8 challenges for us to overcome that way.

9 There's been a lot of, I would say,
10 improvements at Mission as far as ways to improve
11 upon our assessments and collect information.
12 There's been a lot of work done at Mission
13 hydroacoustics with new tools and new techniques
14 to improve upon and reduce that uncertainty.

15 As well, the Departments ran another
16 hydroacoustic facility up at Qualark, just
17 upstream from Hope, that could help reduce and
18 provide more information as well.

19 So I don't know if that kind of helps to
20 provide a bit of a picture.

21 THE COMMISSIONER: It does, and if you could just
22 finish it off by just again explaining to me the
23 funding arrangement that you mentioned earlier
24 which expires in 2011. Where are you at in
25 assessing all of these options that you've just
26 mentioned? You've described very well, in a few
27 moments, the historical context and where you're
28 at today. But in terms of going forward, where
29 are you at?

30 MR. RYALL: Well, I'm not 100 percent sure. I haven't
31 been on that file for the last year, but this is
32 what I know right now.

33 We have -- there's really, I think, four
34 options. One could go back to use-of-fish, and
35 that would require changes to the legislation back
36 in the **Fisheries Act**, and we did do that a number
37 of years go.

38 We could carry on and seek funding and put in
39 another request for a Treasury Board submission
40 and carry on with additional funding. We could
41 also do this in partnership, make an assessment of
42 what's really required to meet the conservation
43 obligations in FSC, for example, and what serves
44 the -- and then also have partnerships with
45 commercial industry. There's some sort of cost-
46 sharing between the parties.

47 So those are the type of options that one

1 would be looking at, carrying forward.

2 MS. BAKER: I'm quite happy to keep going, so it's up
3 to --

4 THE COMMISSIONER: We'll take a short break.

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

7

8 (PROCEEDINGS ADJOURNED FOR AFTERNOON RECESS)

9 (PROCEEDINGS RECONVENED AT 3:23 P.M.)

10

11 THE REGISTRAR: Order. The hearing will now resume.

12

13 MS. BAKER: Mr. Commissioner, I don't know if it's
14 worth asking if there's an ability to sit a little
15 bit later today if we think we can get through
16 these witnesses today, but we're a little bit
17 behind schedule, so I'm getting worried about
18 timing again.

18

19 THE COMMISSIONER: How much ---

20

21 MS. BAKER: I don't know, would half an hour be
22 possible today?

23

24 THE COMMISSIONER: Yes.
25 MS. BAKER: Okay. Is that possible for the rest of the
26 room, including the witnesses? Yes? Okay, well,
27 let's keep that in our back pocket, if we need it.

28

29 THE COMMISSIONER: I'm sorry, I should ask Mr.
30 Registrar and everyone else if that's convenient?
31 All right.

32

33 MS. BAKER: Okay, thank you.
34
35 EXAMINATION IN CHIEF BY MS. BAKER, continuing:

36

37 Q Then just one quick question for you, Mr. Cave.
38 Are you familiar with a concept described as the
39 C-grid test fishery? It's been described by Dr.
40 Carl Walters.

41

42 MR. CAVE: Yes, I am.
43 Q And what is that, in brief, what is that C-grid
44 test fishery model?

45

46 MR. CAVE: Well, it's a concept, I think, right now,
47 rather than a model, and it's about 20 years old.
48 It started, to my knowledge, in 1989, and Carl and
49 David Ellis advanced the concept that we could get
50 -- it would be possible to get earlier estimates
51 of run size and timing if we moved the test
52 fishery further afield. And it's not new, it's
53 been around for quite some time. Carl and I have
54 discussed it at length over the years, and I think

1 probably the best places to do assessments are
2 where the fish are compressed in the areas, so
3 that they have to go through Johnstone Straits,
4 they have to go through Juan de Fuca Strait, and
5 when you start moving further afield from that, if
6 somebody's fishing on those fish, you don't know
7 -- it's very difficult to determine, in the
8 historical sense, the actual abundance that they
9 were fishing on.

10 Now, Carl has a conceptual model or
11 theoretical model that would allow that to be
12 done, and it's basically a run reconstruction
13 model in latitude, longitude and time dimensions.
14 We don't have to worry about the spatial dimension
15 so much we we're working with the other test
16 fisheries. And it's going to have higher
17 uncertainty. And it would also require many more
18 boats to carry that out.

19 And I talked with Carl fairly recently on it
20 and I think he's sort of changed his point of view
21 a little bit on it. Originally, he was in sort of
22 a grid, like different boats fishing in a box that
23 would have quite broad latitude and longitude near
24 the Queen Charlotte Islands. I think, now, he's
25 looking at that as having that as far offshore as
26 possible, but along the coast, so it would be off
27 the continental shelf would be his ideal location.

28 It is theoretical that you could get
29 additional information from such a project, but it
30 would require a lot of funding to pull it off, I
31 would suspect, probably in excess of eight
32 trollers, anyways, and for sure the uncertainty
33 about the catchability of those individual boats
34 and the uncertainty in the timing and run size
35 data would be greater than what it is in the
36 current locations where we currently run test
37 fisheries.

38 Q Is this a model that you are interested in
39 pursuing, then? Do you think it's a worthwhile
40 model?

41 MR. CAVE: I think the discussion would have to occur
42 as to -- Paul talks about the benefits and the
43 risks, and I think it would have to require a
44 broader discussion and a clearer idea from the
45 people, from the proponents, exactly the sorts of
46 models they're looking at running, and the
47 potential range and uncertainties to see whether

- 1 you can actually -- whether it actually will
2 deliver what its stated purpose would be.
- 3 Q All right. So compared to your Area 20 new test
4 fishery, would you put your money on that, or
5 would you put your money in the C-grid test
6 fishery?
- 7 MR. CAVE: I go with what I know and understand best,
8 and I would like to see another purse seine test
9 fishery on the southern approach before I would go
10 for a proposal that I (a) don't fully understand
11 and, (b) can't quantify the benefits that I would
12 get from it. I'm pretty certain, I know that with
13 the information we have right now, we can quantify
14 the gains from another purse seine test fishery in
15 Area 20. I don't think that would be easily done
16 with the C-grid concept.
- 17 Q Okay. I want to move, now, to the First Nations
18 Marine Society. These questions are directed
19 primarily at Mr. Assu. Can you explain what the
20 First Nations Marine Society was?
- 21 MR. ASSU: The society was originally formed to harvest
22 fish for the south Island bands, mainly because
23 they didn't have the capacity to harvest their own
24 FSC, and A-Tlegay, another group out of Campbell
25 River, I believe they've got something like 45
26 vessels available for harvesting FSC, and that was
27 really the main objective of society when it was
28 formed.
- 29 Q And was there a test fishing component to the
30 fishing done by the First Nations Marine Society?
- 31 MR. ASSU: Yes. Originally, we did set it up to try to
32 replicate the test fisheries in Area 12, 13 and
33 Area 20. I think we ran it that way for the first
34 three years, I believe. It was two or three years
35 that we ran it, trying to replicate the test
36 fishery.
- 37 Q Did you do it two or three years in Area 20, or
38 just one year in Area 20?
- 39 MR. ASSU: We did it one year in Area 20 for certain,
40 and that was because of a high diversion rate down
41 Juan de Fuca that year. I can't recall if it was
42 done two years out there or not.
- 43 Q Sorry, you said the other ones were 12 and 11 or
44 12 and 13?
- 45 MR. ASSU: No, 12/13.
- 46 Q And earlier in your testimony you referred to the
47 Gordon Group test fishery. Is that in one of

- 1 these two areas, 12 or 13?
2 MR. ASSU: Gordon Group is the upper portion of Area
3 12, and we did have one vessel working up there
4 for, I think it was, about anywhere from eight to
5 12 days while they harvested FSC fish. We
6 originally picked the site because it was just out
7 of convenience for ice and off-loading and
8 trucking of the fish to the south Island, because
9 of the location. But over time people began to
10 recognize that the information that was being
11 collected there was actually useful, and that's
12 what I had mentioned earlier about there was
13 consideration given to turning it into an actual
14 test fishery.
15 Q Is it further north from the current test
16 fisheries in Areas 12 and 13?
17 MR. ASSU: Yes, it is. I'm not sure how much further,
18 Jim, but it's got to be all of 35, 40 miles, I
19 guess.
20 MR. CAVE: Yes, I think it's probably almost a day
21 seaward of Round Island, itself, so that puts it
22 two days seaward of the Robson Bights or the
23 Blinkhorn test fishery, and it would provide,
24 conducted properly, would really be useful for us,
25 yes.
26 Q Now, those test fisheries ceased operations, as I
27 understand it, in 2006; is that right?
28 MR. ASSU: Yes, that's correct.
29 Q What happened? Why did they discontinue in 2006?
30 MR. ASSU: Well, the test fishing component of the FSC
31 fishery, I guess, based on the recommendations of
32 the skippers that were doing the fishery for us,
33 they were saying that it would be more cost-
34 effective for them to be able to just go out there
35 and focus on the main body of fish that they could
36 work on, rather than trying to replicate what the
37 test fishery was doing. So at the end of the day
38 we did abandon the, I wouldn't call it structured,
39 it's somewhat structured, anyway, the test
40 fishery, but we ended up having to leave that just
41 so that they could focus on getting as much of the
42 fish out of the water as quick as they could.
43 Q So that leads me to another question. Did you
44 find, in the operation of that society and the
45 test fishing done by that society, that there was
46 a conflict between the FSC goal, to catch fish for
47 food, social, ceremonial, harvest, and then the

1 test fishing goal, which is to go through a
2 routine of fishing on a set pattern? Were those
3 two goals incompatible? Is that what you were
4 describing?

5 MR. ASSU: Yeah, because the objective of the FSC
6 harvest was to -- I mean, the whole thing was --
7 the society was torn, because what the south
8 Island bands were experiencing was the very high
9 cost of hiring an individual on their own and it
10 was just an idea that we, myself and one of the
11 councillors from Nanaimo, had come up with, that
12 if we got a large group together and focused on
13 catching a lot of fish, I thought we could reduce
14 the cost substantially, which, you know, during
15 the time of operation we were successful at doing
16 that. We were able to take the cost from, I think
17 they were paying \$5.00 a fish at that time, and we
18 took it down to between \$1.50 and \$2.00. It all
19 depended on the price of fuel.

20 Q But how was that, that objective, I guess, to
21 catch fish for FSC purposes, was that -- did that
22 work well with the goal of the test fishing
23 program, which was to fish in a set place on a set
24 schedule, not necessarily where the fish were, but
25 where the test fishing program designated you were
26 to go?

27 MR. ASSU: In terms of the FSC doing the tests?

28 Q Mm-hmm.

29 MR. ASSU: No, that's what I was saying earlier. I
30 mean, don't get me wrong here, I mean, part of it
31 was some of the people that were doing the FSC
32 fishery, as we called it back then, they didn't
33 have experience in the overall area of the test
34 fishing sites, and that is just the nature of the
35 beast where we come from in the Johnstone Straits,
36 we grow up in certain geographic areas, and the
37 ones that we had hired were mainly -- they were
38 fishing upper 13, if I could call it that, and the
39 test fishery doesn't go that far up.

40 Q You've answered the question of whether the Gordon
41 Group test fishery did provide improved seaward
42 information, Mr. Cave, you answered that. Did you
43 answer that question, Mr. Assu? Did you think
44 that the Gordon Group provided improved seaward
45 information?

46 MR. ASSU: Oh yes, definitely.

47 Q Okay. I just want to move, now, to some other

1 recommendations that have been made by other
2 commissions, and that Exhibit 14 is a binder that
3 you will see up there. Page 254, recommendation
4 number 5 from the Williams Inquiry made a
5 recommendation that:
6

7 The use of First Nations FSC harvest in
8 marine waters should be incorporated as part
9 of the test fishing program on a long-term
10 basis. This requires secure long-term
11 funding for the catch monitoring carried out
12 during the First Nations Marine Society FSC
13 fishery.
14

15 And there was agreement from DFO on that point.

16 Why was that program not continued, Mr. Ryall?

17 MR. RYALL: Well, I think you've heard from Brian. My
18 recollection is that it was ran in 2005 and 2006,
19 and there was an assessment done by the PSC that
20 showed that there was some promise to it, but more
21 work would need to be done.

22 And I think one of those years, 2006,
23 probably only had six days of test fishing and the
24 other year had quite a bit more, I forget how
25 many, but quite a few more. So there was some
26 promise that it would provide some additional
27 information. It comes back to, I think, in this
28 particular case, what more information are we
29 getting from that test fishery that we aren't
30 getting from other ones, and is it having a big
31 advantage to meet the goals that we're trying to
32 achieve on Conservation International and FSC and
33 domestic allocation really need it. At that time
34 the judgment was that it was not.

35 Q So there is no current FSC fishery that is being
36 used as a test fishery at the moment?

37 MR. RYALL: Currently, not that I'm aware of. I mean,
38 each one of these things is not static in time,
39 either. One could go back and do the same
40 analysis again and maybe come out with a different
41 outcome.

42 Q Page 207 of Exhibit 14 sets out a recommendation
43 from the Wappel Inquiry in 2003, or report, I
44 guess, in 2003. The recommendation, and
45 similarly, there was a similar recommendation by
46 Chamut in 2003, on page 217, recommendation number
47 10. These recommendations were that the DFO

1 should invest in more research to improve the run
2 forecast system, including the test fishing
3 system.

4 We've talked a little bit about the First
5 Nations Marine Society, but what other responses
6 has DFO -- sorry, what other test fishing research
7 has been done by, or development of new programs
8 has DFO done since these recommendations were
9 made? I think some of them are set out -- it
10 might be easier, just for today's purposes, if I
11 go through some of these and you can give me the
12 feedback on them. And one of them is the Area B
13 Seine Small Fleet Assessment Fishery in the Strait
14 of Juan de Fuca and Johnstone Strait. I don't
15 know who's best to answer this. Maybe we'll start
16 with you, Mr. Ryall. What work has been done on
17 that?

18 MR. RYALL: Well, that assessment fishery would require
19 a commercial TAC to operate, and my recollection
20 is it either operated for three years or two
21 years, hence, similarly, with the Area E one. I
22 think the Area E one operated two years.

23 Q And why did they not continue; because there was
24 no TAC, or was there some other reason?

25 MR. RYALL: It might be a combination. In recent years
26 there's really not been a lot of TAC, and it goes
27 back to, you know, some of my other comments,
28 earlier, about some regulatory challenges of these
29 types of assessment fisheries. Currently, if you
30 have vessels licensed to fish in an area, you
31 can't open it just for a few of them; you're
32 really opening it for all of them, and it's really
33 by agreement whether all fish or don't fish. So
34 you're taking some risks there by opening an area
35 without that agreement.

36 Q Do you have anything to add, Mr. Cave?

37 MR. CAVE: Well, it's my understanding that both the
38 Area D and the Area Gillnet Assessment Fisheries
39 fell victim to the **Larocque** -- the issues arising
40 from **Larocque** and s. 52. I understood that there
41 were problems, and Paul can probably speak more to
42 this, but my recollection was that, certainly for
43 Area D, they could not use the sale of that fish
44 to fund the Area D operations, and same with Area
45 E. So the catch in those two fisheries was to
46 fund their operations, and that is not a -- that
47 was not possible under the decisions under

1 **Larocque.**

2 Q Okay. And the Area D Gillnet Fishery was the one
3 that we looked at. There was a PowerPoint
4 presentation we looked at, earlier, with respect
5 to that?

6 MR. CAVE: That's correct, yes.

7 Q Is that a program which provided valuable
8 information that was useful to the commission in
9 its work?

10 MR. CAVE: Well, I think the review that you saw, I
11 think the general conclusion was that it was not
12 as useful for run-size estimation as we had hoped,
13 in part because of its intermittent nature of
14 these things and trying to -- you need to get
15 these things at the peak of the run in order --
16 consistent part of the run in order to get a
17 proper dataset, and if it's too early or too late,
18 it just creates greater uncertainty in the model
19 that you're using.

20 The Area E gillnet assessment fishery was --
21 they had one at Brownsville Bar and then there was
22 another location down river, and the idea was they
23 would provide additional information for abundance
24 estimation in the lower river, but we never used
25 those data, and I've actually not really looked at
26 them carefully.

27 Q All right. Was there any other fisheries that
28 were implemented to replace the Area D 10-vessel
29 gillnet fishery?

30 MR. CAVE: There was a test fishery at Naka Creek that
31 has been operated for the past two years, I
32 believe, and that's -- I think it operated for
33 between 10 and 14 days in the past two years.

34 Q Is that a useful test fishery?

35 MR. CAVE: It's too early to say. It's hard to
36 evaluate a test fishery with only a handful of
37 days of observations.

38 Q Okay.

39 MR. CAVE: That said, it is taking place in the exact
40 same place as the existing purse seine test
41 fishery that has a higher catchability. And, as a
42 result, and also it's not an independent estimate
43 of abundance, because they're fishing on the same
44 fish.

45 Q Do you have greater confidence in the -- this is
46 the Round Island gillnet you're talking about?

47 MR. CAVE: Well, no, I'm talking about the -- well, the

1 Naka Creek test fishery occurred at Naka Creek, at
2 approximately the same location as this Area D
3 assessment fishery, and they did use the same
4 vessels as the Round Island boats. The same
5 individuals were used. But if I were to choose
6 between Naka Creek and the Blinkhorn or Robson
7 Bight seine fishery, I would choose the Robson
8 Bight seine test fishery. The time series of data
9 is longer, it's useful right now, and it's, I
10 think, a more powerful predictor of abundance.

11 Q So you have greater confidence in that as a data
12 collecting source?

13 MR. CAVE: That's correct.

14 MR. RYALL: My understanding, too, is over this period
15 of time there was some promise from the Area D
16 assessment fishery, "promise" meaning in
17 assessment capabilities, which then has evolved
18 into the Naka Creek test fishery that Jim was just
19 talking about. They're one and the same, but with
20 less vessels, but fishing more days. One of the
21 challenges with the Area D 10-boat assessment
22 fishery was that it was all fishing on one day.
23 Trying to estimate where that 50-point -- the
24 median point was where you see 50 percent of the
25 run. Sometimes you might hit it, sometimes you
26 might be before, which means that you're going to
27 underestimate the run. Sometimes it might be
28 after; you overestimate the run. And that
29 happened a couple of years.

30 So the other alternative was they reduced the
31 number of boats, increased the number of days to
32 increase the amount of information, but it's only
33 been operating a few years and that's, as Jim
34 says, I would say the jury's out to see just how
35 that's going to perform. But the view coming back
36 from the panel was that there was some promise in
37 this information and let's modify it and then
38 collect more information over a larger timeframe
39 than just a one-day shot that we're kind of
40 guessing where that midpoint might be.

41 Q All right. So that test fishery that you're
42 describing, either the Area D 10-vessel or the
43 Naka Creek, neither of those are panel-approved
44 test fisheries at the moment; is that right?

45 MR. RYALL: They are panel approved, is what I
46 understand, for the Naka Creek one. The Area D
47 assessment fishery was not panel approved, which

1 also -- and goes back to some of the regulatory
2 challenges that we had. So the Naka Creek one is
3 licensed under s. 52. Am I right, Jim?
4 MR. CAVE: That's correct.
5 Q All right. Area B Seine and small fleet
6 assessment fisheries in the Strait of Juan de Fuca
7 and Johnstone Strait, are those panel approved
8 fisheries, now?
9 MR. CAVE: They're not panel approved. These are like
10 the small bite or the assessment fisheries.
11 They'd explored these and, again, there's so few
12 observations that -- and it's tough to evaluate
13 the data.
14 Q Okay. And the Area E Gillnet test fisheries, the
15 new ones that you've described, have those become
16 panel-approved test fisheries?
17 MR. CAVE: No, they have not.
18 Q Okay. Moving to a new topic here, looking at
19 First Nations food, social and ceremonial
20 fisheries and test fishing itself, is there any
21 concern in implementing test fishing that test
22 fishers are permitted to keep and sell their
23 portions of their catch in accordance with their
24 s. 52 licenses at times when there may not be an
25 FSC opening? First, I'll ask that of Mr. Assu;
26 does that raise any concerns for you?
27 MR. ASSU: If I understood you correctly, the answer
28 would be, "No."
29 Q Okay. Mr. Ryall?
30 MR. RYALL: Are you asking me if there's any concerns
31 or concerns being expressed by people that --
32 Q I'm asking you, does the department have any
33 concerns about that?
34 MR. RYALL: We view these test fisheries as essential
35 to gather the information to assess the runs as
36 they return.
37 Q So you don't think there's any concerns there?
38 MR. RYALL: No, I don't. I think in our Salmon
39 Allocation Policy it does contain the view that I
40 just expressed.
41 Q All right. Now, if a test fishing -- fish that
42 are retained were to be distributed to First
43 Nations for FSC, is there any logistical problems
44 with that, or concerns in doing that kind of a
45 distribution, Mr. Assu?
46 MR. ASSU: Yes, I believe there would be. There's a
47 number of agreements just in the Johnstone Strait

1 corridor, and if I remember correctly, the FSC
2 number for that is, I think, somewhere in the
3 order of 80,000. And with the samples that you're
4 talking about that are harvested on a daily basis,
5 to try and distribute that amongst all of those
6 bands, I mean, how do you decide who goes first
7 and who gets what? I mean, just within the local
8 community with A-Tlegay, we have five bands being
9 represented there with, I think, something like
10 2,700 people.

11 Q And how many fish would be retained on a yearly
12 basis?

13 MR. ASSU: Well, there's 100 a day that are retained
14 for samples. And I want to be clear on this.
15 You're getting a full sample set on years of what
16 I'll say you've got relatively high abundance. In
17 years of low abundance, we've come in, you know,
18 in days with maybe 40 fish on board. Now, part of
19 the reason is because I didn't just get 40 fish
20 for the day. You're making six sets across the
21 entire test fishing area, and out of each one of
22 those sets you'll be taking some samples, ideally
23 15 to 20 out of every one of those sets, so you're
24 getting a better cross-section of sample.

25 So the concern I've heard expressed, or when
26 I first encountered somebody floating the idea of
27 maybe the sample fish should go to the First
28 Nations, you know, in years of low abundance, I
29 mean, we're talking very few samples at times, and
30 that is a real problem.

31 Q Mr. Cave, if there was a change to more in-river
32 fisheries, would that require a change in
33 management from the test fisheries perspective?

34 MR. CAVE: Probably.

35 Q In what way?

36 MR. CAVE: I would suspect that if you were to increase
37 the allocations within the river, you would
38 potentially be looking at test fisheries up river
39 of Mission currently than where you're at. But
40 the question that might be asked is, would you say
41 it would be okay to give up the information gains
42 that you have by conducting these marine programs
43 and then just rely on a terminally-based
44 assessment? We're already looking for more
45 seaward estimates to manage the commercial
46 fisheries and we'd like to, in 12 and in the
47 marine areas now. You'd have those assessments

1 that are in existing marine areas that go to
2 benefit managing the fisheries in the lower river,
3 now.

4 One of the most important pieces of
5 information or important analysis that I have been
6 asked to provide Canada is the expectation for
7 escapements at Mission over the next six days. So
8 they use those assessments to manage the fisheries
9 in Musqueam, Tsawwassen, Sto:lo areas, now. So I
10 don't see that information need going away any
11 time soon.

12 Q So you may need additional test fisheries in the
13 river, but it's unlikely that there would be any
14 reductions in the marine test fisheries?

15 MR. CAVE: I think that the panel would want to
16 consider that, but at the end of the day the panel
17 doesn't manage those fisheries in-river, either,
18 so that decision may rest, you know, Canada may
19 have greater weight on that decision.

20 MS. BAKER: Okay. Those are my questions, Mr.
21 Commissioner.

22 I understand that the order for the cross-
23 examination will be Canada, and then is it Mr.
24 Hickling, and then the Salmon Commission, to
25 start.

26 MR. SPIEGELMAN: Good afternoon, Mr. Commissioner. For
27 the record, Spiegelman, first initial J., counsel
28 for Canada.

29
30 CROSS-EXAMINATION BY MR. SPIEGELMAN:

31
32 Q I'm going to be as brief as possible, under the
33 circumstances this afternoon, and I am going to
34 begin by drawing your attention, Mr. Ryall, to
35 Policy and Practice Report 5. And, in particular,
36 paragraph 174, which is on page 68, and I'm just
37 going to make a few factual corrections on the
38 record regarding this PPR. Paragraph 174 reads:

39
40 The Fraser River Panel authorised test
41 fishing is not included in the yearly
42 calculation of TAC.

43
44 Mr. Ryall, is that a correct statement?

45 MR. RYALL: No. Within the chapter 4, annex 4, for the
46 Pacific Salmon Commission, there's a formula for
47 starting with the run size, taking off the

1 escapement, taking off the test fishery, and then
2 it's -- so what I'm saying is it's included in the
3 TAC calculations. After you take off test fishery
4 and then there's a sharing arrangement between
5 Canada and the U.S., there are some other
6 complications, or not complications, but other
7 aspects that are laid out within the chapter,
8 chapter 4, annex 4.

9 Q Okay. And moving forward to page 70, paragraph
10 179, this paragraph reads:

11
12 Until and including the 2006 fishing season,
13 in addition to allowing the sale of fish that
14 were killed during test fishing and that were
15 not needed for scientific purposes, DFO also
16 used to authorise s. 52 license-holders to
17 catch and sell a certain amount of other fish
18 in order to pay for test fishing. The catch
19 and sale of these fish was counted as part of
20 Canada's commercial TAC.

21
22 Is that a correct statement?

23 MR. RYALL: No. Similar to my earlier comments, this
24 would come off before commercial TAC is
25 calculated; that is, that the test fishing that's
26 under section -- or the licence, s. 52, that would
27 come off and not be included within the commercial
28 TAC. Maybe the confusion is, I think I've seen
29 some of these reported within our commercial
30 database, but they're not commercial TAC.

31 Q Okay. So those fish would come off the
32 international TAC and not be attributed to Canada?

33 MR. RYALL: Those would come off before the
34 international TAC is calculated.

35 Q All right. Okay, thank you, that's all I have on
36 the PPR.

37 Perhaps, Mr. Lunn, you can pull up Exhibit
38 366. This is the policy that was agreed to
39 bilaterally that sets out the operational
40 parameters for running the test fisheries; that's
41 correct?

42 MR. CAVE: That's correct.

43 Q And on page 2 of this document, under number 1,
44 this page 2 has the, it says, the key elements of
45 test fishing operations. And I'll just draw your
46 attention to item number 1, and on the final
47 sentence of that it states that:

1 Consistency in operation is vital to preserve
2 the integrity of the long term database.

3
4 You agree that data consistency is one of the key
5 elements of running a defensible or credible test
6 fishing operation?

7 MR. CAVE: That's correct.

8 Q And how is that data consistency objective
9 operationalized in terms of planning and executing
10 a test fishing?

11 MR. CAVE: Well, the most important feature is that we
12 maintain the effort that is done so that you don't
13 go test fishing one way at one site one year and
14 then do something entirely different another year.
15 So, for example, we've operated a gillnet test
16 fishery in Area 20 since the '70s. We use the
17 same gear, the same fish and the same locations,
18 the same hours every night, and have done so since
19 the '70s. That's what I call a consistent test
20 fishery.

21 If we do make a change, like we have in the
22 river, where we've gone to different nets, we've
23 made that change with our eyes open, but that
24 said, it's been to get better data, and we don't
25 rely on the -- when we change those nets over to
26 different nets, we knew that -- did that with the
27 understanding that we have the Mission
28 hydroacoustics site, which is our primary
29 estimator of abundance.

30 So consistency in operation is key. The
31 timeframe is generally we've been fishing under
32 the same timeframe, but if you lose a few days on
33 either of the run, generally that's during low
34 abundance, so maybe there's been some tweaking of
35 the schedule changes. They're small-scale
36 changes. But by and large, that test fishery has
37 been operated and consistent. That's our goal.

38 When sometimes people want to make a change,
39 that's where I start to resist, because I know
40 that it's a slippery slope and it's hard to get a
41 test fishery back to where it should be if
42 somebody does make a change.

43 Q And you testified, earlier, also about the
44 importance of the crew actually conducting the
45 test fisheries and their level of expertise with
46 both the area and the gear as being an important
47 consideration.

- 1 MR. CAVE: When you make a change, there's a -- in a
2 fishery statistic, there's one called vessel
3 power. Vessel power is a combination of the
4 experience, the skipper, the electronics on the
5 boat, the net, how fast the boat goes. All kinds
6 of things go into vessel power, and it's folded up
7 in the calculation of catchability. So when you
8 do change individuals there are subtle, perhaps
9 hard to measure, changes in catchability that are
10 known. Some guys are better fishermen than
11 others, and that's encapsulated in the term
12 "vessel power". When you change fishermen, it's
13 inevitable that you have -- you're changing that.
- 14 Q Right. And so the idea of adding a new test
15 fishery location or changing the way one is
16 operated, that will impact your decision, or that
17 will impact the data quality and, for example, the
18 first couple of years you run a new test fishery
19 location, there won't be any value added by that
20 date if there's a period of breaking in; is that
21 correct?
- 22 MR. CAVE: That's correct.
- 23 Q And you stated in your evidence, earlier, that
24 from your perspective, you're always looking for
25 more data?
- 26 MR. CAVE: That's correct.
- 27 Q And every additional fish within a run that you
28 can catch in a test fishery operation will reduce
29 the uncertainty?
- 30 MR. CAVE: That's correct.
- 31 Q But clearly there's a line to be drawn somewhere
32 between catching all the fish in one extreme in a
33 test fishing, so you know exactly how many fish
34 there were, and foregoing any other purpose for
35 the fish, either spawning or harvest, and on the
36 other hand, going too far the other way and not
37 doing enough test fishing; you've got to try and
38 find that balance somewhere?
- 39 MR. CAVE: That decay in the increase in information
40 can actually be quantified, would fit some sort of
41 a decay function.
- 42 Q So as you conduct more test fishing operations,
43 you reduce that uncertainty, but clearly there's
44 an incremental cost to every day, every boat you
45 send out into the water to do test fishing?
- 46 MR. CAVE: That's correct.
- 47 Q And the Pacific Salmon Commission administers the

1 contracts, but they don't actually pay for the --
2 they don't fund, out of their own purse, the cost
3 of these test fishing operations; is that correct?

4 MR. CAVE: That's correct.

5 Q And so there's a value, from your perspective, of
6 a challenge function, in this case offered by
7 Canada, to test the validity and make sure that
8 every dollar spent on test fishing is appropriate
9 under the circumstances?

10 MR. CAVE: Yes, and I will add to that. I've been
11 through inquiries since 1992, and every one of
12 them deals with our ability or inability to
13 estimate run size or estimate abundance. Those
14 inquiries cost a lot of money, and we're in one
15 right now. Whether it's right or wrong, that
16 discussion is personal. It's my rear-end out
17 there that generates these estimates, and
18 sometimes I'm wrong, and sometimes I'm very wrong.
19 So you can understand where I'm coming from when
20 people say, "Why were you wrong, Mr. Cave, in
21 1994, when you were estimating the abundance of
22 late run sockeye to the Gulf?" Well, I was wrong
23 because I didn't have the tools, or I was too
24 arrogant to understand or think that I knew more
25 than I actually did. And so I really do believe
26 in the concept of understanding uncertainty and
27 taking steps to minimize that.

28 So part of what drives me, and I will always
29 ask for more, and I will never have enough. So
30 that's kind of where I come from, and I'll be
31 doing that for the next two years, probably.

32 MR. SPIEGELMAN: Thank you. Those are my questions.

33 MR. HICKLING: For the record, my name is James
34 Hickling, spelled H-i-c-k-l-i-n-g, and I'm counsel
35 to the standing group which is comprised of the
36 Laich-kwil-tach Treaty Society, the Aboriginal
37 Aquaculture Society, and Chief Harold Sewid.

38

39 CROSS-EXAMINATION BY MR. HICKLING:

40

41 Q The Commissioner asked what is a test fishery, and
42 Mr. Assu, I think you're the only person in the
43 room who has actually conducted test fisheries. I
44 wonder if you could briefly describe what actually
45 happens on the deck of a test fishery vessel?

46 MR. ASSU: Well, we make six sets a day throughout the
47 test fishery, and throughout those six sets the

1 samples are generally being done with the observer
2 and the crew. At the end of the day, they bring
3 all of the samples, usually into the airport in
4 Campbell River.
5 Q So when you set your net, you pull the net in, and
6 then you count the fish that are in the net. How
7 do you go about doing that?
8 MR. ASSU: Well, we release them either from the side
9 of the boat, depending on the size of the set, or
10 off of the stern, or we let them go over what's
11 called our gable, and they just automatically swim
12 out on their own. And the observer is counting,
13 along with another crew member, especially when
14 you have a year like this upcoming year where
15 you've got lots of pinks and sockeye in the set.
16 Q So they're using counting mechanisms to --
17 MR. ASSU: Yes.
18 Q -- keep track of the fish as they leave the net?
19 MR. ASSU: Yes.
20 Q And to distinguish between different species?
21 MR. ASSU: Yes.
22 Q And have you ever tested the accuracy of that
23 counting method?
24 MR. ASSU: I can't remember if it was 1995 or '97,
25 Carmen McConnell actually did that, I think it was
26 for a period of four weeks he was on the boat, and
27 he would ask every one of us, individually, what
28 we actually thought was in the set before we'd
29 count them out and then, at the end of the day, he
30 gave us a summary report on it that we were
31 actually hitting 95 percent on our estimation.
32 Q And Carmen McConnell's a DFO technician?
33 MR. ASSU: Technician, yes.
34 Q I've got a question about how contracts are
35 allocated to test fisheries in the marine test
36 fishery, and I think this might be best answered
37 by Mr. Ryall. So you use a competitive bidding
38 process?
39 MR. RYALL: There has been a competitive bidding
40 process. Generally, the test fishery has been --
41 or the contract, excuse me, has been awarded for
42 four years, I think.
43 Q So you put them out to tender and you receive
44 multiple bids?
45 MR. RYALL: That's right.
46 Q And cost would be one of the criteria you use.
47 Can you speak to the other criteria?

1 MR. RYALL: Some of the other criteria would be the
2 ones that Jim was talking about, about experience
3 of the skipper, the type of vessel. You're
4 looking for someone that has a lot of experience
5 fishing in that area, well respected within the
6 fishing community, that they're a good fisherman,
7 that they have a good vessel, have the appropriate
8 gear, the appropriate safety equipment. So when
9 you're assessing these, you go through a ranking
10 of who submitted bids.

11 Q And focusing on the marine test fishers, do you
12 know what proportion of those test fishers are
13 First Nations people?

14 MR. RYALL: I can't answer that question, no. I have
15 not been involved in, well, probably 20 years, in
16 looking at those sort of things, so I can't help
17 you on that.

18 Q Mr. Cave?

19 MR. CAVE: Well, Brian's First Nations, and I think the
20 two individuals who run the seine boats, Norm
21 Stauffer and Gordie Watson, they're both First
22 Nations. I think the two gillnet people in Round
23 Island are not. One is, okay, correction. And we
24 have, ourselves, we charter the Sumas -- some
25 members from the Sumas Band to do the test fishery
26 at Mission. And we have a tribal test fisherman
27 in Area 5 in the U.S.

28 Q So those contract allocations are made on the
29 basis of experience and reliability, and they're
30 not a concession to First Nations people for the
31 priority of Aboriginal rights?

32 MR. CAVE: Well, I think Brian Assu may be the finest
33 test fisherman I've ever worked with. And it
34 doesn't matter to me the colour of the
35 individual's skin or their background. We need
36 good people. So, no, there's been no attempt to
37 say, "We have to hire a First Nations person
38 here." No, the best fishermen in Johnstone
39 Straits, it turns out, are usually First Nations
40 fishermen.

41 Q Okay, I have a series of quick questions about the
42 administration of the test fishing or, if you
43 want, the assessment fishing that was conducted by
44 the First Nations Marine Society and the A-Tlegay
45 Fisheries Society, so these are directed to Mr.
46 Assu. Am I right in saying that the First Nations
47 Marine Society and the A-Tlegay Fisheries Society

- 1 perform similar functions?
2 MR. ASSU: Yes. After the Marine Society closed its
3 doors, A-Tlegay took over the coordinated fishery
4 portion from there, basically just to try to
5 ensure that whatever bands required the help, that
6 we could give it to them, just by introducing them
7 to the various fishermen in our area that were
8 interested in doing that.
9 Q And the First Nations Marine Society, did it use
10 the e-log technology?
11 MR. ASSU: Yes, it did. Because we had it on board the
12 test boats, we thought we'd try it, and it did, it
13 worked great. It was a good system.
14 Q How many First Nations members were in that First
15 Nations Marine Society, and how many are in the
16 A-Tlegay Fisheries Society?
17 MR. ASSU: Well there's five bands in A-Tlegay. The
18 First Nations Marine Society, I think there was
19 something like 14 to -- it varied between 14 and
20 18 bands at times. It changed from year to year.
21 Q And just in terms of the administration of those
22 organizations, how do you establish the mandate
23 for those types of organizations?
24 MR. ASSU: Well, what ended up happening, as far as the
25 Marine Society was concerned, we did receive a
26 small amount of AFS dollars to help coordinate the
27 FSC fishery. But then along came AAROM, and AAROM
28 required us to have a BCR from each individual
29 First Nation in order to make the application and
30 receive funding.
31 Q I understand the First Nations Marine Society test
32 or assessment fishery ended in 2006?
33 MR. ASSU: Yes.
34 Q And was that because the Marine Society closed its
35 doors?
36 MR. ASSU: No, not at that time. The test fishing
37 component of the coordinated fishery was dropped.
38 It became more just for the boats just to try to
39 harvest as quick as they could on the largest
40 abundance that they could work on. And we still
41 supplied DFO with the catch information on a daily
42 basis.
43 Q A-Tlegay does?
44 MR. ASSU: And A-Tlegay does that, also.
45 Q Right. I understand that the FSC fishery moved
46 from a more structured test fishery body to
47 seeking out the abundance. Is it the same with

1 other types of assessment fisheries, like the
2 commercial small bites, do they go out -- do those
3 boats go out and seek the abundance and see what
4 they can get in a short opening? In other words,
5 is the Marine Society's test fishery equivalent to
6 the commercial assessment fishery?

7 MR. RYALL: No, I don't think they're quite equivalent.
8 The Marine Society tests -- I would call it a test
9 fishery in that there was a couple of boats that
10 were trying to collect the information. And then
11 maybe where your analogy is more accurate, is
12 where there was more boats going out doing FSC
13 fishing, was also supplying some information that
14 maybe that was more similar to an assessment
15 fishery.

16 Q Right. And Mr. Assu, why did the Marine Society
17 end up closing its doors?

18 MR. ASSU: Basically, it was politics. There was a
19 large range of bands starting up in Port Hardy,
20 down through mid Vancouver Island, there was
21 ourselves, and then down in the south. The real
22 breakdown was through the introduction of the
23 AAROM dollars and what was trying to be done under
24 AAROM, bringing a large aggregate First Nation
25 body together, and it was just impossible. We've
26 got a number of Douglas Treaty Bands on the east
27 coast of Vancouver Island, and we've got a number
28 of groups already established, like A-Tlegay, that
29 are already working together, and it really did
30 make the job of trying to bring the aggregate
31 together impossible.

32 Q Just a couple of points of clarification. So
33 A-Tlegay doesn't run a test fishery, but you do
34 catch monitoring through your FSC fishery?

35 MR. ASSU: Yes, we do. We've done catch monitoring,
36 and I think we've had the database for FSC fishery
37 now, I think it's been since 1999.

38 Q And you provide that data to DFO. And is the data
39 used in any management decision-making processes?

40 MR. ASSU: I don't know.

41 MR. RYALL: Well, as far as assessment goes, I would
42 say, "No." But as far as getting improved catch
43 information, it's certainly the objective of DFO,
44 and I say the work that the Marine Society and
45 A-Tlegay has done has furthered meeting that
46 objective, getting that information in a timely
47 fashion and improved information.

1 Q Mr. Assu, does A-Tlegay use the e-log system?
2 MR. ASSU: Yes, they do. And the way that's used, it's
3 not installed on all of the private vessels; it's
4 on our two guardian vessels, who are on the
5 grounds during the fishery, and they take hails
6 and they send in the information from the grounds.
7 And it helps us in a number of ways. We know how
8 many observers we need to have down at the dock
9 when they come in, because we are guardians,
10 validate the catch as it's going out and
11 distribute it accordingly across all five nations.

12 Q Okay. I just have one more question about
13 funding. I wonder if there's a role for pre-
14 **Larocque**-type funding arrangements in the test
15 fishery, today; for example, in years of high
16 abundance?

17 MR. RYALL: I'm sorry, I didn't follow your question.

18 Q I wonder if you can use, in years of high
19 abundance, if you can use sale of fish to help
20 fund test fisheries or other programs?

21 MR. RYALL: No. The decision that came down out of the
22 **Larocque** is that the minister did not have
23 authority to use sale of fish to fund test
24 fishing.

25 Q Right. But if there was a change in legislation
26 or regulations?

27 MR. RYALL: Yes. I'm sorry, that was when I
28 misunderstood you. That was one of the options
29 that I was talking about earlier, what one could
30 explore. One could look at going back and
31 changing the legislation to use of fish --

32 Q Right.

33 MR. RYALL: -- is one of the things that could be done,
34 but that would require change to legislation.

35 MR. HICKLING: Those are my questions.

36 THE COMMISSIONER: Just to follow up from Mr. Assu.

37 You talked about the counting of the fish. What
38 is the process for the selection of the samples?

39 MR. ASSU: When we're releasing the catch, we take the
40 -- actually the last, probably, when we think 15
41 to 20 is there in the net, that's the one we take
42 aboard. We've had a large debate amongst
43 ourselves and observers, and Carmen McConnell, in
44 particular, because we used to actually dip net
45 them out. You'd get two or three in a dip net at
46 a time. So the debate was around whether or not
47 that was being selective, and found it better just

105

PANEL NO. 14

Cross-exam by Mr. Hickling (LJHAH)

Cross-exam by Mr. Boyar (PSC)

1 to take the sample just with what remains.

2 THE COMMISSIONER: And you mentioned you take to the
3 Campbell River Airport. Those would be the fish
4 you take to the Campbell River Airport?

5 MR. ASSU: Oh no, just the samples, the DNA samples,
6 the scales, just what's being taken off of the
7 fish is actually taken to the airport.

8 THE COMMISSIONER: Okay. And where is that done?

9 MR. ASSU: The sample is all done aboard the boat.

10 THE COMMISSIONER: Everything's done aboard the boat?

11 MR. ASSU: Yes.

12 THE COMMISSIONER: And it's done by DFO...?

13 MR. ASSU: Observer, yes.

14 THE COMMISSIONER: Right.

15 MR. ASSU: And the actual fish will actually go into a
16 buyer. They send a packer out every second day to
17 pick up the -- if there's 200, if you've managed
18 to --

19 THE COMMISSIONER: I see.

20 MR. ASSU: Yes.

21 THE COMMISSIONER: I see. Thank you. I'm sorry, you
22 had something to add?

23 MR. HICKLING: And just to follow up on that:

24 Q The buyer credits the value of the fish to your
25 account, and then Pacific Salmon Commission
26 deducts that from the contract payments?

27 MR. ASSU: Yes, that's right.

28 Q So the Pacific Salmon Commission receives the
29 benefit of the sample fish?

30 MR. ASSU: Yes.

31 MR. BOYAR: It's Tam Boyar, B-o-y-a-r, first initial
32 T., counsel for the Pacific Salmon Commission. I
33 just have a point of clarification for Mr. Cave.

34

35 CROSS-EXAMINATION BY MR. BOYAR:

36

37 Q Test fisheries data is used for the purposes of
38 in-season assessments as distinguished from pre-
39 season forecast or post-season assessments; is
40 that correct?

41 MR. CAVE: That is correct, yes.

42 Q And can you just briefly, in general terms,
43 describe the importance of in-season assessments?

44 MR. CAVE: We have a pre-season forecast, as I think
45 there's been some discussion on this, and there's
46 also a pre-season planning where they come up with
47 escapement of goals based on that pre-season

January 31, 2011

1 forecast. But we know, and I'm sure everyone
2 knows in this room, that we get an entirely
3 different result once we start getting into the
4 season. We start actually collecting the data.
5 The pre-season forecast isn't forgotten, it's
6 actually kept in the back of our minds. It's used
7 as a standard by which we measure how we're
8 achieving in-season.

9 So we collect data in-season. That includes
10 our stock identification program, our
11 hydroacoustics program, our test fishing program,
12 and the collection of commercial catch and other
13 catch data outside of our own programs. So test
14 fishing is one of those pillars, I guess, in our
15 in-season assessments.

16 Without test fishing you don't have an
17 indication of which stocks are migrating at what
18 strength, and without test fishing you don't know
19 what the proportion of sockeye are in the salmon
20 that are migrating upstream. So all you would
21 have would be catch data, which would be known as
22 sockeye. And you can't translate -- you will not
23 know how you are doing in your conservation
24 objective unless you go test fishing and break
25 down that daily estimate of salmon passage into
26 sockeye and then, within the sockeye, the
27 different component stocks which make up, our
28 understanding, and I guess you could break it down
29 further into CUs, but we're not able to do that
30 with our in-season methods right now.

31 On top of that, we're estimating how many
32 fish are en route from our test fisheries, from
33 the marine test fisheries, before they reach
34 Mission. So we break down the Mission escapement
35 into the Chilko migration.

36 On top of that, we add the catches, which
37 come -- which are broken down to Chilko, based on
38 the sampling of those catches. Then we're also
39 making projections of what is coming in between
40 Mission and those seaward assessment areas. That
41 comes entirely from test fishing. Without test
42 fishing we wouldn't get very far in our in-season
43 salmon management. It would be impossible. And
44 in order to conduct those test fisheries, fish are
45 sacrificed; they are killed. It would be
46 difficult to do otherwise.

47 MR. BOYAR: Thank you.

1 MS. BAKER: The next counsel would be Mr. Leadem.
2 THE COMMISSIONER: Mr. Leadem, unless you're going to
3 be just five minutes, I prefer to give you
4 tomorrow morning, if that's...
5 MR. LEADEM: I think I can finish in five minutes,
6 thank you, Mr. Commissioner.
7

8 CROSS-EXAMINATION BY MR. LEADEM:
9

10 Q In part, this is hopefully to address a question
11 that the Commissioner asked, but I am going to
12 suggest to you that the main purpose of a test
13 fishery is to answer this question: How many fish
14 can be harvested commercially while still ensuring
15 that sufficient fish are available for
16 conservation purposes and for FSC; would you agree
17 with me, that that's the main purpose of test
18 fisheries?

19 MR. RYALL: I would not agree with that assessment. I
20 would say that the test fisheries provide
21 information for all fisheries and to -- I was
22 talking about, earlier, how we're going to meet
23 our conservation objectives, how we're going to
24 meet our international obligations, how we'll meet
25 our FSC obligations and, as well, as you point
26 out, commercial?

27 Q Would you agree with that proposition, Mr. Cave?

28 MR. CAVE: Could you repeat that for me, again, so I
29 hear all of the elements of that, please?

30 Q Sure. How many fish can be harvested,
31 commercially, while still ensuring that sufficient
32 fish area available for conservation purposes and
33 FSC?

34 MR. CAVE: I look at it, the purpose of test fisheries
35 are primarily to get a better understanding of the
36 total return of stocks. And once you get those
37 into the individual stock components, you can then
38 reassess your escapement targets, because those
39 escapement targets change with run size. And the
40 TAC ultimately flows from that.

41 Q Okay.

42 MR. CAVE: But it's not strictly to estimate the
43 commercial TAC. I think it's to get ourselves to
44 a different point than the pre-season forecast.
45 Without test fisheries, okay, we would have
46 gone -- and if we had ignored everything, we would
47 have gone fishing in 2007 and 2008 and 2009, and

1 if we would have put our blinders on, we would
2 have had to go fishing to understand the run was
3 small without those component programs, like
4 Mission hydroacoustics and test fishing.

5 As it was, those commercial fisheries were
6 never opened, so it's not just to get nets in the
7 water; it turned out that it got nets from going
8 into the water in those years.

9 Q All right. I appreciate that. Do you have any
10 views on this, Mr. Assu?

11 MR. ASSU: I guess the only thing I'll say about it is
12 I have always viewed the test fishery as being key
13 to all users. It's been very noticeable in the
14 most recent years when it's kind of unusual to see
15 the recreational fishery actually closed down, and
16 they're desperate to see the test fishery start to
17 perform, because they know then they're going to
18 open up.

19 MR. LEADEM: Thank you. Those are my questions, Mr.
20 Commissioner.

21 MS. BAKER: Mr. Commissioner I guess we need to just
22 talk quickly about scheduling. Tomorrow, we were
23 planning to do a panel on decision-making, so we
24 had three witnesses coming for that, and I had
25 hoped to also have two witnesses, short witnesses,
26 on stock assessment in the afternoon. It's
27 important that we keep that decision-making panel
28 going ahead tomorrow, because of scheduling of
29 those witnesses. However, I don't think we will
30 need the whole day for it, so, on balance, I don't
31 know if my friends -- the people I've noted who
32 have indicated they are going to cross-examine
33 these witnesses are Ms. Gaertner, Ms. Fong, and
34 Mr. Dickson, so I wonder if they could just give
35 me an idea of their time estimates, and then we
36 can decide if it makes sense to just continue
37 these witnesses in the morning, which I think
38 would be my preference, if we could limit it to a
39 short amount of time.

40 Ms. Gaertner, what is your estimate for
41 tomorrow?

42 MS. GAERTNER: My estimate is the same.

43 MS. BAKER: Which is 15.

44 MS. FONG: (Inaudible - away from microphone).

45 MS. BAKER: Fifteen and...?

46 MR. DICKSON: I'll just be five, maybe maximum 10, but
47 probably five.

1 MS. BAKER: Five. And I think that's everybody in the
2 room. So that would be a half hour, roughly, in
3 the morning. I think I prefer -- 45 minutes, my
4 friend whispers to me. If we can keep it at
5 around sort of half an hour, that would be great,
6 and that would be my preference, I think, to come
7 back and complete these witnesses before we start
8 the decision-making panel, and if we have to make
9 an adjustment on the two stock assessment
10 witnesses in the afternoon, I think I would prefer
11 to do that.

12 And one other point is that we had, on our
13 hearing schedule, a tentative counsel meeting
14 tomorrow, but we won't be proceeding with that,
15 because we had the one last week. So we're not
16 going to proceed with that tomorrow morning.
17 We'll start at 10:00, I think, with these
18 witnesses, then.

19 THE COMMISSIONER: I am going to further complicate
20 your life, Ms. Baker. I think I mentioned to you
21 last week that I have a commitment tomorrow
22 morning at 9:00. I should be here by 10:00, but I
23 don't want to keep counsel waiting around. I
24 think I would like to err on the side of a 10:15
25 start, just so I don't have counsel standing
26 around, waiting for the start time. And the same
27 thing on Wednesday morning. I have another
28 commitment at 9:00 on Wednesday morning. Again,
29 I'm hopeful it will all be in place so I can be
30 here at 10:00, but I just don't want counsel
31 waiting around.

32 MS. BAKER: All right. Is there any opportunity, on
33 either of those days, to make up those 15 minutes,
34 either at lunch or at the end of the day?

35 THE COMMISSIONER: Tomorrow for sure not. I'm not sure
36 about Wednesday, but tomorrow for sure not.

37 MS. BAKER: Okay.

38 THE COMMISSIONER: No, I can't do it at lunch on
39 Wednesday. I have a meeting at lunch on
40 Wednesday, but tomorrow I can't sit later than
41 4:00.

42 MS. BAKER: Okay. And Wednesday possibly we could sit
43 a little bit later, if we needed to?

44 THE COMMISSIONER: I believe so, but I can't recall
45 now. I'll just have to check.

46 MS. BAKER: All right. Now, we had also tentatively
47 suggested to counsel we might start at 9:30 on

1 Thursday to deal with Mr. Patterson's evidence,
2 and I don't know if we've confirmed that with you,
3 Mr. Commissioner.
4 THE COMMISSIONER: Yes, I'll check again.
5 MS. BAKER: Okay.
6 THE COMMISSIONER: I'd forgotten about that.
7 MS. BAKER: All right. Okay, well, we'll start
8 tomorrow at 10:15 --
9 THE COMMISSIONER: Yes, okay.
10 MS. BAKER: -- and we will start with these witnesses
11 and hopefully be done in half an hour, if
12 possible. Sorry, is that a problem for somebody
13 in the room?
14 MR. RYALL: It's a bit of a challenge for me. I have
15 something that will be a challenge to move that
16 I've already scheduled. I didn't think I was
17 needed tomorrow, and it starts at 9:00, and I
18 think it might go till as late as 10:30.
19 THE COMMISSIONER: Well we could start the panel at
20 10:15 and --
21 MS. BAKER: And Mr. Ryall could just join us.
22 THE COMMISSIONER: -- Ms. Gaertner or whomever, and
23 when Mr. Ryall joins us, we could have him
24 questioned as well, unless Ms. Gaertner has
25 another suggestion?
26 MS. GAERTNER: Well, I'll just add to the complexities.
27 If I'm starting tomorrow morning, my questions are
28 primarily for Mr. Ryall.
29 THE COMMISSIONER: All right. Well, then we could
30 perhaps work with counsel to reverse that around
31 so Ms. Gaertner can have her opportunity to
32 question Mr. Ryall.
33 MS. BAKER: Ms. Fong, are your questions directed to
34 Mr. Cave or Mr. Ryall?
35 MS. FONG: (Inaudible - away from microphone)
36 MS. BAKER: Yes, that's one possibility, that we could
37 start with the decision-making panel, as
38 scheduled, and then have these witnesses come back
39 in the afternoon. Is that possible?
40 THE COMMISSIONER: That looks like it might work a bit
41 better --
42 MS. BAKER: Okay.
43 THE COMMISSIONER: -- so that all counsel will have a
44 chance --
45 MS. BAKER: All right.
46 THE COMMISSIONER: -- to ask questions of the witnesses
47 they want to ask questions of the witnesses they

1 want to ask questions of.
2 MS. BAKER: Yes. We'll work it out with the
3 witnesses --
4 THE COMMISSIONER: All right.
5 MS. BAKER: Okay, thank you very much. So that at
6 least gets us for 10:15 we know what we're doing.
7 THE REGISTRAR: The hearing is now adjourned for the
8 day and will resume at 10:15 tomorrow morning.
9

10 (PROCEEDINGS ADJOURNED AT 4:32 P.M. TO TUESDAY,
11 FEBRUARY 1, 2011, AT 10:15 A.M.)
12
13
14
15
16
17

18 I HEREBY CERTIFY the foregoing to be a
19 true and accurate transcript of the
20 evidence recorded on a sound recording
21 apparatus, transcribed to the best of my
22 skill and ability, and in accordance
23 with applicable standards.
24

25
26 _____
27 Pat Neumann

28 I HEREBY CERTIFY the foregoing to be a
29 true and accurate transcript of the
30 evidence recorded on a sound recording
31 apparatus, transcribed to the best of my
32 skill and ability, and in accordance
33 with applicable standards.
34

35
36 _____
37 Susan Osborne

38 I HEREBY CERTIFY the foregoing to be a
39 true and accurate transcript of the
40 evidence recorded on a sound recording
41 apparatus, transcribed to the best of my
42 skill and ability, and in accordance
43 with applicable standards.
44

45
46 _____
47 Diane Rochfort

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

Karen Hefferland

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