

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

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

le lundi 21 février 2011

APPEARANCES / COMPARUTIONS

Brock Martland Kathy L. Grant	Associate Commission Counsel Junior Commission Counsel
Tim Timberg Geneva Grande-McNeill	Government of Canada
Boris Tyzuk, Q.C.	Province of British Columbia
No appearance	Pacific Salmon Commission
No appearance	B.C. Public Service Alliance of Canada Union of Environment Workers B.C. ("BCPSAC")
No appearance	Rio Tinto Alcan Inc. ("RTAI")
Shane Hopkins-Utter	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")
Judah Harrison	Conservation Coalition: Coastal Alliance for Aquaculture Reform Fraser Riverkeeper Society; Georgia Strait Alliance; Raincoast Conservation Foundation; Watershed Watch Salmon Society; Mr. Otto Langer; David Suzuki Foundation ("CONSERV")
Don Rosenbloom	Area D Salmon Gillnet Association; Area B Harvest Committee (Seine) ("GILLFSC")

APPEARANCES / COMPARUTIONS, cont'd.

Phil Eidsvik	Southern Area E Gillnetters Assn. B.C. Fisheries Survival Coalition ("SGAHC")
Christopher Harvey, Q.C.	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 Crystal Reeves	First Nations Coalition: First Nations Fisheries Council; Aboriginal Caucus of the Fraser River; Aboriginal Fisheries Secretariat; Fraser Valley Aboriginal Fisheries Society; Northern Shuswap Tribal Council; Chehalis Indian Band; Secwepemc Fisheries Commission of the Shuswap Nation Tribal Council; Upper Fraser Fisheries Conservation Alliance; Other Douglas Treaty First Nations who applied together (the Snuneymuxw, Tsartlip and Tsawout); Adams Lake Indian Band; Carrier Sekani Tribal Council; Council of Haida Nation ("FNC")
No appearance	Métis Nation British Columbia ("MNBC")

APPEARANCES / COMPARUTIONS, cont'd.

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

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1 Vancouver, B.C. /Vancouver
2 (C.-B.)
3 February 21, 2011/le 21
4 février 2011
5

6 THE REGISTRAR: The hearing is now resumed.

7 MR. MARTLAND: Mr. Commissioner, Brock Martland, M-a-r-
8 t-l-a-n-d for the record, and with me is Kathy
9 Grant. Kathy is with a "K", just for the record.

10 We'll be leading evidence for the next nine
11 days of hearings on two topics, the first being
12 commercial fishing and in particular, within that
13 rather broad description, selective fishing,
14 allocation and licensing of the commercial Pacific
15 salmon fishery. The second topic is recreational
16 fishing. That topic begins March 2nd, next week.

17 There's a sense in which some of the
18 evidence, Mr. Commissioner, that we're leading is
19 perhaps out of sequence in that it's not the
20 linear narrative it might have been. The reason
21 is simply because of witness availability and. An
22 example of that is Dr. Hargreaves, one of our
23 witnesses today, is only available today.
24 Tomorrow we have a commercial fishers' panel.
25 Some of the members of that panel are looking to
26 head off to the herring fishing season and they
27 become unavailable effectively because of that,
28 within short order. So that's why we're leading
29 off with that evidence rather than going in a pure
30 -- I don't know if there is a chronological order,
31 but there's probably another order that is more
32 logical than what we're doing. I don't think
33 it'll present any difficulties for you or for the
34 people here.

35 The start of this hearing, one of the things
36 I'd like to do out of the gate is to put into
37 evidence our Policy and Practice Report, or PPR.
38 I think we're all probably using that lingo and I
39 think some of the witnesses even have that lingo.
40 So the PPR, the Police and Practice Report is on
41 our exhibit list.

42 I'll be referring, as we move forward, to our
43 exhibit list. Just for the sake of clarity,
44 that's the list of exhibits, commercial fishing.
45 This has been circulated to participants. I hope
46 that everyone has a copy of it. It has a list of
47 63 documents. Not all of those will necessarily

1 make their way into evidence, but this is the
2 first one and I'd like to have that marked as an
3 exhibit, please, number 1 on the exhibit list, the
4 PPR for Commercial Salmon Fishing.

5 THE REGISTRAR: You wish that to be marked as a PPR?

6 MR. MARTLAND: Please.

7 THE REGISTRAR: PPR number 6.

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 PPR-6: Commercial Salmon Fishing -
 Licensing, Allocation and Related Issues,
 December 22, 2010

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13 MR. MARTLAND: Thank you. As with other hearings, the
14 basis on which we're presenting evidence, Mr.
15 Commissioner, is the expectation that the PPR is
16 accurate. If witnesses or participants identify
17 mistakes or clarifications, we certainly have
18 welcomed them to offer that in their evidence.
19 There's cases where we expect to take witnesses to
20 one aspect of the PPR if they've identified a
21 problem or a concern with it. So we'll do our
22 best to ensure that the PPR supplemented by the
23 evidence gives you an accurate picture of where
24 things stand.

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 I should add, for everyone's benefit, the PPR
 does have a glossary of terms. We're into the
 usual alphabet soup of acronyms and groups and the
 like. But the PPR for this, as well as the
 recreational fishing PPR, they both have a
 glossary.

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 Today's witnesses are Dr. Brent Hargreaves
 and Gordon Curry on the topic of selective
 fishing. Based on the estimates that have been
 provided to me by counsel for cross-examination, I
 expect we'll be able to conclude their evidence
 today as scheduled. My examination I expect to be
 the longest this morning. Mr. Timberg will follow
 me. We don't expect the cross-examination by
 participants to be too lengthy from the estimates
 I've received.

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 I want to express in advance our appreciation
 to participants' counsel for taking a focused
 approach to their examination of witnesses. As
 everyone here knows, we have a very compressed
 schedule and a very limited number of hearing days
 in which to cover a fair bit of ground. Of
 course, the problem of creating difficulties down

1 the road if we're not able to stay on track, so
2 we're grateful for participants' counsel in
3 adjusting on the fly in narrowing their questions.
4 I've invited them, and will continue to invite all
5 counsel, to contact me and provide input. If
6 there's areas that I can cover through my direct
7 examination, I'm happy to try to do that if it can
8 speed us along.

9 If I could now ask that the witnesses be
10 affirmed.

11
12 BRENT HARGREAVES, affirmed.

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14 GORDON CURRY, affirmed.

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16 THE REGISTRAR: State your full name, please?

17 DR. HARGREAVES: Brent Hargreaves.

18 THE REGISTRAR: Thank you.

19 MR. CURRY: Gordon Curry.

20 THE REGISTRAR: Thank you. Counsel?

21 MR. MARTLAND: I'll move in perhaps a staccato way
22 through the background for these two witnesses.
23 First, if I might ask that Dr. Hargreaves c.v.
24 which is number 2 on the exhibit list, and that's
25 on the screen before us now, that that be the
26 first exhibit put in.

27 THE REGISTRAR: Exhibit --

28 MR. MARTLAND: I'll just confirm, Dr. Hargreaves, the
29 document that's before you is your c.v.?

30 DR. HARGREAVES: That's correct.

31 MR. MARTLAND: Thank you.

32 THE REGISTRAR: Exhibit number 430.

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34 EXHIBIT 430: *Curriculum vitae* of Dr. Brent
35 Hargreaves

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37 MR. MARTLAND: And for Mr. Curry, likewise. It's
38 number 3 on our exhibit list.

39 Mr. Curry, do you recognize that as your
40 c.v.?

41 MR. CURRY: Yes, I do.

42 MR. MARTLAND: And I'd like that to be the next
43 exhibit, please.

44 THE REGISTRAR: Exhibit number 431.

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46 EXHIBIT 431: *Curriculum vitae* of Mr. Gordon
47 Curry

1 MR. MARTLAND: Thank you.

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EXAMINATION IN CHIEF BY MR. MARTLAND:

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Q Dr. Hargreaves, I won't read your c.v. out, it speaks for itself. I'll just, if I might, quickly confirm you have a Ph.D. in Biological Oceanography from Dalhousie University. You've spent most of your 28-year career with the Department of Fisheries and Oceans, or DFO, as a research scientist and, on occasion, have taken assignments as the lead or a chair of different regional initiatives?

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DR. HARGREAVES: Correct.

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Q And in 1998, as an example, you served as chair of the Coho Response Team and, for that work, you received the Deputy Minister's Prix D'Excellence for outstanding performance?

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DR. HARGREAVES: Right.

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Q Your work on that led to the selective fishing strategy and funding for the Selective Fishing Program which arose in the context of CFAR or the Canadian Fisheries Adjustment and Restructuring plan?

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DR. HARGREAVES: Yes, that was one component of the many things that came out of that, yes.

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Q And focusing on selective fishing, you have conducted research into technologies for selective fishing, for example - and we'll come to these in much more detail - but the effectiveness of revival tanks, the use of escape panels and knotless bunt nets for the seine fishery, similar sorts of work.

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DR. HARGREAVES: Yes, that's true, correct.

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Q Dr. Hargreaves, you're a long-standing member of the Pacific Scientific Advice and Review Committee, or PSARC, and have reviewed more than 120 PSARC working papers?

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DR. HARGREAVES: Correct.

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Q And you have led the DFO scientific investigations on a separate note into sea lice in the Broughton Archipelago?

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DR. HARGREAVES: Yes, I was responsible for the marine monitoring component of that program.

43

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MR. MARTLAND: And, Mr. Commissioner, Dr. Hargreaves has significant involvement in the topic, that distinct topic of aquaculture, but it's not part

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47

1 of what we're leading evidence on or having
2 questions on today.

3 Q I take it, Dr. Hargreaves, your current position
4 is that you're on an acting assignment basis as
5 lead of the salmon team?

6 DR. HARGREAVES: That's correct.

7 Q Mr. Curry, for your part, you began work with the
8 Department as a fisheries officer in the north
9 coast some 30 years ago, and I understand that in
10 the early 1990s, you took a leave from the
11 Department. You obtained Biological Sciences
12 degree at the University of Victoria, and then
13 returned to the Department in 1993, at that point
14 working as a fisheries officer first, and then
15 spending four years as an Aboriginal Fisheries
16 Strategy, or AFS implementation officer?

17 MR. CURRY: That is correct.

18 Q From 1998 until March of 2002, I understand that
19 you worked intensively on the Selective Fisheries
20 Program and that that work included planning the
21 program, demonstrating and implementing gear and
22 method experiments amongst other things.

23 MR. CURRY: That is correct.

24 Q And you, for that work on selective fishing,
25 received the Deputy Minister's Prix D'Excellence.

26 MR. CURRY: Yes, that's correct.

27 Q Since that point in 2002, I understand you've
28 served in fisheries management positions including
29 as a regional negotiator for DFO in the Sliammon
30 First Nations treaty development and as an
31 aboriginal affairs advisor for the south coast.

32 MR. CURRY: Yes, and in addition, managed some of the
33 commercial salmon fleets after the stint with
34 selective fishing, so groups like the gulf
35 trollers and some of the gillnetters and seine
36 fisheries as well.

37 Q And in the course of some of that work, I take it
38 you've had some exposure to defined share
39 management models.

40 MR. CURRY: Some involvement in the testing of defined
41 shares at the beginning.

42 Q And I understand that your present situation is
43 that you retired from the DFO in October of 2010,
44 but you've now been hired back as a casual
45 employee by the Department?

46 MR. CURRY: That would be December 1st I retired from
47 the Department, and currently I'm working on

1 casual as an aboriginal fisheries strategic
2 planner.

3 Q Thank you. Why don't I start at the broad level,
4 and I'm not aiming to repeat information that's
5 set out in the PPR, but I think it is helpful to
6 give us some context for today. So, Mr. Curry,
7 I'm hoping you could give us sort of a two-minute
8 overview of what selective fishing means.

9 MR. CURRY: Basically, selective fishing is the ability
10 to avoid non-target species or stocks, and if we
11 encounter them in fisheries, having the ability to
12 release them alive and unharmed. So when we talk
13 about by-catch, we're really talking about it can
14 be either fish, it can be birds, it can be
15 mammals, and it isn't in the policy, but also we
16 need to include reptiles in there for leatherback
17 turtles.

18 So the whole impetus behind the Selective
19 Fisheries Program has been looking for solutions.
20 Where we have issues of by-catch in fisheries that
21 are restricting our ability to fish on target
22 stocks that are abundant, such as abundant
23 portions of the Fraser sockeye stocks, there are
24 other species that we are looking for solutions to
25 be able to avoid them or find gear methods that we
26 can release them alive and unharmed.

27 Q Dr. Hargreaves, could you help to provide a sense
28 of why selective fishing is important to or
29 impacts upon Fraser River sockeye in particular?

30 DR. HARGREAVES: I think that it's useful to look at
31 the world context for this, to begin with, and
32 it's -- I think what we saw prior to the Second
33 World War, for example, was that most people felt
34 that ocean resources were pretty much unlimited,
35 so there were vast stocks of most fish species
36 relatively unexploited. The technology levels
37 were relatively low and most people felt we could
38 just harvest basically anything we wanted as fast
39 as we could.

40 Following the Second World War, technology
41 improved substantially. There was a growing
42 interest in fish as a food source for humans and
43 livestock, for example. As technology progressed,
44 we became more and more efficient at harvesting
45 fish stocks.

46 By the late, I would say, '70s and '80s, it
47 became apparent that many of the world stocks of a

1 variety of different species were either fully
2 exploited or over-exploited already at that point.
3 There were growing concerns around conservation of
4 those stocks.

5 So to bring that back to Fraser sockeye, I
6 think we can jump forward a couple of decades and
7 realize that there are many stocks of Fraser
8 sockeye that are in poor condition, that have been
9 probably over-exploited or at least have declined
10 to the point that there are conservation risks for
11 those. So selective fishing was seen as one
12 avenue of selectively harvesting the stocks that
13 we have less conservation concerns for and
14 allowing us to harvest those surplus stocks while
15 protecting the stocks that are of lower abundance.

16 Q For the Fraser sockeye fishery, are there examples
17 you can give of how a concern about a particular
18 stock or species can have an impact for whether
19 there's openings or the management of the sockeye
20 fishery in particular?

21 DR. HARGREAVES: Yeah, I can give you two fairly
22 specific examples. If we look at the Integrated
23 Fisheries Management Plan, the IFMP that DFO
24 produces each year which lays out the framework
25 for how fisheries will be conducted and how we'll
26 harvest different stocks that are surplus, in that
27 IFMP there are concerns for coho, for example,
28 Interior coho, Thompson coho in particular, Fraser
29 chinook as well, that limit the amount of harvest
30 or opportunity that we can provide for Fraser
31 sockeye.

32 Another example of that within the sockeye
33 species itself is we have some stocks that are
34 very low levels, for example, Cultus Lake sockeye,
35 very serious conservation concerns for that.
36 We've undergone a number of different strategies
37 and programs to rebuild that stock, but it's still
38 at a very low level. So that very much -- when
39 that stock is in the river and in the areas where
40 fishing -- we'd like fisheries to take place on
41 more abundant stocks. That constrains the amount
42 of fishing that we can allow because of the
43 conservation concerns for Cultus, for example.

44 Q I won't take you to the document, but there's a
45 newsletter that was produced in the course of the
46 Selective Fisheries Program, and I'll just use
47 this, without taking you to the document, but it

1 describes selective fishing. It suggests it's of
2 particular importance for the Pacific salmon
3 fishery. I think it uses language to the effect
4 that this is perhaps the most positive solution.
5 It may be the only way that we're able to continue
6 or permit fishing in some situations. Could you
7 comment on that, please?

8 DR. HARGREAVES: It's perhaps, in my view, overstating
9 it to say it's the only way. I think there are
10 many different aspects of selective fishing. In
11 marine areas, I would agree with that statement.
12 If we cannot fish more and more selectively - and
13 we're not there yet, I think it's a long-term
14 process of improving our selective ability - then
15 I think we definitely will have constrained
16 fisheries.

17 In terminal areas, for example, when a single
18 stock is returning to a particular river or lake,
19 you can conduct a fishery there with very little
20 impact on other stocks obviously, if there are
21 none out in the area. So you can be less
22 selective in the sense of the type of gear,
23 although you're being very selective now in terms
24 of the time and area where you're actually
25 conducting that fishery. So there are a variety
26 of different elements of selective fishing that
27 come to bear here.

28 Q Mr. Curry, I'd like to ask you this question. We
29 sometimes hear the analogy of a toolbox that the
30 Department has to manage and oversee the
31 commercial fishery. The toolbox is said to
32 include the use of time and area and closings to
33 control fishing effort, regulating equipment and
34 regulating techniques or methodology on the part
35 of commercial fishers. Could you comment, at a
36 general level, on how management tools can be used
37 to promote or to effect selective fishing?

38 MR. CURRY: Yes. There's a number of ways that we can
39 effect selective fishing. One of the first
40 strategies that we use, and I would reference
41 within the selective fishing policy, principle
42 number 4, lays it out in a way that we look at
43 this whole -- I guess the implementation of
44 selective fishing is really there's four orders of
45 how we look at this, from the perspective of the
46 least harm to potential by-catch.

47 The first order is to avoid the non-target

1 fish or the by-catch as the first order. If you
2 don't encounter it, it's out there swimming, it's
3 still alive and doing well. So if we can avoid it
4 -- we do that by predominantly using time and
5 area. So if you're fishing in a place where your
6 stocks of concern don't exist, you're doing fine.
7 You aren't encountering them, you don't have to do
8 anything, you're on the target species. That's
9 the best strategy.

10 Q And perhaps I can just interrupt you because I
11 think you're reading, or at least referring to --
12 and I just perhaps should confirm.

13 MR. MARTLAND: Mr. Lunn, if I could jump ahead to
14 number 14 on our list, it's already an exhibit,
15 number 266. This, I hope, will show you the
16 policy for selective fishing. I don't know if
17 I've guessed accurately.

18 Q Is that what you were looking at?

19 MR. CURRY: Yes, yes, you have.

20 Q All right.

21 MR. CURRY: Yes. So this would be page 9 of the policy
22 which is principle number 4.

23 Q Okay.

24 MR. CURRY: That's it there. So an example of the
25 first strategy of time and area, an example of
26 that would be, for instance, in a First Nations
27 fishery. If a First Nation is fishing in a
28 terminal area right near the spawning grounds of a
29 particular target sockeye that they're fishing,
30 they're fishing very selectively on a species
31 being sockeye, but also to the level of a stock
32 within a group of stocks within the Fraser River.
33 So that's a very selective fishery.

34 The next order is looking at gear design. So
35 if you're able to avoid certain species in this
36 case. An example of that would be in the troll
37 fishery, if you're able to use large plugs in the
38 range of, say, an eight-inch plug, seven- or
39 eight-inch plug. It's a large lure on the end of
40 the line with a hook. If you're using that, you
41 tend to catch chinook and you tend to avoid coho.
42 So the coho that are being avoided haven't been
43 caught and that's the next best strategy. They
44 are not being caught and so you don't have to
45 handle them and there's no mortality associated
46 with that.

47 The next order is looking at the third

1 strategy, releasing alive and unharmed from the
2 water as opposed to the next strategy which is
3 onboard a vessel. So an example of that would be
4 the work that was carried out with seine grids
5 where, in the same net, we had plastic panels with
6 specific size openings in them to allow small fish
7 to escape from the net. So in this case --

8 Q That's called an "escape grid"; is that right?

9 MR. CURRY: It's an escape grid, yes.

10 Q Thank you.

11 MR. CURRY: So, in this case, you're able to set on a
12 mix of species and in a number of cases, such as
13 out in Area 20, which is Juan de Fuca Strait,
14 there's a lot of immature coho and chinook in
15 those waters. And so by using escape grids, we're
16 able to allow these small fish to escape the net
17 prior to them being brought aboard. So this way,
18 they swim through a hole in the net and they carry
19 on, on their journey, and growth. So that's a
20 very good strategy and we've been able to
21 accomplish that. So that's an example of that
22 type of strategy.

23 Our next order of strategy is once you do
24 bring that fish aboard, that mix of species, then
25 you're taking the fish out of water, so to speak,
26 and it's in an air environment, it's not in the
27 water, so you need to treat that fish carefully so
28 that you don't damage it, and if you have a
29 revival tank, you're able to give it an
30 opportunity to recover before being released back
31 into the ocean.

32 So an example of another strategy in this
33 regard would be with a gillnet fishery when you
34 have a short set time, and ideally a short net as
35 well --

36 Q And I'll just interrupt you just so I'm clear.
37 The short set time refers to the length of time
38 that the net's actually drifting or in the water?

39 MR. CURRY: Yes, that's right. So if you think of --
40 if you put a net out in the water and it was out
41 in the water for two hours, a lot of the fish that
42 you'd bring aboard would be dead, other than those
43 that were just recently caught.

44 Q And I take it that's because those fish in general
45 are swimming right into the mesh and getting
46 caught in it and maybe suffocating when they're
47 there for some period of time.

1 MR. CURRY: That is correct. And so, as a result, if
2 you use a short set time, something in the range
3 of 30 minutes, and you use a shorter net so that
4 most of the fish that are coming aboard are in
5 better condition and alive, then you have some
6 options. So then you can look at recovering those
7 fish with the revival tank and releasing them back
8 into the ocean or the river so that they can carry
9 on, on their journey. So that would be if you're
10 fishing for Fraser sockeye and you need to release
11 coho, for instance. So that would be a strategy
12 that we've used and shown to be successful. So
13 that's using the fourth strategy in the policy, or
14 an example of it.

15 Q Are these strategies, in your view, Mr. Curry, are
16 these strategies that fit better with - I'll use
17 two things - first of all, a defined share or a
18 share-based management model, and secondly, a
19 competitive or a derby-style management model for
20 the fishery, are these selective fishing
21 strategies that you mentioned, do they fit better
22 with one than the other?

23 MR. CURRY: Yes, they do. Basically, what you need in
24 order to carry out a lot of these selective
25 fishing strategies is you need some time to handle
26 the fish properly so that you aren't further
27 injuring them and you're able to release them
28 alive and unharmed.

29 So when you slow the pace of the fishery,
30 harvesters have more time, then, to implement
31 these strategies effectively so that they can
32 release those fish. So if you have a defined-
33 share fishery, as an example, you generally, even
34 in salmon, have more time to work on the amount of
35 fish that you're harvesting, and therefore you
36 also have more time to implement, select a fishing
37 strategy so that you're ensuring better survival
38 of those fish that you do encounter.

39 If you're in a regular competitive derby
40 fishery, it's a race for catching as much fish in
41 a short period of time as possible. Therefore,
42 there's not the same amount of care and time
43 available to work on those species of fish that
44 you need to be releasing alive and unharmed. So
45 there's a difference there that is rather
46 important in terms of the end result of having
47 live fish going back into the water that have a

1 chance of surviving through to the spawning
2 grounds.

3 Q Dr. Hargreaves, when I introduced you and we
4 reviewed your background, that included reference
5 to the coho response team that you were involved
6 in. For the Department of Fisheries work on
7 selective fishing, is it fair to say that there
8 was a real rise in interest in selective fishing
9 in the course of the coho crisis in the late
10 1990s?

11 DR. HARGREAVES: Yeah, I think by the mid-'90s, the
12 Department was aware of very serious conservation
13 concerns for a number of stock, particularly
14 southern B.C. coho and Skeena coho in the north.
15 This was a result of a long period of assessment
16 of these stocks. It appeared to indicate these
17 stocks were declining, and in some cases, probably
18 would not rebuild even in the absence of fishing.
19 So this was a very serious period of concern in
20 terms of conservation.

21 Selective fishing, in order to do that, we
22 knew that there were going to be fundamental
23 changes required in the salmon fisheries on the
24 Pacific coast and that these would disrupt
25 people's lives, they would revolutionize the way
26 we do business. In many cases, it would reduce
27 opportunities for fishing in a very broad sense.
28 In fact, that's what happened. We basically shut
29 down the Area B seine for two years in a row. So
30 very serious consequences.

31 So in understanding that that was what was
32 required, we also wanted to do whatever we could
33 to mitigate and reduce that impact. So I think a
34 number of people, including myself, were aware of
35 the scientific literature and also the
36 international interest at that time in terms of
37 responsible fishing practices, selective fishing
38 being one of those where you can selectively
39 harvest stocks that are still abundant while
40 minimizing the impact on stocks that aren't, or
41 species that aren't.

42 So there was a real strong focus during that
43 time in terms of what can we do to minimize this,
44 recognizing that fundamental changes were
45 required, but how could we minimize that effect.
46 Selective fishing, I think, rose up as one of the
47 real opportunities in salmon, partly because very

1 little work had been done on it. So selective
2 fishing development, the methods used for
3 selective fishing had been used in other types of
4 gear, for example, drag nets, but very little of
5 that had been applied directly to salmon.

6 Certainly in terms of management, we used
7 time and area restrictions. We were aware of that
8 as a selective method, if you like. We were also
9 aware of the selectivity of terminal area
10 fisheries, for example, the selectivity
11 characteristics of particular gear types. For
12 example, gill nets only capture a certain size of
13 fish depending on the mesh size and so on.

14 So there was an appreciation of what was
15 there already, but I think a feeling that we could
16 go much, much further, that we could explore this
17 further, we could develop new methods and
18 recognizing, I think, that industry - and I
19 include First Nations in particular in that - had
20 been doing this sort of thing on their own for
21 quite a long time.

22 Q Could you comment on that? You state that First
23 Nations had been selectively fishing, I take it,
24 for some time. Can you give us some examples of
25 that or describe what you mean, please?

26 DR. HARGREAVES: In a traditional and historical sense,
27 First Nations have been using often highly
28 selective fishing methods for as long as we're
29 aware of. So traps, weirs, baskets, those sorts
30 of fishing methods have been very selective.
31 Others much less so. A spear, for example, is
32 again an historical and traditional method and is
33 not very selective. You basically see a shadow in
34 the water, depending on what species and stocks
35 are present, you stab the fish, and if you don't
36 catch it or if it's the wrong one in terms of
37 conservation, it's not very selective.

38 Q It's too late.

39 DR. HARGREAVES: It's too late to do anything about it.

40 Q Sure. But the basket is an example or a trap, I
41 take it -- are those both examples of a live
42 capture method where, if you've got a non-target
43 stock or species, the prospects of release and, we
44 hope, survival, are better?

45 DR. HARGREAVES: Yup, and a trap would be a good
46 example too. You have to be cautious there in the
47 sense that they're not necessarily the best

1 technique. Depending how long the fish stays in a
2 basket or in a net, for example, it can be
3 descaled, it can be stressed. If it's out of the
4 water for a longer time or tangled in the gear, it
5 won't actually save that fish. So, again, what it
6 shows is the potential of these methods and maybe
7 more development that's required to modernize it
8 in a way that really does protect the health of
9 that fish.

10 Q So I suppose my question to you about interest in
11 the late 1990s and the coho crisis really, in a
12 sense, skips over the fact that although it may
13 not have had that label, selective fishing is
14 something that has a long history and particularly
15 among First Nations fishers.

16 DR. HARGREAVES: Yes.

17 Q I'd like to move to talking about this Pacific
18 salmon Selective Fisheries Program. I'll be
19 referring to that as the "program", and I take it
20 the dates are from 1998 till 2002. Just to
21 clarify one point and correct something in the
22 PPR, I believe one of you had pointed out that in
23 the PPR, our Policy and Practice Report, and I
24 don't know that I need to take anyone to this, but
25 just for the sake of reference, it's paragraph
26 130. I think we misstated the correct title.

27 So if I could just confirm that I have this
28 correct, Mr. Curry, I'll direct this to you,
29 please. Don Lawseth's title - and Lawseth is L-a-
30 w-s-e-t-h - and his title, am I right, was Program
31 Coordinator?

32 MR. CURRY: Yes, that's right. Don Lawseth was the
33 Coordinator of the Selective Fisheries Program in
34 the Pacific region.

35 Q Thank you. And, Mr. Curry, your title was the
36 Project Authority and Training and Education
37 Coordinator?

38 MR. CURRY: That is correct, yes.

39 Q Let me start, Mr. Currie, please with a short
40 overview of the goals of the Pacific Salmon
41 Selective Fisheries Program, please.

42 And again, this is just fine if you're going
43 to documents. I don't mind you doing that at all.
44 But perhaps when we do that, if you could just
45 mention to me what you're looking at so I can
46 bring it up and we all have the same thing in
47 front of us. I can make a guess because we have

1 one of the papers in here that summarizes the
2 program.

3 MR. CURRY: Yes. There's the Selective Salmon
4 Fisheries Program final report.

5 MR. MARTLAND: And that's number 6 on our list of
6 exhibits for this. Mr. Lunn, we're jumping around
7 as usual, but if I could have you bring that up?
8 Thank you.

9 Q If you could please look at the screen, Mr. Curry,
10 and confirm that that's what you're looking at?

11 MR. CURRY: That is the document, yes.

12 Q And that document, I take it, was written at the
13 conclusion of this report and summarizes the work
14 done under that program?

15 MR. CURRY: That is correct. That is the final report
16 that reflects the four years of the Selective
17 Fisheries Program.

18 Q And I'll return to it for some other questions.

19 MR. MARTLAND: If I could have that marked as an
20 exhibit, please?

21 THE REGISTRAR: Exhibit 432.

22
23 EXHIBIT 432: Selective (Salmon) Fisheries
24 Program, Final Report
25

26 MR. MARTLAND: Thank you.

27 Q Go ahead.

28 MR. CURRY: So better than going completely from
29 memory, on page 2 of this document, Part One under
30 the "Background" section, there's two objectives
31 listed for the Selective Fisheries Program.

- 32
33 1. Fisheries will be conducted to achieve a
34 zero fishing mortality for critical
35 upper Skeena and Thompson coho stocks.
36
37 2. Where upper Skeena and Thompson coho
38 stocks are not prevalent, fisheries must
39 be selective and demonstrate that the
40 risk of coho by-catch mortality on other
41 stocks will be minimal.
42

43 So that was the impetus to build the Selective
44 Fisheries Program around, is these stocks of
45 concern, these coho stocks of concern.

46 But it goes beyond that as we got into the
47 Selective Fisheries Program to look at how to

1 solve the issue of unintended by-catch and how to
2 avoid them or release them unharmed as I've stated
3 before. So we then carried out a multi-faceted
4 program to carry that out if you wanted to go into
5 that.

6 Q And I take it the program had five components to
7 it. You probably have these from memory, but
8 you're welcome to look at the document. Could you
9 briefly describe those, please?

10 MR. CURRY: Yeah, those are listed on page 3, and
11 basically there's these five components. We had
12 experimental pilots where basically we had project
13 proposals from First Nations, recreational and
14 commercial harvesters to look at different ways
15 that they believe they could make their fishery
16 more selective. So we would work with them in a
17 project team environment and look at ways to carry
18 out an effective project that could then
19 demonstrate more selective methods. So that was a
20 very key component to this.

21 Another strategy was the First Nations gear
22 purchase program where there was 60 First Nations
23 that received gear that was deemed to be more
24 selective than some of the gear that they were
25 currently using. For instance, replacing the use
26 of some gillnets with the use of a fish wheel
27 which is a live harvest method capturing fish
28 alive, allowing you the ability then to release
29 those fish back into the river, in this case,
30 alive and unharmed. Whereas a gillnet, it's much
31 more difficult to do that, especially if you've
32 got a gillnet that's set for several hours. So
33 that was another component where funding was made
34 available and First Nations purchased that gear.

35 Research projects, which were more the
36 scientific research variety looking at the
37 mortality rates of by-catch, for instance, looking
38 at coho. For instance, if they're caught in a
39 gillnet, a seine or by a troll or other gear, how
40 many of those fish survive a 24- to 48-hour
41 challenge in a net pen, as an example and then
42 thereby DFO being able to come up with some
43 measure of the impact in the form of mortality on
44 which to manage fisheries.

45 So that's one aspect of the research, as well
46 as looking at all this myriad of gear and fishing
47 methods and looking for the proof for the validity

1 of some of these methods to be better than some of
2 the methods being used in the past.

3 A fourth component was education, training
4 and communication. So basically when we're
5 working on trying to create such a huge paradigm
6 shift in the fishery moving to weak stock
7 management where the impacts on stocks of concern
8 is really the driving force in our fisheries. We
9 then have to make sure that all harvesters are
10 aware of the constraints and why.

11 So we had a program that I was leading where
12 we made sure that we did everything we could to
13 get pamphlets out. We held workshops. There was
14 a lot of interaction in multi-stakeholder type of
15 environments, and there was even an eight-part
16 series of videos that were created as part of a
17 training tool that covered off a number of things
18 from an overview of selective fishing, salmon ID,
19 handling effectively, those fish as well as what
20 does a selective fishery on a troller, a
21 gillnetter or a seiner look like? So how do you
22 carry that out on board those vessels?

23 So use these as a training method as well as
24 looking at the complementary benefits that quite
25 often go with fishing selectively. There's some
26 benefits from a quality perspective, so we
27 reflected that in the video as well.

28 The final component was looking at the First
29 Nations fishery and the variety of fisheries that
30 are out there and reflecting on their selectivity
31 and demonstrating that in a visual format.

32 The final component of this was compliance.
33 So where you're implementing these measures within
34 the fishery, you then have to look at are the
35 harvesters using these methods? So our fishery
36 officers were similarly trained on the selective
37 fishing methods so that they could then be
38 effective in the field in ensuring that these
39 methods were being effectively used.

40 Q I take it the compliance point refers to, as an
41 example, where a selective fishing approach or
42 technology has been mandated by law or regulation,
43 for example, a revival box. At that point, an
44 enforcement officer is actually checking to ensure
45 that it's being used? Is that an example of how
46 it would be --

47 MR. CURRY: Yes, that's correct, and that is an

1 important part that ultimately a fishery officer
2 will look at whether a piece of gear or a method
3 of fishing is being implemented properly.

4 But probably a lot more important than that
5 is the attitude of the harvesters themselves. Is
6 there buy-in? Is there buy-in? Are there
7 incentives to fish more selectively? Because
8 without having a commitment to using the various
9 selective fishing strategies, many of them that
10 are very difficult to put into regulation, per se,
11 it's up to the harvester to buy into this and
12 effectively handle fish appropriately. Therefore,
13 the education and training to try and elicit that
14 -- the importance of this so that that is carried
15 on into the future and the paradigm shift is more
16 complete and more effective in that the measures
17 are being carried out properly.

18 Q Ultimately that refers to a change in attitude
19 that is -- I take from your answer, that's not
20 something that's simply policing and enforcing a
21 set of rules that's going to necessarily change
22 attitude. It's bigger than that; is that a fair
23 comment?

24 MR. CURRY: Very much so, yes.

25 Q Mr. Curry, I mentioned Don Lawseth. I take it he
26 was the head and administered the program, the
27 1998 to 2002 program?

28 MR. CURRY: That is correct.

29 Q What was your role in that program?

30 MR. CURRY: My role in the program was, having had a
31 significant amount of experience in fisheries
32 management, I played more of a practical role in
33 terms of looking at the various fishing methods,
34 the fishing gear as well as looking at working on
35 these project proposals and working with
36 individuals like Dr. Hargreaves for science input,
37 and others for science input, pulling teams
38 together to work on these projects so that they
39 were properly carried out and so that we were
40 getting good results from them.

41 Then the other component was taking a lead
42 with the training and education component where we
43 even took a group of individuals from the various
44 sectors out to the east coast to look at the
45 training schools that exist on the east coast, the
46 various courses and training and
47 professionalization movement back there, and their

1 facilities, so that these key individuals within
2 the various fisheries could bring that knowledge
3 back and look at how they could apply that here on
4 the west coast. So those were the types of things
5 that I was focused on within the program.

6 Q Thank you. And I'll take you to some of those
7 materials at least briefly in a few minutes.

8 Dr. Hargreaves, could you describe your
9 involvement in the program, please?

10 DR. HARGREAVES: Yeah, there were sort of two elements.
11 One was there was a regional team, different
12 people at different times, but basically a
13 selective fishing group that included Science
14 staff and fisheries management as the main people
15 in it. So I was one of those team members.

16 So we helped design and actually select the
17 programs that were run each year. So each year
18 there was a competitive process basically. People
19 would submit designs, if you like, for different
20 -- of the different components that Gord Curry has
21 just elaborated on. So there was a selection
22 process to decide which ones would be funded that
23 year, and which ones would go forward and the
24 steps of that.

25 The other role that I played was as a
26 research scientist in DFO, I assisted in the
27 design of many of the experiments, so the
28 scientific design, how it would be set up, how it
29 would be analyzed and how it could be determined
30 whether it was successful or not.

31 Q What I'd like to do now is to go into a little
32 more detail with respect to this program, the
33 Selective Fisheries Program from 1998 to 2002. I
34 have a series of questions about the work that was
35 completed under the program, and I take it, Mr.
36 Curry, from the way you described the components
37 of the program, there's sort of two ways to think
38 about the experimentation or projects that were
39 undertaken, one, and tell me if you think this is
40 an accurate way to put it.

41 One part of that is work that's being done
42 really driven by the sectors undertaking an
43 experimental pilot project. The other component
44 is more of a science, whether that's DFO driven or
45 driven by someone else, but it's more of a science
46 research type of project.

47 MR. CURRY: Yes. Within the experimental projects that

1 were submitted by commercial harvesters,
2 recreational and First Nations harvesters, those
3 -- there was quite a wide range in those. Some of
4 them were looking at a new and innovative piece of
5 fishing gear and basically just trying to catch
6 some fish with it. So it's a fairly simple design
7 to the project, whereas there was some that were a
8 lot more sophisticated and needed to look at good,
9 scientific principles in order to carry out a
10 project that was sound in terms of if you release
11 a salmon at the waterline from a troller, is that
12 going to result in less injury to that fish as
13 opposed to bringing it aboard and using a revival
14 tank to recover, and then release it.

15 So you have to have very stringent controls
16 around the design. So we had these two types of
17 projects, some that were fairly straightforward,
18 others that were very close to what Science would
19 be carrying out within the Department.

20 An interesting part of this was that the
21 project proposals that came in, although at the
22 beginning of the Selective Fisheries Program, a
23 team of DFO and provincial staff rated and ranked
24 and decided on the projects that would go ahead,
25 by the end of the program, there were
26 representatives from the various fisheries in the
27 room with us making those determinations as to
28 which projects should go ahead.

29 So we're working on moving to a more
30 collaborative approach to carrying out this work,
31 and it's very important, as I mentioned earlier,
32 that you need buy-in. So you've got to have the
33 acceptance of the harvesters in order to have
34 successful projects which begets, then,
35 potentially successful implementation of those
36 strategies.

37 Q Dr. Hargreaves, could you provide a description of
38 the work that DFO Science Branch undertook on
39 selective fishing under this program?

40 DR. HARGREAVES: As I said, there were two components.
41 The first I've already mentioned which was to help
42 design some of these experiments that were done by
43 harvesters.

44 The second, probably more important component
45 was that we actually conducted -- Science Branch
46 scientists conducted particular research projects
47 that we felt we were in a better position to do

1 than the industry. One example of that is, as
2 Gord mentioned, one of the big unknowns - and
3 unfortunately it still remains to some degree - is
4 the question of the long-term survival versus the
5 short-term survival. So you can develop all these
6 selective fishing methods, you can get a fish back
7 into the water or hopefully not even encounter it
8 in the first place. If that's the case, you've
9 done a good job.

10 The second case, as soon as you catch and
11 start handling a fish, there's a concern about
12 what's its short-term and, more importantly, the
13 longer term survival and spawning success of that
14 fish in the case of salmon. So a number of the
15 experiments that the Science Branch of DFO worked
16 on was the question of mortality rates. Both the
17 encounter of mortality rates, the short-term
18 mortality rates over the first, say, 24 hours
19 after capture and release, and then the longer
20 term mortality rates and spawning survival rates.
21 So that was the main focus of the Science Branch.

22 Q How was the reporting on the Science work that was
23 undertaken under the program? How was Science
24 reporting done?

25 DR. HARGREAVES: Predominantly through the PSARC
26 process so the Pacific Scientific Advice process
27 which is now called the CSAP program.

28 Q Mm-hmm. And let me take you to number 12 on our
29 list of exhibits, and this may be an example. As
30 it's being brought up, number 12 on the list of --
31 not exhibits, I'll have to correct myself. From
32 our exhibit list is a paper on mortality rates of
33 coho salmon caught by commercial salmon
34 gillnetters. I think the title will give us a
35 good sense of what it focuses on, the
36 "Effectiveness of Revival Tanks and Reduced Soak
37 Times for Decreasing Coho Mortality Rates".

38 You co-authored this paper?

39 DR. HARGREAVES: Yes, I was the senior author on it,
40 yes.

41 MR. MARTLAND: If this could become an exhibit, please?

42 THE REGISTRAR: Exhibit number 433.
43
44
45
46
47

1 EXHIBIT 433: Paper titled "Mortality Rates
2 of Coho Salmon Caught by Commercial Salmon
3 Gillnets and the Effectiveness of Revival
4 Tanks and Reduced Soak Time for Decreasing
5 Coho Mortality Rates
6

7 MR. MARTLAND:

8 Q Is this a paper that stems from your work under
9 the Selective Fisheries Program?

10 DR. HARGREAVES: Yes, directly from it.

11 Q And if you could give us a quick understanding of
12 the conclusions that this paper reached. If you
13 need to, I can take you to part of it if that's
14 helpful, but you likely have it offhand.

15 DR. HARGREAVES: It was ten years ago or more, but I
16 think I still remember it.

17 The purpose of this paper was to summarize a
18 lot of the work that had been done. So industry,
19 for example, had done I think it was about 11
20 different experiments at this point dealing with
21 soak time, which is the amount of time a gillnet
22 stays in the water, and revival tanks. As well,
23 DFO had done a really large experiment in 1998
24 that I was responsible for directly.

25 So the interest in this was, well, how do we
26 summarize this and bring this information together
27 so that we can make some sense of it and
28 understand how we move forward. So the focus in
29 the paper was looking at the mortality rates of
30 coho salmon that were caught in gillnets and the
31 effectiveness of basically two different selective
32 fishing methods, revival tanks and soak time for
33 reducing those coho mortality rates. So this is
34 basically coho that would be caught in commercial
35 fisheries that are not targeting coho. So this is
36 a by-catch issue. We want to conduct a fisher, we
37 want to minimize the impact on coho so that we can
38 continue to conduct that fishery, for example, on
39 sockeye.

40 So the question is what can we do to reduce
41 the impact on the coho which, if we didn't reduce
42 it, would stop the fishery basically. So that was
43 the intent of it.

44 So in terms of revival tanks, the idea of a
45 revival tank was that if you bring a fish aboard
46 in a gillnet, it's typically -- if you wait long
47 enough, it drowns. It basically can't ventilate

1 its operculum. It can't get water past the gills
2 so it drowns in the net. Now, that sounds funny
3 when you think about fish that's still in water,
4 but that's basically what happens to that fish.

5 If you get to that fish very quickly, so soon
6 after it enters the net, it's still alive, it
7 hasn't drowned yet. So then there's the question
8 of how long do you have before you can bring that
9 fish aboard and still release it alive, if you
10 like. The second thing is once you've brought it
11 aboard, is there anything you can do on deck to
12 actually improve the survival of that fish.

13 Well, what we find is when the fish has gone
14 in the net and if it's been there for quite a
15 while, it's very lethargic if it's not dead
16 already. It doesn't move. It needs some time
17 before you throw it back in the water. If you
18 throw it back in the water, typically it will sink
19 to the bottom and it will either die there or else
20 something else will kill it, or whatever, a seal
21 or whatever.

22 So the revival tank idea was that when you
23 bring a fish aboard in a gillnet and you take the
24 fish out of the net and put it in a tank with
25 fresh running water in it and give it time to
26 revive before it actually goes back into the
27 water. It sounds like a simple principle, but
28 nothing like this had really been tried before.
29 It turned out that it was remarkably effective.
30 Properly designed, a revival tank can bring back
31 fish that are, by all intents and purposes, even
32 by the experts, the fishermen themselves, dead.
33 Fishermen ranked them as dead. They're in the
34 net, they come aboard, they're dead. You put them
35 in a revival tank and up to 90 percent of those
36 fish will revive and become fully functional
37 again.

38 So quite a remarkable advance in terms of a
39 conservation method. It didn't get there right
40 away. We had to figure out how to do this, the
41 flow rates, the size of the boxes, that sort of
42 thing. There was an initial box that was
43 developed for gillnets, for example, and then a
44 more efficient design that came out later, the
45 Jake Fraser revival tank.

46 Jake Fraser was a commercial fisherman who
47 really passionately got interested in this issue.

1 The comment later in the program was it was called
2 "Jesus Tank" because it could revive the dead. So
3 he made remarkable progress in terms of being able
4 to revive these fish at various stages.

5 The second part of this was the soak time.
6 By analyzing all these different experiments, and
7 in this particular paper, the analysis is there.
8 What we found was that the mortality rate of coho
9 that were caught in gillnets was directly
10 proportional to the time that the net was sitting
11 in the water. This, perhaps, again, shouldn't be
12 surprising. If you think of the net going in the
13 water and the fish hitting the net, it's slowly -
14 not immediately, doesn't immediately drown - but
15 it's slowly drowning because it can't ventilate
16 enough. It's like being restricted in your air
17 flow.

18 If you put a net in for 24 hours and the fish
19 hit that right away, the first hour, well, 24
20 hours later it will be dead. There will be
21 nothing. Even the Jake Fraser box won't bring
22 that one back. But if you bring back the time
23 that that net's in the water to, say, an hour or,
24 even better, 30 minutes, almost all the fish that
25 come out of that net are revivable.

26 So again, the function of this paper was to
27 demonstrate that the soak time, the amount of time
28 that the net stays in the water is extremely
29 critical. Again, this was important, because at
30 this point it wasn't unusual for a fisherman to
31 soak their net for several hours, sometimes
32 overnight even, so you might get a 12-hour soak.
33 It's convenient to do that. You can set your net,
34 you can go off and anchor and have a sleep and
35 come back and pick your net and take the fish out,
36 but the mortality rate of the by-catch that you
37 want to save is very high.

38 So these were two methods, then, that I think
39 we confirmed quite convincingly that the value of
40 revival tanks and the value of reduced soak times
41 to conserve coho.

42 Q And indeed, on the management front, are these two
43 examples of where there were management changes
44 put in to reflect those conclusions?

45 DR. HARGREAVES: Yes. Both of these techniques,
46 revival tanks and reduced soak time are used as
47 routine measures, conservation measures in the

1 gillnet fisheries.

2 Q So the document that's in front of us, this CSAS
3 paper we've been speaking about is an example of
4 the complete research paper. What I'd like to do
5 next is bring up number 17 from our list. This is
6 a PSARC request for working paper. It dates to
7 2004. The title is -- the paper title, if
8 developed, from the third or fourth line down, "A
9 Review of Selective Fishing Gear and Methods Used
10 by Commercial Salmon Seine Vessels to Minimize
11 Mortality of Non-Target Species", with you, Dr.
12 Hargreaves, proposed as the lead author, and Mr.
13 Curry as resource management, lead author.

14 I take it -- I'll just narrate a little bit
15 more to lead you through. I don't expect that
16 presents a difficulty. Halfway through the
17 rationale for the request, it talks about the
18 review focusing on the effectiveness of escape
19 grids and fine mesh knotless bunts in the
20 commercial salmon seine nets. That was the focus
21 of this propose work?

22 DR. HARGREAVES: Yes, that's correct.

23 Q What happened to that request for the working
24 paper?

25 DR. HARGREAVES: I received the request and partly this
26 was Gord Curry and I agreeing that this work
27 needed to be done. Gordon and I had both worked
28 quite extensively on escape grids and small-mesh
29 bunts as conservation measures, and what we felt
30 at the time was that we needed another summary
31 similar to what I just described for the gillnet
32 work.

33 So this request was generated. It arrived my
34 desk, if you like, and we began this summary.
35 Then unfortunately it was never completed, and the
36 reason for that is that I was the lead author
37 proposed for this, but I was reassigned to work on
38 the aquaculture sea lice issue in 2003 and I
39 didn't have enough time to continue working on the
40 same grids as this point, so we didn't have enough
41 support or a suitable person to follow up on the
42 finishing of this paper, so...

43 Q And this work has not been done, I take it?

44 DR. HARGREAVES: It's not been completed, no.

45 MR. MARTLAND: If this could become the next exhibit,
46 please?

47 THE REGISTRAR: Exhibit 434.

1 MR. MARTLAND: Thank you.

2
3 EXHIBIT 434: PSARC Request for Working Paper
4 - Review of Selective Fishing Gear and
5 Methods Used by Commercial Salmon Seine
6 Vessels to Minimize Mortality of Non-Target
7 Species, 22 Oct 2004
8

9 MR. MARTLAND:

10 Q Is this a paper, Dr. Hargreaves, in your view, if
11 it were completed now, if the work were done now,
12 would it still be of value or relevant?

13 DR. HARGREAVES: Yes, I think the -- well, the paper is
14 basically a summary and scientific peer review of
15 the process. I think the technique itself, the
16 seine escape grids and small-mesh knotless bunts,
17 I'm certainly satisfied, without having written
18 the paper, but certainly as a research scientist
19 that this is an extremely useful piece of
20 selective fishing gear. So I think it would go a
21 long ways to solving some of our issues in terms
22 of, particularly, the catches of small chinook and
23 coho in some of the seine fisheries.

24 Q Mr. Curry, I'd like to take you to a different
25 document, number 7 from our list. This is a
26 somewhat unwieldy document, so I won't be flipping
27 through it, unwieldy simply 'cause it's along, and
28 I think at least the formatting, someone's choice
29 of margin size or something is a little bit off by
30 the time we have it in ringtail.

31 But leaving that aside, I take it that this
32 is a -- please tell me if I have this right. This
33 is a document that provides a summary of the lists
34 of abstracts for most -- perhaps not all, but most
35 of the different selective fishing experiments
36 that were conducted by industry under the
37 Selective Fisheries Program.

38 MR. CURRY: Yes. Brent Hargreaves would probably be
39 best to respond to this because he was more
40 directly involved with this particular analysis of
41 the work that was completed and the creation of
42 this listing.

43 Q All right.

44 DR. HARGREAVES: And I apologize for the formatting.
45 This is basically a text version of an access
46 database file. So the access database file, each
47 one of these is a separate record and gives you a

1 much better formatting and much easier search
2 capabilities than this. So this was our attempt
3 to deliver it in a format that was more
4 accessible.

5 Q That's just fine.

6 DR. HARGREAVES: Anyway, the purpose of this was to try
7 to capture, in a summary sense, all of the
8 experimental work that had been done, particularly
9 by industry. A large number of these projects
10 were not fully analyzed, for example, or were not
11 designed in a way that needed analysis. So as
12 Gord Curry emphasized, it might be a piece of
13 gear, say, a tangletooth net, that had never been
14 tried before on salmon. We wanted to see simply
15 whether it would catch salmon or not.

16 So the result of that would be that we fished
17 it for 19 different sets, and five of those we
18 caught eight salmon in it, or something like that,
19 as compared to, say, a gillnet nearby or something
20 like that.

21 Q Mm-hmm.

22 DR. HARGREAVES: So this particular database is
23 basically the summary from all of the final
24 reports of the experiments that were done by
25 industry primarily.

26 MR. MARTLAND: Thank you. If this could be the next
27 exhibit, please, Mr. Registrar.

28 THE REGISTRAR: Exhibit 435.

29

30 EXHIBIT 435: Summary of Selective Fishing
31 Projects, October 8, 2003

32

33 MR. MARTLAND:

34 Q Was there ever a science review paper that -- I'm
35 sorry, Mr. Curry, go ahead.

36 MR. CURRY: I just thought I'd add to that, that
37 included in this is there's some reports of
38 interest. Early in the Selective Fisheries
39 Program, we were also looking at work that had
40 been completed prior to the Selective Fisheries
41 Program so that we were learning from work that
42 had been done in B.C., other parts of the world,
43 that were relevant to where we were going in B.C.
44 with the Selective Fisheries Program, so there's a
45 number of reports of interest in here that were
46 reviewed as well.

47 Q Thank you.

1 MR. CURRY: Just thought I'd add that.

2 Q Was there a science review paper that reflected
3 all of this work?

4 DR. HARGREAVES: No. No, there's not.

5 Q What I'd like to do at this point is to try and
6 move at highway speed through a number of
7 documents and materials to ensure that they're put
8 into evidence. Some of these we've already
9 touched on so it may simply be a matter of
10 confirming that I have the right thing before us.

11 If I could start with number 10 on the list
12 of exhibits. Now, this may or may not be easy to
13 pull up, Mr. Lunn, it's a video. I've thrown him
14 a curve ball. I don't propose to play a video
15 here. I know Mr. Fugere from the Department of
16 Justice offered to buy us all popcorn if I did,
17 but I don't think we have the luxury of hearing
18 time to play the video.

19 However it's brought up, I will just ask to
20 confirm the video. Mr. Curry, you referred in
21 your evidence to producing a series of videos that
22 were done really with an aim to train and educate
23 fishers in the different sectors about selective
24 fishing gear methodology and the like. I take it
25 the title of the video series "Salmon Sense: A
26 Training Series for Responsible Fishing"?

27 MR. CURRY: Yes, that is correct, and it was very much
28 a collaborative effort.

29 MR. MARTLAND: And it's a little artificial, Mr.
30 Commissioner, to do it without the exhibit proper,
31 but I think we're all referring to the same thing.
32 It is in the ringtail database. I'd like to have
33 that marked as the next exhibit, the "Salmon
34 Sense: Training Series" videos as one exhibit.

35 THE REGISTRAR: Exhibit 436.

36 MR. MARTLAND: Thank you.

37

38 EXHIBIT 436: Series of videos titled "Salmon
39 Sense: Training Series for Responsible
40 Fishing"

41

42 MR. MARTLAND:

43 Q In league with that, number 9 from the list, our
44 exhibit list, is three different newsletters
45 called "The Selective Fishing Newsletters, Volumes
46 1 through 3." You'll see the first page of the
47 first one in front of us. Could you quickly tell

1 us about that, please, Mr. Curry?

2 MR. CURRY: Yes. We received advice through some of
3 the multi-stakeholder workshops that we had that
4 we needed to do more to get information out on
5 what was happening with the various selective
6 fisheries projects and so on. So we, towards the
7 end of the program, we started up a newsletter to
8 provide information out to all interested parties
9 about ongoing work that was happening. So we
10 ended up with three issues of a selective fishing
11 newsletter that these are, that I had a great deal
12 of involvement with, pulling them together and so
13 on to reflect the current actions that are going
14 on within selective fishing in B.C. at the time.

15 MR. MARTLAND: Thank you. If that could be the next
16 exhibit, please.

17 THE REGISTRAR: Exhibit 437.

18
19 EXHIBIT 437: Selective Fishing Newsletters,
20 Volumes 1 through 3
21

22 MR. MARTLAND: And to editorialize for a moment, I'll
23 suggest these are materials for the benefit of
24 participants or members of the public that are
25 useful in translating, I think, the description of
26 the program and putting it into reality. There's
27 a number of pictures, for example, in the
28 newsletters. Obviously the video helps to put a
29 real face on selective fishing methods onboard
30 different gear types and vessels and so forth.

31 MR. CURRY: That's correct.

32 MR. MARTLAND: The next document, number 8 from the
33 list.

34 Q Mr. Curry, you referred to travelling to the east
35 coast and having a look at how they approach the
36 training for - I don't know if it was commercial
37 fishers specifically - and the possible relevance
38 or applicability of that approach to the British
39 Columbia salmon fishery.

40 MR. CURRY: Yes, this document reflects the results of
41 that multi-sector investigation of east coast
42 training and with the idea of bringing that
43 information back to the Pacific, yes.

44 Q And what was the result of that trip to the east
45 coast? Was there -- go ahead.

46 MR. CURRY: The result was that through the key
47 individuals that were on that trip with me, they

1 were able to work through their Area Harvest
2 Committees and so on to talk about and work
3 towards developing strategic plans for training
4 and education through the Selective Fisheries
5 Program, but also beyond the Selective Fisheries
6 Program, what are the types of things that would
7 be needed in order to reach harvesters so that
8 they're aware of the various selective fishing
9 gear and methods and how to use them and so on.
10 As well, in-house to DFO making sure that managers
11 and fishery officers are aware of the strategies
12 so that when they're in the field as well,
13 especially fishery officers, they're recognizing
14 the selective fisheries' gear, they understand the
15 nature of it, why it's there, how it's operated,
16 and also how someone might cheat with it, that
17 sort of thing. You usually work with respected
18 fishermen to work through how you'd make this work
19 effectively and so on. So those were all key
20 aspects that came out of this trip.

21 Q And this is a paper that you co-wrote?

22 MR. CURRY: That's correct.

23 MR. MARTLAND: If this could be the next exhibit,
24 please.

25 THE REGISTRAR: Exhibit 438.

26
27 EXHIBIT 438: Curry & Fearon, Industry and
28 Departmental Responsible & Selective Salmon
29 Fishing Training Program Development: The
30 East Coast Experience, May 2000
31

32 MR. MARTLAND:

33 Q Number 4 on the list, I thought at one point we
34 invented the term Policy and Practice Report. It
35 turns out that's not the case. This is a document
36 that's called "The Selective Fisheries Policy and
37 Practice" prepared in early 1999 by Edwin Blewett
38 and Timothy Taylor Consulting.

39 Mr. Curry, do you recognize that as that
40 report?

41 MR. CURRY: Yes. Basically, early on in the Selective
42 Fisheries Program, we wanted to look at pulling
43 together what we knew about selective fishing and
44 so contracting Edwin Blewett and Timothy Taylor to
45 provide some background on selective fishing on
46 which we could then help to base where we're going
47 with the program and so on in the appropriate

1 context and so on.

2 MR. MARTLAND: I'd ask that be the next exhibit,
3 please.

4 THE REGISTRAR: Exhibit 439.

5

6

EXHIBIT 439: Selective Fisheries Policy and
Practice, January 1999

7

8

9 MR. MARTLAND: Mr. Commissioner, I note the time. This
10 may be an appropriate time for the break. Thank
11 you.

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

14

15

(PROCEEDINGS ADJOURNED FOR MORNING RECESS)
(PROCEEDINGS RECONVENED)

16

17

18 THE REGISTRAR: The hearing is now resumed.

19

20 EXAMINATION IN CHIEF BY MR. MARTLAND, continuing:

21

22 Q Mr. Curry, I am going to ask you more general type
23 of a question. We've been speaking about the
24 program from 1998 to 2002. Could you describe
25 generally how the different sectors, First
26 Nations, recreational and commercial sectors
27 responded to that program?

28 MR. CURRY: Yes. With regards to the various sectors
29 and their buy-in to the program, within all the
30 various sectors, or so First Nations, recreational
31 and commercial, and commercial including troll,
32 gillnet and seine, there were individuals
33 certainly within all those categories that were
34 very supportive and very energetic to working
35 towards solutions. In general, First Nations were
36 very excited about working within this concept and
37 put a lot of energy into it.

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But that's not to say that everyone was
accepting of it. There were individuals,
sometimes very influential individuals within
harvest groups and so on, which were not that keen
on this method. They seemed to want to go back to
fishing the way fishing used to be, and but didn't
seem to be recognizing that selective fishing was
a tool to find solutions. And so I would say that
we had mixed reactions. Overall it was positive,
but there were individuals in influential

1 positions that made it more difficult to make
2 progress.

3 Q Can I take you to a document which is number 16 on
4 the list, and this is two things together, if I
5 have it correct. It's a memorandum for the RDG.
6 It dates to, at least it refers to, the Selective
7 Fishing in the 2004 Areas A and B Seine fisheries.
8 Attached to it I think is an e-mail from Chris
9 Ashton. It seems to indeed be part of the
10 document. It's a numbered page, but it's given as
11 attachment 1 in the last page. And to frame my
12 question, what I'd like to do, Mr. Lunn, is go
13 back to the very first page in that box, the
14 summary box with the different bullets. I'd like
15 to refer you to the second-to-last bullet:

16
17 In spite of the large investment and very
18 promising results to date, industry leaders
19 have recently informed DFO that they are
20 opposed to any addition testing or broader
21 implementation of these new selective fishing
22 methods in 2004.

23
24 Is that an example of when you describe a mixed
25 reaction or some, whether it's hesitation or
26 resistance or disagreement?

27 MR. CURRY: Yes, that would be one example of it.
28 There were others. But this was an example in a
29 context of commercial harvesters in a situation
30 where they weren't making a lot of money. They
31 were struggling often with the amount of salmon
32 that they were able to harvest. So there was
33 resistance just from the perspective of the cost
34 of making changes.

35 But on the flip side of that, without doing
36 the work and utilizing effectively the tools at
37 their disposal and the resources to come up with
38 the solutions, they were risking not fishing at
39 all in some cases, as opposed to coming with
40 solutions and being able to increase their ability
41 to continue harvesting, and harvesting in a more
42 selective and responsible way.

43 Q And this memorandum, I take it you and Dr.
44 Hargreaves jointly prepared?

45 MR. CURRY: That is correct.

46 MR. MARTLAND: Could this please be the next exhibit.

47 THE REGISTRAR: Exhibit number 440.

1 EXHIBIT 440: Memo for the RDG (Decision
2 Sought) Selective Fishing in the 2004 Area A
3 & B Seine Fisheries, with attached May 13,
4 2004 e-mail from Chris Ashton
5

6 MR. MARTLAND:

7 Q I have asked you some questions about the final
8 report and about the Selective Fisheries Program
9 that both of you have been describing this
10 morning. I don't want to spend very much time on
11 this, but, Mr. Curry, what I'd like to pick up on
12 is the audit that took place.

13 This is number 11, Mr. Lunn, on the list.

14 Now, I take it this is the Audit and
15 Evaluation Directorate's Program Evaluation, I
16 think is the title, for the Pacific Salmon
17 Selective Fishing Program; is that correct?

18 MR. CURRY: That is correct, as far as I understand it
19 to be.

20 MR. MARTLAND: And I'll just pause there to ask if this
21 could be the next exhibit, please.

22 THE REGISTRAR: Exhibit number 441.
23

24 EXHIBIT 441: Pacific Salmon Selective
25 Fishing Program Evaluation, Draft, February
26 11, 2005, Audit & Evaluation Directorate DFO
27

28 MR. MARTLAND:

29 Q And I don't propose to spend a great deal of time,
30 but I take it, Mr. Curry, you're very familiar
31 with this document. It gives a description of the
32 successes and shortcomings of the program and
33 gives a summary of the lessons learned. And I
34 take it you have a mixed view. There are parts of
35 this you agree with and there are some parts that
36 you feel don't fairly reflect the program.

37 MR. CURRY: I would say that this is a draft document,
38 so I'm not sure whether we have a final version.
39 But there was a response from DFO to this draft
40 audit of the program, that on a number of cases
41 staff who had been involved with the program were
42 not happy with the assessment by some government
43 staff, who were very unfamiliar with fisheries,
44 and were evaluating this program, and we thought
45 that they didn't do a fulsome job of evaluating
46 the program and the benefits of that program.

47 Q And I suspect Mr. Timberg may take you to some of

1 those materials that reflect some of the concerns
2 that you have. At a general level, what was the
3 overarching concern or concerns that you had about
4 the audit?

5 MR. CURRY: For instance, it didn't recognize the
6 significance of the paradigm shift towards
7 selective fishing, whereby this is a long-term
8 benefit over time of changing how we all view
9 fisheries and how we prosecute fisheries, and the
10 importance of that to move to a more responsible
11 fishery. And that was a significant aspect of
12 this program and I don't think it was covered that
13 well. But there were many smaller details, and I
14 was only one person involved with reviewing this.
15 There were many people that reviewed this and made
16 comments on it besides myself.

17 Q In terms of the status of this document you
18 describe it as being a draft. Do you recall ever
19 seeing something after this, a further or a final
20 version?

21 MR. CURRY: I don't recall seeing a final version, but
22 I suspect there was. But just on recollection I
23 don't recall it offhand.

24 Q And is this sort of an audit, is it internal to
25 the DFO in general?

26 MR. CURRY: This was an internal DFO audit of the
27 program, looking at the finances as well as did
28 the program meet its goals and objectives.

29 Q Dr. Hargreaves, I have a question which is general
30 in nature. I don't need to take you to the
31 Selective Fishing Policy, per se, but I take it
32 you were involved, and it's an Exhibit number 266
33 already. But you were involved in the preparation
34 of the writing of the Selective Fishing Policy, I
35 understand?

36 DR. HARGREAVES: Yes, I was.

37 Q In your view how well has the Department done in
38 implementing the policy?

39 DR. HARGREAVES: I think we did a very good job during
40 the period of the CFAR funding. So as I said
41 earlier, this was a fundamental shift in the way
42 that we conserved stocks and managed the fisheries
43 for salmon on the Pacific Coast. It meant major
44 changes both within DFO and also within the
45 harvest sectors, all of the harvest sectors. I
46 think the CFAR funding jumpstarted that. It got a
47 lot of people fishing when we wouldn't have been

1 fishing. It provided opportunities to experiment
2 and to make progress, and I think many people were
3 very excited about that opportunity.

4 I think with the end of the CFAR funding,
5 even though there was a clause, if you like, in
6 both the Allocation Policy and also the Selective
7 Fishing Policy, that we could continue to use a
8 portion of the available catch, the TAC, the total
9 allowable catch, each year to continue to develop
10 selective fishing, particularly the methods and
11 education, and so on. We didn't really go there.
12 Very little of that five percent was used. And
13 then subsequently with the **Larocque** decision, it
14 became basically not possible to use the resource
15 to take fish to pay for this sort of thing.

16 So I think from about 2003 or so, shortly
17 after the end of the CFAR funding, selective
18 fishing has stalled to a large degree. There are
19 a number of elements that continue to be a part of
20 our normal practices, both for conservation and
21 management. For example, things like revival
22 tanks and brailing of sets in seine fisheries, and
23 so on.

24 Q Mm-hmm.

25 DR. HARGREAVES: So where some of the practices and
26 equipment design, stuff that was developed during
27 the CFAR program has continued, but I don't think
28 the emphasis is still there, and certainly the
29 interest in terms of continuing to develop these
30 methods has waned considerably since 2002 and the
31 end of the CFAR funding.

32 Q Mr. Curry, do you agree with that? Do you think
33 selective fishing has fallen off the radar
34 somewhat since the end of the program?

35 MR. CURRY: Since the end of the program, selective
36 fishing has been carried out through the Salmon
37 Working Group within Fisheries and Oceans, and
38 actual hands-on carried out by the fisheries
39 managers within DFO. And it's without having a
40 directed funding source and without having someone
41 working to continue to work with First Nations and
42 recreational and commercial harvesters to progress
43 with some of these gear and methods that we had
44 started, some that could definitely use
45 completion, there wasn't someone driving that. So
46 it has relaxed and there isn't the same type of
47 push that I feel there should be in order to solve

1 some of these issues that are getting more and
2 more stringent as we move to Wild Salmon Policy,
3 **SARA** legislation, more and more a need to solve
4 some of these bycatch issues.
5 Q Dr. Hargreaves, since 2002 what has happened on
6 the selective fishing front, and in particular in
7 terms of research or pilot projects? You may be
8 better positioned to speak to the research
9 component.

10 DR. HARGREAVES: There has not been a lot of research
11 done since then. One of the documents you
12 referred to earlier, which was the decision note
13 around the seine bunts.

14 Q Yes.

15 DR. HARGREAVES: For three years after 2002 we
16 continued to work with industry, with the
17 commercial sector to work on the seine bunts one.
18 There has been a small amount of research activity
19 in some of the other sectors, as well, but very
20 little, actually.

21 And I think one of the biggest gaps, if I can
22 insert it here, is that the question of post-
23 release mortality rates is something that we
24 committed to as a Department that we would
25 continue to work on, and very little work,
26 essentially no work has been done on that since
27 the end of the CFAR Program. And to me that's a
28 critical gap in our knowledge. Even if we
29 developed all the selective fishing methods in the
30 world, and they worked wonderfully, the value of
31 those methods depends entirely on the post-release
32 survival rates and the effectiveness of those fish
33 to get back and spawn successfully, and we have
34 not addressed in my mind, to my satisfaction, of
35 knowing that we understand that yet.

36 Q Mr. Curry, do you have anything to add on this?

37 MR. CURRY: I would say that just to add that where
38 we've seen progress since the end of this, like a
39 fisheries program, is where we've implemented some
40 fisheries. I'll use one example. Out in Area 20,
41 Juan de Fuca Strait, with the Area B seine fleet,
42 we have carried out a very stringent fishery
43 that's managed by a manager on the grounds with
44 cooperation from the seine harvesters out there,
45 where we've implemented a number of strategies
46 within the fishery, including moving the fleet
47 within the fishery off of the areas in that body

1 of water that have higher incidence of bycatch
2 onto the more abundant flow of sockeye through
3 that area. So by using a number of strategies,
4 we've been able to carry out a fishery and improve
5 on it over time.

6 There's still room for improvement, as we've
7 talked about, in terms of the post-release
8 mortality issue, where it's high out there because
9 of the nature of the area. But we have carried on
10 with implementing a very stringent fishery there
11 that shows some good signs of success. But as Dr.
12 Hargreaves mentions, with post-release mortality,
13 there's more work to be done. There's certainly
14 lots to be gained by continuing the work that we
15 -- that we did with grids and in bunts, for
16 instance, that show promise to solve some of these
17 issues out in areas like that, that are difficult
18 fishing waters.

19 Q Yes.

20 DR. HARGREAVES: Sorry, just can I add another comment.
21 There are still, there's interest in the various
22 sectors in continuing some of this work. For
23 example, there's interest in using beach seines in
24 First Nations fisheries in the Fraser River, for
25 example, which would be more selective method than
26 a gillnet. There's interest in the commercial
27 seine group, for example, of fishing close to the
28 mouth of the Fraser River, which would minimize
29 the encounter rates of coho, for example. So
30 there is still a strong interest in this, I think,
31 but there hasn't been a real focus in terms of
32 moving ahead with selective fishing, per se.

33 Q Do you think it needs that push?

34 DR. HARGREAVES: I think it do, it does, yes.

35 Q Mr. Curry, could you indicate with respect to
36 standards, I think the policy talks about setting
37 standards for selective fishing. Have there been
38 formal or informal standards that have been
39 developed?

40 MR. CURRY: Towards the end of the Selective Fisheries
41 Program and with a goal of trying to create
42 selective fishing standards by 2003, there was
43 some efforts internally to work on heading in that
44 direction to lay out standards in a fishery. So,
45 you know, a particular fishery would need certain
46 gear to be used, certain methods to be employed,
47 and that we would have known mortality rates and

1 that sort of thing, so that we could set the
2 standards for an acceptable fishery under certain
3 conditions.

4 We haven't pulled together a comprehensive
5 list of standards that was envisioned through the
6 Selective Fisheries Program, and that's laid out
7 in the Selective Fisheries Policy. But
8 nonetheless, standards are in existence in a
9 general way throughout the Integrated Fisheries
10 Management Plan, or IFMP, each year do lay out
11 standards in general. But the real details of
12 those standards come into play when you are
13 dealing with the conditions, the commercial
14 conditions of licence, for instance, where these
15 measures are laid out very specifically in terms
16 of revival tank use and the type of mesh being
17 used in a gillnet fishery, et cetera, and as well
18 as the notices that come out will also call upon
19 what measures need to be employed in a particular
20 fishery as well.

21 Q In terms of the development since 2002, if I use
22 that as the basis for this question, am I right to
23 say that there is currently no program lead for
24 selective fishing?

25 MR. CURRY: That is correct.

26 Q There's no A-based --

27 MR. CURRY: Other than I will just say --

28 Q I'm sorry.

29 MR. CURRY: -- the Salmon Coordinator takes on, in
30 essence, a lead for selective fishing. But if you
31 look at what's on the plate of the Salmon
32 Coordinator, there's a whole array of things as
33 you'll soon find out over the next few days. So
34 what we're saying is that there's no one person
35 that has the time required in order to push
36 selective fishing to the point where it gets back
37 more on the radar screen where it is creating
38 solutions.

39 Q There's no A-based funding for selective fishing?

40 MR. CURRY: No.

41 Q Is there funding for selective fishing projects
42 now, or do they take place, if at all?

43 MR. CURRY: They would take place if costs are very
44 modest, and a harvest group has some access to
45 funds outside of DFO, they could use those funds.
46 Like we mentioned, the five percent use of the
47 total allowable catch for selective fishing

1 projects would be a very good legacy from the
2 Selective Fisheries Program, allowing at least the
3 commercial sector the opportunity to continue
4 working. But as Dr. Hargreaves mentioned, the
5 **Larocque** case trumps that at this point and we're
6 not able to use it. But the recreational and
7 First Nations do not have the same access to
8 specific funding for selective fishing. But in
9 essence, the commercial don't have access to it
10 now, either.

11 Q You'll both be relieved. I think I only have two
12 questions left. The first is at a general level
13 if you have other comments on the status of
14 selective fishing, and whether for the different
15 sectors or gear types there are specific immediate
16 things that you think could happen and should
17 happen to make them, to have them fishing more
18 selectively.

19 MR. CURRY: I guess I could start off by saying that
20 what I would recommend in order to regain a focus
21 on finding solutions that can get harvesters back
22 fishing more selectively, a few things could
23 happen. One would be slowing the pace of the
24 fishery so that there's the time to implement
25 these strategies effectively, and so with defined
26 shares there's some measure of greater time.

27 Another one would be completing the
28 standards, making the standards more visible to
29 the harvesters so that they can get a sense of how
30 high the bar is set for various fisheries under
31 certain circumstances so that they can then look
32 at what tools can they use to make their fishery
33 more selective, more responsible, and therefore,
34 you know, getting back in the water in some cases
35 where they currently can't. So of course with
36 this, a funding source would be key, some form of
37 funding this further work.

38 And there needs to be a collaborative
39 relationship between the harvest sectors and DFO
40 that works towards the buy-in to resolve these
41 issues. We get greater buy-in if you're in it
42 from the beginning, working on the strategies
43 together to solve, as opposed to something that
44 DFO might be trying to impose because it's a very
45 good strategy that may be backed by science.
46 Trying to impose that is a difficult thing. If
47 you have buy-in from the beginning, it's obviously

1 much easier.

2 Analysis of work that's been completed, I
3 think that's key. So that it helps guide where we
4 go in the future, where would we get our greatest
5 gains, looking at that analysis, and finally
6 ongoing training and education, so that not only
7 harvesters but managers and fishers have the
8 training and education required to carry it out
9 effectively. And this also can reflect on things
10 like certification of fisheries for being
11 responsible, and that sort of thing. When all
12 these things come together, they're to carry out a
13 responsible fishery.

14 Q Dr. Hargreaves.

15 DR. HARGREAVES: I guess I've got a short list similar
16 to Gord's here. We didn't collude on this one,
17 so...

18 Q Well, you say "this one", it makes me wonder about
19 your other answers. Go ahead.

20 DR. HARGREAVES: It does sound very similar, maybe
21 because we've had the same experience. But, Mr.
22 Commissioner, in my view, selective fishing is one
23 of the most critical things we can still do in the
24 salmon fisheries in British Columbia. I think if
25 we don't focus again on selective fishing for both
26 conservation and harvest opportunities, in the new
27 environment, which includes MSC certification, the
28 Wild Salmon Policy, and other constraints that
29 have come on since 2002, there will be no
30 fisheries. That's where we'll end up. And I
31 think we'll be unable to recover a lot of the
32 stocks that are currently in dire circumstances
33 for conservation. So I see it as a critical
34 thing; still is.

35 I think the ability to fund it in some form
36 is essential. And I think the original plan of
37 using a five percent TAC was a beginning point for
38 that. History has now shown that the industry
39 sectors will not do this without that incentive.
40 So there needs to be an incentive to do this and
41 to continue that work, either through the
42 government or through industry, in the example of
43 the TAC, set aside.

44 I think there's a critical need to understand
45 the knowledge gap of post-release mortality rates
46 for this to work, and that's probably a
47 significant component of that as a departmental

41
PANEL NO. 20
In chief by Mr. Martland
Cross-exam by Mr. Timberg (CAN)

1 responsibility to do that research. Hopefully in
2 collaboration with other academic organizations
3 that can assist with that.

4 And I think the commitment of the fishermen
5 themselves is critical to the success. Again, no
6 matter how many selective fishing methods and
7 procedures we develop, if the fishermen are not
8 committed to it, it won't work and we'll have
9 wasted time and effort and not achieved the
10 success of that. And as Gordon said, there is
11 still a lot of analysis that needs to be done for
12 the work that's already been done to lead us
13 forward in the future.

14 MR. MARTLAND: Mr. Commissioner, that concludes the
15 questions I have. Mr. Timberg is next on the
16 list. Thank you.

17 MR. TIMBERG: Yes, for the record, Tim Timberg, T-i-m-
18 b-e-r-g, and with me is Geneva Grande-McNeil.

19
20 CROSS-EXAMINATION BY MR. TIMBERG:

21
22 Q Mr. Registrar, could I have the PPR number 6,
23 please.

24 And a question for Mr. Curry. Mr. Curry,
25 could you provide us with your general response,
26 having read this Commercial Fishing PPR, what your
27 sort of general comments are with respect to the
28 content of what's here before us today?

29 MR. CURRY: Yes. Reviewing the PPR as it's being
30 referred to, I find it to be a fairly good summary
31 of selective fishing. It seems to be fairly well
32 -- it cover things fairly well. I would say that
33 a weakness in it is that it definitely has a
34 commercial fisheries focus, and appears to be weak
35 on First Nations aspects of selective fishing, and
36 probably to some extent the recreational, as well,
37 it's weak on. But other than that, it seems to be
38 a fairly good reflection of the selective fishing
39 component of commercial fishing, or of Pacific
40 Fisheries.

41 Q Okay, thank you. And if we could turn to
42 paragraph 102. And, Dr. Hargreaves, perhaps you
43 could comment on the last sentence in this long
44 paragraph, which discusses -- I'll just read it
45 for the record. It says:

46
47 Future development of selective fishing

1 techniques might allow testing of fish for
2 genetic or DNA markers that would identify
3 their conservation unit and allow for fish
4 sorting by genetic markers.
5

6 DR. HARGREAVES: I think this is a really good example
7 of the vision that selective fishing provided in
8 the beginning, so some people will look at that
9 and say that this is speculative, it's impossible,
10 we can't get there from here, we won't, we'll
11 never get there, it's too expensive, and so on.
12 And that's basically the same response that we got
13 at the beginning of the Selective Fishing Program.
14 Many of the things that we thought of or imagined
15 at that point, people thought was impossible. And
16 with just a few years of work, a considerable
17 amount of money and a huge amount of innovation on
18 the basis of the people doing the fishing, we
19 achieved most of that. So this one here, I think
20 DNA markers, this technology doesn't exist right
21 now, but I argue again that if we don't have
22 something like this working in the field where we
23 can individually test fish and either release them
24 or harvest them, we won't be fishing.

25 Q And if we could turn to paragraph 114, and the
26 one, two, three, the fourth bullet, I think Dr.
27 Hargreaves, you've covered this in your earlier
28 testimony but perhaps you could comment on here,
29 it says:

30
31 A significant knowledge gap still remains
32 with respect to post-release mortality
33 rates, --

34
35 - and it says -

36
37 -- "but the department plans to continue to
38 investigate solutions."
39

40 If you could perhaps comment on that.

41 DR. HARGREAVES: During the Selective Fishing Program,
42 we did a lot of work on short-term mortality
43 rates, so the mortality rates that occur in fish
44 within sort of 24 or 48 hours after release from
45 fishing gear. And I think we have a fairly good,
46 not a complete picture of that, but a fairly good
47 idea of what that is like. What we don't have a

1 good idea of is what's the longer-term effects of
2 selective fishing. So once the fish is released,
3 you know, a week, a month, a year from then, if
4 it's returning to the spawning grounds say two
5 months later, is it actually successfully spawned.
6 Does it get to the spawning grounds and can it
7 successfully spawn after being released.

8 And in some cases this fish may have been
9 released several times, so it might have been
10 encountered by a sport fisherman out in the Strait
11 of Georgia, for example. It might have
12 encountered and even been captured in a net in the
13 Lower Fraser. It might then be caught by a First
14 Nations fisherman in a terminal area. And then it
15 gets to the spawning ground, and the question is
16 all these captures, whether one or multiple, how
17 does that affect its ability to spawn and
18 reproduce? And that question is a fundamental one
19 related to selective fishing.

20 We assume through selective fishing that we
21 can provide opportunities to fish, and by fishing
22 selectively, that we can mitigate the impact of
23 that on the spawning success. But we're not sure
24 of that, and it's a huge knowledge gap at this
25 point.

26 Q Thank you. And then if we could turn to paragraph
27 125. And, Mr. Curry, at the last sentence here it
28 says:

29
30 DFO has not formalized a set of selective
31 fishing standards as contemplated under
32 Principle 2 of the Selective Fishing Policy.
33

34 And I presume this ties back to your testimony
35 this morning, or at least back to the work that is
36 being done, and perhaps you could explain that.

37 MR. CURRY: Yes, basically that the concept was to have
38 a comprehensive listing of standards that all
39 harvesters would be able to look at and understand
40 what they need to do in order to be operating in a
41 responsible fishery. And so right now, those
42 standards are scattered all through our -- they're
43 generally listed in our Integrated Fisheries
44 Management Plans, but more specifically they're
45 listed in conditions of licence, and so there are
46 standards. There's certainly standards throughout
47 all our fisheries that we have to meet in order to

1 carry them out. So they're there, but we don't
2 have a comprehensive listing which was envisioned,
3 and I think would be helpful for everyone to be
4 able to understand a little more about what would
5 be entailed.

6 Q Thank you. And if, Mr. Registrar, if we could
7 have from Canada's list of documents, at Tab 1,
8 the Code of Conduct for Responsible Fisheries.

9 And, Dr. Hargreaves, could you identify this
10 document for us. What is this?

11 DR. HARGREAVES: The Code of Conduct for Responsible
12 Fisheries, this is the Food & Agricultural
13 Organization of the United Nations. So this is an
14 international organization basically that
15 developed this Code of Conduct for Responsible
16 Fisheries. Basically as I went back to my early
17 testimony, there was a growing concern, certainly
18 back in the mid-'70s to early '80s, basically, of
19 conservation and responsible fisheries practices
20 in the word. Many of the world's fisheries were
21 fully exploited or in many cases over-exploited.
22 So the FAO came out with this Code of Conduct and
23 Canada actually played a significant role in the
24 development of this Code. And basically the
25 purpose of this Code was to describe how to fish
26 responsibly, to conserve stocks of concern, to
27 minimize bycatch, a number of others, quite a long
28 lengthy document, but it basically sets out
29 guidelines for how to develop responsible
30 fisheries.

31 Q Okay. And could we turn to section 6.2 of this at
32 page 11 of 49. And is this article 6.2, 6.3, the
33 most relevant as it relates to selective fishing?

34 DR. HARGREAVES: Yes, both of these relate directly to
35 selective fishing. I believe also if you can go
36 down to section 8, I believe. If we can just jump
37 down a little bit further, I think there's another
38 mention. Yes. So there's a number of different
39 things in this 8.1 that I think are also relevant
40 to the Selective Fishing Program.

41 Q Okay. And can you explain how selective fishing
42 is implemented internationally.

43 DR. HARGREAVES: That's a very big question. There's,
44 as I said, many different nations contributed to
45 the Code of Conduct, and in most cases, as in
46 Canada, we've developed a Code of Conduct
47 specifically for Canadian fisheries. That Code of

1 Conduct differs by each fisheries species and gear
2 type basically. So in an international sense
3 there are many different implementations of the
4 Code of Conduct that are specific to a fishery.
5 I'll just use one example.

6 One of the most notable ones was dolphin-safe
7 tuna. So there was a lot of concern, I don't know
8 if you remember back that far, but there was a
9 huge concern at one time about the tuna that we're
10 eating was resulting in a high mortality of
11 dolphin. And the reason for that is that the
12 dolphin are attracted to the tuna, too. In fact,
13 the fishermen follow and look for dolphin, which
14 tells them that there's tuna below them, then set
15 the net around the dolphin to harvest the tuna
16 that were below them. But a result of that was
17 the very high mortality rate of the tuna --

18 Q Right.

19 DR. HARGREAVES: -- or of the dolphin, I'm sorry. So
20 that's an example where over a number of years the
21 fishermen took it onto themselves, basically, I
22 think in this case and I'm quite impressed by
23 that, decided that they had to fix this, partly
24 because it was affecting their market
25 acceptability of their product, and developed
26 methods to release and safely release the dolphin
27 with very little mortality rates. So as a result
28 of that, when you see a can of tuna, you'll see
29 that it's dolphin-safe certified, which means that
30 there's extremely low mortality rates. So that's
31 one example of an international implementation of
32 selective fishing.

33 Coming back to the salmon situation in
34 Canada, as I said, many of our fishing
35 organizations have developed our own Code of
36 Conduct that follows the FAO guidelines, if you
37 like, guidance from that, that's much more
38 specific in terms of the measures and the
39 practices that we use for selective fishing in
40 Canada.

41 Q So perhaps let's go to the next tab, Tab 2 of the
42 binder, and this is the Code of Conduct for
43 Responsible Fisheries of 1998. And can you --

44 THE REGISTRAR: Mr. Commissioner, did you wish to mark
45 the other one first?

46 MR. TIMBERG: Oh, yes, thank you. If we could have the
47 first tab marked as the next exhibit.

1 THE REGISTRAR: It will be marked as Exhibit 442.

2
3 EXHIBIT 442: Code of Conduct for Responsible
4 Fisheries, 1995, Food & Agriculture
5 Organization of the UN
6

7 MR. TIMBERG:

8 Q And if we could turn to the next tab. And Dr.
9 Hargreaves, if you could comment on the Canadian
10 Code of Conduct for Responsible Fishing
11 Operations.

12 DR. HARGREAVES: I think it would be more appropriate
13 for Gord. He was more directly associated with
14 this one.

15 Q Okay.

16 MR. CURRY: Yes, the Canadian Code of Conduct for
17 Responsible Fishing Operations was a Canadian
18 Fishing Industry led development, guided by the
19 FAO Code. They developed a Code for Commercial
20 Fisheries within Canada and I think currently it's
21 somewhere in the range of 80 percent of commercial
22 fishing organizations have endorsed this Code.

23 And if you go to principle 6, it's probably
24 the most directly related to selective fishing,
25 but in essence, all these principles relate in
26 some way to selective fishing, and but I would say
27 that principle 6 is the one that is most directly
28 related to selective fishing.

29 Q And just for the record it states:

30
31 To the extent practical, fish harvesters will
32 minimize unintended bycatch and reduce waste
33 and adverse impacts on the freshwater and
34 marine ecosystems and habitats to ensure
35 healthy stocks.
36

37 MR. CURRY: So this, just I'll just add that this
38 guidance is very helpful in that we've got the
39 International Code, we've got this Canadian Code
40 for Commercial Fisheries, and then we have a
41 Selective Fisheries Policy that guides us in terms
42 of if we're looking at then trying to set up
43 commercial fishing plans for Fraser sockeye, which
44 are laid out that those fishing plans are laid out
45 in the IFMP, so you have bringing it down to a
46 more real state where you get down to where you're
47 actually carrying out fisheries that are tied into

1 all this policy work nationally and
2 internationally.

3 Q Okay. And I'm wondering if there are other
4 policies, Dr. Hargreaves, you spoke this morning
5 about the coho crisis and the changes that DFO had
6 at the time. I'm wondering whether if you can
7 explain for the benefit of the Commissioner the
8 relevance of the Allocation Policy for Pacific
9 salmon, how that fits with the selective fishing.
10 And, Mr. Registrar, I think -- I believe that's
11 Exhibit 264. It's already in evidence.

12 MR. CURRY: Yes. The Allocation Policy was, as the
13 title says, "The Fourth in a Series of Papers from
14 Fisheries and Oceans". This is under the New
15 Directions Policy document. So as a result of the
16 coho crisis in particular, as I indicated earlier,
17 there was a decision within DFO that we needed to
18 fundamentally change the way salmon fisheries were
19 managed and stocks were conserved on the Pacific
20 Coast. And in order to clarify that direction,
21 the new direction, there was the whole series of
22 policy papers that came out in short order, the
23 Allocation Policy being one of those.

24 This particular policy described how salmon
25 would be allocated between the different user
26 groups, so First Nations, recreational and
27 commercial. Basically the split of allocation of
28 different species, for example, it gives priority
29 to the recreational fishery for chinook and coho,
30 not exclusive access, but priority access to them.
31 There's a recognition that in some commercial
32 fisheries chinook and coho will be captured as a
33 bycatch, not a targeted catch perhaps in most
34 cases. So there was a recognition of that. There
35 was a recognition or a policy statement made that
36 the majority of pink and chum and sockeye would be
37 allocated to the commercial fleet.

38 Q Right.

39 MR. CURRY: Roughly 95 percent of that, of the total
40 TAC would go to those groups. So basically it
41 laid out the framework for how fish, salmon would
42 be allocated.

43 Q And, Mr. Registrar, if we could turn to page 29 or
44 35 of 46 on this document. We spoke earlier about
45 the five percent allocation to selective fishing.
46 And perhaps you could just explain for the
47 Commissioner how that worked here, and comment on

1 the two-year period that's stated.

2 MR. CURRY: So the original Coho Response Team report
3 came out in 1998, and in moving forward with these
4 various policy documents, there was a recognition
5 that in order to do the selective fishing
6 development, developing the years, training people
7 how to use them, investigating the results of
8 that, that there would be some funding required to
9 do that.

10 So the CFAR Program provided government
11 funding to a certain extent, but there was also a
12 decision taken that up to five percent of the
13 commercial catch would be allocated, could be
14 allocated to support selective fishing
15 development. And the idea was that that would
16 occur for two years, a two-year period, and then
17 we would reassess whether that was sufficient, or
18 whether it could be relaxed or go away entirely.
19 So that was the original purpose, that we would
20 take some of the fish resource itself to help fund
21 this new direction of selective fishing, and up to
22 five percent of the TAC would be set aside for
23 that purpose.

24 Q And if I understand your evidence from this
25 morning, due to the impact of the **Larocque**
26 decision, you're not able to effectively utilize
27 that today, is that...

28 MR. CURRY: That's the current understanding. I don't
29 think that's actually been tested in the courts,
30 but I believe that would be the outcome, that
31 would be my thought on it. And prior to that
32 decision, though, there was a period when the five
33 percent existed there in terms of this policy
34 document, and this again also appears in the
35 Selective Fishing Policy document, as well. But
36 it wasn't fully utilized between the end of the
37 CFAR Program and the **Larocque** decision. So even
38 though the five percent was there, as we showed in
39 that earlier document about the decision memo.

40 Q Mm-hmm.

41 MR. CURRY: There was a proposal there to use some of
42 that five percent tax to support that particular
43 experiment.

44 Q Right.

45 MR. CURRY: So it was there, but it was not fully
46 utilized.

47 MR. TIMBERG: Thank you. And, Mr. Registrar, if we

1 could turn the Commission to the actual Selective
2 Fishing Policy, it's at Tab 14 of the Commission's
3 binder. I don't have the exhibit number handy.

4 THE REGISTRAR: Again, Mr. Timberg, did you wish to
5 mark the Canadian Code of Conduct?

6 MR. TIMBERG: Yes, thank you. If that could be marked
7 as an exhibit.

8 THE REGISTRAR: That will be marked as Exhibit number
9 443.

10 MR. TIMBERG: Thank you.

11
12 EXHIBIT 443: Canadian Code of Conduct for
13 Responsible Fishing Operations, Consensus
14 Code 1998
15

16 MR. TIMBERG:

17 Q And if we could turn to page 16, please. And, Mr.
18 Curry, I note that there's a definition here of
19 "selective fishing" in the Selective Fishing
20 Policy. Could you just perhaps clarify how DFO
21 utilizes that definition?

22 MR. CURRY: Yes. Well, the definition in here:

23
24 A conservation-based management approach
25 which allows for the harvest of surplus
26 target species or stocks while aiming to
27 minimize or avoid the harvest of species or
28 stocks of conservation concern, or to release
29 bycatch unharmed.
30

31 So basically it's what we're looking to do is
32 create fisheries that for all intents and
33 purposes, you're catching the target species and
34 you're minimizing the impacts on any unintended
35 bycatch that you might encounter.

36 Q Right. And there's a variety of tools that --
37 that could be utilized for that?

38 MR. CURRY: Absolutely. There's from all the work that
39 was carried out in the Selective Fisheries Program
40 and work prior to that and after that, there are
41 quite a suite of tools that can be employed in
42 various fisheries and used where they need to be
43 used to solve some of the issues that harvesters
44 are facing.

45 Q Mr. Registrar, if we could turn to Tab 7 of
46 Canada's binder.

47 Oh, sorry, Dr. Hargreaves.

1 DR. HARGREAVES: May I just add something. In that
2 same document on page 10, just to point out, Mr.
3 Commissioner, the last sentence of the third
4 paragraph it says:
5

6 In the salmon fishery, Fisheries and Oceans
7 Canada will continue to provide up to five
8 percent of the...TAC to support experimental
9 pilots...

10
11 So and just again emphasizing that it does appear
12 in this document again. So this was seen as a
13 fundamental way of trying to continue to fund the
14 development of selective fishing.

15 Q All right. Mr. Registrar, if you could turn to
16 Tab 7, I've got a series of maps that I've taken
17 from the IFMP.

18 This morning, Mr. Curry, you provided a
19 helpful example of some of the toolbox of tools
20 for selective fishing. And I'm wondering if you
21 could take the Commissioner through these maps,
22 and the first one is -- and for the record, these
23 are taken from the IFMP. The first one is Area B
24 - Seine map, and perhaps just for the assistance
25 of the Commissioner, explain how this map works
26 briefly, and then perhaps you could describe some
27 of the selective fishing tools for the seine
28 fishery, and then we'll go on to the gillnet
29 fishery and you could perhaps just sort of help
30 bring this to light.

31 MR. CURRY: Okay, I'll try and be brief. There are a
32 lot of tools. So this map of Area B - Seine,
33 seines in the Pacific Fishery are divided into two
34 geographic areas. This map represents Area B,
35 which is the south coast fishing area for seine
36 vessels. There is a corresponding map for the
37 north coast, which is Area A with seine.

38 In Area B, with the Selective Fisheries
39 Program, the advent of brailing of catches. A
40 normal practice prior to the Selective Fisheries
41 Program and the coho crisis was that when a seine
42 boat would catch a number of fish, it would bring
43 these fish over the stern of the vessel. So
44 sometimes you have quite a number of fish coming
45 over the stern of the vessel, and there's a lot of
46 pressure exerted within the net coming over the
47 stern, and compressing the fish. So if had small

1 coho, for instance, or small chinook in there,
2 they could be injured as a result of being in
3 there with a lot of sockeye, for instance.

4 So what was employed is using a brailer,
5 which is a power-assisted dip net, a very large
6 one that can hold several hundred fish at a time,
7 or up to, depending on the size of it, and then it
8 is raised and the fish are placed on board the
9 vessel, often in a sorting area, a wet sorting
10 area, whether that's a portion of the deck or
11 actually constructed on the top of the hold, where
12 the harvesters then can get a look at the fish and
13 pull out the coho or chinook, deposit them in the
14 revival tank. These vessels all have to
15 functioning revival tanks on them. And so then
16 when those fish are ready to be released after the
17 finishing up of the set and giving them time to
18 recover, then those coho and chinook, for
19 instance, in a sockeye fishery, would then be
20 released. That's an example of a few of the
21 measures within Area B - Seine.

22 Q And this morning you were both referring to a
23 knotless bunt, and can you just describe what that
24 -- that term means.

25 MR. CURRY: Sure. A good example of that is in the
26 area marked on the map here, Area 20, Juan de Fuca
27 Strait, you're in an area where there's generally
28 large swells. And so when the boats are fishing
29 out there, and they're bringing in the last part
30 of their net, that's referred to as the bunt, the
31 boats are rocking back and forth, and the net is
32 going up and down out of the water. And so the
33 bunt is webbed with knots in it, and it's very
34 abrasive against the fish, and you can see the
35 scales in the water as a result of this action.
36 So when we talk about knotless bunts, it's simply
37 that, it's a bunt that doesn't have knots. And in
38 the case where we're looking at employing escape
39 grids, the meshes is a lot smaller, and so you
40 need to provide an avenue of escape, and so the
41 grids provided that.

42 In the old way with the knotted bunts, they
43 were of a certain size and did release some of the
44 very small coho and chinook could swim through
45 that web, but there are many others that would
46 either get gilled in it, or would not be able to
47 get out and would then have to be handled and that

1 sort of thing. So basically the knotless is more
2 fish friendly. Because if you take too many
3 scales off a fish, it will not survive.

4 Q Right. If we could then perhaps flip to the next
5 map here, which is the Area D Gillnet. And
6 perhaps you could just briefly describe some of
7 the selective fishing methods for gillnet.

8 MR. CURRY: The Area D Gillnet, as you can see by the
9 map, one of their main fishing areas is Johnstone
10 Strait, for instance. So if they're fishing for
11 Fraser sockeye, they'd be fishing in Areas 12 and
12 13 in Johnston Strait. And we would look at
13 there's incidental or there's bycatch of coho and
14 chinook in that fishery, as an example. So we
15 want to see those fish coming aboard alive with
16 the option of being able to give those fish some
17 time to recover in a revival tank, so they all -
18 all - vessels require having a revival tank. And
19 there's a limited set time. I'm not sure whether
20 it's 45 minutes. I believe it has been 45 minutes
21 in the last few years. And so a number of fish
22 are coming aboard alive and that gives those
23 harvesters the ability to recover those fish and
24 then release them back into the water after
25 they've retrieved their net and taken their catch
26 aboard.

27 Q Thank you. And then over the page, Area E Gillnet
28 is just a different location, a different area?

29 MR. CURRY: Yes, the Area E Gillnet area, as you can
30 see, extends out just to the west coast of the
31 southern part of Vancouver Island and up into the
32 Georgia Basin, as well as into the lower reaches
33 of the Fraser River. And the fishing for Fraser
34 sockeye there is in the Fraser river. And again
35 similarly to Area D, revival tanks are mandatory,
36 set times are controlled so that as many live fish
37 as possible are coming aboard, so that they can be
38 released. And there's other measures that can be
39 used or pulled out of the toolbox if need be. If
40 we're dealing with steelhead issues, or other
41 species that are being caught and needing to be
42 released, and so on.

43 Q All right. And then over the page we have Area G
44 - Troll. And perhaps you could explain for the
45 Commissioner some of the selective fishing
46 techniques for the troll.

47 MR. CURRY: Sure. With troll, there's three troll

1 areas within the province, and there's Area G -
2 Troll shown here, which is for the most part the
3 West Coast of Vancouver Island, and they would
4 encounter Fraser sockeye off the west coast of
5 Vancouver Island, and some of the measures that we
6 employed was barbless hooks. I believe that there
7 was less damage to fish that were caught with
8 barbless hooks. Also because when you have caught
9 a fish with a barbless hook, you've got to then
10 take the hook out and release it. If you have a
11 barb on the hook, it can cause a lot more damage
12 to the fish physically, and therefore potential
13 mortality. So one of the strategies was to have
14 barbless hooks on all troll vessels, as well as in
15 the recreational fishery.

16 One of the things that we use extensively is
17 time an area with all the fleets, but as an
18 example, in this fleet would be looking at where
19 can we fish and target sockeye and not have a high
20 incidence of coho and chinook at the same time.
21 So we would also look at looking at what type of
22 gear can we utilize. And one of the things where
23 the West Coast fleet fishes chinook, we have had
24 fisheries with large plugs, which sockeye
25 basically are not going to be biting, therefore it
26 could be they would be able to prosecute a fishery
27 on chinook and not have an incidence of bringing
28 in any sockeye. So again, some of the toolbox
29 options that are available.

30 Q Helpful. And then if we could just flip over the
31 page. You've discussed the Area H - Troll, and
32 here's the next map is Area A - Seine, which you
33 referred to earlier, so this is the north coast.

34 MR. CURRY: Mm-hmm.

35 Q And then over the page, Area F - Troll, is the
36 north coast troll, and Area C - Gillnet.

37 MR. CURRY: That's right.

38 MR. TIMBERG: If this compilation of maps could be
39 marked as the next exhibit.

40 THE REGISTRAR: Exhibit number 444.

41
42 EXHIBIT 444: Maps of Commercial Fishing
43 Areas, excerpted from Exhibits 349 and 445
44

45 MR. TIMBERG: And, Mr. Commissioner, I'm wondering if
46 this a time for the noontime break.

47 THE COMMISSIONER: Yes, thank you, counsel. Just

1 before we break, I am advised that we have with us
2 today in the public audience a group of students
3 from Quest University who are studying in the area
4 in which we are investigating, and I want to
5 welcome them here today. One has to wonder why
6 they would leave the beauty of Squamish for a
7 glass tower in downtown Vancouver, but they are
8 determined obviously to find out more about this
9 area. So we welcome them. Thank you very much.
10 We'll now adjourn.

11 THE REGISTRAR: The hearing is now adjourned until 2:00
12 p.m.

13
14 (PROCEEDINGS ADJOURNED FOR NOON RECESS)
15 (PROCEEDINGS RECONVENED)
16

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

18 MR. TIMBERG: And it's Tim Timberg, T-i-m-b-e-r-g,
19 counsel for Canada, continuing. Mr. Registrar, if
20 we could have the 2010/2011 Pacific Region
21 Southern Salmon IFMP brought up, please?
22

23 CROSS-EXAMINATION BY MR. TIMBERG, continuing:
24

25 Q And if we could have Mr. Curry just identify this
26 document for us, please?

27 MR. CURRY: Yes. This document is the annual salmon
28 fishing plan in the Pacific Region that is
29 produced each year to provide guidance to the
30 Pacific fisheries.

31 MR. TIMBERG: And if we could -- Mr. Registrar, if we
32 could then turn to page 58/59 of 160.

33 Q And at the top of page 59 is Table 8, Post-Release
34 Mortality Rates. So this morning, Dr. Hargreaves,
35 we were speaking about the various post-release
36 mortality rates between the various gear types and
37 I'm wondering if either Mr. Curry or Dr.
38 Hargreaves, if you could perhaps comment on
39 whether different gear types have different post-
40 release mortality rates and the relevance of this
41 to selective fishing.

42 DR. HARGREAVES: Now, this table was entered into the
43 IFMP this year basically to remind people in the
44 harvest sectors basically of what post-release
45 mortality rates that the DFO was assuming for
46 various fisheries. So if you look at the left
47 side, you see fishery is the title and then it

1 goes through First Nations fisheries, recreational
2 troll, recreational troll gear for chinook and on
3 down to the bottom, commercial troll all areas.
4 And then what it shows is two additional columns,
5 the pre-2001 post-release rates and then the next
6 column is a 2001 post-release rates.

7 The post-release basically applies or is the
8 -- refers to what rate do we think the fish will
9 die after release from that particular type of
10 fishery. So that type of gear, that type of
11 fishery and that location and that species of
12 fish.

13 So if we look in the second column, for
14 example, if we go down to the second one, so
15 recreational troll gear, so a recreational
16 fisherman that's trolling for sockeye, pink, coho
17 and chum, we assume a ten percent post-release
18 rate. So if he catches a coho and releases it,
19 we're assuming that 90 percent of those fish would
20 survive or alternatively, ten percent would die as
21 a result of the injury of that. And so on down
22 the list.

23 If you go down, I guess, to the fourth one or
24 fifth one there, commercial gillnet, we're
25 assuming somewhere between 60 and 70 percent
26 mortality rates in that type of fishery and again,
27 the assumption is that a gillnet has a higher
28 mortality rate and those are based on studies that
29 have been done over the years.

30 And then in the last column, the post-2001,
31 these are basically updates to those rates based
32 on additional studies that have been done and
33 additional research since that 2001 period.

34 Q And what's the relevance of this with respect to
35 how DFO manages a selective fishery?

36 DR. HARGREAVES: It's very important in terms of
37 selective fishing, because basically these rates
38 then determine what the impact is of various
39 fisheries on non-target species, for example. So
40 if you again deal with Fraser sockeye, for
41 example, if we set a target of, say, three percent
42 incidental harvest or incidental mortality rate of
43 Thompson coho, for example, then when we reach
44 that, when we estimate we've reached that, then
45 the fishery would be terminated. So it sets
46 basically the pace of the fishery, but also how
47 long that fishery can stay open.

1 Q All right. Thank you very much.

2 MR. TIMBERG: If this could be marked as the next
3 exhibit.

4 THE REGISTRAR: Exhibit number 445.

5

6 EXHIBIT 445: Pacific Region IFMP Salmon
7 Southern BC - June 1, 2010 - May 31, 2011

8

9

MR. TIMBERG:

10 Q This morning we were, Dr. Hargreaves, we were
11 focusing primarily on how selective fishing works
12 in a mixed species fisheries, i.e., between
13 various different species of fish. Perhaps you
14 could tell us how selective fishing would operate
15 with a mixed stock fishery or, so, for example,
16 under Wild Salmon Policy between salmon from
17 different conservation units, and perhaps you
18 could give an example of the Cultus Lake
19 conservation unit.

20 DR. HARGREAVES: Okay. The relevance of selective
21 fishing to a mixed stock fishery, so within a
22 particular species, is much more challenging.
23 It's very difficult in the ocean and in the
24 fishery for a fisherman to identify fish from a
25 particular stock.

26 If we use an example of Cultus, we know from
27 historical timing of the run when they will
28 return, roughly the timing curve of that, and that
29 overlaps with a number of other stocks. So
30 there's a concern if those other stocks are large
31 and have a harvestable surplus, how can we
32 minimize the impact on Cultus, for example, and
33 preserve the fish in that particular conservation
34 unit.

35 So our progress on that has largely been
36 limited to the fishing time and area type
37 approaches. Again, sort of pushing the envelope a
38 bit, I guess, I think we could go much further
39 than that if we deployed selective fishing more to
40 our advantage. And again, I'll verge on the
41 speculative here at the moment, but we did talk
42 about real time sorting fish based on DNA. That's
43 not available yet, but I think it could be. I
44 don't think that's speculation.

45 Another example might be, for example, if we
46 could put enough tags on Cultus Lake fish going
47 out and then turn those tags on, let's say they're

1 an acoustic tag, and this technology already
2 exists, turn that tag on when the adults are
3 coming back, then basically as the fish are
4 approaching the Strait of Georgia - these would be
5 Cultus Lake fish - we would be watching for them
6 at the doorways, if you want. We could be fishing
7 in the Gulf and then as the tags are detected,
8 that fishery could condense down and up the river
9 ahead of the Cultus Lake and basically conserve
10 those fish as they appear, rather than just
11 guessing when they might be there based on time
12 and area type things as we do now.

13 Again, we're not doing that right now, but
14 the technology exists to do that, so...

15 Q And so that's a key point here, that selective
16 fishing is an ever-evolving management idea, just
17 a variety of different gears and techniques can be
18 utilized.

19 DR. HARGREAVES: Yes. Very much so. I think a big
20 challenge, and I think is to keep ahead with the
21 technology, so the technology provides -- as
22 technology improves, it provides all kinds of
23 opportunities and I think we've taken very little
24 advantage of that since about 2002.

25 Q And just so we're clear on the record that the
26 present approach with respect to the Cultus Lake
27 fishery, you said we use time and area. Perhaps
28 just clarify what we presently do, so we have that
29 on the record.

30 DR. HARGREAVES: Basically, from historical timing
31 curves, so we know basically when the fish arrive
32 at Cultus Lake, we back that up so we know when
33 they'll be in the main stem of the Fraser and when
34 they'll be in the marine approach areas, but
35 that's based on historical averages. We might be
36 able to vary that a little bit, but we could be
37 off by a week, two weeks, three weeks even in
38 terms of that timing. So we try to be
39 conservative, which means we shut down fisheries
40 probably earlier than we need to and don't open
41 them until later than we could if we actually knew
42 the exact timing of those fish coming through
43 their home river or home lake.

44 Q Thank you.

45 MR. CURRY: Just to add to that --

46 Q Sure.

47 MR. CURRY: -- just one quick thing. In addition to

1 that example, there is the possibility today that
2 exists and does exist that, for instance, if you
3 fish beyond the reach of the Cultus sockeye, so if
4 you're fishing in the Lower Fraser Canyon, once
5 those fish have split off and headed off to the
6 Cultus, then you're fishing stocks -- a different
7 array of stocks minus Cultus, so if you have a
8 restriction on Cultus, you then no longer have
9 that restriction once you're fishing further up
10 the river.

11 There may be other stocks that are of concern
12 now or into the future, but that's the type of
13 flexibility that one needs to look at the
14 different options that are available. They're not
15 -- they're not just -- there's many in essence to
16 look at and assess on an annual basis.

17 Q Thank you. Mr. Curry, for the benefit of the
18 commissioner, are there any safety issues that
19 should be raised with respect to selective fishing
20 techniques?

21 MR. CURRY: Basically, yes. That's one of the things
22 that, besides moving to a more conservation-based
23 selective responsible fishery, it needs to be
24 environmentally sound. It's got to be
25 economically sound, but also measures that you
26 implement need to be safe, as well, for the
27 harvester.

28 So an example I could use is, for instance,
29 if you're using a current brailer in a seine
30 fishery and you're out in Juan de Fuca Strait
31 where there's large swells and the boats are
32 moving around, that brailer is powered and hung
33 from the rigging and when it's raised up, there's,
34 although they try and control it, sometimes that
35 brailer can be swinging around and can be quite
36 dangerous.

37 So one of the innovative commercial fishermen
38 created a soft brailer which is basically a
39 brailer with a tube that's attached to the
40 vessel. And what this does is it raises the fish
41 in the water. They slide through a tube, onto a
42 sorting tray and it doesn't allow the brailer
43 then to be swinging around. So one has to be
44 thinking about the safety issues, as well.

45 And when we're looking at putting revival
46 tanks on all vessels, there's some commercial
47 gillnetters, for instance, that are very small, so

1 you have to be very cognizant of stability issues
2 if you're putting a several-gallon tank on the
3 side of the rail of a boat, it could have
4 stability issues. So those things have to be
5 taken into consideration in this, as well.

6 Q Thank you. This morning Mr. Curry spoke about the
7 importance of buy-in from various stakeholders and
8 I was wondering if, Dr. Hargreaves, you had any
9 comment on that theme?

10 DR. HARGREAVES: I agree with Gord's comments. I think
11 I would emphasize that if we had the best
12 selective fishing toolbox in the world, it won't
13 make any difference if the fishermen don't use it
14 properly. And no amount of enforcement can ensure
15 compliance with that.

16 So take an example of two fishing boats that
17 are equipped exactly the same way, they have all
18 the requirements that are required under the
19 Regulations and their licence conditions and so
20 on, they have revival tanks, they have the flow
21 rates and every thing else; if the CMP officer
22 comes aboard, everything looks to be fine. The
23 CMP officer goes back in his boat to the next boat
24 and behind them, the skipper basically says,
25 "Forget it. Don't worry about it. We're too
26 busy. Don't put the fish in the revival tank,"
27 or, "Leave the fish that's in there," if that is
28 the sort of attitude of the crew, then all of that
29 equipment is wasted. It won't achieve any sort of
30 benefit.

31 And we've seen that in the fleet. I've
32 actually personally seen that, where some --
33 they're in perfect compliance legally, but they're
34 not achieving the benefits that we wanted to see
35 from that equipment. And it's the buy-in from the
36 fleet. So if they don't agree - and this applies
37 to the recreational fishermen, as well. If they
38 are not -- if they have the right equipment, it
39 doesn't necessarily mean they'll use it in the way
40 that's appropriate and if they don't, we won't get
41 any conservation benefit from it.

42 Q Okay. And this morning we spoke, commission
43 counsel put before you Exhibit 441 which was the
44 audit of the Selective Fishing Program and I'd
45 like to ask Mr. Registrar to bring forward to
46 documents. It's Tab 3 from Canada's book of
47 documents. And I think, Mr. Curry, can you

1 comment on -- can you identify this document for
2 us? What is this document?

3 MR. CURRY: This document is, from what I recall, a
4 compilation of input from Fisheries and Oceans
5 staff with regards to the evaluation of the
6 Selective Fisheries Program that was taking place.
7 So there was, throughout this document, it
8 reflects where we might agree with the auditors or
9 where we disagree with the auditors and why.

10 MR. TIMBERG: All right. If this could be marked as
11 the next exhibit, please.

12 THE REGISTRAR: Exhibit 446.

13
14 EXHIBIT 446: Factual Validation and
15 Commentary on Audit and Evaluation Report -
16 November 2004 - Pacific Salmon Selective
17 Fisheries Program
18

19 MR. TIMBERG:

20 Q And if we could turn then to Tab 4 of the binder
21 and if you could identify this document, please,
22 Mr. Curry?

23 MR. CURRY: Yes. This document is a more specific one,
24 similar to the previous one but focused on
25 comments from conservation and protection, so the
26 fishery officers in Fisheries and Oceans had
27 specific comments with regards to the audit that
28 they wanted to provide, and that's what this
29 document reflects.

30 MR. TIMBERG: If this could be marked as the next
31 exhibit.

32 THE REGISTRAR: Four hundred and forty-seven.

33
34 EXHIBIT 447: C & P - Pacific Comments on
35 Draft Advisory Report - November 2004 -
36 Pacific Salmon Selective Fisheries Program
37 Evaluation
38

39 MR. TIMBERG:

40 Q And, Mr. Curry, is there anything you needed to
41 add from this morning with respect to your
42 consideration of that audit?

43 MR. CURRY: I think I've covered it. I think there was
44 criticisms that we had of it and felt that it
45 wasn't a fair assessment, and therefore we wanted
46 to express that and why we thought that on various
47 points and they're reflected in these documents.

1 MR. TIMBERG: Mr. Commissioner, I have no further
2 questions.

3 MR. MARTLAND: Mr. Commissioner, I'm just going to
4 identify for the benefit of all counsel, on my
5 math, we have about an hour and 45 minutes but
6 that's to include a break. We have seven
7 participants who have sought -- who want to cross-
8 examine. On a pure equitable basis, that's 15
9 minutes apiece. Some counsel have asked for
10 significantly more than 15 minutes. I think what
11 we should do is to our level best start and I'll
12 appreciate any counsel who can go well under ten
13 or 15 minutes. That would be great.

14 The first counsel is the province. Thank
15 you.

16 MR. TYZUK: Commissioner, for the record Boris Tyzuk,
17 T-y-z-u-k, for the Province of British Columbia.
18

19 CROSS-EXAMINATION BY MR. TYZUK:
20

21 Q Mr. Curry, at the end of your testimony this
22 morning, you were mentioning that there were
23 various techniques that could be used for
24 selective fishing and you referred, I think, just
25 at the end to the Area G troll -- Area E gillnet
26 and then you made a comment that other techniques
27 could be used for Fraser River steelhead. Could
28 you expand on that, please?

29 MR. CURRY: Absolutely. One of the tools in the
30 toolbox with regards to steelhead is that through
31 past research we know that steelhead swim in the
32 upper water column and quite often within a metre
33 or two of the surface of the ocean and/or river,
34 and therefore, one of the strategies that can be
35 employed, say if you have a chum gillnet fishery
36 in the Fraser River, for instance, or if you
37 happen to have an overlap with sockeye and
38 steelhead, but it's certainly applicable to chum,
39 you can use a weed line.

40 And a weed line is simply the gillnet floats
41 are on the surface of the water. The actual
42 capturing portion of the web is two, three, four
43 metres down from the surface, therefore allowing
44 for surface swimming steelhead to swim over the
45 capturing web, for the most part. Any, of course,
46 that are swimming lower could get caught, but then
47 they could be released using proper techniques.

1 So a weed line can be an effective means of
2 conserving steelhead.

3 Q Okay. So you're saying these could be, but at
4 present they aren't being used; is that...?

5 MR. CURRY: They're part of the toolbox, and it's up to
6 the managers and the harvesters to look at
7 implementing them effectively in order to respond
8 to that conservation issue.

9 Q So do you know if between 2002 and now those
10 techniques have been used?

11 MR. CURRY: I'm personally not aware of the weed lines
12 being used extensively, but I've been a little bit
13 away from some of the management of the Fraser
14 River in some of the other jobs that I've been in
15 since then.

16 Q Thank you. Dr. Hargreaves, when you were summing
17 up and saying what you felt like -- what I got out
18 of it, and I have a scribble in my notes, so I
19 have to go back and check, was that you felt that,
20 as I saw it, selective fisheries were critical to
21 the future of fishing on the West Coast and the
22 Fraser River sockeye. And one of the things you
23 mentioned was MSC certification. Would you expand
24 on that, please?

25 DR. HARGREAVES: Yes. The MSC certification is
26 something that's basically come along since the
27 2002 end of the CFAR program. To achieve MSC
28 certification, you have to go through a series of
29 steps and then there's basically an action plan
30 associated with that. I think certainly there are
31 conditions under the current certification for
32 Fraser sockeye, for example, conditions that apply
33 both to Sakinaw and Cultus sockeye, for example.
34 But there are certain conditions that have to be
35 met in order to maintain that certification and I
36 see that -- those are only the two current
37 examples. As time goes forward and probably, in
38 all likelihood, there will be additional stocks
39 that have problems in terms of conservation, that
40 that -- the difficulty of maintaining that
41 certification will just grow, so...

42 Q And -- but if selective fishing were to be more of
43 a priority with the department, then there's a
44 chance to deal with those things?

45 DR. HARGREAVES: I think -- and it's not that it's not
46 a priority for the department. I think it is a
47 priority for the department. I think there's a

1 lot more work that could be done. We have to
2 figure out how to fund that, but I think selective
3 fishing is a very valuable tool to help us move
4 forward and meet those MSC certification
5 requirements.

6 Q Okay. And just on that point, the evidence that
7 we got this morning, as I saw it, is that there's
8 no program leader for selective fisheries right
9 now. There's no A-based funding. So yet you're
10 saying it's a priority. Is it fair to say it's
11 certainly not a high priority?

12 DR. HARGREAVES: No. I would take exception to that
13 interpretation too. If I use another example, the
14 Wild Salmon Policy, for example, we don't have
15 really dedicated funds to implement that and we
16 don't have specific regional lead for it either.
17 I think both of those would assist us. But with
18 selective fishing, as similar with Wild Salmon
19 Policy, it's part of our routine business. So we
20 are -- all of our fisheries managers are aware of
21 selective fishing. We need -- I think personally
22 we need to do a lot more. We need to make it more
23 visible.

24 Having a lead would probably help. I agree
25 with Gord on that but that doesn't mean
26 necessarily that we're not doing anything about
27 it.

28 Q And having A-based funding would help, as well.
29 DR. HARGREAVES: Funding is a very serious issue, and I
30 raise that again, because I think history has
31 shown us that without the funding, selective
32 fishing will not advance, so there was an
33 opportunity for the fleets to use TAC when that
34 option was available. When the DFO money ran out,
35 the interest in selective fishing disappeared
36 basically from all the fleets, and we've made very
37 little progress since then. So the funding issue
38 is critical. If we --

39 Q Okay.
40 DR. HARGREAVES: -- the *Larocque* decision prevents us
41 from doing that right now, is my interpretation of
42 that. In the new *Fisheries Act* the idea of using
43 TAC to support this type of activity, selective
44 fishing, was there. In the most recent revision
45 of the *Fisheries Act* that's gone again. So how do
46 we fund the development of selective fishing to
47 move forward is a critical question, I think.

1 MR. TYZUK: So without the funding -- all right. I'll
2 just leave it at that. Thank you very much. I
3 have no further questions.

4 MR. MARTLAND: Conservation Coalition, Mr. Harrison.

5 MR. HARRISON: Good afternoon. Mr. Commissioner, for
6 the record Judah Harrison, last name H-a-double-r-
7 i-s-o-n. I represent Conservation interests,
8 various not-for-profits and an individual focused
9 on conservation of salmon.

10

11 CROSS-EXAMINATION BY MR. HARRISON:

12

13 Q My first question, Mr. -- Dr. Hargreaves, excuse,
14 me, you were just talking about Wild Salmon Policy
15 and the role of selective fishing in meeting the
16 Wild Salmon Policy and MSC, as well. Originally I
17 was going to ask whether selective fishing is a
18 good tool to meet the goals of the Wild Salmon
19 Policy, but I'd like to actually flip that around
20 and ask in your view is it possible to meet the
21 goals of the Wild Salmon Policy absent a large
22 increase in selective fishing?

23 DR. HARGREAVES: Again, I would say that selective
24 fishing is a critical component of it. I think I
25 would be reluctant to say that we couldn't achieve
26 it without it. There are many ways to accomplish
27 different goals, I guess. I think the Wild Salmon
28 Policy is a very ambitious goal for the department
29 and for the managing the resource. I think
30 selective fishing is a very significant tool that
31 would help us to achieve that, but probably not
32 the only tool.

33 Q Okay. And then I guess specifically within the
34 Wild Salmon Policy, the protection of conservation
35 units as conservation units and the distinction
36 between various conservation units, would you
37 describe selective fishing as a very effective
38 tool to meet that particular goal of the Wild
39 Salmon Policy?

40 DR. HARGREAVES: You're posing difficult questions
41 here.

42 Q Thank you.

43 DR. HARGREAVES: For sockeye, most of the conservation
44 units or virtually all of them are single stocks
45 in single lakes. In a mixed stock fishery in the
46 marine approach areas, it's very difficult to sort
47 that out. Selective fishing is not -- the current

1 methods of selective fishing do not help us very
2 much in that situation. You can't -- it's very
3 difficult for a fisherman, impossible basically
4 for a fisherman to distinguish a Cultus Lake
5 sockeye from a Harrison sockeye, or some other
6 stock. So the basic sorting ability of selective
7 fishing is not very helpful.

8 But time and area component of targeting the
9 fishery is very powerful. We can use it to some
10 degree in the saltwater end. For example, if
11 we're sure that there are no -- based on run
12 timing, for example, that it's too early for
13 Cultus sockeye to show up, then we can prosecute
14 fisheries with very little danger to that
15 conservation unit. Or you can prosecute a fishery
16 at the terminal area, where Cultus have split off
17 to go into their river and up into their lake
18 where we're pretty sure that's the only group that
19 we're targeting on or protecting, as Gord said.
20 If you go further up the river, where it's highly
21 unlikely that Cultus sockeye would have travelled
22 that far upriver, they're past their normal
23 turnoff, then again, selective fishing can be very
24 useful in that circumstance.

25 Q Thank you. That's a really good segue into my
26 next question, which is for Mr. Curry. You
27 mentioned this morning terminal fisheries. I'd
28 like it if you could please expand upon that and
29 talk about it as -- among the suite of tools,
30 please.

31 MR. CURRY: Yes. Well, basically when you're dealing
32 with a mixed species fishery, as well as a mixed
33 stock fishery, as you move from the open ocean
34 mixed fisheries, and as you move towards the
35 spawning grounds you narrow the array of stocks or
36 species down so that you can then become more
37 selective as you get towards the terminal areas
38 or, in essence, once you're on the spawning
39 grounds, you're dealing with a stock of salmon and
40 often you can identify that species of salmon on
41 the spawning grounds. So that's the ultimate in
42 terms of being able to be very specific.

43 As you move back out to the ocean, it becomes
44 more and more difficult, but again, using the
45 tools that we've talked about and potential tools
46 in the future, you can have likely some greater
47 success with sorting stocks out. But certainly a

1 terminal, a purely terminal fishery does that. I
2 mean, it has its drawbacks in terms of the quality
3 of the fish and various things, but some species
4 are better -- are in a better condition in the
5 terminal area than others.

6 Q Okay. And are there any terminal fisheries in
7 B.C. or any significant -- are there significant
8 examples of terminal fisheries in B.C.?

9 MR. CURRY: Without a doubt. First Nations are living
10 and have been subsisting on fish taken from
11 terminal systems, rivers and so on, and that's
12 been one of the very strong strategies that
13 they've employed for many, many years to in
14 essence be selective before anybody coined the
15 term.

16 Q Okay. I think I'll pick up the pace, just given
17 Mr. Martland's warning. You referenced industry
18 buy-in on various occasions and then, Mr. Curry,
19 also throughout this morning you mentioned that
20 selective fishing requirements or just selective
21 fishing can be put as a condition of licence. And
22 my question is are there any aspects of selective
23 fishing that are currently mandatory?

24 MR. CURRY: Yes. There are mandatory requirements. An
25 example of that would be barbless hooks in the
26 recreational fishery, barbless hooks in the
27 commercial troll fishery. That's a blanket
28 requirement in those fisheries. Revival tanks on
29 all commercial vessels is a requirement.
30 Brailing on seine vessels is almost a blanket
31 requirement. We do take that off in situations
32 where we have a sufficiently terminal fishery that
33 isn't -- doesn't have any issues with bi-catch.
34 But the -- brailing is the standard and it's only
35 not used in a very small number of cases.

36 Q Okay. Thank you. With respect to industry buy-in
37 - this is a question for either one of you - is it
38 fair to say that there are certain commercial
39 fishermen who have bought into selective fishing;
40 that you cannot make the comment that industry-
41 wide, the commercial fishing industry does not buy
42 into selective fishing?

43 MR. CURRY: There are some very, very committed
44 individuals, committed to selective fishing and
45 looking for solutions. And some of the area
46 harvest committees that I've worked with have a
47 real strong component of individuals that want the

1 tools and ability to adjust their fisheries to be
2 able to solve some of these issues. There are
3 others that are not as strategic as those. That's
4 the nature of the array of opinions that are out
5 there.

6 Q And if either of you feels that it's fair to
7 comment on this, do either of you feel that you
8 can comment on potential peer pressure or an
9 industry -- how certain members of commercial
10 fisheries would treat other members of commercial
11 fisheries that adopt selective fishing or promote
12 selective fishing?

13 MR. CURRY: We've had discussions about peer pressure
14 as a tool to elicit buy-in to carrying out
15 selective fishing measures appropriately, and so
16 when I've met with commercial -- for instance,
17 commercial reps, that was one of the strategies is
18 looking at having the harvesters helping in that
19 process of policing or keeping an eye on their
20 counterparts to help in fostering a more
21 progressive climate.

22 Q And I guess I was asking with an interest in the
23 other way, i.e., if there are certain people who
24 adopt selective fishing have either of you had
25 experience where you've seen that they've been
26 subject to pressure from other members of
27 industry?

28 MR. CURRY: Yes. Very much. There's a report in here,
29 Making Cooperative Research Work, in the Canadian
30 set of documents, and I've laid out a scenario
31 that I presented at a conference up in Alaska and
32 basically, when you don't have buy-in from the
33 start from the harvesters it's very difficult then
34 to, you know, prove a selective fishing strategy
35 and then try to impose it upon a group of
36 harvesters. And we attempted that in essence with
37 the selective grids in seine bunts and ran into
38 some resistance to do the further testing that was
39 needed and acceptance of that very compelling
40 selective fishing tool. So there's certainly a
41 lot of pressure out there to resist change from
42 some sectors.

43 Q Yes?

44 DR. HARGREAVES: I would agree with Gord that there was
45 in some cases pretty strong resistance. I think
46 one of the outcomes from that was that when the
47 department agreed to let the area harvest

1 associations decide whether they would proceed
2 with using their TAC in their particular, you
3 know, the troll TAC or the seine TAC to proceed
4 with selective fishing almost in every case that
5 the answer was no, we won't do that. We'd rather
6 keep the TAC and not use it for selective fishing.
7 But I think the point I'd like to make though is
8 that I think this -- there are a number of people,
9 quite a large number of people in all the fleets,
10 First Nations especially, recreational and
11 commercial, who are very interested in supporting
12 selective fishing given the opportunity, I think,
13 and given the funding to do so, and I think it has
14 huge potential benefits. For example - that Gord
15 just used - the selective bunts, I think if we had
16 pursued that vigorously over the last few years,
17 we'd be in a very different position this year,
18 where we've got a huge -- probably a near record
19 number of pink salmon coming back that we're going
20 to want to harvest. At the same time, we're going
21 to have a relatively low return on sockeye,
22 presumably, and we're going to have a very
23 difficult time harvesting those pinks and
24 conserving the sockeye. There will be huge
25 pressure on the department to do that.

26 If we had pursued the selective fishing in
27 the escape grids, we would now be in a position
28 where we could selectively harvest pinks with
29 almost no impact on the sockeye. I'm convinced of
30 that. We didn't do that, so that -- the TAC that
31 could have been used for that wasn't used. The
32 department didn't provide money for that. So now
33 we're in a position of making very difficult
34 decisions, both in terms of missing harvests and
35 also achieving conservation of sockeye, because we
36 didn't make that investment. So there is a price
37 to pay for it.

38 Q Okay. Thank you. My last line of questioning,
39 Mr. Lunn, can you please bring up Exhibit 441?
40 This is the audit that was discussed by Mr.
41 Timberg and Mr. Martland earlier. Particularly
42 interested in page 12 of the actual document. I'm
43 not sure PDF page. Not that. Yeah. Right there
44 is great.

45 As part of the audit it referenced, I mean,
46 if you look under the bold heading "Were
47 Monitoring and Enforcement Activities Effective?"

1 the first line says:
2

3 Monitoring was not sufficient to identify in
4 a timely manner...
5

6 And you could read that. I'll give you some time
7 to read it.

8 My question relates to monitoring generally
9 in the salmon fishery. I wonder if you could
10 comment on monitoring generally in the salmon
11 fishery, and perhaps compare monitoring
12 requirements in the salmon fishery versus
13 monitoring requirements in the halibut fishery.

14 MR. CURRY: Very generally, where we're headed through
15 the Selective Fisheries Program is to look at
16 monitoring fisheries more precisely, so that we
17 have a better handle on not only catches, but all
18 the other bi-catch impacts, et cetera, et cetera,
19 that go with it, and monitoring the compliance of
20 the fisheries. So we have been through the
21 Selective Fisheries Program in salmon have been
22 exploring electronic monitoring, for instance, and
23 use of cameras and those types of things from a
24 selective fishing perspective has been part of the
25 cadre of things that we've tested.

26 That type of monitoring gear is in existence
27 in the ground fish fisheries like the halibut
28 fisheries, so they've hit a level of monitoring
29 that is different and that goes hand-in-hand with
30 quota type fisheries or they -- you basically have
31 to have a very good accounting system because
32 everyone has a particular share and they want to
33 make sure that they got their share and everybody
34 else didn't go over on theirs so you've got to
35 monitor very, very tightly and very closely. And
36 if salmon were to go to complete defined shares,
37 you'd have to have monitoring that is similar to
38 that, to that level of monitoring and obviously,
39 you have to find a way of making it affordable.

40 Q Okay. And the last related question is DFO
41 employees get their numbers from monitoring from
42 the commercial fisheries. In general, how much
43 confidence could you say as a DFO employee you had
44 in the numbers that you received from the
45 commercial fishery? And again, I think it would
46 be useful to compare halibut and salmon, i.e., one
47 that has a camera and an on-board monitor versus

1 one that does not.

2 MR. CURRY: Well, I would say that it depends on the
3 salmon fishery. I mean, for instance, we have the
4 gulf trollers that -- which is Area H. They've
5 been exploring share-based fish -- yes, share-
6 based fisheries or defined share fisheries since
7 2002. And so their fisheries currently have a lot
8 of these strategies like a halibut fishery built
9 into their fishery, where they have observers,
10 they have dockside landing, and so that has
11 brought that fishery up to the scale that it
12 competes with the halibut fishery. There's others
13 that don't have that level of monitoring and
14 compliance around the catch and information. But
15 DFO does its part in doing as much as we can to,
16 you know, have observers within the fisheries and
17 have systems and strategies so that we have very
18 good confidence in the catches that we're getting.
19 But obviously, the -- where we have defined
20 shares, it's a much more reliable set of
21 information that's coming in.

22 MR. HARRISON: That's great. Those are my questions.
23 Thank you.

24 MR. MARTLAND: I have next Mr. Rosenbloom.

25 MR. ROSENBLOOM: Thank you very much. My name is Don
26 Rosenbloom. I represent Area B Seiner/Area D
27 Gillnet.

28
29 CROSS-EXAMINATION BY MR. ROSENBLOOM:

30
31 Q I appreciate you answering my questions. One of
32 the recurring themes of my cross-examination
33 throughout this inquiry relates to funding issues
34 within DFO. And particularly today we're focused
35 on funding issues as they relate to selective
36 fishing program and Dr. Hargreaves, in particular,
37 you have said some very strong words and I don't
38 fault you for it whatsoever, but speaking of the
39 consequence of ignoring this aspect of scientific
40 investigation relating to selective fisheries, you
41 have put us into the perspective of recognizing
42 between 1998 and 2002 that there was this active
43 program. You have then documented to us, as I
44 understand your testimony that that program passed
45 away or was put into abeyance because of various
46 issues. I so far have summarized generally some
47 of your comments that you've made at this inquiry

1 today?

2 DR. HARGREAVES: The active pursuit of selective
3 fishing ended in 2002 with the end of the CFAR
4 program, yes.

5 Q Yes. You have said, and I took down your words, I
6 believe, that you said in part today, this
7 morning, that frankly, if this program isn't given
8 more attention and resuscitated - these are my
9 words, not yours - that there might not be any
10 fishing or will not be any fishing. You did say
11 that, did you not?

12 DR. HARGREAVES: Yes.

13 Q So you feel very, very strongly that obviously,
14 this whole initiative is a critical initiative in
15 terms of the management and harvest of the future
16 fishery of this province; is that correct?

17 DR. HARGREAVES: Yes, I do. And I should clarify that
18 the no fishing, basically I'm thinking of the
19 marine approach areas. I mean, there will always
20 be opportunities to fish in the terminal areas, of
21 course, but the fisheries would be very different
22 from what we see today.

23 Q I appreciate that. Now, recognizing your strong
24 belief in the testimony you have given, I'd like
25 to focus on the anatomy of how this has come
26 about, that DFO abandons this program in 2002 and
27 up to this moment we don't have favourable
28 announcement from anybody within DFO that we're on
29 the cusp of reviving this program and getting the
30 selective fishing program back on the rails. My
31 question to you is this, if you feel as strongly
32 as you have testified that this program is so
33 critical, what is going on within DFO that the
34 program is not being pursued in terms of treasury
35 board being properly funded, if it can't be funded
36 through the five percent TAC and the **Larocque**
37 decision, who is fighting the battles to ensure
38 that the treasury board recognizes how critical
39 this is to a public resource?

40 DR. HARGREAVES: Well, I think the short answer to that
41 is the Government of Canada has many, many
42 priorities, the strongest one being right now the
43 Economic Action Plan. And we -- the Government of
44 Canada committed \$400 million to the Selective
45 CFAR Program, including the vessel buy-back
46 component of it, so there was a huge commitment of
47 funding by the government and there's an ongoing

1 commitment in terms of supporting selective
2 fishing measures in the fisheries, but at some
3 point, you know, again I'll be blunt, I think
4 industry has to take some ownership of this and
5 invest themselves, and we haven't seen that.

6 Q Okay. Well, let's put that aside for a moment. I
7 first want to focus - I'm happy to come back to
8 that and deal with it in terms of questioning you,
9 but dealing with that Government of Canada's
10 responsibilities, in other words, DFO's
11 responsibilities, you do recognize that DFO has a
12 financial responsibility to invest in this
13 selective fishing program; do you not?

14 DR. HARGREAVES: Yes. Among many other priorities,
15 yes.

16 Q Yes. Among many other priorities. But from
17 hearing your testimony today, you clearly consider
18 this to be truly one of the highest priorities
19 that DFO should have on their priority list?

20 DR. HARGREAVES: No. I think -- I believe that this is
21 a significant tool in the toolbox for managing and
22 conserving salmon. I believe for other things,
23 for example, the Wild Salmon Policy, is extremely
24 important too, to conserve and manage salmon
25 properly. So selective fishing is just one of
26 many things that we need to fund.

27 Q But you would agree with me, yes, maybe it's one
28 of many, but it appears to be one, according to
29 your testimony, that there will be a calamity if
30 it isn't pursued and properly funded, that is
31 there will be no marine fishery.

32 DR. HARGREAVES: Well, I'm looking forward, as a
33 scientist, and what I see is more and more and
34 more constraints being put on as we move
35 particularly towards the conservation unit
36 strategy under Wild Salmon Policy, that right now
37 we are still managing in basically a traditional
38 sense of we have fisheries that are operating on
39 aggregates of CUs. So we're not operating a
40 fishery on a particular CU. We're basically
41 saying there's a group of conservation units of
42 different stocks that are coming through, four
43 main aggregates in the Fraser River, for example,
44 that have a whole bunch of different conservation
45 units within it.

46 And as we go down the path that I see, which
47 is more and more issues around the conservation of

1 different CUs, it's going to become more and more
2 difficult for us to manage in that traditional
3 way. Selective fishing can bridge that gap and
4 maybe even solve it.

5 Q Well, I want to come back to this issue of whether
6 DFO in its budgetary proposals to treasury board
7 has been asking from 2002 to the present for
8 funding to carry on with the program in selective
9 fishing that commenced in '98 and carried on till
10 2002?

11 DR. HARGREAVES: Not to my knowledge.

12 MR. MARTLAND: Mr. Commissioner, I'm just going to --
13 I'm not trying to infringe on these lines of
14 questions. I just do want to clarify. I'm not
15 sure to what extent these are witnesses that can
16 speak to the overall picture of treasury board
17 funding and it may be more fair to the witnesses
18 to frame that as a question in terms of their
19 understanding or whether to ask if they have that
20 knowledge.

21 MR. ROSENBLOOM:

22 Q Well, I assumed that was built into the question.
23 Your understanding. I'm not asking for anything
24 but your understanding. Because of your
25 prominence, sir, Dr. Hargreaves, with this
26 particular program, I'm asking from your personal
27 knowledge to what extent has DFO been in their
28 budget asking for proper funding for this program
29 and can I assume that it was turned down by
30 treasury board if it was pursued by DFO?

31 DR. HARGREAVES: To my knowledge, there was no specific
32 request to treasury board for additional funding
33 for the CFRA program.

34 Q Well, you say additional funding. I guess what
35 I'm really asking is year to year, as DFO proposes
36 its budget and goes through the usual levels of
37 scrutiny of the budget before it goes to treasury
38 board, my question is has DFO since 2002 been
39 requesting in its budget that there be proper
40 funding for the selective fishing program?

41 DR. HARGREAVES: No, not to my knowledge. My
42 understanding is that the decision was that the
43 five percent TAC would be sufficient to continue
44 this selective fishing initiative, so...

45 Q But do I understand this correctly - please
46 correct me if I'm wrong - that that's totally
47 unsatisfactory option in light of the **Larocque**

- 1 decision?
- 2 DR. HARGREAVES: Yes. But that came quite a bit later,
3 so...
- 4 Q Yes. But the **Larocque** decision was what year,
5 sir, approximately?
- 6 DR. HARGREAVES: I don't remember the date of it.
- 7 Q '07, yes.
- 8 DR. HARGREAVES: '07.
- 9 Q 2007. So --
- 10 DR. HARGREAVES: So five years after CFAR.
- 11 Q Okay. Fair enough. But let's even focus on 2007
12 until today, 2011, has DFO been asking for a line
13 item in their budget which would cover the
14 implementation of continuation of the program for
15 selective fishing of -- up to 2002?
- 16 DR. HARGREAVES: Not to my knowledge.
- 17 Q Okay. Can you explain why? I'm not faulting you
18 for it, sir, believe me, but can you explain to
19 this commission why, if it is as critical as you
20 have stated it to be, DFO is not asking treasury
21 board for funding for this program? Do you have
22 any idea?
- 23 DR. HARGREAVES: Well, it may be that I'm wrong. Maybe
24 it's not so critical.
- 25 Q But, sir, in reading your credentials as they
26 being as impressive as they are and as you have
27 been a -- if I may call it, a specialist within
28 this area, your opinion would carry some weight
29 within DFO, would it not?
- 30 DR. HARGREAVES: I think it has some weight, but I
31 think, again, the government has many, many
32 different priorities, so there's only so much
33 money and there's only so much things that we can
34 do. So it's a capacity issue, as much as
35 anything.
- 36 Q Do you believe that within the senior managers of
37 DFO in the region that they do not subscribe to
38 your opinions as to the importance of this
39 program?
- 40 DR. HARGREAVES: No. I believe senior management
41 understands the importance of it. They may not be
42 as enthusiastic about it as I am.
- 43 Q And you would agree with me, and I think you've
44 sort of said this already during your testimony,
45 that with the implementation of the WSP, selective
46 fishing becomes a more and more urgent matter to
47 be refined and in a state to implement; do you

1 agree?

2 DR. HARGREAVES: Yes.

3 Q And yet nothing is being done?

4 DR. HARGREAVES: Less is being done than I would like
5 to see personally.

6 Q Well, you've really testified nothing has been
7 done to speak of, hasn't it, since 2002?

8 DR. HARGREAVES: No, that is not correct actually. I
9 did indicate there are experiments that are still
10 going on, for example, the use of beach seines in
11 the river by First Nations, so there are some
12 efforts. We had a request by an independent
13 fisherman to try tangle nets again this year in
14 the Fraser River. So there is still an interest
15 out there and I think there's an interest in the
16 department in pursuing it amongst all the other
17 priorities.

18 Q And you would agree with me further, sir, would
19 you not, that in the event that DFO continues in
20 its current direction of failing to fund this
21 program and resuscitate it from 2002, that the
22 real victims of such a situation would be the
23 commercial harvesters, because there will simply
24 be closures of fisheries which otherwise might not
25 be closed if there was a selective fishery; do you
26 agree with that?

27 DR. HARGREAVES: Yes. I think there will be a price to
28 pay there. I think that the conservation of the
29 resource is also another potential victim --

30 Q Yes.

31 DR. HARGREAVES: -- of this, yes.

32 Q And I was intrigued with your comments, Dr.
33 Hargreaves, this afternoon, I think, where you
34 were speaking of technologies that are now
35 available to all of us that at least are
36 encouraging in terms of what could be done if you
37 had -- if one had the funds and if I heard you
38 correctly, you were speaking of Cultus Lake
39 tagging program that you imagined and I may have
40 misunderstood your testimony, but that you foresaw
41 that current technology could offer a tagging
42 system wherein there could be a more effective
43 fishery with less closure because there would be
44 confidence of the managers that Cultus Lake stock
45 were not being affected during their run. Did I
46 understand you correctly?

47 DR. HARGREAVES: Yes.

1 Q Okay. And that is something that is within our
2 grasp today. The technology is there and you've
3 said that, haven't you?

4 DR. HARGREAVES: Yes.

5 Q Why hasn't that been done if Cultus Lake is as
6 critical as we learn it to be during this inquiry?

7 DR. HARGREAVES: Well, I use that as an example. I
8 think the first example I gave was the real time
9 DNA testing, which is not currently possible. I
10 think the technology exists, but the application
11 is not quite ready yet or it would be very
12 expensive. I think the tagging one exists because
13 in the last few years, we've actually been using
14 the POST system which is the Pacific Ocean
15 Tracking Array, where we have tagged - again, this
16 is a component of the run, larger sockeye from
17 Chilko, for example, tracked them out of the
18 Fraser River to see where they're dying along the
19 way and then tracked them coming back into the
20 river. So again, it's a very expensive program to
21 maintain the marine arrays out to the ends of the
22 Vancouver Island and so on, but it's possible.
23 And as the technology improves and the prices come
24 down, it may become a management tool.

25 Q And it's not being done today in part because
26 there isn't money?

27 DR. HARGREAVES: It's partly money, but also because
28 improving the technology itself, so this is
29 relatively new technology and we're now still in
30 the trial phases of that, so... But it's much
31 closer to implementation than, say, real time DNA.

32 Q Yes. And you said something that intrigued me in
33 your will-say and I'm not putting it in front of
34 you - I think you'll remember - about the future
35 of DNA testing right on boats, individual boats as
36 I understand it. How far off are we from maybe
37 realizing that technology to be applied?

38 DR. HARGREAVES: Well, the last time I did a Google
39 search on the internet, there were three different
40 companies that were offering hand-held DNA
41 testers.

42 Q No kidding. And --

43 DR. HARGREAVES: None of them work, I understand --

44 Q -- let me ask -- pardon me?

45 DR. HARGREAVES: None of them work, as I understand it
46 when I investigated it further, but we're getting
47 much closer.

1 Q And one would assume, would they, that first
2 generation of such units will be very, very
3 costly?

4 DR. HARGREAVES: Yes, I'm sure.

5 Q And just without taking up too, too much time in
6 this inquiry, but it's an important point in terms
7 of the future, would these units operate as you
8 imagine it where you wouldn't need a technologist
9 on board? This would be done by the harvesters?

10 DR. HARGREAVES: In my vision of the world ten years
11 from now or 15 years from now, there will be --
12 we've, as part of the selective fishing program
13 we've demonstrated you can sort fish in the water,
14 so a seine, for example, would catch a large
15 number of fish. You would bring the unit up to
16 it. The fish would go through it and it would
17 either be deflected into the keep part of the net
18 or released, and it would be based on DNA. That's
19 my vision of the future. In which case our
20 conservation concerns pretty much go away.

21 Q Because you wouldn't have a mortality issue with
22 the fish?

23 DR. HARGREAVES: Yeah. In terms of selective fishing,
24 you're now, even if you haven't avoided them by
25 time and area, for example, from the tagging thing
26 that we just talked about, in this case you can
27 actually catch the fish and release it without
28 being touched basically.

29 Q But we're a little ways off from that.

30 DR. HARGREAVES: Yes.

31 MR. ROSENBLOOM: In a document that is -- has been
32 provided to us and I don't think it's an exhibit
33 and I want to have my -- commission counsel's
34 assistance in this regard. It is a document which
35 is number 9, a briefing note to the minister and
36 it's number 9 on what I believe is the
37 commission's list.

38 MR. MARTLAND: Mr. Commissioner, I think this is -- I
39 think Mr. Rosenbloom may have a list that's
40 different than our list of exhibits. It's not
41 something that's immediately accessible, so
42 perhaps we can -- it has a Ringtail number we can
43 provide.

44 MR. ROSENBLOOM: Yes. We're Ringtail number 001787.
45 Let me first try to do this with you, Dr.
46 Hargreaves, without even referring to the
47 document, but if at any time you're uncomfortable

1 and you want to see the document, it's fine.
2 Q There's a briefing note to the minister in the
3 year --
4 MR. TIMBERG: Mr. Commissioner, I'm just wondering if
5 the witnesses have seen this document before.
6 DR. HARGREAVES: I don't know what we're referring to.
7 MR. ROSENBLOOM: I'm assuming -- have the witnesses not
8 seen all the documents (indiscernible - away from
9 microphone). Well, may I be permitted to do it
10 the old way by at least showing the witnesses
11 document and seeing if you're familiar with it?
12 Q And I'm just focused on one paragraph. This is a
13 document briefing note to the minister. It
14 appears to be the year 2000 and it is signed by
15 you, sir. I appreciate obviously you haven't seen
16 this document for 11 years probably. Are you --
17 generally do you agree it appears to be a document
18 under your signature?
19 DR. HARGREAVES: Yes. Yes. The timing is right. I
20 don't remember the document.
21 Q All right. I don't want to -- thank you. I don't
22 want to take a lot of time. I want to focus on
23 just one sentence in this document and invite you
24 to make comment. You say:
25
26 In the event --
27
28 This is back in 2000.
29
30 In the event the --
31
32 MR. TIMBERG: Mr. Commissioner, could the witness
33 perhaps be given a moment to review the document
34 before being taken to one sentence?
35 MR. ROSENBLOOM: I'm happy to do that. I will say,
36 Counsel, that I'm only referring to one little
37 paragraph here and asking a few questions on that,
38 but --
39 MR. TIMBERG: Take a moment --
40 MR. ROSENBLOOM: I don't think it's necessary --
41 MR. TIMBERG: -- to take a look at it.
42 MR. ROSENBLOOM: -- to read the whole document.
43 DR. HARGREAVES: If you have any questions for the
44 other witness here, you could proceed while I have
45 a look at this, if you like. Save time.
46 MR. ROSENBLOOM:
47 Q While you're looking at it, I'm simply asking you

1 a question on socioeconomic issues with that one
2 paragraph. I will not be asking about anything
3 else in the document.

4 MR. LUNN: Mr. Rosenbloom, what page are you looking
5 at?

6 MR. ROSENBLOOM: Sorry? It is -- I don't know. The
7 witness will be able to tell you in a moment.

8 Sorry. Oh, you're putting it up on the screen?

9 DR. HARGREAVES: Okay.

10 MR. ROSENBLOOM:

11 Q Okay. It is page 6 actually looks like page 0006
12 right at the bottom right-hand corner. And, sir,
13 all that I speak to - this was a briefing document
14 to the minister back in 2000 - the paragraph
15 second bullet to the bottom:

16
17 In the event the Fraser River sockeye return
18 is low, the impact of little or no commercial
19 fisheries for the third year in a row will
20 have extreme economic and social consequences
21 for the southern commercial fishing fleets.

22
23 My question is this: up until now, Dr.
24 Hargreaves, I have not heard any evidence about
25 socioeconomic impacts to the commercial fleet from
26 a poor fishery or no fishery. Upon what basis did
27 you make that comment? What are the consequences
28 as you see them being as experienced as you are
29 with DFO to the communities when they're -- and
30 what are the socioeconomic impacts of no fishery?

31 DR. HARGREAVES: Well, that -- if I read that -- the
32 glance that I've had at that document was
33 basically providing advice on both the outlook of
34 the salmon stocks, a variety of different stocks
35 and species for that year, and also what the
36 various harvest management measures might be and
37 opportunities might be, so that statement was
38 basically recognizing that if we had three years
39 in a row of very low fishing opportunities that
40 would have extreme social and economic
41 consequences.

42 Q And what are they?

43 DR. HARGREAVES: Unemployment, people can't make
44 payments on their boats, processors can't maintain
45 their staff and their facilities. I mean, all of
46 those things have happened since this period, so
47 we've had processing plants close, we've had

1 people lose their boats because they can't make
2 the payments any more. You know, they can't
3 maintain the payments on their houses. So it has
4 extreme social and economic --

5 Q Thank you.

6 DR. HARGREAVES: -- consequences.

7 MR. ROSENBLOOM: Thank you. I wondered if it's
8 appropriate to have this document marked as an
9 exhibit? Thank you.

10 THE REGISTRAR: Exhibit number 448.

11

12 EXHIBIT 448: Briefing Note for the Minister
13 - prepared by Brent Hargreaves 2000
14

15 MR. ROSENBLOOM:

16 Q My last area of examination again with you, Dr.
17 Hargreaves - I'm sorry to ignore you, Mr. Curry -
18 relates to -- in fact, possibly, Mr. Curry, you do
19 have some information to provide here. I'm
20 informed of the following from my clients: that
21 the American fleet that are catching Fraser River
22 sockeye under the treaty and I believe under the
23 treaty that they have an entitlement to -- excuse
24 me, I'm just looking at the figures. Maybe you
25 can tell me just offhand under the treaty what is
26 the percentage of their take -- is 13 percent or
27 -- I'm sorry, I'm not sure. Do you remember what
28 it is?

29 MR. CURRY: I believe it's 16 percent, but my
30 information might be --

31 Q Yes.

32 MR. CURRY: -- a little out of date.

33 Q Give or take. I'm told that the American fleet do
34 not have to braille and sort their fish because
35 they're not under the same restrictions as the
36 Canadian fleet in respect to the selective fishing
37 initiatives that you have previously spoken about.
38 Do you know anything about that?

39 DR. HARGREAVES: No, I'm not really familiar with the
40 specific requirements for different fisheries and
41 I know those vary by year and by area, as well,
42 so...

43 Q Okay. And Mr. Curry, do you have anything to add?

44 MR. CURRY: I've -- same comment. I don't have
45 sufficient knowledge of the details of their
46 fishery to be able to comment on that.

47 Q I'm further informed, and again, if either of you

1 have input, please speak up, that under the
2 rebuilding strategy, the maximum allowed mortality
3 on the Fraser coho is 13 percent and the U.S. gets
4 ten percent and Canada gets only three percent;
5 you do -- Mr. Curry, you're saying you're in the
6 affirmative on that?

7 MR. CURRY: Yes. Basically, within Canada we stick to
8 an overall mortality on Thompson coho of three
9 percent. The U.S. has impacts that are somewhere
10 around ten percent or less in any particular year.
11 But, you know, so we've managed fisheries within
12 Canada within that three percent since the coho
13 crisis in 1998.

14 Q Now, we're talking about treaty provisions and
15 this commission probably can't make any difference
16 to what is embodied within a treaty, but could you
17 explain to me the inconsistency that the Canadian
18 fleet is so restricted to a three percent
19 mortality on the coho whereas the Americans
20 catching the same fish have a ten percent leeway?

21 MR. CURRY: Myself, it wouldn't be appropriate for me
22 to comment on that because I'm not involved in
23 those negotiations to be able to answer that
24 effectively. I don't know whether Dr. Hargreaves
25 has more information on that with his involvement.

26 Q You don't? You would agree with me there's
27 clearly an inconsistency there? It's not
28 rational, is it?

29 MR. CURRY: There's a perceived inconsistency there,
30 yes.

31 Q And in fact, an inconsistency that leads to a
32 prejudice to the coho stock?

33 MR. CURRY: Well, there's -- there's levels of
34 conservation where some researchers believe that
35 if you're impacting a stock by 15 or 20 percent,
36 that that 15 or 20 percent may not be critical to
37 the survival of that stock. It may have an effect
38 on its rate of recovery. So a rate of 13 percent
39 in total is still quite a low impact and in
40 Canada, holding it to three percent has been --
41 has involved a tremendous amount of work, a lot of
42 it attributed to selective fishing strategies in
43 order to keep our impacts low enough so that we
44 can wait for the environment to turn around and
45 for these stocks to rebuild.

46 Q And you would agree with me, would you not, that
47 the three percent applied to the Canadian fleet is

1 three percent across all their fisheries from pink
2 to all the species of salmon as opposed to the
3 Americans, where of course the treaty only speaks
4 to sockeye?

5 MR. CURRY: We're talking about all fisheries, all
6 fishing sectors within the Pacific Region, with a
7 total impact of three percent.

8 Q And with the Americans, it's a ten percent solely
9 on the sockeye salmon. That's all they're fishing
10 of the Fraser.

11 MR. CURRY: Again, I'm not confident enough to be able
12 to respond on the American conditions.

13 Q Lastly, I'll be just three or four minutes at the
14 most. There has been discussion about seiner nets
15 and new form of seiner nets that cause less
16 chafing to the fish and lead to a higher survival.
17 I'm led to believe that the cost of purchasing
18 such a net, if such a program was implemented, is
19 somewhere in the range of five to \$10,000 per
20 boat, per net. Do you have any information to
21 bring to this proceeding?

22 DR. HARGREAVES: I think that's in the ballpark. My
23 estimate, I think, was around \$10,000 per net.

24 Q Yes.

25 DR. HARGREAVES: That's to replace just the bunt
26 portion of the net, which is the final catching
27 portion of the net.

28 Q Yes. And if this program were to be implemented
29 to the best of your knowledge, DFO would be
30 looking to each individual fisher to obviously
31 fund the purchase of such a net?

32 DR. HARGREAVES: Possibly. One of the things that we
33 had considered is the possibility of asking the
34 fleet -- or allowing the fleet to only use one net
35 instead of two, so right now we have two different
36 kinds of seine nets that are used in different
37 areas and by possibly going to just one, that that
38 could be a saving that would offset the cost of
39 the new net.

40 Q And you'd agree with me that where -- when you are
41 asking individual fishers to make sacrifices and
42 sometimes selective fishing does require
43 sacrifices, you would agree with that, would you
44 not?

45 DR. HARGREAVES: Sacrifices in what way?

46 Q For example, having to fish slower, having a
47 slower harvest because you're being careful about

1 what you take and what you don't take. That's a
2 sacrifice, isn't it?

3 DR. HARGREAVES: Why would that be a sacrifice?

4 Q Well, Mr. Curry seems to be nodding in the
5 affirmative. Do you agree?

6 MR. CURRY: It depends on your definition of a
7 sacrifice. Certainly if carrying out these
8 measures means that they have access to a fishery
9 that they otherwise wouldn't, would it then be a
10 sacrifice?

11 Q No, I appreciate that. But I'm speaking of the
12 immediate moment of carrying out some of the
13 selective fishing, that it can be a sacrifice in
14 the sense that unless you're in an ITQ fishery,
15 you're obviously going to be slower in harvesting
16 your fish, correct?

17 MR. CURRY: You're going to be slower but you may be
18 afforded the opportunity to catch all of your
19 fish, as opposed to a derby fishery, which is a
20 little bit of a gamble, especially for a manager
21 in terms of how many fish are going to be caught.
22 So certainly with a defined share fishery, you
23 have that ability to manage more effectively and
24 provide sufficient time for harvesters to be able
25 to catch their -- the amount of fish while also
26 implementing these other strategies.

27 And the other thing that hasn't been looked
28 at effectively is the harvesters and DFO teaming
29 up to look at what's an effective strategy to
30 assist the harvesters in implementing this gear.
31 Are there funding strategies that could be used
32 and, you know, such as Dr. Hargreaves has
33 mentioned, can we go to one net on this coast
34 instead of two? Those types of things have yet to
35 be fully explored to team up and look at viable
36 solutions that can allow for the advancement of
37 selective fishing without it being a hardship on
38 the harvesters.

39 Q Yes. But when I was speaking of sacrifices or
40 hardship - I'm happy to adopt that word - in a
41 non-ITQ fishery, what is a derby fishery,
42 obviously it's a slower harvest when you are
43 applying selective fishing programs, right?
44 Obviously.

45 MR. CURRY: Not necessarily.

46 Q Really?

47 MR. CURRY: If you're -- for instance, if you're using

1 a seine net with grids in it and you're able to
2 sort these fish -- for instance, First Nations
3 when they're wanting to harvest sockeye in
4 Johnstone Straits, in a year like we have coming
5 up where there's going to be a lot of pink salmon
6 around, they have an issue with the number of pink
7 salmon that they would catch when they're trying
8 to get their sockeye. So here's a strategy
9 whereby they could sort in the water and not by
10 hand or from the deck of the vessel, turning over
11 20,000 pinks back into the water in order to get
12 their sockeye.

13 This is a method that they could use in the
14 water and therefore, it could save them time. It
15 could be a benefit in a lot of ways, as well as
16 the quality of those fish would likely be better,
17 as well. So there are -- there are certainly
18 trade-offs and it's not necessarily always a
19 hardship. There's benefits that offset that, as
20 well.

21 Q Yes. And my clients will be speaking to this in
22 testimony tomorrow, but would you agree with me in
23 terms of buying into the selective fishing
24 program, that the more the benefits are
25 identifiable and discernible to each individual
26 fisher, the more likely there's going to be buy-
27 in?

28 MR. CURRY: Yes. One of the examples we used during
29 the Selective Fisheries Program was up in the
30 Skeena river with the seine fishery that after
31 July 18th we allowed the fishery to continue with
32 the seine fleet because they were more selective
33 than gillnet gear and --

34 Q Yes.

35 MR. CURRY: -- they ended up because of using selective
36 fishing strategies, catching an additional one
37 million sockeye as a result. So there's examples
38 like that and highlighting those types of examples
39 are helpful for generating that buy-in.

40 Q Yes. And so you see a more optimistic future in
41 terms of selective fishing if DFO can implement a
42 program that has those discernible benefits,
43 they're manifested to each individual fisher,
44 correct?

45 MR. CURRY: Those benefits are being manifested, but I
46 think we certainly could do a better job of
47 recognizing where those selective fisheries are

1 allowing for access to the abundant species, and
2 so that everybody is clear on it, and the use of
3 standards within the fisheries certainly would
4 help that, as well.

5 MR. ROSENBLOOM: I thank you very much for answering my
6 questions, both of you. Thank you.

7 MR. MARTLAND: Mr. Commissioner, I note the time and
8 yet Dr. Hargreaves is not available tomorrow.
9 Now, I don't know as in point of practice whether
10 we're able to continue through without a break or
11 whether I might at least propose if we can move
12 out of sequence and have Mr. Harvey - I think he
13 wins the Polonius prize for brevity of time
14 estimates for his questions, so maybe if he's
15 next, that may let us see where we stand at that
16 point.

17 MR. HARVEY: I just want to deal with one matter that
18 Mr. Curry raised and that is the suggestion that
19 the ITQ model is a more favourable model in terms
20 of the Selective Fisheries Program.

21
22 CROSS-EXAMINATION BY MR. HARVEY:

23
24 Q First of all, Mr. Curry, just to be clear, the
25 various tools that you mentioned, brailleurs,
26 knotless bunts, revival boxes, et cetera, et
27 cetera, those are imposed by license conditions or
28 some other method, both on ITQ fisheries and non-
29 ITQ fisheries, are they not?

30 MR. CURRY: Yes, that's correct. We quite often test
31 ITQ-type fisheries. While a portion of the fleet
32 is a demonstration fishery around defined shares
33 and the rest of the fleet is in a derby-type
34 fishery, as we're moving through a transition to
35 wherever we end up.

36 Q Yeah, all right. In other words, ITQs have no
37 bearing on the use of those tools. They would be
38 used regardless.

39 MR. CURRY: We would require that they be used
40 regardless but the issue is the time and the buy-
41 in to do it. When a fisherman is pressured by
42 time to catch as many fish as possible in a short
43 period of time, the more responsible requirements
44 of selective fishing go out the window to some
45 extent when you're in that time crunch. And we've
46 seen that. So with a quota-type fishery of some
47 type, whether it's a pool fishery or some other

1 form of defining shares, there's more time
2 involved, not a lot more time, but we have shown
3 with the fisheries that have been carried out in
4 -- demonstration fisheries that have been carried
5 out since 2003, 2002 actually, on defining shares,
6 has shown that the defined share-type fisheries
7 end up with somewhat more time in order to catch
8 their fish.

9 Q All right. Well, you said not a lot more time and
10 that's what I wanted to get to. In other words,
11 how significant is this? The main selective
12 fishery tool is time and area, of course, isn't
13 it?

14 MR. CURRY: That's one of the main --

15 Q Yes.

16 MR. CURRY: -- tools that --

17 Q Yes.

18 MR. CURRY: -- we've used prior to the Selective
19 Fisheries Program and will continue to use it,
20 yes.

21 Q Yes. And in fact, the time restrictions may
22 become so severe, as we've heard from Dr.
23 Hargreaves, that there may be no fishing at all
24 unless other means are found. So I want to put
25 this to you. Your comment with respect to the ITQ
26 model being more favourable in terms of
27 selectivity works better in a fishery that has the
28 luxury of time, such as the halibut fishery, which
29 can be spread out over most months of the year, as
30 opposed to the sockeye fishery, which is
31 compressed into a very short time period.
32 Correct?

33 MR. CURRY: I would say that there's still benefits
34 that are accrued within the salmon fishery. And I
35 would agree that, yes, in the halibut fishery you
36 have a longer period of time to work with and that
37 makes for the ability to work in the selective
38 strategies within the halibut fishery much easier
39 than in --

40 Q Yes.

41 MR. CURRY: -- a salmon fishery.

42 Q Yes.

43 MR. CURRY: But it's been shown that, through the work
44 that's been done, there is more time and that time
45 seems to be a significant factor within complying
46 with these measures.

47 Q All right. In the Fraser River sockeye fishery,

1 the managers and fishermen all are aware, are they
2 not, that the fishery will close when stocks of
3 concern arrive? Is that a fair generalization?
4 MR. CURRY: Yes, it is.
5 Q Yes.
6 MR. CURRY: And so we try and set the boundaries in
7 terms of timing of fisheries and so on in relation
8 to the stock make-up information that we receive
9 in-season to make those determinations in-season
10 to when we hit a critical limit or a critical
11 limit is relieved with dealing with stocks of
12 concern so --
13 Q Yes.
14 MR. CURRY: -- that we can either close or open a
15 fishery.
16 Q All right. And when the stocks of concern arrive
17 to the point that you have to close the fishery,
18 it is closed for ITQ fishery component as well, is
19 it not, even if the ITQs have not been caught?
20 MR. CURRY: It depends on where you're at with that
21 requirement. It might be that you still have a
22 bit of room to go and the risk to open up a non-IQ
23 fishery would be to grate and to allow a few boats
24 to continue on to catch a defined amount of fish
25 and, therefore, a defined impact. You may be able
26 to allow, and we have allowed, smaller impact
27 fisheries to continue to give them more time in
28 order to reach our allocations --
29 Q Yes.
30 MR. CURRY: -- while not going beyond our set
31 guidelines for a particular stock or concern.
32 Q All right. On the west coast of Vancouver Island,
33 you mentioned just briefly in passing how the
34 sockeye fishery is managed there when it is
35 available. Is this the general picture? Sampling
36 is done and then the fishery is opened in a way
37 that is tailored to the stocks that are there,
38 whether sockeye or chinook?
39 MR. CURRY: Yes.
40 Q Yes.
41 MR. CURRY: Stock assessment is absolutely key in
42 determining when and where you fish and what the
43 impacts of the mix of stocks that you're fishing
44 on, whether it's within the chinook stocks or
45 whether it's within the sockeye stocks.
46 Q Yes. And the fishery is basically tailored by
47 means of time and area, opening and gear, correct?

1 MR. CURRY: Yes, we have gear restrictions in place.
2 And then, for instance, if we're talking about
3 Area G, fishing on the west coast of Vancouver
4 Island, they are going to be the first fleet *per*
5 se that's going to touch, say, the Summer Run
6 sockeye, if that's the stock grouping that we're
7 fishing on, they would be the first ones to see
8 the abundance of those fish allowing for a
9 fishery, followed by fisheries in Johnstone Strait
10 and Juan de Fuca Strait --

11 Q Yes.

12 MR. CURRY: -- followed by the mouth of the Fraser
13 River, in the lower Fraser and then continuing to
14 move up the river.

15 Q Yes.

16 MR. CURRY: So these fish move through an area so the
17 stock assessment is critical to tell you when
18 those stocks that you're wanting to target are in
19 the area but also when the stocks of concern --

20 Q Yes.

21 MR. CURRY: -- have diminished to a point where they're
22 insignificant in the catches.

23 Q Yes. And the results of that fishery are a useful
24 determinant of the quantity of stocks approaching.
25 First of all, it's first in time and it's the
26 first indication of biomass that you get; is that
27 correct?

28 MR. CURRY: Well, it's a very general assessment but
29 being that we don't have a test fishery out in
30 that area in particular on an ongoing basis year
31 after year to look at that information and make
32 some assumptions about the quantity, unless we had
33 that type of test fishery out there, we wouldn't
34 be able to make strong determinations or
35 assessments of what the stock abundance is. Once
36 those fish hit the test fisheries, the well-
37 established over time test fisheries, in Juan de
38 Fuca Strait or Johnstone Strait and then, you
39 know, further inland, those test fisheries allow
40 us to make comparisons to other years and use an
41 awful lot of data analysis to then come up with
42 are we on target with our expectations or not.

43 Q Yes.

44 MR. CURRY: And we manage from an in-season perspective
45 based on those test fisheries.

46 Q But the sockeye fishery on the west coast of
47 Vancouver Island is the first fishery. And when

1 it's done on a non-IQ basis, in other words a
2 derby basis, correct?

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

4 Q And does that not give you at least some early
5 information as to biomass that you would not get
6 if it was an ITQ fishery?

7 MR. CURRY: It tells you what the make-up of the stocks
8 are but it doesn't give you a lot of strong
9 information about the abundance. Intuitively, it
10 can provide a sense of whether there's lots of
11 fish out there or not a lot of fish out there.
12 And when you work with very experienced fishermen
13 that have been fishing out there for many years,
14 you may get a sense of whether it looks like it
15 might be an abundant year or not but it's very
16 precarious because you could just have a small
17 blip of fish that makes it look good for a moment
18 and then it collapses behind it. So you need a
19 longer time series of information in order to
20 confirm those types of assumptions.

21 MR. HARVEY: All right. Those are my questions. Thank
22 you.

23 MR. MARTLAND: Mr. Commissioner, I'm in your hands. We
24 have three participants who have questions
25 remaining, Mr. Eidsvik, Ms. Gaertner, Ms. Schabus,
26 and I think about 35 minutes if we don't take the
27 break with our time constraints. Dr. Hargreaves
28 is not available tomorrow. I don't know if we're
29 best to perhaps press on and ask counsel to do the
30 best they can in that limited time?

31 THE COMMISSIONER: I don't think we have a lot of
32 choice. But I always like to check first with
33 Madam Reporter. If we sit until 4:00, Madam
34 Reporter, are you going to be able to manage that?

35 THE REPORTER: Of course.

36 THE COMMISSIONER: All right. I'm going to say if she
37 can, I think Mr. Lunn and Mr. Registrar probably
38 will find -- so let's have the three remaining
39 participants who wish to cross-examine divide up
40 the time evenly between now and four o'clock, if
41 they can. And who's first?

42 MR. MARTLAND: Mr. Eidsvik is next, thank you.

43 THE COMMISSIONER: Thank you.

44 MR. EIDSVIK: Thank you, Mr. Commissioner. Ten minutes
45 is a lot shorter than I anticipated because the
46 subject matter today has been much broader than I
47 anticipated. But I'll be as quick as I can to

1 assist the people coming behind me. My name is
2 Philip Eidsvik. I'm on with the B.C. Fisheries
3 Survival Coalition and the Area E Gillnetters who
4 fish the Fraser River.
5

6 CROSS-EXAMINATION BY MR. EIDSVIK:
7

8 Q One of the things I wanted to start off quickly,
9 Dr. Hargreaves, was the statement about prior to
10 World War II everyone thought the fish supply was
11 inexhaustible. Do you remember when the
12 International Pacific Salmon Fisheries Commission
13 began their rebuilding program on the Fraser
14 River?

15 DR. HARGREAVES: No, I don't remember the exact dates,
16 no.

17 Q Would it surprise you if it was before World War
18 II?

19 DR. HARGREAVES: No, it wouldn't.

20 Q Yeah, so the idea that there's this great big,
21 let's kill every last Fraser sockeye, wasn't
22 really relevant in the context of Fraser River
23 sockeye, was it?

24 DR. HARGREAVES: No, my comment was in the global
25 perspective in terms of fisheries throughout the
26 world not specifically on salmon on that
27 particular comment.

28 Q Okay. So I'm just trying to say that we had a
29 massive, successful rebuilding program on Fraser
30 River sockeye from the '30s to the '90s. So to
31 use that world perspective and apply it to Fraser
32 River sockeye is a little troublesome for some of
33 the people, I think.

34 DR. HARGREAVES: I was personally leading up to the FAO
35 Code of Conduct document.

36 Q Oh, good.

37 DR. HARGREAVES: That was what I was referring to.

38 Q Thank you for clearing that up. There was a
39 statement that gillnet fishermen on the coast will
40 anchor all night and leave their nets in the
41 middle of the channel. I've never heard of that.
42 Perhaps you can offer a bit of detail on that.

43 DR. HARGREAVES: In my experience, it's not unusual,
44 particularly in, for example, the Fraser River for
45 a gillnet to be set and left overnight.

46 Q Are you talking about set nets or driftnets?

47 DR. HARGREAVES: A net that's been tied off to the

1 shore.
2 Q So you're not talking about the public commercial
3 fleet?
4 DR. HARGREAVES: I have personally observed, for
5 example, in Port Alberni where I worked for many
6 years, where a fisherman would set the net at dawn
7 -- or at dusk, I mean, and not come back till the
8 early morning.
9 Q We're talking about Fraser River sockeye here.
10 And I guess you're aware that there's a licence
11 condition that all -- and I'm talking about the
12 public commercial fleet and tidal waters below
13 Mission -- you're aware there's a licence
14 condition that says you can't leave your net
15 unattended?
16 DR. HARGREAVES: Yes, I'm aware of that.
17 Q And what would happen if you left your net
18 unattended in the Fraser River? If it's a
19 driftnet --
20 DR. HARGREAVES: Probably fill up with debris.
21 Q It would fill up with debris. Would it drift down
22 on the shore maybe a log boom?
23 DR. HARGREAVES: Probably, yes.
24 Q If you left your net unattended in Johnstone
25 Strait, perhaps a cruise ship might go through it,
26 is that fair to say, or a towboat?
27 DR. HARGREAVES: No, there's a relatively small number
28 of cruise ships going in a very specific route.
29 So if you did that in Area 13 --
30 Q Log (indiscernible - overlapping speakers).
31 DR. HARGREAVES: -- yes.
32 Q Okay. So it's not a common practice in the
33 commercial sector. And we're talking about coho
34 and I think DFO did a really good map a number of
35 years ago where they showed all the coho streams
36 here in the Vancouver area that had been paved
37 over. Do you recall that map?
38 DR. HARGREAVES: No, I don't remember that map.
39 Q Oh, okay. If there was a stream below this
40 building that was paved over, obviously a
41 Selective Fishing Policy wouldn't restore that
42 stream.
43 DR. HARGREAVES: No.
44 Q Okay. In the great scale of thing, how big are
45 habitat and water usage issues on Thompson coho?
46 DR. HARGREAVES: I think it's probably significant but
47 I don't think that's been well defined.

1 Q But I'm curious, if it's a big factor or
2 significant, why wouldn't it be well defined?
3 DR. HARGREAVES: I think it's a very, very complex
4 issue so there's water extraction issues, there's
5 use by agriculture, there's, you know, a variety
6 of uses in there that would affect the habitats.
7 Q All right. But selective fishing only deals with
8 commercial fishing, one part of the equation that
9 might have an impact on Thompson coho. And the
10 other part is out there. You just don't know
11 enough about it; is that fair to say?
12 DR. HARGREAVES: I hope we've made it clear that it's
13 much broader than just commercial fishing so I
14 would correct that comment.
15 Q Okay. So commercial, recreational --
16 DR. HARGREAVES: And First Nations.
17 Q -- fishing -- yeah, okay. Selective fishing prior
18 to 1998 when the program was put in, I always
19 thought there was a selective -- and Mr. Harvey
20 referred to it as time and area. Certainly, the
21 Fraser River chinook fishery was closed when the
22 Fraser River gillnet chinook fishery, targeted
23 gillnet fishery; do you recall?
24 DR. HARGREAVES: Yeah, I think Gord mentioned that -- I
25 mean time and area has always been a significant
26 management technique, probably one of the most
27 important, right back to the beginning of the
28 fishery so...
29 Q Okay. So do you recall when the Fraser chinook
30 fishery was closed?
31 DR. HARGREAVES: No. You mean the west coast?
32 Q No, in the Fraser River itself, the Fraser River
33 gillnet fishery on chinook?
34 DR. HARGREAVES: No, I don't remember the date.
35 Q Mr. Curry, do you recall?
36 MR. CURRY: I don't recall the date specifically but
37 I'm aware of it, yes.
38 Q It's been many years.
39 MR. CURRY: Yes.
40 Q Has there been a targeted fishery on that stock
41 since it's been rebuilt by the Fraser River
42 gillnet fleet?
43 MR. CURRY: I don't believe there has been. But I
44 couldn't speak completely because I haven't been
45 working on the Lower Fraser fishery throughout
46 that entire time period. So I don't know whether
47 there's been some demonstration fisheries or some

1 fisheries to attempt to catch Fraser chinook while
2 allowing sockeye to pass through the nets.

3 Q What I'm trying to get at is a lot of commercial
4 fishermen are reluctant to buy into another
5 program from DFO. And I'm sure you must have
6 heard that, you know, when the Fraser River
7 chinook fishery was closed. They were promised
8 when the fishery was rebuilt it would re-open for
9 them. It hasn't. Do you hear comments from the
10 fishing fleet they don't really trust DFO to keep
11 their promises?

12 MR. CURRY: What I see is that the commercial industry
13 has a code of conduct that clearly the majority of
14 commercial harvesters have endorsed and,
15 therefore, I would expect that out of
16 professionalism they would be looking to do
17 everything that they could to make a more
18 selective and a more responsible fishery. And as
19 we've mentioned, we work with many individuals
20 that have done just that, whether they're in the
21 lower Fraser or out in the marine areas working to
22 find those solutions.

23 Q Yeah, I guess what I'm getting at is probably
24 despite previous actions, people in the commercial
25 sector have gone along with it. And I'm just
26 going to ask you. There was a number of
27 complaints that have been talked about and I know
28 one of them was, were there concerns that
29 selective projects were delivering fish to small
30 groups of people that were sort of private. And
31 did you hear complaints about that?

32 MR. CURRY: We heard complaints like that at the
33 beginning of the program but even throughout the
34 program. So how we changed, how we did business
35 is that we invited commercial reps to sit in on
36 the selection of these projects so that they were
37 involved in that selection process so that they
38 could report out to their constituents how those
39 projects were being selected. Because they
40 certainly were not provided to certain interests
41 and so on; it was simply based on the merits of
42 their proposals and the possible benefits that
43 could accrue from the work that they proposed to
44 do. And there was many people that were critical
45 of those that were trying to work with DFO. And
46 that was very unfortunate because it was very
47 unfounded.

1 Q So there were some people in DFO that perhaps the
2 fishing fleet thought were a little too close to
3 DFO and there's some disputes over that; is that
4 fair to say?

5 MR. CURRY: I heard those comments but from my
6 experience they didn't apply.

7 Q There's a general principle, I think, maybe in
8 fisheries management. If I'm wrong, you can clear
9 me up, that the conservation benefits accrued by
10 the best managed fishery can often be negated by a
11 fishery that's less well-managed if they fish on
12 the same stock. Is that a fair statement?

13 MR. CURRY: Yes, that could be a fair statement. An
14 example is where you've got a quota-type fishery
15 that's very well-managed and controlled and then
16 you have a derby-style fishery being carried out
17 upstream of that where when you open it, you don't
18 know the number of fish that you're going to
19 harvest. You could overshoot your target by a
20 hundred percent and that's the precariousness of
21 that kind of management. So DFO does everything
22 we can to use past information and data to try and
23 hit that target but it's not always possible
24 because it's a very difficult thing to do.

25 Q I see. So despite fishery management being able
26 to rebuild the Fraser sockeye run from 1930 to
27 1990 with a fleet much larger or less people, you
28 guys, if I can get it right, seem to be unable to
29 do this any other way except through an IQ
30 fishery?

31 MR. CURRY: Well, I think the complexity of this issue
32 is so much greater than that statement. I mean,
33 we had a great big slide in the Fraser River back
34 in 1913 and we've been rebuilding actually since
35 then. And we're going through a period of time
36 recently with global warming that is changing the
37 environment, changing the productivity. It can be
38 up one year, down the next. And so it's a very
39 difficult environment in which to manage these
40 fisheries.

41 Q I think we'll deal with that as we go along in
42 time. I want to ask you a couple of questions
43 about revival tanks in the Fraser River. Every
44 buy-licence condition, every gillnetter in the
45 public commercial fleet needs a revival box; is
46 that correct? Buy-licence condition?

47 DR. HARGREAVES: Yes.

1 Q If you don't have it or you don't have it
2 operating, can you be charged and prosecuted?
3 DR. HARGREAVES: Yes.
4 Q What about the Aboriginal commercial fishery on
5 the Fraser in the tidal waters? Are all those
6 vessels required to have coho revival boxes and
7 steelhead revival boxes?
8 DR. HARGREAVES: No.
9 Q So for the boats that fish in both fisheries, if
10 they fish in the public fishery on Monday, they
11 need the revival box and they'll go to court if
12 they don't have it or don't operate it, and on
13 Tuesday then in the Musqueam, Tsawwassen, Sto:lo
14 commercial fishery, you can go ahead and operate
15 without a revival box; is that correct?
16 DR. HARGREAVES: Yes.
17 Q Do you know why that is?
18 DR. HARGREAVES: I think because of the priority of
19 First Nations. So the first priority is
20 conservation and the second is First Nations FSC,
21 food, social and ceremonial.
22 Q But this is a commercial fishery I'm talking
23 about.
24 DR. HARGREAVES: Yes, I'm aware of that but often those
25 same boats are used for the FSC component. So
26 when they go out to get their FSC. So they're not
27 required to have a revival tank when they fish for
28 FSC purposes.
29 Q So I'm trying to get this clear then. So during a
30 commercial fishery that's licensed where they can
31 sell fish, you're saying that they're still
32 fishing for food; therefore, they don't need to
33 pay attention to the regulation that's applicable
34 to the other fleet?
35 DR. HARGREAVES: Yes, I'm not certain why.
36 Q Are they allowed to keep coho?
37 MS. SCHABUS: Objection, Mr. Commissioner. I just want
38 to clarify something. Mr. Commissioner, I just
39 wanted to clarify something. Mr. Eidsvik just
40 pointed out that they were not following
41 regulations but actually the regulations do not
42 stipulate that. I just wanted to clarify that
43 point and I'm going to remain standing just in
44 case.
45 MR. EIDSVIK: Thank you for that. I believe my
46 question was quite proper because there's a
47 regulation that applies to our sector, the public

1 commercial fishery, but not to the Aboriginal
2 commercial sector. And I agree with my friend
3 that there's different regulations and that's what
4 I was trying to get at. So there's a conservation
5 issue for the public commercial fleet in the lower
6 Fraser River but not one for the Aboriginal-only
7 commercial fleet in the Fraser. And that's what I
8 was trying to establish.

9 Q Can you tell me, how big is the set net fishery in
10 the Fraser Canyon?

11 DR. HARGREAVES: I don't know.

12 Q How many nets?

13 DR. HARGREAVES: I don't know.

14 Q No idea?

15 DR. HARGREAVES: No.

16 Q Would it surprise you if it was 400 in a busy
17 fishery?

18 DR. HARGREAVES: Possible.

19 Q Do they use --

20 MS. SCHABUS: I'm going to object again. Mr.
21 Commissioner, I'm afraid that the witnesses have
22 indicated that they are actually not in a position
23 to comment on this and unless Mr. Eidsvik
24 establishes the basis and that they would be in a
25 position to comment on that, I'd ask him --

26 MR. EIDSVIK: Well, the basis for that is we're talking
27 about selective fishing in the commercial sector
28 and in the Aboriginal sector and in the sport
29 sector we talked about barbless hooks.

30 Q My question is simple. There's a very large
31 commercial fishery in the Fraser Canyon. Do they
32 use revival boxes for their gillnet harvest?

33 DR. HARGREAVES: I don't know. I'm not familiar with
34 that fishery.

35 Q Well, maybe you can help me because your job, I
36 think, was selective fishing, wasn't it?

37 DR. HARGREAVES: Yes.

38 MR. CURRY: If I can comment.

39 DR. HARGREAVES: Okay, Gordon, go ahead.

40 MR. CURRY: I'll comment on one way that it's managed
41 and that is when we are dealing with coho, as I
42 mentioned earlier, the 3 percent mortality on coho
43 that we manage by is borne by all fisheries. We
44 look at all fisheries and all fishery impacts. So
45 the current fisheries, as they stand are meeting
46 that requirement. There may be some
47 inconsistencies but the bottom line is that

1 assortment of fisheries is meeting the current
2 standard at 3 percent.
3 Q Well, you've said that the revival box really adds
4 to the survivability of coho. So if all
5 commercial fishermen were to use revival boxes, it
6 seems to me there'd be less coho mortalities;
7 therefore, we could target on the main species
8 more. But have I got that wrong?

9 MR. CURRY: That's correct.

10 MR. EIDSVIK: Okay. Those are my questions. Thank
11 you, Commissioner.

12 MR. MARTLAND: Yes, Ms. Gaertner, thank you.

13 MS. GAERTNER: Good afternoon, Mr. Commissioner.

14 Brenda Gaertner for the First Nations Coalition
15 and with me, Crystal Reeves, R-e-e-v-e-s. I'm
16 going to go with highway speed and see how well I
17 do. And I hope I've got my questions down to the
18 bare minimum.

19
20 CROSS-EXAMINATION BY MS. GAERTNER:

21
22 Q Gentlemen, I just wanted to clarify something
23 that's a working premise that I have and I'm not
24 sure I've got it right. But if we don't have buy-
25 in by industry, that makes selective gear-type
26 fisheries more difficult. That's an assumption.
27 Is that a correct assumption?

28 MR. CURRY: Yes, that's a correct assumption, that you
29 need buy-in in order to carry out selective
30 fisheries to its fullest extent.

31 Q And if we don't have that buy-in, then you're
32 going to have to continue to up your increased use
33 of selective fisheries through time and area; is
34 that correct? So you'll have more closures and
35 likely more fisheries up-river; is that correct?

36 MR. CURRY: Potentially, yes.

37 Q All right. And so I'm confused. What's your
38 experience, why is it that it's difficult to have
39 industry buy-in to selective fisheries?

40 MR. CURRY: Like I've said before, there's many
41 individuals and representatives that have buy-in
42 and are favourable to making changes, although
43 there are many others that don't. So it's a
44 matter of which road are we going down? And my
45 recommendation is that you've got to be working
46 together in order to have that buy-in and we need
47 to re-focus and have that working relationship in

1 order to be able to have effective implementation
2 of the selective fisheries strategy.

3 Q I'm happy to say, as you've already both spoken
4 to, that my clients have actually have quite an
5 interest in selective fishing, as you know. And
6 your report that was done on the Selective Fishing
7 Project, which is Exhibit 432, at page 14, you
8 list some of the First Nation projects on
9 selective fishing that were done during the
10 program. In particular, there were 11 trap nets
11 and six fish wheels. Some of these are on the
12 Fraser, some of these are in other places, as I
13 read the report, some education programs, some
14 water sorting and some survival tank studies.
15 They're all on page 14 under the list there. I'm
16 actually interested in having you describe the
17 challenges that you experienced in working with
18 some of those projects, what you learned from
19 them, what we could learn from them going forward.
20 As you know, First Nations are very interested in
21 pursuing selective fishing and working closely
22 with partners around that. And so it would very
23 useful to know where their challenges are, what
24 we've learned and how we can move forward on that.

25 MR. CURRY: Yes, with working with individuals within
26 these projects, as with other projects, you're
27 working with motivated individuals that have
28 proposed a strategy or gear type. And so we would
29 work together in a team environment. And a lot of
30 the First Nations projects were very effective and
31 we had good working relationships. And the
32 Aboriginal sector also worked on pulling together
33 education and training materials and workshops
34 that also went out to communities throughout the
35 province to increase the exposure of selective
36 fishing and the importance of it, whether it was
37 through videos, as well as pamphlets, pamphlets
38 they created to get out to their communities, and
39 so on, as well as the workshop. So it was a very
40 good working relationship.

41 Q Great. And challenges going forward with respect
42 to any of that, anything you'd like to bring to
43 our attention at this point?

44 MR. CURRY: Nothing that wasn't, you know, equivalent
45 within the commercial or recreational. There's a
46 lot of challenges in terms of being able to carry
47 out these projects effectively but there was a lot

1 learned and gained from this work.

2 DR. HARGREAVES: May I just add something to that?

3 Q Sure, Dr. Hargreaves.

4 DR. HARGREAVES: One of the things I would suggest is,
5 for First Nations who are interested in this,
6 there's a fairly active selective fishing program
7 getting underway now in the United States,
8 particularly in the Columbia River, where they
9 have a lot of **Endangered Species Act**, ESA-listed
10 stocks, and they're being quite successful with
11 that. So they're following on some of the work
12 we've done but they're also striking off in new
13 directions as well. And the First Nations, the
14 tribes down there are very engaged in that. So
15 there's a lot of knowledge there that could be
16 transferred up to our own First Nations.

17 Q And it's something that you're familiar with? Is
18 there any particular recommendations that you're
19 already aware of that could be useful in Mr.
20 Commissioner's review of selective fishing for
21 Fraser River sockeye?

22 DR. HARGREAVES: Well, as I say, they're just getting
23 underway right now so they're reviewing what we've
24 done. But the earlier reports in the Columbia
25 Basin Bulletin, which you're probably aware of,
26 indicate a steep learning curve. Last year, for
27 example, a lot of the selective fishing methods
28 they tried didn't work or had marginal success.
29 But the second year was much more successful and
30 they're going to expand that program again this
31 year.

32 MS. GAERTNER: Great. I'm wondering if we could have
33 Exhibit 18 on the Commission's list.

34 Q Mr. Curry, I believe this is a presentation you
35 did in 2005 -- or '04 or '05. Are you familiar
36 with this?

37 MR. CURRY: Yes, I am.

38 Q I'm just going to take you to a couple of pages on
39 it. The first one is on the very first page. You
40 do an overview. And on the top on the right
41 you'll see your little thing called "Overview".
42 And the fourth bullet is "DFO and industry have
43 resources to find solutions", and at that point
44 that you were hoping that that 5 percent of
45 commercial tuck would be useful to you. But then
46 you've gone and commented on a challenge that
47 First Nations and recreational communities don't

1 have the funding. Is that something you still
2 agree with now and --
3 MR. CURRY: Yes, they don't --
4 Q -- see as part of the challenges directly?
5 MR. CURRY: They don't have the ability to take a
6 portion of the catch, sell it and have the
7 resources available to do this work. So then you
8 have to look at strategies of where can you find
9 the resources in terms of what pots of money are
10 out there that are available to secure in order to
11 carry on this work. And that's obviously a much
12 more difficult thing to do than if you have
13 something that's set aside.
14 Q And on the last page, the very last box is "Other
15 issues and recommendations". And in fact, you
16 make a recommendation there that First Nations
17 encouraged to adopt selective fishing gear and
18 methods; therefore, AFS and treaty staff. Are you
19 familiar with those recommendations and what your
20 thinking was at the time as to how selective
21 fishing could be assisted with AFS and/or treaty
22 negotiations?
23 MR. CURRY: Yes. Basically what I'm referring to is
24 that as we move forward to not lose sight of the
25 benefits that accrue from fishing selectively.
26 Through the managers and most of the managers now
27 that are managing AFS are fishery managers. And
28 so keeping it on their radar in terms of when
29 we're managing fisheries, Aboriginal fisheries,
30 that we need to be thinking about the selectivity
31 of the fisheries to make sure that they're moving
32 ahead in a responsible and selective way and that
33 when negotiators are looking at negotiating fish
34 chapters to treaties that again, depending on the
35 nature of the discussions and the fishing gear
36 that's talked about, looking at moving as much as
37 possible to the most selective fisheries possible,
38 it's an opportunity to keep that front and centre
39 and part of those discussions to make for more
40 responsible First Nation fisheries where they need
41 to be.
42 Q We're going to spend a fair bit of time on another
43 part on the AFS agreements so I won't go into that
44 too much right now.
45 MS. GAERTNER: I'm going to ask that document 12 on our
46 document list be put forward.
47 MR. MARTLAND: I wonder, just before we leave this

1 document, it was on the Commission's list but --
2 MS. GAERTNER: Oh, sorry.
3 MR. MARTLAND: -- it wasn't, in fact --
4 MS. GAERTNER: Yes, please.
5 MR. MARTLAND: -- marked through our direct. So I
6 wonder if I could suggest this document that's up
7 now become an exhibit, please?
8 THE REGISTRAR: That's document number 18 --
9 MS. GAERTNER: Thank you, Mr. Martland.
10 THE REGISTRAR: -- Exhibit Number 449.
11 MS. GAERTNER: It's that highway speed. I'll try not
12 to pass.

13
14 EXHIBIT 449: Selective (Salmon) Fishing
15 Update - 2004 Overview and Process, 2004
16 Projects, Recommendations for 2005
17

18 MS. GAERTNER:

19 Q I'm actually going to jump to one other question I
20 have of Dr. Hargreaves because I only have one for
21 sure that I need to ask you and if it becomes
22 useful we might have to have Mr. Curry back. But
23 Dr. Hargreaves, I just want to ask one question
24 around the catch-and-release matters that you
25 referred to earlier. And in particular, as you
26 know, a number of my clients in the Fraser River
27 particularly and further up have concerns around
28 catch-and-release. And I was interested in your
29 evidence this morning about how the research to
30 date has been a little bit more successful in
31 understanding the more immediate effects of catch-
32 and-release so you're able to identify and watch
33 and return a salmon or a sockeye back hopefully
34 healthy and able to return to the journey.

35 But what I'm concerned with is the research
36 that needs to be done to ensure that that same
37 salmon, if it's caught two or three times, does
38 hit the spawning ground. And you were very clear
39 in your evidence this morning that further
40 research needs to happen on that. Would you agree
41 with me that if there are openings and closings or
42 any kind of fisheries that rely on that type of
43 selective fishery that this is a place where a
44 precautionary approach needs to be taken? We
45 don't have the scientific evidence to prove that
46 those catch-and-release fisheries are necessarily
47 safe in the long-term and we do need to take care

1 with those. Would you agree with me on that?

2 DR. HARGREAVES: I certainly agree with the
3 precautionary approach. But I think you have to
4 put it in context. And the context that's
5 relevant here is the risk associated with it. So
6 if a particular fishery was operating, let's say
7 it was a beach seine in the lower Fraser catching
8 sockeye, for example, for First Nations. If the
9 total allowable catch happened to be 200 pieces of
10 sockeye, they could catch those fish in a
11 relatively short time, a few sets of the net
12 probably. As a fisheries manager, if I was the
13 manager of that fishery, I would not be overly
14 concerned about the impact on the fish that were
15 released on that. So maybe they'd catch four or
16 five coho, let's just say, as an example. Those
17 fish might or might not survive. What I'm getting
18 at is that the risk is small. To the stock as a
19 whole, the risk for that particular fishery, done
20 in a selective way, is minor. If we're talking a
21 much riskier fishery, maybe a large commercial
22 fishery in Area 20 that could encounter thousands
23 of coho, maybe tens of thousands of coho, then the
24 issue of what happens post-release for those fish
25 is extremely important.

26 Q Thank you. That's very helpful. I actually think
27 there's one more question that Mr. Curry may want
28 your assistance on. And that's, I was looking at
29 the difference between the United Nations FAO
30 Standards that we have as Exhibit 442 and Canada's
31 document, the Code of Conduct in Exhibit 443, and
32 we can bring those exhibits forward, if either of
33 you would like to look at them. But I notice that
34 in the United Nations Standards, both ecological
35 conservation, local knowledge, traditional
36 ecological knowledge are all very strong themes in
37 that document, as a code of conduct for selective
38 fisheries and otherwise. But I can't find those
39 in Canada's documents. Did I miss them? Did I
40 miss something in the review? What happened in
41 that translation?

42 MR. CURRY: The Canadian document is one specific to
43 the commercial fisheries. And I would say that
44 traditional ecological knowledge is very important
45 within commercial fisheries, as well as in
46 Aboriginal fisheries. So I don't know whether I'm
47 answering your question correctly or as you

- 1 intended but that is an important factor. And
2 when we team up and work with harvesters to find
3 solutions, that traditional ecological knowledge
4 is a key component of what we gain by teaming up
5 and working together.
- 6 Q Are you aware whether or not the Canadian document
7 was reviewed by First Nations before it was
8 finalized? Was there a consultative effort or was
9 this all just done on the commercial industry and
10 then finished? This is a Canadian Code of
11 Conduct.
- 12 MR. CURRY: It was industry-led and it was supported by
13 DFO nationally. So I don't know whether there was
14 specific consultation with First Nations on that
15 particular Code.
- 16 MS. GAERTNER: All right. Just two more questions
17 actually. I would now like document 12 on our
18 list.
- 19 Q And this is a question for you, Mr. Curry, unless
20 Dr. Hargreaves knows about this. I just want to
21 take you on past 2004. Are you familiar with the
22 River to Plate initiatives that are going on with
23 respect to selective fishing in the lower Fraser
24 and -- or actually lower to upper Fraser, actually
25 more particularly?
- 26 MR. CURRY: Yes, I have familiarity with it, yes.
- 27 MS. GAERTNER: And I'm wondering if we could go to page
28 6 of this document.
- 29 Q And so this is an example of how selective fishing
30 efforts are continuing after the slowdown in
31 funding, as we might call it. And in particular,
32 there's some small demonstration fisheries that
33 are being licensed in the Fraser River since 2005,
34 in the Harrison River, mid-Fraser, the Thompson
35 and Quesnel and the Fraser near Prince George; is
36 that correct?
- 37 MR. CURRY: That's my understanding, yes.
- 38 Q And could you bring to our attention any
39 continuing benefits and usefulness that you're
40 finding with respect to continuing with these
41 selective fisheries?
- 42 MR. CURRY: I can't speak to the specific demonstration
43 fisheries that have been going on because I
44 haven't been intimately involved with them. But
45 in a general sense, this, from what I have seen
46 and what I have heard from colleagues, that this
47 is a continuation of a sorts of selective fishing

1 but it's focusing on the ability to harvest in-
2 river and look at the viability, economically and
3 ecologically, of the harvest in-river through to
4 the marketplace but I can't speak to the specific
5 projects, as I haven't been working on those
6 specifically.

7 MS. GAERTNER: I wonder if I could have this document
8 marked as the next exhibit.

9 THE REGISTRAR: Exhibit Number 450.

10
11 EXHIBIT 450: From River to Plate 2009 - An
12 Implementation Update and 2008 Activities
13 Report CAN037620
14

15 MS. GAERTNER:

16 Q This morning when you were reflecting on the
17 various recommendations that both of you could
18 bring to Mr. Commissioner's attention, there was
19 one matter that I didn't see you speak on and I
20 wonder if you could, which is, is it also going to
21 be increasingly necessary for the flexibility in
22 where these commercial fisheries are harvested?
23 There's a lot of effort being made to try to put
24 selective fisheries out into the marine. But is
25 it also going to be necessary, as we continue
26 forward and given all the challenges around
27 conservation units and other things, that these
28 selective fisheries will need to move up river?

29 MR. CURRY: I think that's one of the strategies that
30 can be used. And I used the example of avoiding
31 impacts on Cultus stocks by fishing north of the
32 Vedder River, for instance. And so those types of
33 strategies need to be part of the toolbox and
34 whether, you know, if you have a defined share,
35 whoever fishes it is, in essence, maybe not a
36 concern. What the concern is, are you able to
37 harvest the abundant stocks and protect the weak
38 stocks? And one of those strategies is to fish
39 more terminally. So we need to be looking at
40 combinations of strategies here.

41 Q And given your familiarity with the complexities
42 around management issues, you're also familiar
43 that that may increase the abilities of DFO and
44 First Nations to meet their FSC requirements and
45 the priority requirements and so there are some
46 synergies there, also?

47 MR. CURRY: Without a doubt. Where there's increased

1 capacity to harvest, it can increase the capacity
2 of First Nations to meet their FSC needs.

3 MS. GAERTNER: Those are my questions, Mr.
4 Commissioner, I think.

5 THE COMMISSIONER: Thank you very much.

6 MS. SCHABUS: Mr. Commissioner, I'm taking it we're
7 carrying on with the late run?

8 THE COMMISSIONER: Till 4:00, yes.

9 MS. SCHABUS: Okay.

10

11 CROSS-EXAMINATION BY MS. SCHABUS:

12

13 Q Gentlemen, just because there seems to have been a
14 little bit of a problem earlier, let me just
15 establish at the beginning, when I talk about
16 commercial -- in the following, when I talk about
17 commercial industrial harvest, I'm referring
18 specifically to the area harvesters. And I'm just
19 going to put it to you that there's obviously a
20 difference between this larger scale commercial
21 industrial harvest with my clients and --

22 MS. SCHABUS: Sorry. I forgot to introduce myself.
23 Nicole Schabus. I'm counsel for the Sto:lo Tribal
24 Council and Cheam Indian Band, co-counsel.

25 Q -- that fish with what my clients called large
26 appliances, so larger vessels that have a capacity
27 to catch hundreds of thousands of fish in a span
28 of a few hours in a derby-style fishery, in
29 comparison to an Aboriginal fishery that would use
30 different kinds of gear types, but when it comes
31 in the cases that boats are used, they would be
32 smaller in size and -- quite often smaller in size
33 so it's quite important to make a distinction
34 between that Aboriginal fishery even if it has a
35 commercial aspect and a larger scale commercial
36 industrial area style harvest.

37 MR. CURRY: My experience around Aboriginal fisheries
38 has seen that First Nations individuals that have
39 vessels that they use within the food, social,
40 ceremonial fishery but also use them in a
41 commercial fishery, yes, generally, there's more
42 vessels of a smaller size and less capacity.
43 Quite often, in some cases, their nets are still
44 the same length as in a commercial fishery. But
45 in other cases, they use smaller nets just because
46 of the capacity of their smaller vessels or
47 whether they're bringing those nets in potentially

- 1 by hand, which is, you know, very inefficient
2 compared to the style of commercial vessels today,
3 gillnet vessels.
- 4 Q Gillnet vessels where they'd be mechanically
5 hauled in, for example?
- 6 MR. CURRY: Yes.
- 7 Q And especially in the Fraser River context, up
8 river. If you're in-river and you're dealing with
9 those smaller boats, I think one of the issues
10 that you already pointed to when it comes to
11 survival tanks, one of the issues is stability of
12 such a smaller boat and that would be a safety
13 concern that you would have to take into account,
14 right?
- 15 MR. CURRY: Yes, that's right. And we made concessions
16 for vessels under a certain size not having
17 revival tanks.
- 18 Q Now, when it comes to selective fishing, that can
19 be achieved not just through selective fishing
20 technologies, such as fishing gear, but also for
21 restrictions in fishing times and geographic
22 restrictions, right? And I think that's also an
23 element of a selective fishery to actually take
24 into account fishing times, geography, et cetera.
- 25 MR. CURRY: Absolutely. Time and area.
- 26 Q Now, when you're dealing with a more mixed stock
27 fishery, especially in -- so when it comes to
28 dealing with a more mixed stock fishery especially
29 in marine areas, that in comparison to an in-river
30 fishery, that would already be a more selective
31 fishery?
- 32 MR. CURRY: Depends on where you are. If you're in the
33 lower Fraser River, the mix of stocks are going to
34 be not that dissimilar to those that are out in
35 the marine area because many of those stocks have
36 a long ways to go up the river. There's only a
37 few in the very lower reaches of the river that
38 branch off so, yes, there are some options.
39 Greater options in the lower river. But as you
40 proceed up the river, those options increase.
- 41 Q Or for example, with the Cultus after the turn
42 off?
- 43 MR. CURRY: Yes.
- 44 Q Now, also in terms of size of appliances, very
45 large capacity boats and nets, you have a bigger
46 issue with bycatch and incidental catch.
- 47 MR. CURRY: Not necessarily. It all depends on the

- 1 specific fishery. For instance, early time
2 chinook in the Fraser River can be a serious
3 concern and the level of impact could be -- a
4 small number of fish could be a large impact
5 whereas you could be looking at a different
6 situation in the marine area. So you really have
7 to look at fishery-to-fishery --
- 8 Q The specific.
- 9 MR. CURRY: -- and be very specific.
- 10 Q Now, when it comes to the example you gave about
11 the fisheries office on the west coast, basically
12 what you saw is he built in working together with
13 the different fisheries knowledge over time about
14 in which areas you would see more mixed catch or
15 more bycatch and in which areas you could target
16 specific stocks better, right?
- 17 MR. CURRY: Through time and area, the more terminal
18 you carry out your fishery, the more precisely you
19 can be stock specific. But as we've mentioned,
20 there could be technological abilities or tagging
21 abilities and so on that could rival that
22 strategy.
- 23 Q Now, when it comes to the issue of buy-in --
- 24 MS. SCHABUS: And I'd ask Mr. Lunn to briefly bring up
25 Exhibit 440.
- 26 Q -- this memo from 2004 was signed off by -- or
27 drafted, I understand, by both of you at a time
28 that you were no longer working on selective
29 fisheries issues, right? Or no longer
30 specifically -- you'd moved on to different posts
31 by that time?
- 32 DR. HARGREAVES: Yes, that's correct. We weren't
33 specifically tasked with selective fishing at that
34 time.
- 35 Q So there was actually no -- DFO already no longer
36 had this as a priority or specifically funded but
37 you took it on to still draft that memo and deal
38 with that issue?
- 39 DR. HARGREAVES: Yes.
- 40 Q Now, it speaks to a lacking of buy-in from
41 industry. And I'd like to take you to page 2, the
42 last paragraph.
- 43 MS. SCHABUS: If Mr. Lunn could blow it up so we can
44 all read it together.
- 45 Q But one of the points that you're pointing to,
46 although the Area B harvest committee accepts the
47 results in terms of the coho, so that there would

1 be actually a very positive effect, on the coho
2 populations, they are reluctant to proceed with
3 implementation is what you're setting out there,
4 correct?

5 DR. HARGREAVES: Yes.

6 Q Now, going to the page over and that they believe
7 that solving the coho problem will not afford them
8 with additional commercial fishing time. So it's
9 weighing their interests of commercial fishing
10 time vis-à-vis coho conservation concerns and,
11 therefore, not seeing the need to implement,
12 right? That's what you're setting out in the
13 memo?

14 DR. HARGREAVES: Yes.

15 Q Now, just to the second bullet on that page,
16 please. And the result in the action that DFO
17 takes as a result is DFO is considering relaxing
18 some selective fishing strategies to allow more
19 gear. So you're actually basically at that stage
20 giving in to the industry demand. I'm looking at
21 bullet number 2.

22 DR. HARGREAVES: Yeah, we're saying we're considering
23 relaxing it, yes.

24 Q And that's what happened?

25 DR. HARGREAVES: I can't remember specifically what
26 happened on that. What happened was that that
27 experiment was not conducted so...

28 Q And when it comes to -- that experiment was not
29 conducted as a result, right?

30 DR. HARGREAVES: Mm-hmm.

31 Q Now, when it comes to Aboriginal peoples, I think
32 it's fair to say that you've had very good buy-in
33 when it comes to selective fishing practices and
34 projects, right?

35 DR. HARGREAVES: Yes, generally that's true.

36 Q And that also would go in connection with the fact
37 that they already have traditional fishing
38 techniques, some of which would be quite
39 selective, so they actually have traditional
40 knowledge regarding selective fishing.

41 MR. MARTLAND: And Mr. Commissioner, I'm simply
42 identifying the concern about the time that we all
43 face today. I don't know how many more questions
44 my friend has.

45 MS. SCHABUS: I actually have two more. And I'm sorry,
46 I'm trying to stick within my ten minutes just as
47 well. I don't know which one of the gentlemen was

1 getting ready to answer.
2 MR. CURRY: Yes. Basically, with in-river or terminal
3 fisheries, there's been a lot of selective
4 components to the Aboriginal fishery. In the
5 marine areas, many of the First Nations employ
6 gillnet, seine and trawl vessels to catch their
7 FSC allocations. And the move towards more
8 responsible and selective fisheries could be
9 enhanced by a greater use of selective methods by
10 those vessels in the marine areas over and above
11 what they're currently employing.
12 Q And that's when we're talking about fishing on
13 Fraser River stocks but not, for example, on the
14 stocks that they would if they hadn't been so
15 depleted otherwise have had in their territories
16 indigenous stocks in their territories, right?
17 MR. CURRY: I didn't quite catch your question there.
18 Q I was talking too fast. Well, that's when they're
19 fishing on Fraser River stocks and that's a
20 logistical requirement to a certain extent. But
21 you're not talking about when they would be
22 fishing in their own rivers with their own salmon
23 runs in their territories.
24 MR. CURRY: Yes, those are two different things. One
25 is a terminal fishery on local stocks and the
26 other is a traditional fishery on passing stocks.
27 Q The other thing that plays into the selective
28 fishery, in my submission, would be when we are
29 looking at the geography, the knowledge that
30 indigenous people have about traditional and
31 current use sides, specific knowledge, where to
32 harvest which species of fish and traditional
33 knowledge in regard to time and geography of fish
34 stocks.
35 MR. CURRY: Is there a question there?
36 Q Yes, I'm putting it to you that that would be an
37 important element to take into account as well in
38 selective fishery.
39 MR. CURRY: Absolutely. The traditional knowledge of
40 all harvesters is very important to incorporate.
41 Q And so you'd agree with me that traditional
42 knowledge is a key area in which we can still
43 expand selective fisheries by integrating *in situ*
44 knowledge so on-the-spot, in-the-territory
45 knowledge of indigenous peoples and their long-
46 established practices?
47 MR. CURRY: There are lessons to be learned from First

1 Nations, as well as longstanding commercial
2 harvesters, traditional knowledge that we can
3 learn from, and we do, and have done and need to
4 continue to learn from that experience.
5 Q My last question goes to the international level
6 and the Food and Agriculture Organization of the
7 United Nations and specifically COFI, the
8 Committee on Fisheries, that started work on
9 responsible fisheries already in the 1990s, early
10 '90s, correct?
11 DR. HARGREAVES: That's correct.
12 Q And I think that's Mr. Hargreaves mainly. Now,
13 their Code was adopted on October 31st, 1995.
14 Now, I understand that also when comparing it with
15 the Canadian Code that not all the parts of the
16 International Code, especially when it comes to
17 traditional knowledge, have actually been
18 implemented through Canadian Codes?
19 DR. HARGREAVES: Yes.
20 Q Now, and I take it you're also aware that there
21 are further U.N. standards developed under COFI,
22 specifically that they do now have a Code for
23 conduct for responsible fisheries and indigenous
24 peoples that focuses specifically on indigenous
25 peoples and responsible fisheries?
26 DR. HARGREAVES: Yes, and I think the Canadian
27 government views that as guidance. So although we
28 contribute to the development of those types of
29 things at the international level, it doesn't
30 necessarily all apply to the Canadian situation
31 (indiscernible - overlapping speakers).
32 Q It hasn't necessarily all yet been implemented but
33 you would agree --
34 DR. HARGREAVES: Yes.
35 Q -- that it's important guidance that you --
36 DR. HARGREAVES: Yes, I would.
37 Q -- could reach to. So you could use those
38 international standards and learn from them and
39 implement them on the ground?
40 DR. HARGREAVES: Yes.
41 MS. SCHABUS: Those are my questions. I see my friend
42 rising and I'll accede the mike to her. Thank
43 you.
44 MS. GAERTNER: Mr. Commissioner, I missed a question
45 and I've checked it with the Commission counsel
46 and they weren't able to help me so I'm sorry,
47 gentlemen, I have one more question to ask and I

1 apologize.

2 CROSS-EXAMINATION BY MS. GAERTNER, continuing:

3

4 Q Exhibit 266, which is the Selective Fishing
5 Policy, it's the actual policy, my read of it has
6 the department consulting with the recreational
7 and commercial harvesters but First Nations aren't
8 mentioned there. And I was just wondering why
9 not.

10 DR. HARGREAVES: Can you point out the particular --

11 Q Shall I take you to the exhibit? Yeah, Exhibit
12 266, and it's page 15, and we have "Next Steps":

13

14 The department will consult with
15 recreational, angler and commercial harvester
16 organizations on further selective fishing
17 initiatives.

18

19 And you'll see that First Nations aren't mentioned
20 there and I was just absolutely curious as to why
21 not.

22 DR. HARGREAVES: I don't know.

23 Q And oversight?

24 DR. HARGREAVES: I think it's an oversight. If you
25 look up at the paragraph at the beginning of the
26 paragraph above, it says:

27

28 Document being publicly released and
29 circulated among First Nations.

30

31 So I mean it was our intent and our practice at
32 the time to consult with First Nations so I think
33 it must have just been an oversight.

34 Q All right. So either that or it was perhaps that
35 you were already aware how well they were
36 supportive of the initiative?

37 DR. HARGREAVES: Well, there's certainly no intent
38 there to eliminate or not consult with First
39 Nations.

40 MS. GAERTNER: Absolutely. Thank you, Mr.
41 Commissioner.

42 MR. MARTLAND: Mr. Commissioner, I don't think we've
43 had any area closures. We've certainly had
44 significant time restrictions and I want to
45 express my appreciation to all counsel for moving
46 up and moving their speed along. Thank you.

47 THE COMMISSIONER: Thank you, Mr. Martland. I just

1 want to express my appreciation to Dr. Hargreaves
2 and Mr. Curry. Thank you both very much for your
3 patience and for being here today. And to counsel
4 for once again being so cooperative to meet your
5 time constraints. Ten o'clock tomorrow morning,
6 Mr. Martland?

7 MR. MARTLAND: Please.

8 THE COMMISSIONER: Thank you very much.

9 MR. MARTLAND: Thank you.

10 THE COMMISSIONER: And thank you to our hearing staff,
11 who were so cooperative as well. Thank you very
12 much.

13 THE REGISTRAR: Hearing is now adjourned for the day
14 and will resume at ten o'clock tomorrow morning.
15 Counsel is aware that there is a meeting at 9:15
16 tomorrow morning here in this room.

17
18 (PROCEEDINGS ADJOURNED TO FEBRUARY 22, 2011,
19 AT 10:00 A.M.)
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2 I HEREBY CERTIFY the foregoing to be a
3 true and accurate transcript of the
4 evidence recorded on a sound recording
5 apparatus, transcribed to the best of my
6 skill and ability, and in accordance
7 with applicable standards.
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11 _____
12 Diane Rochfort
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14 I HEREBY CERTIFY the foregoing to be a
15 true and accurate transcript of the
16 evidence recorded on a sound recording
17 apparatus, transcribed to the best of my
18 skill and ability, and in accordance
19 with applicable standards.
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24 Pat Neumann
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27 true and accurate transcript of the
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36 Susan Osborne
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38 I HEREBY CERTIFY the foregoing to be a
39 true and accurate transcript of the
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42 skill and ability, and in accordance
43 with applicable standards.
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Karen Acaster