COMMISSION OF INQUIRY INTO THE DECLINE OF SOCKEYE SALMON

IN THE FRASER RIVER

In the matter of Her Excellency the Governor General in Council, on the recommendation of the Prime Minister, directing that a commission do issue under Part I of the *Inquiries Act* and under the Great Seal of Canada appointing the Honourable Bruce Cohen as Commissioner to conduct an inquiry into the decline of sockeye salmon in the Fraser River.

WRITTEN SUBMISSIONS OF THE

WESTERN CENTRAL COAST SALISH FIRST NATIONS

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WRITTEN SUBMISSIONS OF

WESTERN CENTRAL COAST SALISH FIRST NATIONS

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WRITTEN SUBMISSIONS OF WESTERN CENTRAL COAST SALISH FIRST NATIONS

COMMISSION OF INQUIRY INTO THE DECLINE OF SOCKEYE SALMON

IN THE FRASER RIVER

A. Overview and Introduction

1. Prior to the arrival of Europeans in British Columbia, there was a thriving marine environment. This environment supported aboriginal communities along the whole coast and up through the interior along the Fraser River and throughout its vast watershed. Aboriginal peoples drew sustenance from this environment, traded the products of this environment and built their culture and way of life around this environment.

2. At the centre of this great natural wealth was the sockeye salmon. This species provided an abundant source of food and was revered as a life bringer. Its arrival was a source of celebration. When the Europeans came, they too enjoyed the benefits of this abundant species. With the help of the aboriginal people at Fort Langley and Fort Victoria, it provided a trade good which became a source of great wealth.

3. Over time the Aboriginal peoples were pushed to the side as the great commercial fisheries of the west coast developed. While in recent times this process has been slowly abated and perhaps even reversed as governments have begun the process of finally respecting aboriginal and treaty rights, a threat has emerged to all users of this great fishery as we have in recent decades begun to see a steady secular decline in the Fraser River Sockeye populations.

4. While there are years in which sudden jumps in populations give hope, it appears these events are anomalies in the ongoing decline of this once great species. While the evidence in this inquiry suggests that the causes of this decline are obscure and likely multiple in nature and complex in operation, the decline is real and ominous.

5. While this decline is harmful to all who have depended upon the sockeye salmon for their livelihood it is devastating to the aboriginal peoples who have depended upon this source of life for millennia. For them this is a part of the inexorable loss of their culture, their way of life and their communities that has been ongoing since Europeans first arrived on this continent. It is a cruel irony that barely three decades after aboriginal and treaty rights were finally protected in 1982, and barely two decades

after the courts start to give meaning to those rights in the early 1990s, these people see a real danger than there may be nothing left to harvest soon.

6. For the Western Central Coast Salish First Nations (the "WCCSFN") this Inquiry is about more than an economic activity or an occupation. It is about more than the survival of towns or communities. It is about the survival of their people, their cultures and their way of life. There is no alternative for them – there is nowhere else for these people to be who they are and without the fisheries the heart of what they have been, are and hope to be will be lost.

7. The Fraser River sockeye salmon is a bellweather species in this fight. It is a species that we all agree is important and upon which many of us depend. If there is any hope of stemming the tide of environmental decline, species loss and the loss of resources that serve as the foundation of both the aboriginal and non-aboriginal economy it lies in showing that we can work together to turn the tide on this species which means so much to all of us.

(a) Overview of First Nations' Interests in the Sockeye Fishery

8. Looked at from the aboriginal perspective, the harvest of salmon, including the Fraser River Sockeye is not primarily a legal question – it is a cultural matter. The annual salmon runs defined a way of life and supported cultures that thrived in British Columbia for millennia. However, in western terms, the importance of the ability to harvest salmon is manifested in the special legal protection extended to aboriginal and treaty rights.

9. Therefore the WCCSFN's submissions and recommendations are informed by the Aboriginal and Treaty rights framework. Therefore, we review below, in a summary manner, the relevant legal principles that inform our submissions.

10. The Commission must also have regard to these rights in formulating its recommendations. The Commission's recommendations are only useful to the extent that they can be lawfully implemented. As such these recommendations must be consistent with the existing aboriginal and treaty rights of all affected aboriginal peoples in accordance with the fashion that those rights are protected by Section 35 of the ***Constitution Act, 1982***. This means regard must be had both to the substantive aspects of aboriginal and treaty rights as well as the rules limiting the extent to which the government can interfere with these rights.

11. Section 35(1) of the *Constitution Act, 1982* provides:

35. (1) The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed.

(b) Aboriginal and Treaty Rights to Fish

12. There are two distinct classes of Section 35 rights at stake for the WCCSFN. First there are those rights that are derived from the pre-contact practices and way of life of the WCCSFN. These rights are referred to as aboriginal right. Second, there are the unique rights which arise out of the particular agreements entered into by the Crown and the Douglas Treaty nations represented (in part) by the Te'mexw Treaty Association.

13. The framework for analysing Aboriginal rights was first explained in the *Sparrow case*. The *Sparrow* case provided the Supreme Court of Canada with its first opportunity to consider the scope of section 35.[1] It is *apropos* that the case considered a Coast Salish person fishing for sustenance at the mouth of the Fraser River. The Supreme Court has since elaborated on these rights so as to make it clear that the protection of Aboriginal rights is not merely intended to preserve quaint or peculiar practices but instead is intimately tied to the maintenance of the way of life of a people and to recognize their traditional occupancy of their territories.[2]

14. Aboriginal rights protect the customs, practices and traditions that constitute an integral part of the distinct culture of the aboriginal people, Aboriginal rights arise out of the pre-contact cultures of the nation in question and so the relevant time for ascertaining the content of a nation's aboriginal rights is the time of contact.[3] Aboriginal rights are specific to certain areas, as informed by the practice, tradition and custom that grounds the Aboriginal right of the relevant people.[4]

15. Treaty rights by contrast arise out agreements between the Crown and aboriginal peoples. The Courts have long recognized that these commitments are solemn commitments and the Crown is honour bound to respect these rights. These rights are not necessarily limited to those practices that existed at contact but are ascertained based upon what was agreed upon and what the circumstances of the aboriginal people at the time treaty-making were[5].

16. The distinction between these two rights can be demonstrated by reference to the example of economic rights. In order to show that an economic right to trade in fish at

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[1] *R. v. Sparrow,* [1990] 1 S.C.R. 1075 ("Sparrow")
[2] *R. v. Sappier; R. v. Gray,* 2006 SCC 54, [2006] 2 SCR 686
[3] *R. v. Sappier; R. v. Gray,* 2006 SCC 54, [2006] 2 SCR 686.
[4] *R. v. Adams,* [1996] 3 S.C.R. 101, at para. 30.
[5] *R. v. Marshall,* [1999] 3 SCR 456; R. v. Morris, 2006 SCC 59, [2006] 2 SCR 915.

some level is protected as an aboriginal right it is necessary to show that there was an equivalent or analogous form of trade before the arrival of Europeans. An example of this is found on the west coast of Vancouver Island where it has been held that the Nuu-chah-nulth engaged in pre-contact trade[6].

17. By contrast, a treaty right to engage in an economic fishery can be established if it can be shown that the aboriginal people who signed the treaty had an established commercial fishery at the time of treaty with the non-aboriginal or aboriginal communities and achieved protection for those fisheries in the treaty. The classic example of this is the *Marshall* case. Similarly, at Fort Victoria the Hudson's Bay Company relied on a trade in salmon with Songhees and others to supply fish for its commercial trade with Hawaii and elsewhere.[7]

18. *Sparrow* recognized that the Section 35 right to fish is broader than simply a right to dip a net in the water or a right to harvest. The rights are *sui generis*, and include rights incidental to a core harvesting right.[8] These incidental rights reflect the principle that the existence of these rights is about preserving a way of life and that there is little point of that if the rights cannot be exercised because the resource cannot be accessed, the resource has been made extinct or the habitat upon which the resource relies has been destroyed or compromised.

19. Two British Columbia Court of Appeal decisions are examples of the application of this principle.

20. In *Claxton*, the court held that the Douglas Treaty right to 'fish as formerly' implied a right to access their traditional fishing grounds and a right not to have their fishing grounds destroyed.[9]

21. Similarly, in *West Moberly*, the court held that the treaty right to hunt implied an incidental right to have the habitat necessary to support the caribou species traditionally harvested by First Nations. In addition, the court implicitly recognized the First Nations' role in the management of the resource, as the First Nation had imposed its own moratorium on hunting caribou.[10]

22. Thus, when considering the Aboriginal right to fish, it is important to recognize that it extends beyond a right to harvest *simpliciter*. *Sparrow* provides a framework which

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[6] *Ahousaht Indian Band and Nation v. Canada (Attorney General),* 2011 BCCA 237

[7] Harris, June 27, 2011,pps. 59-61

[8] See Also *Mitchell v. Canada (Minister of National Revenue – M.N.R.),* 2001 SCC 33, [2001] 1 S.C.R. 911 , para. 22

[9] *Claxton v. Saanichton Marina,* [1989] 5 W.W.R. 82 (B.C.C.A.)

[10] *West Moberly First Nations v. British Columbia (Chief Inspector of Mines)* 2011 BCCA 247 at para. 118.

has been applied repeatedly by the courts when a government action is found to infringe an Aboriginal right:

> The first question to be asked is whether the legislation in question has the effect of interfering with an existing aboriginal right. If it does have such an effect, it represents a *prima facie* infringement of s. 35(1)...The inquiry with respect to interference begins with a reference to the characteristics or incidents of the right at stake.[11]

23. In determining whether there is *prima facie* infringement the core question is "has there been a significant interference with the Section 35 right in question. In approaching this analysis the court suggested that the answers to certain questions could help shed light on this analysis: 1) is the limitation unreasonable? 2) does the regulation impose undue hardship? 3) does the regulation deny to the holders of the right their preferred means of exercising that right?[12]

24. The Crown must manage the fishery in a manner that does not unjustifiably infringe upon these constitutionally protected rights. The burden lies on the Crown to show justification. This is a two-part analysis requiring that the Crown show that there is a valid legislative purpose for the interference and that any interference has been carried out in a way that is consistent with the honour of the Crown. The determination of whether or not there is a valid legislative purpose requires consideration of both the purpose of the legislation and the nature of the right in question. Mere reliance on "public interest" is not sufficient. In general the legislative purpose must be consistent with the purpose of protecting the right in question and the underlying purpose of Section 35 – namely to reconcile the existence of prior aboriginal occupation and use of the lands and water with the legal assertion of Crown sovereignty.

25. After the Crown has demonstrated a valid legislative purpose it must show that the honour of the Crown has been satisfied in the manner in which the legislative purpose has been given effect. In the case of sustenance fisheries one of the most significant factors to be considered is whether after satisfaction of legitimate purpose (such as conservation) is whether, First Nations' food fishing rights have been given priority over other fisheries such as commercial or recreational fisheries.[13]

26. In assessing the question of whether or not justification for an interference exists there are further questions to be asked: 1) whether there has been as little infringement as possible; 2) whether in the case of expropriation, fair compensation is available; and 3)

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[11] *Sparrow* at para. 68
[12] *Sparrow* at p. 29
[13] *Sparrow* at p. 30

whether the aboriginal group in question has been consulted with respect to the conservation measures being implemented.[14]

27. In *Gladstone*, Lamer C.J. referred to the need for "consultation and compensation", and to consider "how the government has accommodated different aboriginal rights in a particular fishery ..., how important the fishery is to the economic and material well-being of the band in question, and the criteria taken into account by the government in, for example, allocating commercial licences amongst different users."[15]

(c) The Duty to Consult and Accommodate

28. Subsequently, the *Haida* case further developed the Crown's duty of consultation in the context of managing resources generally.[16] Prior to *Haida* the governments took the position that they were only obliged to deal with aboriginal and treaty rights as rights after a First Nation had proven these rights in court. After *Haida*, the court made it clear that the Crown is obliged to assess the potential for the existence of aboriginal rights and the potential for infringement of these rights wherever it is contemplating activities – including regulatory activities – that could adversely affect those rights. Where there is a serious claim for rights and/or a serious risk of infringement of those rights the Crown is obligated to take steps to accommodate the aboriginal people's rights or interests. The Supreme Court of Canada extended this principle to the context of treaty rights in the *Mikisew* decision[17].

29. The duty to consult arises when the Crown has knowledge, real or constructive, of the potential existence of the Aboriginal right or title and <u>contemplates conduct that might adversely affect it</u>.[18] (emphasis added)

30. The scope of the duty is proportionate to a preliminary assessment of the strength of the case supporting the existence of the right or title, and to the seriousness of the potentially adverse effect upon the right or title claimed.[19]

31. In the context of the Aboriginal right to fish, the first part of the test will rarely need to be considered as the test speaks of a potential right. In the context of a treaty right to fish it will be set out in the treaty.[20] Although the scope of the duty may vary,

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[14] *Sparrow* at para. 82
[15] *R. v. Gladstone,* [1996] 2 S.C.R. 723 at para. 64
[16] *Haida Nation v. British Columbia,* 2004 SCC 73 ; [2004] 3 S.C.R. 511 ("*Haida*")
[17] *Mikisew Cree First Nation v. Canada (Minister of Canadian Heritage),* [2005] 3 SCR 388, 2005 SCC 69
[18] *Haida* at para. 35
[19] *Haida* at para. 39
[20] *Mikisew Cree First Nation v. Canada (Minister of Canadian Heritage),* [2005] 3 S.C.R. 388, 2005 SCC 69

depending on the strength of claim, it is the Crown conduct and its impact on the Aboriginal or treaty right to fish that will be the focus of consultation.

32. Importantly, the court noted that the duty is not simply triggered by operational decisions, but extends to strategic planning for resources.[21] It would be odd if the Crown could engage in high level planning processes that determine the subsequent course of Crown conduct but are only required to engage with aboriginal people once they are implementing these already made decisions

(d) Overview of WCCSFN's Interest in the Sockeye Fishery

33. The WCCSFN communities have traditionally fished for Fraser River sockeye in the respective areas of the Strait of Georgia, the south arm (i.e. main channel) of the Fraser River, and in the Fraser Canyon. All members of the WCCSFN are engaged in modern treaty negotiations under the auspices of the BC Treaty Commission (The "BCTC Process").

34. The Penelakut, Hwlitsum, Cowichan Tribes and Chemainus First Nations are closely linked historically and geographically, and for the purposes of this Commission accept that they are each descendant of the historic Cowichan people or nation (hereinafter "Cowichan").

35. The evidence is that the Cowichan historical presence on the Fraser River was so culturally profound that in 1825 the first Europeans on the river since Simon Fraser recorded that the Natives called the river "Cowichan"[22]. The evidence is that the Cowichan people had an extensive village on the lower Fraser River at Lulu Island on the main channel (i.e. south arm) of the Fraser River, particularly per official historical maps in 1827 and 1869.[23] They fished sockeye near the mouth of the river <u>every summer</u> and attended the Fraser Canyon fishery as well; a major purpose of their cultural practice was to dry salmon (e.g. for winter food; trade).[24]

36. The members of the TTA are beneficiaries of the Douglas Treaties which, *inter alia*, provided them with a right to 'fish as formerly'. The TTA have traditionally followed a seasonal round, had reef net sites off of Point Roberts (extending into the San Juan Islands and Puget Sound), around southern Vancouver Island, as well as the mouth of the Fraser River. The TTA's Treaty right to "fish as formerly" has not been

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[21] *Haida* at para. 76; *Rio Tinto Alcan Inc. v. Carrier Sekani Tribal Council*, [2010] 2 S.C.R. 650, 2010 SCC 43 at para. 44
[22] Harris, June 27, 2011, p. 71, ll. 10-22
[23] Harris, June 27, p. 71, l. 10 – p.75, l. 47
[24] Harris, June 27, 2011, p. 70, l. 28 – p. 71, l. 1

accommodated or recognized by DFO to date.[25] This is of particular concern in relation to the recognition of the commercial or economic aspects of the Douglas Treaty rights signed in the vicinity of Fort Victoria.[26]

37. In sum, First Nations have Section 35 rights to fish, which include ancillary rights to habitat protection and management of the fishery. There are a myriad of decisions, ranging from high level strategic decisions to local allocation decisions that have the potential to adversely impact upon First Nations' rights, triggering a duty to consult with First Nations and accommodate their section 35 rights. Taking Aboriginal and Treaty rights seriously requires for full First Nations' participation in the management of the Fraser River salmon fishery.

38. Adhering to these constitutional and common law principles does not mean that conservation of the fishery will be given short shrift or the interests of commercial and recreational fishers will somehow be diminished. However for far too long, First Nations have been considered as mere stakeholders as opposed to rights-holders. If there is to be a bountiful fishery for all there needs to be a fundamental paradigm shift in the management of the fishery.

B. Fisheries Management, Agencies, Structures & Policies

(a) DFO's Organizational Structure

39. DFO's current organizational structure is a 'command and control' structure. Most of the important decision-making is centralized in Ottawa, with the Pacific Region having a minor say in strategic decisions.

40. The Departmental Management Committee (the "DMC") is chaired by the Deputy Minister, and is a senior management decision-making body. It establishes overall goals, policies and procedures and priorities for the Department. DFO has a matrix management model: policy and program direction is set by the Minister based on advice provided through the Deputy Minister and the DMC. Implementation and program delivery are undertaken in the regions and sectors.[27] There are numerous sub-committees that support the DMC.

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[25] Parslow, Jantz and Houtman, May 11, 2011,p.88, l. 11-22; Masson,, May, 12, 2011, p. 97, l.47- p.98 l. 6; Nelson and Coultish, May 18, 2011, p. 93, l.18-30

[26] Harris, June 27, 2011, p.58-64

[27] Exhibit 15,DFO Presentation –Organizational Structure Oct. 29 – 2010, p. 8

41. The Department has become proficient in developing strategic plans, discussion papers, vision statements and (draft) policies, but the implementation has often been lacking. Policies are often conflicting and in draft form.[28]

42. Often even within the department there is uncertainty whether a policy exists, where one is in place or which policy applies in a given situation. This leads to frustration within DFO as well as outside amongst First Nations, as well as commercial and recreational fishers.

43. The WCCSFN recommend that DFO conduct an audit and develop an inventory of all their various policies (whether in draft or final version), and review these policies with First Nations and interested stakeholders. Once complete, DFO produce a comprehensive listing of all its policies and make them available to the public.

44. Concerns have been raised by several participants regarding the apparent conflict of interest that DFO may have in being responsible for wild salmon and promoting aquaculture. One example of this conflict is the position of Regional Director of Fisheries and Aquaculture Management. During her testimony, Sue Farlinger stated:

> At the regional level, the Regional Director of Fisheries and Aquaculture Management is the key position in terms of the management of the fishery, the management of aquaculture, and the aboriginal programs associated with Fraser salmon fishery. [29]

45. The WCCSFN submit that this position is rife with potential conflicts as there are three potentially conflicting roles: 1) sustainable management of the fishery at large; 2) aquaculture development; and 3) aboriginal programs. To avoid this conflict, the WCCSFN recommend that the position should be split with a Regional Director for Fisheries and a Regional Director for Aquaculture Management.

46. On a broader level, should changes in the DFO structure be undertaken or recommended, those changes themselves may trigger a duty to consult. In *Gitxsan*, Tysoe J. (as he then was) recognized that a change in the decision maker or the character of the decision maker may potentially lead to adverse consequences with respect to claimed aboriginal rights and trigger a duty to consult. [30]

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[28] See for examples Exhibit 19, DFO Departmental Plan – DFO Integrated Business and Human Resources Plan 2010-2011; Exhibit 1957 Pacific Region – Interim Assessment Framework and Procedures for Addressing Changes to First Nations Food, Social and Ceremonial Allocations and Fishing Locations, Jan. 20, 2005 and Exhibit 1958 Decision Guidelines for Evaluating Requests to Change the Provisions of FSC Mandates, Draft 2: June 27, 2005.

[29] Farlinger, November 1, 2010, p. 25, ll. 21-26; also see Exhibit 33

[30] *Gitxsan First Nation v. British Columbia (Minister of Forests)*, 2002 BCSC 1701 at para. 82; also see *Adams Lake Indian Band v. British Columbia*, 2011 BCSC 266

(b) Pacific Salmon Treaty & Pacific Salmon Commission

47. The Pacific Salmon Treaty (the "PST") is a bilateral agreement between Canada and the United States of America addressing the allocation and conservation of Pacific salmon. The PST provides for bilateral management of all salmon originating in the waters of one country which are subject to interception by the other, affect management of other country's salmon or affect biologically the stocks of the other country. [31]

48. The PST creates the Pacific Salmon Commission (the "PSC"), which is directly involved in the management of Fraser River sockeye as well as in making management and conservation recommendations to the Canadian and American governments.

49. The PST establishes a total allowable catch (the "TAC"), which is found in Annex IV, Chapter 4 and defined as follows:

> 3. For the purposes of this Chapter, the TAC shall be defined as the remaining portion of the annual aggregate Fraser River sockeye and pink runs (including any catch of Fraser River sockeye identified in Alaskan waters) after the spawning escapement targets established, unless otherwise agreed, by application of Canada's pre-season escapement plan (subject to any adjustments made pursuant to paragraph 3(b) below), the agreed Fraser River Aboriginal Exemption, and the catch in Panel authorized test fisheries have been deducted. TAC shall be computed separately for Fraser River sockeye and pink salmon...[32]

50. Subsection 3(c) provides that:

> (c) The agreed Fraser River Aboriginal Fishery Exemption (AFE) is that number of sockeye which is subtracted from the total run size in determining the TAC upon which the U.S. shares specified in paragraph 2 are calculated. Any Canadian harvests in excess of these amounts count against the TAC, and do not affect the U.S. share. The agreed Fraser River Aboriginal Fishery Exemption is the actual catch of Fraser River sockeye harvested in both in-river and marine area Aboriginal Fisheries, up to 400,000 sockeye annually.[33]

51. Thus, the first 400,000 Fraser River sockeye harvested do not count against the TAC. Any harvests over and above this amount are counted as part of Canada's share of the TAC. The AFE has remained constant at 400,000 sockeye since 2000. There is no evidence before this Inquiry whether First Nations were or have been consulted on the AFE.

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[31] PPR #4, Pacific Salmon Treaty and the Pacific Salmon Commission Regarding Management of Fraser River Sockeye Salmon, p.3

[32] Exhibit 65, Pacific Salmon Treaty, p. 15, s. 3

[33] Exhibit 65, Pacific Salmon Treaty, p 15, s. 3(c)

52. The WCCSFN submits that the structure of the PSC and the manner in which it is calculated creates a disincentive for Canada to provide sufficient sockeye to meet First Nations' needs. Any sockeye, beyond the 400,000 AFE is counted against Canada's share of the TAC and therefore not available to commercial or recreational fishers.

53. First Nations were not involved in the negotiation or re-negotiation of the PST.[34]

54. While the PSC is responsible for establishing spawning escapement targets and pre-season planning, the operational decisions are delegated to the Fraser River Panel.

55. The Fraser River Panel manages the commercial harvest of Fraser River sockeye and pink salmon within the Fraser Panel Area. It is responsible for developing fishing plans, in-season decision rules and in season harvest regulation.

56. Although the PSC and the Fraser Panel has nominal First Nations representation, the individuals are appointed by Canada, not by First Nations.[35]

57. The individuals appointed to the PSC or Fraser Panel do not have a mandate from their First Nations or from the First Nations with interests on the Fraser River.[36]

58. Decisions made at the Fraser River Panel and the PSC are exactly the type of high-level strategic decisions that the Supreme Court of Canada has stated require consultation with First Nations. The record before this Commission is that those consultations have not occurred.

59. Moreover, given the nature of their rights and their priority, First Nations have been requesting meaningful participation in these *fora*. Chief Fred Sampson's testimony summarizes the First Nations' perspective:

> Well, absolutely. I mean, First Nations need to be at those tables where the decisions are being made and to bring about those changes at those levels, at the high level. We need to be fully endorsed and recognized at those tables, and have equal say and equal voice. In many cases, it's more of symbolism or tokenism that aboriginal people sit at those tables, and you will hear from my friends of the frustrations that they have, in wanting to do the right thing, and wanting to engage so that our knowledge and our fish are protected for our future generations. And yet their voice isn't heard or respected at those tables.[37]

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[34] Lapointe, November 9, 2010, p. 36, ll. 6-46
[35] Kowal, November 9, 2010, p. 13, l. 38 – p. 14, l. 1
[36] Kowal, November 9, 2010, p. 14, ll. 2-11
[37] Chief Sampson, December 14, 2010, p. 14, ll. 26-39

(c) Wild Salmon Policy

60. "We can no longer accept the *status quo* or continue to manage salmon from crisis to crisis. For the future of fish and fishermen, we must get ahead of the curve, and shift to a risk averse, conservation-based fishery."[38]

61. Those words were spoken by then Fisheries Minister David Anderson in June 1998. Unfortunately, they still apply today.

62. The 1998 New Directions document set out the broad policy principles that were to guide DFO's approach to the Pacific Salmon Fisheries. The Wild Salmon Policy ("WSP") was the result of this New Directions initiative. It took another seven years to finalize this policy. Unlike other DFO policies, First Nations were involved in the development of the WSP and there was generally broad support for its enactment and implementation.

63. Thirteen years after Minister Anderson's dire warning, implementation of the WSP has stalled. The WSP was adopted without any new resources attached to it. DFO Senior officials are not certain when, if at all, the WSP will be fully implemented.[39]

64. The WSP provides:

> The successful implementation of this policy will provide Canadians with:
>
> Healthy, diverse, and abundant wild salmon populations for future generations;
>
> Sustainable fisheries to meet the needs of First Nations and contribute to the current and future prosperity of all Canadians;
>
> Improved accounting for ecosystem value in salmon and habitat management decisions.[40]

65. These are laudable goals. However, without a coherent policy framework or implementation plan, these goals will not be realized any time soon. The *status quo* continues to be DFO managing from one crisis to the next.

66. The WSP sets our four guiding principles that will guide all decisions and activities pertaining to wild Pacific Salmon:

> Principle 1 Conservation.
>
> Conservation of wild Pacific salmon and their habitats is the highest priority in resource management decision-making.

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[38] Exhibit 32, A New Direction for Canada's Pacific Salmon Fisheries, October, 1998, p. 1
[39] Farlinger, September 28, p. 8, ll. 3-5
[40] Exhibit 8, Canada's Policy for Conservation of Wild Salmon, p. 7

Principle 2 Honour obligations to First Nations.

Resource management processes and decisions will honour Canada's obligations to First Nations.

Principle 3 Sustainable Use.

Resource management decisions will consider biological, social and economic consequences, reflect best science, including Aboriginal Traditional Knowledge (ATK), and maintain the potential for future generations to meet their needs and aspirations.

Principle 4 Open Process.

Resource management decisions will be made in an open, transparent and inclusive manner.[41]

67. The evidence during the course of this hearing has shown that DFO is not currently observing these four principles in its decision-making, as detailed below in our submissions. However, these four principles should guide the Commissioner in making your recommendations.

68. The WSP provides for six strategies, with various action steps.[42] These strategies need not be completed sequentially, but can occur concurrently.[43]

69. The WSP strategies and action steps are set out below:

1. Standardized monitoring of wild salmon status
    - Identify Conservation Units
    - Develop criteria to assess CUs and identify benchmarks to represent biological status
    - Monitor and assess status of CUs
2. Assessment of habitat status
    - Document habitat characteristics within CUs
    - Select indicators and develop benchmarks for habitat assessment
    - Monitor and assess habitat status
    - Establish linkages to develop an integrated data system for watershed management
3. Inclusion of ecosystem values and monitoring
    - Identify indicators to monitor status of freshwater ecosystems

[41] Exhibit 8, Canada's Policy for Conservation of Wild Salmon, p. 8-9
[42] Exhibit 8, Canada's Policy for Conservation of Wild Salmon,p. 16
[43] Farlinger, September 28, 2011, p.5, ll. 8-26

- Integrate climate and ocean information into annual salmon management processes

4. Integrated strategic planning
   - Implement an interim process for management of priority CUs
   - Design and implement a fully integrated strategic planning process for salmon conservation
5. Annual program delivery
   - Assess the status of Conservation Units and populations
   - Plan and conduct annual fisheries
   - Plan and implement annual habitat management activities
   - Plan and implement annual enhancement activities
6. Performance review
   - Conduct post-season review of annual workplans
   - Conduct regular reviews of the success of the WSP.[44]

70. Although there have been several fora and meetings, there has been minimal First Nation involvement in Strategy 1 implementation, in particular, the identification of conservation units and identification of benchmarks.[45]

71. DFO failed to produce a realistic implementation plan. Implementation of these strategies and action steps has been painfully slow. Two foundational pieces of the WSP have been completed, identifying conservation units and identifying freshwater habitat indicators metrics and benchmarks. Much of the information sought in strategies 1 to 3 of the WSP remains outstanding. The Department has no timeline when they might fully implement these strategies.[46]

72. Significant challenges have been faced by DFO in implementing traditional ecological knowledge ("TEK") into these strategies. Although a few attempts were made to do so, there has been no significant progress relating to WSP implementation.[47]

73. For example, one habitat status report (as required by Strategy 2) has been completed to date on the Fraser Watershed.[48] DFO could not commit to a timeline for the completion of the habitat status reports.[49]

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[44] Exhibit 8, Canada's Policy for Conservation of Wild Salmon, p. 16
[45] Saunders, December 8, 2010, p. 104, ll. 27-47; p. 106, ll. 19-47; p. 107, ll. 1-17
[46] Farlinger, September 27, 2011 p.23, ll.37-47; p.24, ll. 1-10
[47] Saunders, November 29, 2010, p. 41, l. 35 - p. 42, l.7

74. A September 2011 performance review conducted by Gardner Pinfold[50] indicates that implementing the *Policy* has been much slower than indicated in initial planning documents, and six year after implementation, critical outputs needed to take action on priority CUs (one of the main features of the *Policy*) have not yet been completed.[51]

75. The WCCSFN supports the recommendations contained in the Gardner Pinfold performance review.[52]

76. In regards to Strategy 4, DFO has not embarked upon Action step 4.2, which is the development of an integrated planning process. Currently, DFO plans to develop a framework for long-term integrated planning process from 2012-2015.[53]

77. DFO Senior officials were unable to say when Strategy 4 might be implemented beyond the framework stage.[54] Should Strategy 4 ever be implemented, DFO officials agree that First Nations must be participants in any integrated planning process.[55]

78. The lack of new resources for implementation was a concern raised by DFO representatives from the outset.[56]

79. A comprehensive cost analysis of implementation of the WSP has not been done to date by DFO.[57]

80. The Government of Canada recently announced that all federal departments will be expected to cut their budgets from 5-10% over the next three years. As a result, there will be even less resources available for implementation of the WSP.

81. Several DFO witnesses stated that the WSP is the key policy document or guiding document for their decision-making. Implementation of, and changes to, the Wild Salmon Policy requires deep consultation with First Nations.

82. The WSP must be a priority for implementation. Given the impending budget cuts, it will likely continue to "wither on the vine," while other 'operational matters' get priority for an ever-shrinking budget.

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[48] Farlinger, September 27, 2011 p. 25, ll. 16-34; p. 27 ll. 1-6
[49] Farlinger, September 28, 2011, p. 107, ll. 32-36
[50] Gardner Pinfold, *Performance Review of the Wild Salmon Policy (Draft)*, September 2011
[51] Gardner Pinfold, *Performance Review of the Wild Salmon Policy (Draft)*, September 2011, Executive Summary, p. i
[52] Gardner Pinfold, *Performance Review of the Wild Salmon Policy (Draft)*, September 2011, Executive Summary, pp.i-v
[53] Exhibit 964, Wild Salmon Policy Implementation Draft Workplan 2011/2012, p. 7
[54] Farlinger, September 28, 2011, p. 7, l. 32 - p. 8, l. 4
[55] Chamut, December 1, 2010, p. 99, ll. 1-19; Farlinger, September 28, 2011, p. 8 , ll. 6-9
[56] Exhibit 120, Chamut to Farlinger e-mail
[57] Farlinger, September 27, 2011, p. 24, ll. 26-44

83. Should the WSP be implemented, First Nations' participation in the decision-making process, particularly at the integrated planning stage must be included. This has been something that First Nations have been requesting from the outset.[58]

84. There needs to be appropriate First Nations' representation at the local level to ensure protection of local populations and accommodation of First Nations' rights and social values. This process needs to be provided with sufficient human and financial resources for implementation to have any chance of success.

85. In addition, the WCCSFN recommends that an independent board be established to monitor implementation of the WSP. This board should include representation from First Nations, the Government of British Columbia, the commercial and recreational sectors, as well as non-DFO personnel from the Government of Canada.

(d) Conservation, Sustainability and Stewardship

86. Repeatedly throughout these hearings, DFO witnesses have referenced a shift to ecosystem-based management of the fishery. However, the evidence presented during the hearings suggests that this paradigm-shift has not taken hold in the department[59]. It is the position of WCCSFN that DFO's management of the fishery must be infused with conservation principles inherent to First Nation's historic management of the fishery.

87. The conservation and effective stewardship of fisheries was an element of aboriginal fishing practices, traditions and customs prior to federal regulation. The Supreme Court of Canada referenced this fact for example as early as in *R. v. Jack,* where it was noted with respect to an historic Cowichan fishery that, "it appears that the Indians themselves practiced some form of self-imposed discipline for conservation purposes."[60] This was echoed during the Commission proceedings, when Dr. Harris described the Cowichan's use of roughly a dozen fish weirs across the Cowichan River, which "suggests a fairly comprehensive understanding of the life cycle and of fisheries management".[61]

88. The Supreme Court of Canada in *Sparrow* subsequently emphasized that First Nations' "history of conservation-consciousness and interdependence with natural

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[58] Saunders, December 1, 2010, p. 103, ll. 14-34; Exhibit 93, Canada's Policy for Conservation of Wild Pacific Salmon Ministerial Briefing, May 16, 2005, p. 4

[59] Ross, June 14, 2011, p. 57, l. 31 – p. 58. l. 31.

[60] *R. v. Jack,* [1980] 1 S.C.R. 294

[61] Harris, June 27, 2011, p. 52, ll. 3-8.

resources" requires that, at the very minimum, they "be informed regarding the determination of an appropriate scheme for the regulation of the fisheries."[62]

89. In order to manage the fishery in a conservation-oriented manner, DFO must involve First Nations in the management of the fishery, and can then access this historical conservation-consciousness that enabled the fishery to be sustained long before contact. At the very least, DFO must take steps to keep First Nations apprised of how the fishery will be managed and any changes to that management regime.

(e) DFO Priorities & Summary

(i) Fisheries Act

90. During the DFO Priorities and Summary hearing the topic of *Fisheries Act* renewal was explored. This has been identified as a priority by the DMC.[63]

91. One of the oft-cited reasons for DFO to give up any decision-making responsibility is that it would 'fetter the Minister's discretion.'

92. Co-management was a significant topic during the hearings. However, what was abundantly clear is that DFO and First Nations have a fundamentally different view of what co-management means. Replacement of the *Fisheries Act* was identified as a priority. The WCCSFN submits that it be done so in the manner that allows for a true co-management regime to be put in place.

93. One example of a true co-management structure is the Kunsta'aa Guu – Kunst'aayah Reconciliation Protocol, which required the introduction of legislation, the *Haida Gwaii Reconciliation Act*, in order for the Protocol to be fully implemented.[64]

94. Should the Government of Canada embark upon amending or replacing the *Fisheries Act*, First Nations should be consulted as such amendments may have an adverse impact on the exercise of their rights.[65]

(ii) Aboriginal File

95. DFO recognizes that there is a great deal of work required on the Aboriginal file. The departmental priorities identified by the DMC in September 2010, must be addressed in a timely manner. In particular, the DMC identified the following:

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[62] *Sparrow* at para 82.

[63] Exhibit 1956, Departmental Priorities, Extended DMC, September 29-30, 2010, p. 4; Bevan, September 26, 2011, p.50, l. 46 – p. 51, l. 13

[64] Exhibit 1200, Kunst Au Yah Reconciliation Protocol

[65] *Tsuu T'ina Nation v. Alberta (Minister of Environment),* 2010 ABCA 137 at para. 55-56.

Aboriginal

In light of long-standing issues and more recent flashpoints, it was agreed that Aboriginal issues were becoming increasingly complex and were largely centered around access/allocation and consultation. (emphasis added) Priorities identified include:

- Establish Aboriginal Fisheries Frameworks and renew treaties and/or treaty-type arrangements
    - Adopt a coordinated approach to the renewal of Laroque, AICFI and PICFI
- Understand how court decisions will affect DFO policies, programs and operations
- Aboriginal consultations – duty to consult – need to better understand vis-a-vis court decisions, DFO obligations and stakeholder expectations. Develop and adopt, across the Department, a coordinated approach to consultations, with best practices being shared across NHQ/regions, and drawing from a whole government approach.[66]

96. The WCCSFN agree that these must be priorities for DFO going forward. The WCCSFN agrees that renewing treaties, in particular the Douglas Treaties needs to be a priority going forward, as well the negotiation of interim measures agreements under the BCTC Process.

97. Renewal of *Laroque* and PICFI funding, subject to our comments below, are priorities that the WCCSFN support.

98. Meaningful consultation with DFO remains an unrealized goal for the WCCSFN. Consultation (as opposed to simply meeting) is a priority area for DFO to improve its approach.

99. Finally, access and allocation are major issues for the WCCSFN as set out below. We set out a number of recommendations to address these thorny issues.

C. Topics specific to Aboriginal Interests

(a) Aboriginal World View, Cultural Context, and Traditional Knowledge

100. There is clear evidence of the need to incorporate Aboriginal worldviews and traditional knowledge into sockeye fisheries research and decision-making. A guiding principle of the federal Wild Salmon Policy is that resource management decisions will "reflect best

[66] Exhibit 1956, Departmental Priorities, Extended DMC, September 29-30, 2010, p. 2

science, including Aboriginal Traditional Knowledge (ATK), ..."[67] Various scientists and DFO personnel confirmed that science at its best includes ATK.[68] As Mr. Marmorek explained during his testimony on cumulative effects and the importance of ATK:

> **Well, I think it's a very important form of knowledge, in particular because** of the time span both in duration and also in terms of resolution, namely that people, **First Nations, have been in particular locations for a very long period of time**, have seen many fluctuations in resources, have amazing memories about -- well, hopefully recorded from elders and the like about what's changed, but also because they're there all the time during a given year. So if something really unusual happens, oh, we had these really weird algal blooms in May before any of you scientists got up there with your sampling gear, they're there.[69] [Emphasis added.]

101. The evidence is also clear that the Cowichan are a prime example of an aboriginal people that could make a vital contribution to sockeye fisheries related research and management based on their lengthy presence on the Fraser River itself. The Cowichan people had an extensive village on the lower Fraser River at Lulu Island on the river's main channel (i.e. south arm), as indicated by historical maps from 1827 and 1869.[70] In 1878, federal-provincial Indian Reserve Commissioner Gilbert Sproat recorded that the Cowichan practice of fishing the river about their village site had been undertaken since "time immemorial."[71] In 1892 federal Indian Agent Lomas wrote to federal fisheries officials about the Cowichan salmon fishery on the Fraser River having been undertaken "for generations."[72] In 1955 anthropologist Homer Barnett recorded that every summer upon arrival of the Fraser River sockeye all the able bodied Cowichan would convene there for two months.[73]

102. Moreover, under cross-examination on his technical report, Dr. Harris confirmed the Cowichan practice of fishing sockeye near the mouth of the Fraser every year and also regularly attending the Fraser Canyon fishery, in particular to dry salmon for winter food and trade.[74] In addition, the Cowichan relationship with salmon was so

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[67] Exhibit 8, Canada's Policy for Conservation of Wild Salmon, p. 8-9.
[68] August 23, 2011 Transcript Dr. Kent at page 103 lines 33 to 46; [68] August 23, 2011 Transcript Dr. Johnson at page 95 line 16; [68] November 4, 2010 Transcript Panel No. 3 Paul Sprout at page 115 lines 14 to 20.
[69] September 20, 2011 Transcript David Marmorek at page 98 lines 24 to 40.
[70] Harris, June 27, 2011, p. 72-75; Exhibit 1158, The Fort Langley Journals – 1827-30, p. 8.
[71] Harris, June 27, 2011, pg. 75-76; Exhibit 1160, 1160, Affidavit of Barbara Lane, dated December 2, 2009, p. 10 para 38; Exhibit 1159, Sproat Memorandum .
[72] Harris, June 27, 2011, pg 67; Exhibit 1155, Correspondence between Lomas and Vowell, letter from Lomas to Vowell, dated February 31, 1892.
[73] Harris, June 27, 2011, pg 71; Exhibit 1157, Excerpt from Trading Beyond the Mountains, p. 222.
[74] Harris, June 27, 2011, p. 71; Exhibit 1157, Excerpt from Trading Beyond the Mountains, pp. 222-223.

sophisticated that Dr. Harris twice cited them as the quintessential example of sustainable aboriginal management of the salmon resource.[75]

103. Problematically, however, as Dr. Laura Richards testified, despite the Wild Salmon Policy the DFO has not really formalized any specific processes around the incorporation of aboriginal traditional knowledge into its research and decision-making.[76] Consequently, any steps taken by the DFO with a view to incorporating aboriginal traditional knowledge are necessarily *ad hoc*, and rife with the potential for excluding highly valuable aboriginal traditional knowledge based on erroneous assumptions (e.g. that the modern geography of Indian Reserves and/or treaty settlement lands is what reflects the long term geography of aboriginal peoples with relevant traditional knowledge). Case-in-point is the Cowichan people, whose constituent communities were generally allotted Indian Reserve lands on southeast Vancouver Island and the Gulf Islands but not the south arm of the lower Fraser River where since "time immemorial" they had their traditional village and salmon fishery.

104. Consequently, the WCCSFN submit the Commissioner should recommend that DFO formalize and implement, in consultation with First Nations, and based on demonstrable long term sockeye related presence in particular locations, specific processes for the incorporation of Aboriginal world view and traditional knowledge into sockeye related research and decision-making.

(b) Aboriginal Fishing

105. A First Nation's right to fish is based on section 35 of the *Constitution Act,* 1982, which, in addition to guidance provided by the relevant jurisprudence, forms the legal foundation for the FSC fishery implemented by DFO. It is implicit that DFO allocation decisions be based upon this presumption.

106. The *Sparrow* case set out a framework for addressing the priority of the FSC fishery and how it must be implemented on the ground:

> If, in a given year, conservation needs required a reduction in the number of fish caught such that the number equalled the number required for food by the Indians, then all the fish available after conservation would go to the Indians according to the constitutional nature of their fishing right. If, more realistically, there were still fish after the Indian food requirements were met, then the brunt of the conservation measures would be borne by the practices of sport fishing and commercial fishing.[77]

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[75] (June 27, 2011, pp. 51(11)-52(9), 93(34)-94(39))
[76] November 4, 2010 Transcript Panel No. 3 Dr, Laura Richards page 113 lines 46 and 47, and page 114 line 1.
[77] *Sparrow* at para. 78

107. First Nations' dietary and cultural needs for food fish are not currently being met. In 2004, First Nations produced the report, *Our Place at the Table*. Among other recommendations, the report stated:

- Canada must immediately take steps to ensure that First Nations have access to adequate quantities of fisheries resources for food, social and ceremonial purposes.[78]

108. In addition, during the course of the hearings, First Nations representatives stated that their allocations from year to year have remained static and their dietary and cultural needs are not being met.[79]

109. DFO decisions regarding allocations, access, habitat, etc. all have the potential to impact upon section 35 rights; however, DFO does not determine section 35 rights in its practice, nor does DFO conduct comprehensive consultation.

(i) DFO's Endpoint Allocation of Quantity

110. Canada's negotiation mandates change very little from year to year in terms of number of fish and funding.[80] Fisheries allocations have remained static since the implementation of the Aboriginal Fisheries Strategy ("AFS"). Both the end-point number of fish allocated to First Nations and the numbers allocated at a community level have not changed substantially since 1992.[81]

111. The Commission heard evidence that Canada has developed a Coastwide Framework, for aboriginal fisheries. Attached to this framework is a coast wide endpoint allocation for First Nations fishery allocation. This endpoint is expressed both as a numerical number and a percentage.[82]

112. The Aboriginal Fisheries Framework, provides:

- The Allocation Strategy establishes end-point cumulative allocation outcomes for salmon and non-salmon species that will guide all fisheries negotiations with all BC First Nations, inside and outside of treaties.

- FSC allocations take into account: the potential existence of a First Nation's fishing rights; the availability of fisheries resources; recent harvest levels; and reasonable need.

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[78] Exhibit 493, Our Place at the Table: First Nations in the B.C. Fishery, p. 4
[79] Farlinger, September 28, 2011, p. 17, l. 42 – p. 18 l. 21; Wilson, July 5, 2011, p. 51 ll. 35-41.
[80] Rosenberger, July 5, 2011, p.52, ll.26-35; McGivney, September, 2, 2011, p. 91, ll. 11-39.
[81] Rosenberger, July 5, 2011, p.53, ll.38-46.
[82] Exhibit 1426, Aboriginal Fisheries Framework, p.1 & 2; McGivney, September 2, 2011, p. 88 l. 35 – p. 89 l. 7

- BC First Nations' allocations (FSC and Commercial), provided through existing arrangements, amount to about 30% of the salmon and 15% of the non-salmon species. The Strategy establishes coast-wide allocation outcomes of XX% for salmon and YY% for non-salmon.[83]

113. Canada has claimed that both the numerical number and the percentage are cabinet confidences and has issued a Certificate under the *Canada Evidence Act* claiming such privilege.

114. However, the evidence is that First Nations were not consulted on their respective needs or the global endpoint allocation for FSC fisheries prior to the establishment of end-point allocation.[84] The WCCSFN object to the static nature of the community and global endpoint allocations that have been set aside for First Nations' FSC needs. It is unacceptable that allocations attributed to other user groups and priorities are capable of being altered, while First Nation allocations remain fixed.

115. As a practical matter it is not hard to see the results of such policy confusion and secrecy around the ultimate goals of DFO. First Nations become mistrustful of the Department and its motives. Decisions are seen as being based on arbitrarily set goals that are rigid and unchanging in the face of changing circumstances. First Nations see DFO as trying to shoehorn them into established allocations models that are not adaptive to changing circumstances, particularly in the face of the decline of the salmon fishery. Furthermore, the establishment of a secret long term allocation goal sends a devastating message to aboriginal people about the treaty process and its ultimate goals.

116. The danger of an percentage allocation model in this case is best illustrated by considering the FSC fishery. The FSC fishery is a priority, needs based fishery. Thus it does not follow that the percentage of the fishery it consumes should decline if the fishery declines. Instead, what one would expect to see is that the priority principle – subject to the ultimate conservation limit – would act to increase the percentage of the declining fishery dedicated to the FSC fishery while displacing non-aboriginal fisheries and potentially aboriginal economic fisheries as is required by *Sparrow*. Thus the adoption of a global endpoint based on a percentage allocation in and of itself a fundamental change to the constitutionally guaranteed FSC rights of aboriginal if implemented.

117. This inquiry should recommend that DFO step back from its current strategy on aboriginal fishing and engage in an open process of consultation and negotiation that

[83] Exhibit 1426, Aboriginal Fisheries Framework, p.2
[84] McGivney, September 2, 2011, p. 96 l. 34 – p. 97 l. 5

includes disclosure, discussion about ultimate goals, and adaptation community need. Effectively DFO is approaching consultation and negotiation at present on the basis of a fixed, secretive model. The fact that this model was developed without meaningful consultation only serves to heighten the concerns of First Nations and increase their resistance to participation in this approach regardless of whether it is a good approach or not. This may require the convening of a proper negotiation forum or the development of properly authorized representative organizations to conduct engagement on such matters.

(ii) DFO Conduct Regarding Requested Community-Level Allocation Quantity Change

118. The Commission heard evidence from DFO witnesses outlining the general process and factors guiding DFO considerations for FSC allocation change for individual First Nations. The WCCSFN submit that the evidence clearly demonstrates a flawed system for the following reasons: (1) there is no finalized policy on the subject; (2) in the absence thereof, illegitimate factors are being used to inform criteria for decision-making, and; (3) the application of the draft policy and criteria has led to a failure to meet First Nation needs.

No Finalized Policy

119. DFO's FSC allocation strategy is based upon a series of draft guideline documents from 2005,[85] which were never finalized or officially adopted.[86] Regardless of the draft nature of the documents, the principles contained within them nevertheless serve as DFO's guidance in making revisions to established FSC allocations.[87]

120. DFO has conceded that current FSC allocations are not based on a consistent framework.[88] The absence of a consistent allocation framework can only translate in to inconsistent practice on the ground, leading to a lack of transparency and accountability. This general lack of concrete guidance in DFO's consideration of FSC allocation change means each decision is subject to interpretation by the DFO agent responsible. This is exemplified by the fact that there is currently no specific calculation carried out considering the DFO's specific criteria from which decisions are based.[89]

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[85] Exhibit 1957, Pacific Region –Interim Assessment of Framework and Procedures for Addressing Changes to First Nation Food, Social and Ceremonial Allocations and Fishing Locations, Draft, 20/01/2005; Exhibit 1958, Decision Guidelines for Evaluating Requests to Change the Provisions of FSC Mandates, Draft 2, June 27, 2005.
[86] Farlinger, September 28, 2011, p. 16, ll. 7-21; p. 16, l. 36 – p. 17, l. 5.
[87] Farlinger, September 28, 2011, p. 16, ll. 7-21; p. 16, l. 36 – p. 17, l. 5.
[88] McGivney, September 2, 2011, p. 33, ll. 37-45.
[89] Farlinger, September 28, 2011, p. 17, l. 42 – p. 18, l. 4.

121. DFO's failure to finalize and officially adopt a policy to comprehensively guide FSC allocations, and revisions to those allocations is at the root of the current situation that is neither adaptive to the historical use and current needs of individual First Nations, nor is it reflective of the FSC needs of First Nations as a whole. The absence of a clear, final policy would ensure that there is no disparity of treatment between First Nations, and that an equitable system is applied consistently the ground.

122. Therefore, the WCCSFN recommends that FSC allocations must be based on clear policy direction informed by a transparent consultation process with First Nations.

Illegitimate factors inform criteria for decision-making

123. FSC allocation criteria, founded on incomplete draft policy, incorporates illegitimate factors to inform allocation change decisions. Canada's response to questions on FSC allocation for treaty negotiation is illustrative:

> 9 c. Factors considered in the negotiation of First Nations FSC allocations could include: **recent harvest levels (reflecting interest** and fishing capacity and **FSC allocations**); **species availability (salmon, non-salmon, freshwater species, game, etc.)**; species abundance; **consideration of allocations for other First Nations**; and, population size (on reserve, off reserve). In the treaty context FSC levels have been negotiated with reference to the above factors.[90] [Emphasis added.]

124. Recent harvest is an obviously problematic factor when considering change in allocating quantities of sockeye for FSC purposes. Recent harvest is itself constrained by DFO's initial community level and global First Nation allocation numbers arrived at under the AFS initiative from the early 1990s. Use of this factor renders the inadequate allocations of sockeye self-perpetuating.

125. Alternate species availability (i.e. alternate sources of protein) to substitute allocations of preferred species also lacks legitimacy as a factor for sockeye allocation change decision-making. Under cross-examination, DFO witness Ms. Susan Farlinger suggests that Cowichan Tribes' location on the ocean means "there are other species available," and contributes to DFO's consideration of whether Cowichan Tribes' FSC needs are being met.[91] This conclusion is dismissive of Cowichan Tribes' historic practice and cultural connection to sockeye salmon.[92] First Nation sockeye fishing traditions cannot be arbitrarily substituted for by virtue of having access to another protein source.

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[90] Exhibit 1279, Canada's Response to Treaty Fishery Questions Received from Commission, Jan. 31, 2011, p. 5
[91] Farlinger, September 28, 2011, p. 20, ll. 24-27.
[92] Harris, June 27, 2011, p. 71; Exhibit 1157, Excerpt from Trading Beyond the Mountains, p. 222-223.

126. The relevance of allocations for other First Nations is also highly questionable. These allocations too are arrived at under the AFS initiative from the early 1990s, such that use of this factor renders the status quo of sockeye allocations self-perpetuating. Indeed, DFO practice suggests that those First Nations with modern treaties, or a regional Indian reserve, are arbitrarily enjoying an equal, or even prioritized, right to access particular areas as compared to those First Nations without a modern treaty, or regional Indian reserve, but who fished those same areas of the river historically.[93]

Application of the draft policy and criteria has led to a failure to meet First Nation needs.

127. Sue Farlinger, was presented with the draft DFO policy, *Decision Guidelines for Evaluating Requests to Change the Provisions of FSC Mandates* setting out that FSC allocations should reflect diet and cultural needs.[94] In response she indicated that DFO does not undertake an assessment of a First Nation's dietary and cultural needs.[95]

128. These draft guidelines for FSC allocation also call for the allocation of the FSC fishery to be proportionate to population numbers.[96] However, current DFO practice employed in FSC allocation is not needs-based and does not adequately respond to need related factors, such as an increase in First Nation population.[97] The Commission heard evidence that a First Nation's FSC allocation generally remains static,[98] and that there is a general unwillingness in DFO to attend to increases in FSC allocations because of the "time-consuming" and procedural nature of this task.[99] In his 2005 memorandum to the Regional Director General, Mr. Paul Sprout commented on the increasing demands of FSC allocation among First Nations throughout the South Coast Area, as their respective needs were not being met.[100]

129. DFO's approach has been to generally refuse to alter First Nation allocations.[101] Cowichan Tribes' allocation is a prime example of DFO's failure to carry out draft FSC allocation policy in a consistent needs-based manner. Cowichan Tribes' population

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[93] McGivney, September 2, 2011, p. 30, l. 21 – p. 31, l. 32; p. 35, l. 30 – p. 36, l. 29; p. 37, ll. 32-37

[94] Exhibit 1957, Decision Guidelines for Evaluating Requests to Change the Provisions of FSC Mandates, p. 7.

[95] Farlinger, September 28, 2011, p. 17, l. 36 - p. 18, l. 21; Exhibit 1957, Decision Guidelines for Evaluating Requests to Change the Provisions of FSC Mandates, p. 7.

[96] Exhibit 1957, Decision Guidelines for Evaluating Requests to Change the Provisions of FSC Mandates, p. 7.

[97] Rosenberger, July 5, 2011, p. 58, ll. 4-21.

[98] McGivney, September 2, 2011, p. 34, ll. 30-34.

[99] Rosenberger, July 5, 2011, p. 77, ll. 27-43; Exhibit 1226, First Nations Access to Fish for FSC Purposes, pdf p. 4.

[100] Exhibit 1744, Memo for the RDG Pacific, re Request for Increased Sockeye Allocation for Cowichan Tribes (Decision Sought), 2005

[101] Transcript September 2, 2011, pg 34

has increased to 4,500[102] from 4,000 since 2005 when DFO acknowledged Cowichan Tribes, as the largest First Nation in the province, had a low allocation ("5 sockeye per person relative to the average of 10 on southeast Vancouver Island and higher elsewhere").[103] DFO raised Cowichan Tribe's allocation by 10,000 fish to 30,000 fish, which remains their current allocation today.[104]

130. Based on Cowichan Tribe's current population of approximately 4,500 members, DFO's largely static approach has led to a current allocation of 6.66666 sockeye per Cowichan Tribes member from a revised but still inadequate allocation of 7.5 sockeye per member in 2005[105] . This means that the already inequitable Cowichan Tribe's allocation is declining further as their population grows. This example clearly illuminates the serious problem faced by DFO and First Nations if DFO fails to adopt a comprehensive mechanism to address the increasing needs of First Nations for the FSC fishery.

131. In the face of consistent population-growth among coastal First Nations, as exemplified by Cowichan Tribes' increase in population by 500 members since 2005, and the implications of the recent *McIvor* amendments to the *Indian Act,* DFO must be prepared to accommodate the unavoidable reality that First Nation membership is on the rise, and both community-based allocations and the global end-point allocation for FSC fisheries must be capable of revision to address First Nation needs.

132. DFO has not conducted a needs assessment to determine the individual and cumulative needs of First Nations. Rather than addressing need and looking at population data, the key element in allocations appears to be the previous harvest by a First Nation, which is based on the initial numbers arrived at under the AFS in the early 1990s. The individual sectoral (e.g. 250,000 sockeye for "marine" First Nations) and global figures (i.e. end-point allocation) arrived at unilaterally by DFO further constraint the ability of DFO to adequately address the dietary and cultural needs of First Nations.

133. FSC allocations require more transparency and must be based on clear policy direction, with a mechanism to provide for revision of allocation, based on relevant factors, such as increases in population.

134. The WCCSFN therefore submits that the Commissioner ought to recommend that the FSC allocation for community-based and global endpoint FSC allocations must be reassessed following consultation with First Nations, and must contain a clearly-

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[102] Transcript September 28, 2011, pg 19

[103] Exhibit 1744, Memo for the RDG Pacific, re Request for Increased Sockeye Allocation for Cowichan Tribes (Decision Sought), 2005; McGivney, September 2, 2011, p. 33, ll. 27-36.

[104] Transcript September 2, 2011, pg 34

[105] Farlinger, September 28, 2011, p. 19, ll. 39-46.

articulated mechanism to provide for revision where First Nation needs exceeds their allocation.

(c) Historical Fishing Sites: DFO and Area Allocation Change

135. In DFO practice, a First Nation's historical fishing of certain waters is often inconsequential on the determination of whether a First Nation will be able to access that fishing area in modern times to support its FSC needs.

136. DFO does authorize fishing areas under communal licences or treaties based an assessment or investigation into the strength of claim to the fishing territory asserted by that or competing First Nations.[106] This practice is exemplified by the failure of DFO to issue a communal fishing licence to Hwlitsum First Nation based simply on concerns raised by INAC as well as a concern that Musqueam and Tsawwassen First Nation would not be amenable to Hwlitsum having access.[107] DFO acknowledged that Hwlitsum asserted a cultural connection to the historic Lamalchi community and "that evidence shows [Hwlitsum] were connected to the Penelakut and Chemainus communities [of the Cowichan people], which clearly showed historical *Continued Use and Occupancy* on the Fraser, since the time of contact".[108] An allocation of 5,000 sockeye was set aside for Hwlitsum, but a communal fishing licence was never issued, despite DFO policy to issue communal licences when no agreement is reached with the First Nation.[109] This practice suggests that considerations of current location of a reserve and terms of a modern treaty are being given priority over historical use and occupation.

(d) Terminal Fishery

137. Throughout the Commission hearings DFO has indicated its' intention to move away from mixed-stock fisheries and move fisheries inland for better stock management,[110] and to have economic fisheries that are sustainable.[111]

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[106] McGivney, September 2, 2011, p. 24, ll. 14-33

[107] McGivney, September 2, 2011, p. 27, ll. 43-47; Exhibit 1742, Email from Jordan Point to Jeff Johansen, July 18, 2008 and attached Draft Briefing Note for the Minister, Access and Adjacency Issues for Salish Tribes, and Hwlitsum (sic) Assertions to Fish in the Lower Fraser.

[108] McGivney, September 2, 2011, p. 27, ll. 9-19; Exhibit 1742, Email from Jordan Point to Jeff Johansen, July 18, 2008 and attached Draft Briefing Note for the Minister, Access and Adjacency Issues for Salish Tribes, and Hwlitsum (sic) Assertions to Fish in the Lower Fraser.

[109] McGivney, September 2, 2011, p. 26, ll. 4-11.

[110] June 28, 2011 Panel No. 49 Transcript Evidence of Barry Huber at page 17 lines 44 to 47.

[111] June 28, 2011 Panel No. 49 Transcript Evidence of Barry Huber at page 18 lines 10 to 13.

138. Deep consultation with First Nations would be required for any move to a terminal fishery. Moreover, it is highly unlikely that a move to a terminal-only fishery could be justified under the *Sparrow* test that requires minimal impairment of aboriginal fishing rights,[112] which are specific to certain territories.[113]. To paraphrase Williamson, J. in *West Moberly*, it would not be honourable for the Crown to say "go fish somewhere else". [114]

139. This is another example of DFO adopting an endpoint strategy that is almost certainly inconsistent with its constitutional obligations. The reality is that the traditional aboriginal Fraser River sockeye fishery is almost entirely an interception fishery. There are interception fisheries at sea, but also interception fisheries all along the Fraser River itself as stocks migrate upstream. One of the most significant and famous fisheries – the fishery at the Fraser Canyon – is entirely an interception fishery.

(e) Economic Opportunity Fisheries

140. As will be outlined in detail below DFO has adopted an *ad hoc* approach to aboriginal participation in the economic fishery. It is ad hoc in many respects. Most importantly, the entitlement and degree of participation of First Nations in the economic fisheries is not rooted in any principle approach that is tied to the existence of economic rights or the existence of economic need flowing from the disruption of pre-existing aboriginal economies. Further, there is an *ad hoc* quality to the opportunities that are made available as such opportunities arise only when existing commercial licences are surrendered or sold back or new fisheries come open.

141. Fundamentally, in respect of economic rights DFO has failed to adopt any kind of evidence based approach to ascertaining these rights. Instead of consulting with aboriginal people to appreciate the evidence and basis for economic rights rooted either in treaty arrangements or in aboriginal rights, DFO takes the position that there are no economic rights at stake and that economic opportunities are as much a matter of the Department's grace and favour as anything else. Thus, despite the fact that the whole of the Hudson Bay Company's commercial fishery was founded on trade with aboriginal people in the aftermath of contact and in the years leading up to the

[112] *Sparrow* at pp. 45-46.
[113] *R. v. Adams,* [1996] 3 S.C.R. 101, at para. 30.
[114] *West Moberly First Nations v. British Columbia (Chief Inspector of Mines),* 2010 BCSC 359 at para.62

Douglas Treaties, there is no sign of DFO taking this into account or making any effort accommodate these historic realities.[115]

142. DFO's failure to take an evidence-based approach also applies to economic fishing opportunities available to First Nations. Previous economic fishing programs have failed to take an evidence-based approach, leading to the implementation of a fishery with particular First Nations in the absence of any principled reason to do so.

143. Responding to a question as to whether it is important for DFO to come forward and send a clear message that it is prepared to share decision-making authority, to recognize First Nations concurrent authority in the management of the fisheries? Russ Jones responded, "Yes, absolutely." He then went on to indicate that in addition to political will, there also has to be incentives for First Nations to get involved. This goes beyond involvement in decision-making or access to food, social, ceremonial fisheries. It also has to involve other incentives like economic access.[116]

144. Grand Chief Saul Terry indicated that there is no incentive to get involved with something where you are not considered "part of the game."[117] He also suggests that First Nations need an economic resolution to the situation they are in, and fishery is one of those resources that perhaps could provide that.[118] His view is that incentives have to go beyond enhancement projects like habitat development and improving the environment.[119]

145. In view of the WCCSFN, economic opportunities must be provided to all First Nations with an interest and sufficient capacity. As set out below, this has not been and continues not to be the case with DFO's economic opportunity programs.

(i) Aboriginal Fishing Strategy (AFS) and the Pilot Sales Program

146. In 1992 DFO introduced the Aboriginal Fishing Strategy (AFS) to provide among other things, for the effective management of the Aboriginal fishery in a manner consistent with the *Sparrow* decision. The AFS was designed as a bridging arrangement to the negotiation of comprehensive land claims and self-government agreements. DFO hoped that the AFS would provide fisheries benefits in advance of final treaty

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[115] Parslow, Jantz and Houtman, May 11, 2011, p. 88, l.11-22; Masson, May 12, 2011, p.97, l. 47- p.98 l.6; Nelson and Coultish, May 18, 2011, p. 93, l. 18-30

[116] Jones, June 30, 2011, p. 72, ll. 46-47; p. 73, ll. 1-8.

[117] Grand Chief Terry, June 28, 2011, p. 67, ll. 5-8.

[118] Grand Chief Terry, June 28, 2011, p. 67, ll. 15-18.

[119] Grand Chief Terry, June 28, 2011, p. 67 ll. 30 to 33.

settlements, including economic opportunities, and that it would also decrease conflict over resources.[120]

147. One of the key elements of the AFS is the negotiation of time-limited fisheries agreements between First Nations and DFO on harvest plans and communal licences, the agreements may also provide funding for fisheries management, and economic opportunities, including access to commercial fishing.[121]

148. The "Pilot Sales Program" (subsequently named the "Economic Opportunities Fishery") was introduced as part of the AFS and involved licensing the sale of salmon. DFO intended to assist Aboriginal people toward economic sufficiency while continuing to improve conservation and management techniques. The Pilot Sales Program was limited to three geographic areas—the lower Fraser River, the Skeena River, and on the West Coast of Vancouver Island. In the Lower Fraser, Sto:lo, Musqueam and Tsawwassen First Nations participated in the Pilot Sales Program.[122]

149. Pilot sales were authorized under an AFS Agreement and a corresponding communal licence was issued to an Aboriginal organization.[123] However, in years where AFS agreements were not reached no pilot sales were permitted.[124]

150. In 2003, Kitchen Prov. Crt. J., determined in *R. V. Kapp* that the pilot sales fishery was inconsistent with the equality provisions of the *Charter.* As a result of this decision, pilot sales were terminated.[125]

151. On appeal, the BC Supreme Court *Kapp* held that the lower Fraser pilot sales fishery was not inconsistent with the equality provisions of the *Charter.* Following this decision, First Nations were provided with an alternative to "pilot sales" through a new modified form of "economic opportunity" arrangements on the lower Fraser River. In June 2006 *Kapp* was affirmed by the BC Court of Appeal and then subsequently affirmed by the Supreme Court of Canada in June 2008.[126]

152. Only a select few First Nations were granted access to the Pilot Sales Program and the economic opportunity arrangements. Despite having traditionally fished the Lower

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[120] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 43, para. 86.
[121] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010 , p. 44, para. 89.
[122] *R. v. Kapp,* [2008] S.C.J. 42 (SCC)
[123] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 61, para. 139.
[124] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 62, para. 142.
[125] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010 , p. 63, para. 143.
[126] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 63, para. 145.

Fraser at the mouth of the Fraser[127], Cowichan Tribes and Hwlitsum were classified as "Marine Approach" and were excluded from these opportunities.

153. The ***Kapp*** experience demonstrates DFO at its worst when it comes to accommodating economic fisheries. The Pilot Sales program was an attempt to develop some form of recognition of economic rights that was unique to aboriginal people and their situation. It was executed in a spirit of reconciliation. However, when one provincial court ruling came against one aspect of that policy the government did not hesitate to apply that ruling to all contexts and essentially abolish the program. The eventual overturning of this decision has made no difference in the Department's behaviour in this regard. This is similar to the approach that the Department has taken with the *Vander Peet* decision where it has taken a fact specific ruling practically implemented it as a "no economic fisheries anywhere" ruling. By contrast, when aboriginal people are successful in achieving recognition of economic rights in case such as ***Gladstone*** or ***Ahousaht***, DFO is quick to limit those cases to their facts.

154. The WCCSFN recommends that economic opportunities should be available on a principled basis to all First Nations who have the physical capacity (fishing vessels and crew) to commercially fish. In addition, the processes for how DFO grants these opportunities should be clearly communicated, transparent, and subject to review. Through such measures respect for an orderly and fair sockeye fishery will be greatly enhanced.

(ii) Excess Salmon to Spawning Requirements (ESSR)

155. The Excess Salmon to Spawning Requirements (ESSR) imitative was implemented together with the AFS in 1993.[128] ESSR are salmon which cannot be harvested in approved fisheries (including FSC fisheries) and which return to spawning grounds in numbers exceeding DFO's assessment of the physical incubation and rearing capacity of a natural area or an enhancement facility. Allowing commercial harvest of these excess stocks is intended to make the best use of the harvestable portion of the stock while still allowing for excess fish that get to terminal areas are harvested through the excess sockeye to spawner requirements.[129]

156. Essentially, ESSR is applied when there are surpluses in returning stocks to enhancement facilities. There is an opportunity to harvest any surpluses that exceed

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[127] Exhibit 1742, Draft Briefing Note re Access and Adjacency Issues for Salish Tribes, and Hwlitsum Assertion to Fish in the Lower Fraser, with covering email dated Jul 18, 2008, p. 1.
[128] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 59, para. 133
[129] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010 NonRT p. 59, para. 133

the facility's requirements.[130] ESSR is not part of the pre-planning, instead it is a result of how the fish return.[131] There is no intent to establish new ESSR fisheries or for ESSR fisheries to displace existing fisheries, and DFO will attempt to eliminate the availability of ESSR's through commercial, recreational or FSC harvesting.[132]

(iii) Aboriginal Aquatic Resource and Oceans Management Program (AAROM)

157. AAROM was launched in October 2004[133] for the purposes of funding Aboriginal groups to form aquatic resource and oceans management organizations capable of hiring or contracting skilled personnel, in order to allow them to effectively participate in decision-making processes.[134]

158. AAROM is comprised of three main components: collaborative management, capacity building, and economic opportunities. The collaborative management component supports multiple First Nations working together as 'AAROM bodies.'[135] Whereas, the capacity building component essentially funds activities that encourage groups to form aggregations along watershed/ecosystem lines where the groups do not yet qualify collaborative management.[136] The economic opportunities component involves the voluntary retirement of commercial licences and transfer of commercial opportunities to eligible AAROM bodies. It also provides funding to eligible groups to pursue aquaculture-related activities.[137]

159. AAROM differs from AFS in four key respects: First, AFS is focused on developing capacity at the operation and project-based level while AAROM emphasizes strategic capacity to participate in DFO and multi-stakeholder decision-making processes. Second, AFS is concerned with effective fisheries management whereas AAROM may serve a platform to access other DFO sectors or other government departments. Third, AFS is largely applied at the community level whereas AAROM encourages cooperation at inter-community level. Fourth AAROM offers potential for enhanced monitoring and enforcement opportunities.[138]

160. Only First Nations located where DFO manages the fishery and who have not signed comprehensive land claims agreements are eligible for AAROM. Further, in order to qualify for AAROM funding, Aboriginal groups within a common watershed or

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[130] McGivney, August 19, 2011, p. 57, ll. 1-7.
[131] McGivney, August 19, 2011, p. 57, ll. 21 to 24.
[132] McGivney, August 19, 2011, p. 57, ll. 8 to 19.
[133] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 70, para. 168
[134] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 70, para. 169
[135] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p 71, para. 174
[136] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 71, para. 175
[137] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 71, para. 176
[138] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010 , p 71, para. 172

ecosystem are required to work together and adhere to certain requirements related to management practices.[139]

161. Cowichan Tribes receives some AAROM funding along with twenty-one other First Nations falling under the First Nations Marine Society.[140] DFO's noted objectives for this society include providing core capacity to engage in technical discussions, and coordination of the FSC fishery on behalf of member First Nations (mostly east coast Vancouver Island) for Fraser sockeye.[141] The AAROM 2008-2009 budget for the First Nation Marine Society was $130,400.[142]

162. From the WCCSFN perspective, the difficulty with AAROM is that it divides First Nations according to DFOs fishing management areas and the location of the First Nations' land reserve, as opposed to the First Nations' traditional fishing areas or greater Nation associations. As a result, some First Nations are being denied FSC access to their traditional fishing areas,[143] or being denied the ability to participate in decision-making that affects their traditional fishing area. For instance, the Hwlitsum First Nation traditionally fished in the mouth of the Fraser River and although DFO has set aside an FSC allocation for Hwlitsum no communal licence was issued. Instead DFO encourages Hwlitsum to ask another First Nations to fish under its licence.[144]

163. In addition, our position is that AAROM also serves to effectively further marginalize First Nations who have limited opportunity to participate in capacity development. Specifically, we submit that First Nations who were first in line to receive capacity funding are now also in a much better position than other First Nations, to effectively advocate for additional funding and facilitate more vigorous communication with DFO officials and decision-makers. In addition, these same "funded First Nations" can then lobby to exclude or minimize participation by "other First Nations" in established AAROM bodies. For instance, in the Lower Fraser, 29 of the 30 First Nations have formed an alliance.[145]

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[139] PPR 18 Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010 ,p. 73, para. 179.
[140] Exhibit 296, DFO AAROM Program Fraser River and South Coast Groups (w member Bands and INAC Band numbers), as of Aug 2010.
[141] Exhibit 296, DFO AAROM Program Fraser River and South Coast Groups (w member Bands and INAC Band numbers), as of Aug 2010 – CAN185655, p. 1.
[142] PPR 18, Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010 NonRT, at Table 6: Fraser River and South Coast AAROM Groups as of August 2010, p. 75.
[143] Exhibit 1745, Decision Note for the RDG, Pacific Region (For Decision) – Change of Fishing Area – Hul'Qumi'num Treaty Group – NonRT p. 1.
[144] McGivney, August 19, 2011, p. 30, ll. 28-37.
[145] Huber, June 30, 2011, p. 59, ll. 8-9.

(iv) Pacific Integrated Commercial Fisheries Initiative (PICFI)

164. The Pacific Integrated Commercial Fisheries Initiative (PICFI) is a five-year initiative set to end on March 31, 2012. The purpose of PICFI is to support BC First Nations in integrated commercial fisheries; to develop sustainable fisheries enterprises; and to increase First Nation participation in fisheries management decision-making processes.[146]

165. Under PICFI increased access to commercial fisheries is achieved through commercial licence relinquishments, with a maximum of 15% of relinquishment funding applying to salmon access. The primary salmon access contemplated under PICFI is in-river commercial opportunities for First Nations, and to advance implementation of defined shares.[147] In addition, DFO's position is that coastal First Nations have more access to a diversified portfolio of species than inland First Nations, therefore, another goal with a terminal fishery is to also give inland First Nations some opportunities to have an economically-based salmon fishery that have previously not been available to them. [148]

166. Essentially, DFO views a terminal catch as supporting DFO's policies regarding conservation, in a mixed-stock environment DFO can target better with a terminal-based fishery.[149] DFO has to manage fisheries to ensure conservation of weaker stocks. Therefore, coastal fisheries have to take into account that there are weak stocks mixing with the stronger stocks, and so opportunities to fish may be limited.[150]

167. While there is no specific plan of how much fish would be moved to inland harvest versus on marine harvest[151] so far, the PICFI salmon licences that have been acquired are being used to support in-river fisheries as opposed to marine fisheries.[152]

168. Grand Chief Saul Terry commented on moving a particular program or utilizing it to manipulate management of a commercial interest. The Intertribal Treaty's (ITO) view is that they have the right to determine how it is that they use the resource. Further, there's a political reason for incorporating these programs to the interior and there needs to be a way in which the people can determine how it is that an economic venture is pursued.[153]

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[145] PPR 18, Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 77, para. 190.
[147] PPR 18, Department of Fisheries and Oceans Policies and Programs for Aboriginal Fishing, Dec 2, 2010, p. 78, para. 193.
[148] Stewart, August 19, 2011, p. 12, ll. 18-22.
[149] Stewart, August 19, 2011, p. 12, ll. 8-14.
[150] Stewart, August 19, 2011, p. 17, ll. 4-11.
[151] McGivney, August 19, 2011, p. 13, ll. 29-30.
[152] McGivney, August 19, 2011, p. 14, ll. 33-37 .
[153] Grand Chief Terry, June 30, 2011, p. 30, ll. 22-42.

169. From our perspective a terminal fishery is logistically not feasible. Moving previously coastal commercial fisheries upriver creates an impossible bottleneck by way of an unprecedented simultaneous convergence of commercial, FSC, and recreational fishers on the Fraser River. In addition, DFO has not articulated a clear plan managing terminal fisheries around the rights of local First Nations who have a priority right to FSC fish over commercial harvesters. In addition, increasing the numbers of commercial fishermen on the Fraser River will inevitably lead to destruction of precious fish habitat.

170. In order to avoid destruction of inland habitat, and to avoid increasing already difficult tensions on the Fraser River, the WCCSFN recommend that DFO through PICFI should continue to provide marine commercial fishing opportunities to First Nations.

(f) A Proposal for Change

171. *Our Place at the Table* set outs several recommendations for co-management of the resource:

- As a starting point and as an interim measure, Canada take immediate steps to allocate to First Nations a minimum 50 per cent share of all fisheries, with the understanding that this may eventually reach 100 per cent in some fisheries.
- First Nations themselves must address intertribal allocations.
- Canada immediately recognize in policy, and implement through negotiated agreements, the aboriginal right to manage fisheries.[154]

172. WCCSFN's position is that effective management of the Fraser River sockeye requires a complete paradigm shift on behalf of DFO. Moving to a true co-management model is required in order to uphold DFOs legal duty to consult and to ensure effective management of Fraser River salmon stocks.

173. Throughout the hearings there have been several references to the need for partnerships and co-management. Unfortunately, all the models currently in operation remain with DFO as the sole decision-maker. The partnership model is more of a 'limited partnership', with no role for First Nations as rights-holders to take part in the management of the resource. Former RDG, Paul Sprout suggests that there is a need for a new governance model:

> My argument is this, that we've got competing interests, we've got undefined rights and title, we've got scientific uncertainty that will never be eliminated, and we have diverged *(sic)* interests and DFO is in the middle of it trying to broker consensus amongst those interest(s) with that climate of uncertainty.

[154] Exhibit 493 Our Place at the Table: First Nations in the B.C. Fishery, p. 4

> I think the challenge for DFO is it needs to distribute the accountability differently. Right now, DFO makes all the decisions, and I think we have to re-examine that model. I think we have to go to a governance model that changes the accountability where DFO is a contributor, but not necessarily the decision-maker in all instances.
> ...
>
> So, the reconciliation and accountability that I've described is not easy but, in my view the governance changes need to embrace two elements, the watershed approach that I've described, and I believe making strategic decisions around conservation objectives that are crucial to implementing the WSP.[155]

174. The hearing evidence established that two key DFO policy barriers impeding flexibility for developing co-management models are:

a) That DFO cannot develop management arrangements that fetter the authority of the Minister, and

b) DFO is not able to develop a process for the recognition of First Nations title and rights.[156]

175. It must be recognized that there are political and legal solutions to each of these problems. The problem of fettering, for example, can be addressed by Parliament passing legislation enabling DFO to enter into co-management arrangements. The ability to develop processes for recognition should not be impossible for the simple reason that they are, in fact, constitutionally mandatory – they are at the heart of the process of consultation and accommodation which are premised on the Crown having both the ability and duty to assess the strength of aboriginal claims and the significance of government interference with those claims. Fundamentally what is missing is the political will to share power.

(i) Duty to Consult

176. Each year the Government of Canada's agenda and priorities are translated by DFO Ottawa staff (in consultation with regional staff) into broad DFO objectives. In turn, these objectives are considered in developing annual business plans which establish

[155] Sprout, December 16, 2010, p. 37, l. 26-39; p. 38, l. 16-23
[156] Huber, June 28, 2011, p. 53, ll. 17-43

sector and program priorities,[157] and inform regional operational priorities. These regional operational priorities are then translated into detachment level workplans.[158]

177. Essentially, the development of departmental strategies, agendas, priorities, objectives, and workplans is a strictly internal process which does not involve First Nations. Therefore, without consulting with First Nations at a strategic level DFO is arguably not fulfilling its' duty to consult.

178. The First Nations' view is that the authority and jurisdiction of the First Nation people is in place. However, that authority is not being recognized.

179. Without equal representation and participation (e.g. up to 50 percent representation by First Nations on the Fraser River Panel) then it is unlikely that the advisory processes will work. Former RDG Paul Sprout states:

> ...if these advisory processes are to work and potentially evolve to something more robust, possibly decision processes, I think the only way that that can be done, or one of the ways that that can be done, is by ensuring that First Nations are well-represented in their view, are comfortable in the process and are able then to actively participate in a way that can ideally produce consensual plans with non-Natives.[159]

(ii) Co-Management

180. DFO consistently suggests that they are committed to co-management yet within the federal service there is no one co-management definition that fits all, and part of the engagement process involves trying to reach an agreement on what co-management is.[160]

181. In addition, while DFO suggests it is committed to co-management, it does not appear to be a priority. Specifically, implementation of a three-year strategy for co-management with First Nations for Fraser River Sockeye salmon is at least two years behind. [161]

182. Ultimately, DFO needs to follow through with its' commitment for developing a co-management framework:

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[157] PPR 13 Department of Fisheries and Oceans Policies and Programs for Fisheries Enforcement, Apr 19, 2011, p. 21, para. 37.
[158] PPR 13 Department of Fisheries and Oceans Policies and Programs for Fisheries Enforcement, Apr 19, 2011, p. 22 para. 37
[159] Sprout, March 4, 2011, p.61, ll. 36-44
[160] Huber, June 28, 2011, p. 12, ll.18-25
[161] Huber, June 28, 2011, p. 24, l. 12

> As outlined at previous Roadmap workshops DFO is committed to the overarching goal of jointly (in partnership with First Nations) building a co-management process for Fraser Salmon that includes a vision, objectives, roles and responsibilities, clear outcomes, as well as a clear process for building an agreement (i.e. "roadmap" or action plan).[162]

183. Importantly, any co-management framework needs to distinguish between First Nations and third parties.[163] Co-management has to accommodate First Nation rights to the fishery and be consistent with the direction provided by courts. [164]

184. Any suggestion that First Nations participate with other stakeholders on an equal basis is not recognizing First Nations' constitutionally protected prior rights to the fishery. This right is quite different from *privilege* which is given to resource users to participate in fisheries.[165]

185. WCCSFN supports the broad definition of Co-Management found in the First Nations Fisheries Council Co-Management Discussion Paper[166] at page 3:

> A partnership in which government agencies, local communities and resource users, NGOs and other stakeholders share the authority and responsibility for the management of a specific territory or set of resources.[167]

186. While development of a co-management model will be difficult, it is not impossible to achieve. Other jurisdictions have overcome significant challenges and implemented effective co-management models.

187. In particular, the Washington State experience is informative. Extensive litigation between the federal government, the tribes and the State was required to reach workable arrangements for sharing of fish, management, conflict resolution and economic development. [168]

188. In Phase I of the litigation, Judge Boldt held that the right to take fish, found in the Stevens Treaties of the 1850s, obligated the State of Washington to provide the

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[162] Rosenberger, July 5, 2011, p. 9, ll. 30-37
[163] Chief Jones, June 28, 2011, p. 45, ll. 12-15
[164] Chief Jones, June 28, 2011, p. 15 ll. 5-9
[165] Chief Jones, June 28, 2011, p. 45, ll. 32-39
[166] Exhibit 295 FNFC– Co-Management Discussion Paper, Revised Oct. 25, 2010
[167] Exhibit 295 FNFC – Co-Management Discussion Paper, Revised Oct. 25, 2010, p. 3
[168] Shepert, July 5, 2011, p. 23, ll. 26 -31

signatory tribes an allocation of 50 percent of the fisheries resource and an opportunity to co-manage the fishery.[169]

189. In Phase II, Judge Orrick held that the Treaties also entailed, *inter alia*, the right to protection for the habitat necessary to sustain the salmon runs, stating that "[t]he most fundamental prerequisite to exercising the right to take fish is the existence of fish to be taken." After noting the dramatic decline in salmon and suitable habitat, he observed, "[w]ere this trend to continue, the right to take fish would eventually be reduced to the right to dip one's net into the water... and bring it out empty."[170]

190. As a result of these court decisions, Washington State, the Federal Government and the Tribes have implemented a successful co-management regime. Although the constitutional system is different in Canada, the legal basis for co-management is not. Ultimately, this model represents what is possible in British Columbia.

191. As stated earlier, there are myriad fisheries decisions that engage the Crown's duty of consultation. In many circumstances, deep consultation is required as the decisions have the potential to have significant impacts on the First Nations' Section 35 rights. Many of these consultations will be on a bilateral basis and require a great deal of human and financial resources.

192. Implementation of a co-management model for the Fraser River sockeye fishery (with British Columbia involved given their jurisdiction over a number of areas that impact on sockeye salmon, in particular habitat) is a quintessential example of cooperative federalism in action. A co-management structure would also be consistent with Supreme Court of Canada jurisprudence on the duty of consultation. [171] Finally, a co-management structure (along the lines of Washington State) would be cost-effective as it would eliminate many of the bilateral meetings currently required as a result of the Crown's duty to consult.[172]

193. Finally, co-management leads to better management because of better exchange of information and a more holistic view of the fishery. Studies have shown that when

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[169] *United States v. Washington*, 384 F. Supp. 312, 343 (W.D. Wash. 1974) Lexis 12291 (*"Boldt Decision"*), aff'd in *Washington v. Wash. State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658, 669 (1979), U.S. Lexis 43

[170] *United States v. Washington*, 506 F. Supp. 187, 1980 U.S. Dist. Lexis 17152 (W.D. Wash. 1980) at *203 *("Orrick Decision")*

[171] *Haida*, at para. 51; *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, [2004] 3 S.C.R. 550; 2004 SCC 74

[172] *Haida*, at para. 51; *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, [2004] 3 S.C.R. 550; 2004 SCC 74

First Nations and stakeholders have a vested interest in the fishery at a local level it works.[173]

D. Management of the Fraser River Sockeye Fishery

(a) Pre-season Forecasting

194. Pre-season forecasting of salmon abundance continues to be a vexing issue confronting DFO (as well as the PSC and Fraser River Panel). Everyone agrees that an accurate forecast of salmon abundance is critical for all harvesters and managers.

195. In 2009 the pre-season forecasts for sockeye salmon return ranged from 3.6 million to 37.6 million fish. Approximately 1.4 million sockeye salmon returned.[174]

196. This large disparity between the pre-season forecast and actual returns is not an isolated incident. The historic returns of 2010 were not expected either. These variations often cannot be adequately explained:

> ...about two-thirds of the variation in returns cannot be explained, is unexplainable by the information we have in that list of models that you showed me initially. About two-thirds of it can't be explained. So there's certainly a lot of room to improve. No doubt about it.[175]

197. Dr. Randall Peterman has suggested what needs to be done to address the large errors in pre-season forecasts:

> Implications of large errors in pre-season forecasts – what should we do?
>
> 1. Improve
>
> - In-season monitoring
> - Updating of forecasts in-season
> - Linking in-season decisions to those updated forecasts (taking uncertainties into account)
>
> 2. Increase monitoring of the ocean environment (satellites, at-sea sampling, tagging)
> 3. Conduct more research on links between ocean and salmon survival rates.
> 4. Reduce loss of fish (harvesting, en-route mortality)

[173] Exhibit 1223, Enhanced fit through institutional interplay in the Pacific Northwest Salmon co-management regime, p. 258

[174] Exhibit 1371, Memorandum for the Minister, Factors Affection the 2009 Fraser Sockeye Return, December 9, 2009, pdf p. 7-9.

[175] Lapointe, January 20, 2011, p. 14, ll. 40-45

5. Consider comparisons between weather forecasting and pre-season forecasting of salmon abundance.

6. Reduce expectations about accuracy of pre-season forecasts of salmon abundance.[176]

198. The WCCSFN agree that the first three recommendations should be adopted. The fourth recommendation may be more difficult to measure, given the uncertainty around en-route mortality (and its causes as set out below).

199. During his examination, Mr. Bevan articulated the problem:

> We need to understand our limits in terms or our knowledge and the fact that we don't have control by turning the dial on fishing mortality to change the outcome entirely. It's the one control that we do have, but we need to understand the level of uncertainty that we're dealing with.
>
> I guess the good example is the fact that we have very good people working on forecasts in the salmon fishery, but there are limits on what they can actually model because they don't know how to quantify the huge suite of variables that impact on salmon abundance.[177]

200. However, one way of measuring that abundance is through test fisheries. *Laroque* funding for the test fishery will expire at the end of this fiscal year. Although DFO Senior Officials recognize the necessity of a test fishery, none were prepared to commit to funding for the 2012/2013 fiscal year or beyond.[178]

201. Currently, the wide fluctuation between pre-season estimates and actual returns, it is imperative that test fishery funding be secured. Without a test fishery, DFO would be left blindly relying upon its pre-season estimates to determine allocations and spawning requirements.[179]

202. The PSC equally expresses the impossibility of carrying out in-season salmon management without test fisheries:

> Without test fishing you don't have an indication of which stocks are migrating at what strength, and without test fishing you don't know what the proportion of sockeye are in the salmon that are migrating upstream...you will not know how you are doing in your

[176] Exhibit 334, Presentation of Randall M. Peterman, Can we do pre-season forecasting effectively? If not, what can we do instead?, p. 16
[177] November 1, 2010, p. 64-65.
[178] Dansereau, September 28, 2011, p. 108, l. 2 – p. 109, l. 33; Dansereau, September 27, 2011, p. 15, ll. 29 – 46.
[179] Ryall, January 31, 2011, p. 16, l. 42 – p. 17, l. 2.

> conservation objective unless you go test fishing and...without test fishing we wouldn't get very far in our in-season salmon management. It would be impossible.[180]

203. Furthermore, opportunities to conduct test fisheries should be offered first to those First Nations with the capacity to conduct the test fishery. The evidence is that currently there are no FSC fisheries being used as test fisheries.[181]

(b) Fisheries Enforcement and Monitoring

204. In 2004 the Minister of Fisheries and Oceans appointed the Southern Salmon Fishery Post-Season Review Committee to investigate an estimated 1.3 million sockeye salmon that were unaccounted for in 2004 (the "Williams Report"). The report concluded that clear deficiencies in the management structure and budgeting process, as well as a lack of resources, personnel and equipment, rendered DFO's enforcement ability utterly inadequate.[182] One of the Committee's several recommendations in regard to enforcement and budget included the following:

> At the present time, DFO through its C&P Division is not maintaining a credible enforcement presence and not properly enforcing the *Fisheries Act* and *Regulations* including those that relate to habitat protection. Accordingly, DFO must ensure that adequate resources are available and that the budget and staffing available for enforcement be increased.[183]

205. The fishery officers operating under C&P and its associated budget are responsible for everything to do with enforcement under the *Fisheries Act*, including habitat enforcement and fisheries enforcement.[184] Previous investigations have indicated DFO's inadequate protection of fish habitat (discussed further below).

206. There was an influx of money resulting from the Williams Report (the "Williams Money") which combined with the PICIFI funds to amount to approximately 2 million dollars annually[185] and compose 60 percent of the DFO budget on the Fraser River for Conservation and Fishery officers.[186] The evidence before the Commission is that C&P should prepare for both the Williams Money and PICIFI funds to come to an end next year.[187]

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[180] Cave, January 31, 2011, p. 106, ll. 16 – 43.
[181] Ryall, January 31, 2011, p. 89, ll. 35-37.
[182] Exhibit 606, 2004 Southern Salmon Fishery Post-Season Review – Part One-Fraser River Sockeye Report, p. 33 – 42.
[183] Exhibit 606, 2004 Southern Salmon Fishery Post-Season Review – Part One-Fraser River Sockeye Report, p. 40 – 41.
[184] Nelson, May 17, 2011, p. 21, ll. 41 – 44.
[185] Nelson, May 17, 2011, p. 5, l. 26 – p. 6, l. 2.
[186] Nelson, May 17, 2011, p. 10, ll. 2 – 5.
[187] Nelson, May 17, 2011, p. 20, ll. 18 – 24.

207. Further negative impacts on DFO's C&P budget will come from the existing salary shortfall[188] and potentially from the DFO budget cuts associated with the 2010 Strategic Review and the Strategic Operational Review, which are coming into effect April 2010.[189]

208. The Commission has been presented with evidence that DFO will not be able to adequately carry out its enforcement duties absent the Williams Money and the PCIFI funds.[190]

209. Absent these funds, DFO's enforcement abilities and ability to protect the Fraser River sockeye would be worse even than in 2004 when the Williams *Report* was so critical of DFO. When asked what impact this loss of funds would have on enforcement on the Fraser River, Mr. Randy Nelson, Director, Conservation and Protection, Pacific Region, DFO, responded:

> In relative terms, if we were to apportion those cuts, it would result in, you know, 25 percent less officers on the Fraser River, which would be ten to 15 less officers on the Fraser River. So the capability and the capacity to do the regular type of patrol activity that we've been doing would be much reduced, and it would not be -- we would be back to levels lower than we were in 2005 or in '94. I don't know how far back you'd have to go to get to numbers that low, but it would be a long time ago.[191]

210. A significant amount of the limited resources available to DFO's C&P program have been expended on monitoring and enforcing First Nations' FSC catches. A high priority use of those funds for DFO and an area where a significant amount of those resources has been expended is monitoring and enforcing First Nations' FSC catches.[192]

211. Moving from DFO's current 'command and control' structure to a structure characterized by more local control would give First Nations and other stakeholders a vested interest in the fishery and a responsibility in monitoring and enforcement of Fraser River sockeye. Corresponding with this vested interest and responsibility would be a decrease in the need for C&P enforcement officers. We recommend expanding the Aboriginal Fisheries Guardian Program.

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[188] Nelson, May 17, 2011, p. 17, ll. 42 – 44.
[189] Dansereau, September 22, 2011, p. 2, l. 20 – p. 3, l. 22.
[190] Nelson, May 17, 2011, p. 19, ll. 15 – 22.
[191] Nelson, May 17, 2011, p. 21, ll. 9 – 20.
[192] Nelson, May 18, 2011, p. 59, ll. 45 – p. 60.

E. Fraser River Sockeye Salmon Habitat

212. In 2009, the Commissioner of the Environment and Sustainable Development produced a report on the status of Fish Habitat (the "Audit"). The Audit found that:

> Fisheries and Oceans Canada and Environment Canada cannot demonstrate that fish habitat is being adequately protected as the *Fisheries Act* requires. In the 23 years since the Habitat Policy was adopted, many parts of the Policy have been implemented only partially by Fisheries and Oceans Canada or not at all. The Department does not measure habitat loss or gain. It has limited information on the state of fish habitat across Canada – that is, on fish stocks, the amount and quality of fish habitat, contaminants in fish, and overall water quality. Fisheries and Oceans Canada still cannot determine the extent to which it is progressing toward the Policy's long-term objective of a net gain in fish habitat. There has been little progress since 2001, when we last reported on this matter.[193]

213. Similar conclusions were reached in the technical reports produced for the Commission.

214. The Audit aptly described the importance of fish habitat:

> Fish habitat represents assets that are important not only for fish, but also for human health and recreational use. Healthy habitat – places where fish can spawn, feed, grow, and live – is a fundamental requirement for sustaining fish, providing food and shelter for aquatic and terrestrial wildlife, and contributing to water quality for human consumption and other uses...Many studies have indicated that damage to habitat is one of the key factors in threats to fish stocks.[194]

215. The 1986 Policy for the Management of Fish Habitat (which is also referred to by DFO and others as the "no net loss" policy)[195] sets out an approach to achieve no net loss of habitat on each project and, together with habitat restoration and development achieve a gain in habitat overall.[196] Twenty-three years later DFO is still continuing to improve their ability to implement and monitor whether or not no net loss is working.[197]

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[193] Exhibit 35, Report of the Commissioner of the Environment and Sustainable Development – Spring 2009, Ch. 1, p. 12

[194] Exhibit 35, Report of the Commissioner of the Environment and Sustainable Development – Spring 2009, Ch. 1, p.15

[195] Macgillivray, November 2, 2010, p. 32, ll. 5-14.

[196] Dansereau, November 2, 2010, p. 33, ll. 1-5.

[197] Dansereau, November 2, 2010, p. 32, ll. 25-33.

216. The Audit recommended that DFO should develop habitat indicators in order to assess whether it is making progress in achieving net gain on fish habitat.[198] DFO agreed and continues to agree with that recommendation.[199]

217. DFO accepted the Audit's recommendations and committed to fully implement the Habitat Policy by 2010.[200,201] However, DFO continues to work on a risk framework and an ability to identify real indicators,[202] and expects to be in the early stages for a long time.[203] Essentially, DFO's response to a policy that is in place since 1986, is that they are looking at areas that are potentially insufficient and will rectify those.[204] In fact, before they have fully implemented the policy they are looking at revising the program to ensure that the policies reflect a better way ahead.[205] However, they have no definite timeline and have to deal with determining the best way to achieve results within the realities of budget limits.[206]

218. It should be noted that these recommendations are directed both at preserving what exists and restoring what has been lost – that is the necessary implication of achieving net gains in habitat.

219. Furthermore, these principles apply beyond the Fraser but also are of concern in other fish bearing watersheds. It will be to the advantage of all if efforts were made to protect and improve salmon habitat elsewhere so as to protect, enhance or restore alternative salmon fisheries.

220. Moving forward we strongly recommend that DFO comply with the recommendations of the Commissioner of Environment and Sustainable Development. We also recommend accountability on the part of DFO to fulfill their obligations under these recommendations in a timely fashion.

F. Causes for the Decline of Fraser River Sockeye Salmon - Cumulative Effects

(a) WCCSFN Recommendations for moving forward:

- Overall there is a need for better science;

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[198] Exhibit 35, 2009 Report of the Commissioner of Environment and Sustainable Development Ch1 – Protection of Fish Habitat, p. 31.
[199] Dansereau, November 2, 2010, p. 33, ll. 25-26.
[200] Exhibit 35, 2009 Report of the Commissioner of Environment and Sustainable Development Ch1 – Protection of Fish Habitat, p. 33.
[201] Dansereau, November 2, 2010, p. 35, ll. 20-25.
[202] Dansereau, November 2, 2010, p. 33, ll. 28-31.
[203] Dansereau, November 2, 2010, p. 35, ll. 7-8.
[204] Dansereau, November 2, 2010, p. 36, ll. 13-16.
[205] Bevan, November 2, 2010, p. 37, ll. 9-12.
[206] Bevan, November 2, 2010, p. 37, ll. 43-47.

- Areas of the marine migratory route, especially the North Pacific, Queen Charlotte Sound, and the Strait of Juan de Fuca, should have priority for the collection of scientific data.
- There is a need for science information to inform DFO policy, but not for policy accountabilities to drive the science data.
- First Nations need to be intimately involved in:
    i. providing Traditional Ecological Knowledge (TEK), and
    ii. assisting with data collection.

221. David Marmorek's testimony addressed cumulative effects and the cause of the decline in Fraser River sockeye salmon over the last 20 years. Technical Report 6 – *Fraser River sockeye salmon: data synthesis and cumulative impacts* ("The Cumulative Effects Report")[207] sets out that the overall goal was to synthesize the results of the Cohen Commission research projects into an assessment of the cumulative impacts of various factors potentially affecting the Fraser River sockeye fishery over the recent period of declining productivity.[208] In addition, the main purpose was to disprove some of the hypotheses that came out of the Cohen Commission reports, particularly on marine conditions.[209]

222. Mr. Marmorek's main conclusion was that marine conditions, interacting with climate change during the coastal migration stage, were the likely primary factors for the long-term declines in Fraser sockeye productivity,[210, 211] and that marine conditions were the most likely primary factor causing the poor returns in 2009.[212]

223. Mr. Marmorek also sets out that en route mortality is likely caused by stress and disease associated with higher temperatures in the Fraser River,[213] and that the coolest conditions in the Gulf of Alaska in the last 35 years which occurred in 2008, is a reasonable explanation for productivity returning to its historic average in 2010.[214]

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[207] Exhibit 1896, Marmorek et al, Cohen Commission Technical Report 6 – FRSS: Data Synthesis and Cumulative Impacts, April 2011
[208] Exhibit 1896, Marmorek et al, Cohen Commission Technical Report 6 – FRSS: Data Synthesis and Cumulative Impacts, April 2011, Executive Summary. p. (i).
[209] Marmorek, September 19, 2011, p. 73, ll. 25 -29.
[210] Marmorek, September 19, 2011, p. 8, ll. 15-19.
[211] Marmorek, September 19, 2011, p. 27, ll. 8-12.
[212] Marmorek, September 20, 2011, p. 69, ll. 20 -24. (A summary of the different factors impacting the various life stages of sockeye salmon and the relative likelihood of the factor causing the 20 year decline in productivity is found at Exhibit 1896 page 90, with an updated version found at the Addendum to Technical Report 6[212] [Exhibit 1575] at pages 21 & 22).
[213] Marmorek, September 20, 2011, p. 90, ll. 28 -42.
[214] Marmorek, September 19, 2011, p. 54, ll. 16-42.

224. Mr. Marmorek's evidence also established that factors such as delayed density dependence (for stocks other than Quesnel),[215] contaminants,[216] and habitat factors such as forestry; mining; large hydro; small hydro,[217] are not primary drivers responsible for overall declines across all stocks.[218]

225. Aside from these conclusions, it is important to understand Mr. Marmorek's evidence. Specifically, Mr. Marmorek agreed that climate change is not a separate factor unto itself, but instead it is a driving force, which can ultimately affect sockeye through many different mechanisms in many different life history stages occurring in both the freshwater and marine environments.[219] Some impacts from climate change include changes in ocean temperatures, mixing, salinity, and pH levels.[220] In addition, marine conditions (which are separate from but interactive with climate change) can also act as a key driver for other factors.[221]

226. Importantly, Mr. Marmorek's evidence did not suggest that Fraser River sockeye salmon were dying in the marine environment directly because of increased temperatures. Rather, factors that may occur in the marine environment because of increasing temperatures include low food abundance, new predator recruitment, potential colonization of invasive species, harmful algae blooms, as well as the development of pathogens.[222]

227. Individually, many of the Technical Reports commissioned by the Cohen Commission suggest that increasing freshwater and ocean temperature is the underlying condition contributing to other factors that may have an impact on sockeye salmon mortality. For example, Technical Report 1 – *Infectious Diseases, and Potential Impacts on Survival of Fraser River Sockeye Salmon*[223] indicates that water quality and other environmental parameters play a very important role to susceptibility and severity of diseases. Changes in water temperature to either freshwater or seawater are important likely candidates. Fish are cold-blooded and thus both their pathogens and the fish themselves are extremely influenced by temperature.[224]

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[215] Marmorek, September 19, 2011, p. 9, ll. 4-9.
[216] Marmorek, September 19, 2011, p. 16, ll. 33-36.
[217] Marmorek, September 19, 2011, p. 46, l. 13.
[218] Marmorek, September 19, 2011, p. 9, l. 8.
[219] Marmorek, September 19, 2011, p. 45, ll. 9 and 15.
[220] Marmorek, September 20, 2011, p. 94, ll. 24 and 28.
[221] Marmorek, September 20, 2011, p. 94, l. 42.
[222] Marmorek, September 20, 2011, p. 95.
[223] Exhibit 1449, Cohen Commission Technical Report Project 1 – Infectious Diseases and Potential Impacts on Survival of Fraser River Salmon.
[224] Exhibit 1449, Cohen Commission, Technical Report Project 1 – Infectious Diseases and Potential Impacts on Survival of Fraser River Salmon, Executive Summary, p. ii and 21.

228. At the panel hearings on disease, Dr. Stewart Johnson testified that it is not uncommon to find animals or fish that carry pathogens showing no signs of disease, but that a natural association with a pathogen can become unbalanced and you can see the development of a disease.[225] In particular, referring to a Briefing memo for the Minister,[226] Dr. Johnson indicated that the whole issue of the role of pathogens may have played in the decline is all related to the other three listed factors,[227] 1. Low Food abundance in the Strait of Georgia, 2. Low Food Abundance in Queen Charlotte Sound and Gulf of Alaska, 3. Disease, and 4. Toxic Algal Blooms in the Strait of Georgia.[228]

229. At these same panel hearings on disease Dr. Kristi Miller testified that the signature or even a virus alone, in certain environments, may not have a negative impact. But when you put something that might compromise a fish on top of stressful conditions in a river, like high water temperature stress, you have a greater potential of having a negative impact.[229,230]

230. At the May 9, 2011 hearings for Technical Report 2 – *Potential Effects of Contaminants on Fraser River Sockeye Salmon* ("The Contaminants Report)"[231] Don MacDonald reached the conclusion that it is unlikely that contaminants are the primary factor causing either the decline in sockeye salmon in 2009 or the declines over the last 20 years. However, there is a strong possibility that contaminant exposure is a contributing factor to those declines over the last 20 years.[232] Later in his evidence, Mr. MacDonald agreed that contaminants are just one level of stressor and if you add something else such as temperature that may have an additive effect or even a synergistic effect.[233]

231. Technical Report 4 – *The Decline of Fraser River Sockeye Salmon Oncorhynchus nerka (Steller, 1743) in Relation to Marine Ecology* ("The Marine Report")[234] indicates that the effects of the 2006/07 el Niño resulted in a series of coincidences leading to extreme freshwater discharge in the Queen Charlotte Sound, leading to a warmer ocean surface layer. In addition, this warm surface layer was retained in the Queen

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[225] Dr. Johnson, August 22, 2011, p. 20, l. 43

[226] Exhibit 1371, Briefing Memo for the Minister re Update on Factors Affecting the 2009 FRS Return (For Info), June 16 2011 – Non RT

[227] Dr. Johnson, August 22, 2011, p. 51, l. 46 – p. 52 l. 1.

[228] Exhibit 1371, Briefing Memo for the Minister re Update on Factors Affecting the 2009 FRS Return (For Info), June 16 2011 – Non RT, p. 3.

[229] Dr. Miller, August 24, 2011, p. 67, l. 34.

[230] Dr. Miller, August 25, 2011, p. 29, l. 29

[231] MacDonald, May 9, 2011, p. 1, l. 23.

[232] MacDonald, May 9, 2011, p. 59, ll. 4-11.

[233] MacDonald, May 10, 2011, p. 32, ll. 3; p. 32, ll. 16-22.

[234] Exhibit 1291, Cohen Commission Technical Report 4 – Marine Ecology – February 2011 – CC1001134.

Charlotte Sound by the most extreme southeasterly summer wind pattern since 1948. The Marine Report suggests that the delayed spring in Queen Charlotte Strait/Sound when combined with the incremental metabolic cost of migrating through a warm surface layer, with potentially lower prey densities in the freshwater, could combine to reduce growth and survival.[235]

232. The conclusions from The Marine Report were supported by the testimony of Dr. Stewart McKinnell during the Cohen Commission hearings on the *Effects on Habitat in the Marine Environment*. In particular, Dr. McKinnell indicated that a mixed layer prevents the supply of nutrients for plankton growth,[236] and that the other consequence to a shallow mixed layer is that it gets warmer.[237] The idea is that the wind will mix this up, but if you create a much lighter surface layer, the heat from the day will restrict the depth of the circulation such that only the top of it gets the heat.[238] As a consequence of that, in extreme cases, you end up with sea surface temperatures that are undesirable for sockeye salmon.[239] In addition, Dr. McKinnell indicated that in 2007 the only place in the entire time series with an extreme temperature in the record since 1982 occurred in Queen Charlotte Strait/Queen Charlotte Sound.[240]

233. Technical Report 3 – *Evaluating the Status of Fraser River Sockeye Salmon and Role of Freshwater Ecology in their Decline,* ("The Freshwater Report")[241] looked at the intensity of human stressors on habitats, which may have a role in freshwater stressors. These included historic log storage, impacts of mining, hydroelectricity effects, urban environments, agriculture, and high water demand associated with greater population density[242]. Of these, none were found to have had a significant impact on juvenile salmon. However, a lack of stressor data collected prevented rigorous cause and effect testing at key life stages. Therefore, a weight of evidence approach resulted in the belief that recent declines in Fraser River sockeye salmon are unlikely the result of changes in the freshwater environment.[243]

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[235] Exhibit 1291, Cohen Commission Technical Report 4 – Marine Ecology – February 2011 – CC1001134, Executive Summary, p. xiii.
[236] Dr. McKinnell, July 6, 2011, p. 33, l. 38.
[237] Dr. McKinnell, July 6, 2011, p. 34, l. 3
[238] Dr. McKinnell, July 6, 2011, p. 34, ll. 7-13.
[239] Dr. McKinnell, July 6, 2011, p. 34, l. 15.
[240] Dr. McKinnell, July 6, 2011, p. 34, l. 17
[241] Exhibit 562, Cohen Commission Technical Report 3 – Freshwater Ecology & CU Status – February 2011 – NonRT
[242] Exhibit 562, Cohen Commission Technical Report 3 – Freshwater Ecology & CU Status – February 2011 – NonRT, Executive Summary, p. iii.
[243] Exhibit 562, Cohen Commission Technical Report 3 – Freshwater Ecology & CU Status – February 2011 – NonRT, Executive Summary, p. vi.

234. At the Panel No. 26 hearings on freshwater ecology, Marc Nelitz indicates that The Freshwater Report should be read in conjunction with the results of the PSC workshop on declining Fraser River sockeye (the "PSC Workshop").[244,245] There are three relevant findings from the PSC Workshop, the first being that recent declines are likely due to mortality in the post-juvenile stage, or that non-lethal stressor in the freshwater environment is causing stressor in the freshwater environment causing morality at a later life stage.[246] The second one is that because the magnitude in production varies across stocks, it is unlikely that a single mechanism could explain declines in productivity across stocks.[247] In addition, the third one that needs to be kept in mind when reading The Freshwater Report is that physical and biological conditions in the Strait of Georgia have led to an increase in mortality during marine life stage.[248] Mr. Nelitz also indicated that we know there are mechanism of effect of the stressors on the habitats and that those can lead to increases on mortality at different life stages. However, given his analysis they were not able to detect an effect of those impacts at the [juvenile] population level.[249]

235. Technical Report 8 – *Predation on Fraser River Sockeye Salmon*, ("The Predation Report")[250] indicates that there is insufficient evidence to suggest that a single predator caused the decline of Fraser River sockeye salmon. Instead, predation is more likely part of the cumulative effects such as higher water temperatures, more in-kind competition due to increased escapement, and running the gauntlet through predators whose alternative prey may have diminished.[251]

236. Further, at the predation hearings, Dr. Andrew Trites testified that the ocean conditions have changed. Something major happened in the mid to late'70s, the ecosystem seems to have flipped, and so it appears much bigger than just a simple predator-prey relationship. The physical oceanography has also influenced the dynamics that tie to food, distribution, water temperatures.[252]

237. Technical Report 9: *A Review of Potential Climate Change Effects on Survival of Fraser River Sockeye Salmon and an Analysis of Interannual Trends in En Route*

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[244] Exhibit 73, PSC - *Synthesis of Evidence from a Workshop on the Decline of Fraser River Sockeye*, June 15-17, 2010 (The "PSC Workshop").
[245] Nelitz, March 14, 2011, p. 51, ll. 24-28.
[246] Nelitz, March 14, 2011, p. 51, ll. 29-38.
[247] Nelitz, March 14, 2011, p. 51, ll. 39-47; p. 52, l. 1-2.
[248] Nelitz, March 14, 2011, p. 52, ll. 3-10.
[249] Nelitz, March 14, 2011, p. 54, ll. 41-47.
[250] Exhibit 783, Cohen Commission Technical Report 8 – Predation on Fraser River Sockeye Salmon – Feb 2011 – NonRT.
[251] Exhibit 783, Cohen Commission Technical Report 8 – Predation on Fraser River Sockeye Salmon – Feb 2011 – NonRT, Executive Summary, p. 3.
[252] Dr. Trites, May 4, 2011, p. 102, ll. 29-38

Loss and Pre-spawn Mortality,[253] suggests that declining survival of Fraser River sockeye salmon over the last twenty years is due to trends in temperatures (and factors correlating with temperature) in both marine and freshwater environments. [254]

238. Essentially, each of the above noted technical reports and the testimony supporting these reports is consistent with Mr. Marmorek's evidence. In addition, Mr. Marmorek's conclusions are consistent with the main conclusion from the PSC Workshop.[255] Despite the different scientists involved in these two papers, they came to very similar conclusions.[256] The only real distinction between the two papers is that Mr. Marmorek et al had more information on non-Fraser stocks and marine conditions resulting in slight changes to the conclusions.[257]

G. Overall Need for Better Science (Data Gaps and Data Limitations)

239. The Cumulative Effects Report and the testimony of David Marmorek, establishes that there are significant data or research gaps. Specifically, for 9 of the 19 Fraser River stocks there are estimates of survival from spawners to fall fry and then nothing after that until recruitment.[258] In addition, there are gaps in exposure information (especially for pathogens),[259] insufficient evidence regarding predators,[260] and a shortage of quantitative analyses of correlation and consistency.[261] Importantly, Mr. Marmorek's evidence establishes that correlation does not represent causation.[262]

240. In essence, there are many gaps within the existing information, which makes the whole process of assessing exposure, and correlating exposure with changes in productivity very difficult.[263] Dr. Kristi Miller, head of the Molecular Genetics Section of the Salmon and Freshwater Ecosystems Division of Department of Fishery and Ocean's (DFO's) Pacific Region Science Branch,[264] stated:

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[253] Exhibit 553, Technical Report 9 – *A Review of Potential Climate Change Effects on Survival of Fraser River Sockeye Salmon and an Analysis of Interannual Trends in En Route Loss and Pre-spawn Mortality*
[254] Exhibit 553, Technical Report 9 – *A Review of Potential Climate Change Effects on Survival of Fraser River Sockeye Salmon and an Analysis of Interannual Trends in En Route Loss and Pre-spawn Mortality*, Executive Summary, p. 3
[255] Exhibit 73, PSC - *Synthesis of Evidence from a Workshop on the Decline of Fraser River Sockeye*, June 15-17, 2010
[256] Marmorek, September 19, 2011, p. 43, ll. 44-47
[257] Marmorek, September 19, 2011, p. 43, ll. 21-28
[258] Marmorek, September 19, 2011, p. 12, l. 36
[259] Marmorek, September 19, 2011, p. 16, l. 19
[260] Marmorek, September 19, 2011, p. 17, l. 3
[261] Marmorek, September 19, 2011, p. 9, l. 3
[262] Marmorek, September 19, 2011, p. 18, ll. 17-25
[263] Marmorek, September 19, 2011, p. 9, l. 10
[264] Dr. Miller, August 24, 2011, p. 1, l. 42

this is really a discovery program and we really don't know what's happening to the salmon, why so many of them are dying in some years.[265]

241. During the August 22, 2011 hearings on diseases, Dr. Michael Kent held the view that his report was significantly hampered by the lack of scientific research on disease.[266] In particular, with salmonids there is limited research on diseases and wild stocks in contrast to captive stocks.[267] Dr. Kent also testified that as far as population studies, impacts of diseases, infectious diseases, parasites, viruses, and bacteria at a population level with salmonids has been minimal.[268]

242. At the May 9, 2011 hearings on contaminants, Don MacDonald the lead author[269] of The Contaminants Report responded to a question about key data gaps that need to be addressed. Mr. MacDonald indicated that there is some data for other ecosystem receptors but very little data on salmon per se for a lot of the chemicals that are on that list.[270] He also indicated that the interactive effect of contaminants, and disease agents and water temperatures, is a very important area of investigation.[271]

243. At the hearings on freshwater ecology on March 14, 2011, Mr. Nelitz testified that to substantial data gaps or limitations with respect to the following information:

a. basing conclusions on only a handful of juvenile production data;[272]

b. information on many weak or less abundant stocks;[273]

c. time series data for almost all of the human stressors;[274]

d. intensity and disturbance;[275]

e. habitat data across all CUs;[276]

f. poor understanding of how stressors can cascade from one life stage and lead to population level changes;[277]

g. information regarding licensing under provincial control, such as water licences;[278] and,

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[265] Dr. Miller, August 24, 2011, p. 44, l. 7
[266] Dr. Kent, August 22, 2011, p. 10, l. 4
[267] Dr. Kent, August 22, 2011, p. 10, l. 46
[268] Dr. Kent, August 22, 2011, p. 11, l. 6
[269] MacDonald, May 9, 2011, p.1, l. 23
[270] MacDonald, May 9, 2011, p. 62, l. 36
[271] MacDonald, May 9, 2011, p. 62, l. 40
[272] Nelitz, March 14, 2011, p. 56, l. 4
[273] Nelitz, March 14, 2011, p. 56, l. 8
[274] Nelitz, March 14, 2011, p. 56, l. 11
[275] Nelitz, March 14, 2011, p. 56, l. 14
[276] Nelitz, March 14, 2011, p. 56, l. 17
[277] Nelitz, March 14, 2011, p. 56, l. 26

h. smolt outmigration.[279]

244. The Predation Report suggests that evaluating why the survival of Fraser River sockeye declined requires knowing what happened in each of the habitats the fish passed through. An explanation requires more than merely finding a correlation between survival rates and environmental indicators. Instead it involves, uncovering the mechanisms affecting survival and requires information about ecosystems resources and interactions. In theory, the information enabling study and evaluation at an ecosystem-level rather than single species assessments should be available through DFO. However, this appears to be little more than a DFO intention supported with insufficient funding. It seems that Integrated Management is at a standstill in British Columbia.[280]

245. Mr. Marmorek also indicated that database improvements are also necessary. In particular, he suggested the first thing to do is to have excellent data on sockeye productivity, and stressors, and to know where those data came from, and design the database so it can answer specific questions.[281] In addition, data over time is also necessary otherwise, if you just have a snapshot, it is difficult to say how something has changed over the last 20 years.[282]

H. Areas of the Marine Migratory Route Having Priority for Data

246. The Cumulative Effects Report calls for more research in the marine environment for the Queen Charlotte Sound in particular and the Strait of Georgia, Johnston Strait, and Gulf of Alaska.[283] Unfortunately, there are limitations of data for all stocks, including detailed assessment of exposure to, for example, zooplankton abundance in the Strait of Georgia.[284]

247. In addition, other baseline data sources regarding climate change that are critical includes: sea surface temperatures, salinity, an understanding of temperatures in the freshwater cycle particularly the rearing lakes and streams, as well as the timing of smolt emigration to the estuary and arrival in the Strait of Georgia.[285]

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[278] Nelitz, March 14, 2011, p. 56, l. 33
[279] Nelitz, March 14, 2011, p. 56, l. 44
[280] Exhibit 783, Cohen Commission Technical Report 8 – Predation on Fraser River Sockeye Salmon – Feb 2011, Executive Summary, p. 3
[281] Marmorek, September 19, 2011, p. 39, l. 20
[282] Marmorek, September 20, 2011, p. 74, l. 16
[283] Marmorek, September 20, 2011, p. 47, ll. 16-21
[284] Marmorek, September 20, 2011, p. 48 l. 1. See also recommendations found at page 109.
[285] Marmorek, September 20, 2011, p. 72, ll. 45; p. 73, l. 1.

248. The PSC thought it would be useful to have a focused oceanographic and fisheries research program targeting the Georgia Strait, Queen Charlotte Sound and extending along the continental shelf to the Alaska border.[286] Mr. Marmorek testified that this program should be led by the federal agencies responsible for Pacific salmon, and then have data and participation from a number of others including First nations, provincial agencies, and fish farmers, etcetera.[287]

I. The Need for Science to Inform DFO Policy (Management Decision Making)

249. Mr. Marmorek emphasizes that in order for science to inform management decisions, and for scientists to pursue 'relevant' research it is important to have good dialogue between scientists and management.[288]

250. In addition to good dialogue, it is particularly important to recognize the interplay between science, management, and societal policy. The science aspect evaluates risk, while the policy aspect is concerned with trade-offs between protecting a species versus economic impacts.[289] Sometimes in an environment of competing objectives, political trade-offs are made.[290] Essentially, science can help in articulating what the risks are and potential benefits to each objective, but the tradeoffs between protecting a species or preserving other social and economic goals, is a policy or political decision.[291] Importantly, science has to be performed without a policy bias.[292]

251. However, risk analysis is not limited to a scientific inquiry. Instead, it requires a broader breadth of perspectives, as well as an understanding of the willingness of different groups to accept different levels of risk.[293] In particular, other groups including First Nations need to be at the table.[294] For instance, The Cumulative Effects Report Table 5.2-1[295] sets out Mr. Marmorek et al's recommendations and their corresponding 'Relevance to Management Actions' (hereafter RTMA). In this context, RTMA refers to things that managers could potentially change,[296] as opposed

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[286] Marmorek, September 19, 2011, p. 38, l. 29.
[287] Marmorek, September 19, 2011, p. 39, l. 8.
[288] Marmorek, September 19, 2011, p. 60, ll. 12-20.
[289] Marmorek, September 20, 2011, p. 6, l. 24.
[290] Marmorek, September 20, 2011, p. 7, l. 9.
[291] Marmorek, September 20, 2011, p. 50, l. 3.
[292] Marmorek, September 20, 2011, p. 50, ll. 14-16.
[293] Marmorek, September 20, 2011, p. 78, l. 26.
[294] Marmorek, September 20, 2011, p. 78, l. 41.
[295] Exhibit 1896, Marmorek et al, Cohen Commission Technical Report 6 – FRSS: Data Synthesis and Cumulative Impacts, April 2011 at pp. 107 & 108.
[296] Marmorek, September 20, 2011, p. 79, l. 45.

to 'Explanatory Importance' which are things that help you to understand what is going on.[297] However, how people weigh RTMA depends on their interests and concerns.[298]

252. It is also important to think about how the information will be used and the appropriate level of resolution (e.g. bicycle, Volkswagen, or Cadillac),[299] and to key all of the recommendations to the research question being asked.[300] In addition, the intent of the Table 5.2-1 is to bring attention to all of the recommendations, not just the ones in bold.[301] However, along the way you are going to have to make some choices, and different groups would probably bold different parts of the table.[302]

253. "Adaptive management" is defined as a rigorous approach for learning through deliberately designing and applying management actions as experiments.[303] Further, it is an approach to management that involves:

a. synthesizing existing knowledge,

b. exploring alternative actions,

c. making explicit predictions of their outcomes,

d. selecting one or more actions to implement,

e. monitoring to see if the actual outcomes match those predicted, and,

f. using the results to learn and adjust future management plans and [policies].[304]

254. In particular, Mr. Marmorek agrees that research and management decisions, conclusions regarding climate change, and multiple stressors could be more helpful nested within an adaptive management approach.[305]

255. Historically, the principle of maximum yield assumed a constant and predictable ecosystem, however, now there is increasing recognition that stock recruitment relations vary over different periods and that fisheries management needs to adapt accordingly[306]. Importantly, Mr. Marmorek suggests that theoretically, maximum

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[297] Marmorek, September 20, 2011, p. 80, l. 3.
[298] Marmorek, September 20, 2011, p. 80, l. 9.
[299] Marmorek, September 20, 2011, p. 86, l. 22.
[300] Marmorek, September 20, 2011, p. 86, l. 38.
[301] Marmorek, September 20, 2011, p. 89, l. 10.
[302] Marmorek, September 20, 2011, p. 89, l. 19.
[303] Marmorek, September 20, 2011, p. 10, l. 37.
[304] Marmorek, September 20, 2011, p. 11, l. 10.
[305] Marmorek, September 20, 2011, p. 72, l. 12-17.
[306] Marmorek, September 20, 2011, p. 73, l. 9-14.

sustainable yield can apply to any stock, not just strong stocks, provided there is reasonable data on that stock recruitment.[307]

256. Fishery managers are not helpless in the face of climate change. It is possible for fishery managers to monitor salinity and temperature conditions and use this information to manage expectations (similar to what is done in Barkley Sound).[308] Mr. Marmorek suggests that even though we have little control over marine conditions, the variability in marine survival has implications for how you make other decisions. At Barkley Sound, harvest decisions are anticipated two years before based on information for outgoing smolts.[309] While it is true that decisions such as harvest management decisions will be in response to the marine conditions, however, political will is a renewable resource.[310]

257. It is important to maintain diverse life histories and diverse habitats as doing so will potentially create greater resilience to varying conditions caused by climate change.[311] Essentially, in the face of climate change it becomes more important to protect biodiversity.[312] However, the degree to which you want Fraser River sockeye to be more resilient to climate change, while maintaining the objective of various harvest levels to various groups, is a societal resolution involving adequate tradeoffs. Essentially, this is a policy question and not a science question.[313] It is not as simple as saying that in the face of climate change your goal is to protect biodiversity. What you really need to do is explore what are the most robust strategies to all those uncertainties.[314]

J. First Nations Involvement

(a) First Nations Providing Traditional Ecological Knowledge

258. At the May 05, 2011 Predation hearings Dr. Villy Christensen indicated that while we should not lose focus on sustainability, there is good reason for looking at the ecosystem level when marine survival is declining, and when it is quite clear no one can answer what has happened to the Fraser River sockeye over the last two decades.[315] However, Dr. Christensen also indicated that we might not know enough

[307] Marmorek, September 20, 2011, p. 73, ll. 23 -25.
[308] Marmorek, September 20, 2011, p. 18, ll. 17-31.
[309] Marmorek, September 20, 2011, p.100, ll. 25-35.
[310] Marmorek, September 20, 2011, p. 100, ll. 36-44.
[311] Marmorek, September 20, 2011, p. 101, ll. 20-24.
[312] Marmorek, September 20, 2011, p. 101, ll. 29-31.
[313] Marmorek, September 20, 2011, p. 103, ll. 29-41.
[314] Marmorek, September 20, 2011, p. 104, ll. 17-23.
[315] Dr. Christensen, May 5, 2011, p. 64, ll. 36-47; p. 65, ll. 1-9.

about ecosystems to base management decisions on them. Specifically, when compared to other countries, Canada is not a leader. Instead, Canada has merely provided an intention that it is going to take an ecosystem direction, but then has not followed suit.[316]

259. In order to successfully implement an ecosystem approach DFO needs to develop capacity within the people, the communities and the various governments, and the various organizations in order for them to identify and resolve the challenges and the problems themselves.[317] As DFO begins to implement the policies around ecosystem management, a question was asked about what work DFO is doing to link the ecosystem approach with the development of collaborative management?[318] Sue Farlinger indicated that part of the work they are doing is in capacity building and trying to advance collaborative relationships that have been built in some measures over the last 15 to 20 years.[319]

260. Ms. Farlinger also indicated that part of DFO's programming is dedicated to working closely with all First Nations who have accessed Fraser sockeye through a process called the forum.[320] This is really to build capacity in those aboriginal communities and to better inform DFO of the knowledge in those communities, and the challenges between communities.[321] In addition, there is the integrated salmon dialogue which is aimed at creating capacity in the various fishing sectors to work collaboratively.[322]

261. Importantly, Ms. Farlinger set out that the elements of good governance include, transparency, inclusiveness, accountability, informed decision-making, capacity, and a budget and the ability both at a human resource and a financial resource to implement.[323]

262. Ms. Farlinger confirmed that First Nations have consistently put forward a Tier 1 to 3 model.[324] A Tier 2 process (First Nations to government) could assist First Nations and DFO in engaging at both operational and strategic levels[325] and potentially assist them in meeting their respective responsibilities.[326] In addition, a Tier 2 approach could also provide:

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[316] Dr. Christensen, May 5, 2011, p. 65, ll. 10-24.
[317] Bevan, November 2, 2010, p. 78, l. 46; p. 79, ll. 1-6.
[318] Farlinger, November 2, 2010, p. 79, ll. 19-47.
[319] Farlinger, November 2, 2010, p. 79, ll. 29-34; p. 79, l. 47; p. 80, ll. 1-3
[320] Farlinger, November 2, 2010, p. 80, ll. 1-3.
[321] Farlinger, November 2, 2010, p. 80, ll. 1-8.
[322] Farlinger, November 2, 2010, p. 80, ll. 13-18.
[323] Farlinger, November 2, 2010, p. 81, ll. 41-46; p. 82, ll. 5-29.
[324] Farlinger, November 2, 2010, p. 88, ll. 8-15.
[325] Farlinger, November 2, 2010, p. 88, ll. 28-30.
[326] Farlinger, November 2, 2010, p. 88, ll. 31-37.

a. a foundation for engaging with non –governmental organizations in the commercial and recreational sectors (i.e. the Tier 3 approach);[327]

b. a mechanism for better compiling and integration of aboriginal knowledge and scientific knowledge,[328] and,

c. a forum for better decision-making regarding escapement and other key fisheries management matters.[329]

263. Earlier evidence in the proceeding established that the best way to make decisions within the reality of scientific uncertainty is to have DFO work collaboratively with First Nations and others.[330] Unfortunately, the lack of multi-year funding has negatively impacted on First Nations' capacity building.[331] Specifically, one of the issues preventing First Nations from participating in science information is capacity, without which they are not in a position to actually get into the room and have those frank discussions.[332] Therefore, addressing capacity is an important component of making the integrated approach with natives and non-natives work.[333]

264. Science does and will continue to have an increasingly important role to play in fisheries management. However, in some situations DFO science is not acceptable to First Nations for reasons that they may not have participated in it, they may not have the capacity to comfortably feel that they are following the issue, and finally the department itself may not be as open as it could or should be to the knowledge they might have.[334]

265. In addition, First Nations are often given a lot of technical information in a short period of time and the lack of capacity is challenging.[335] It is often experienced as a way of undermining their role or their ability to participate.[336] If they are provided with a lot of technical information in a short period of time and then are unable to respond to it, they are basically being told they do not have much to contribute.[337] Therefore, multi-

[327] Farlinger, November 2, 2010, p. 88, ll. 39-46.
[328] Farlinger, November 2, 2010, p. 89, ll. 28-30.
[329] Farlinger, November 2, 2010, p. 89, ll. 33-44.
[330] Sprout, November 2, 2010, p. 91, ll. 38 – p. 92 l. 5.
[331] Sprout, November 2, 2010, p. 90, ll. 31-36.
[332] Sprout, November 2, 2010, p. 92 ll. 32-47.
[333] Sprout, November 2, 2010, p. 92, ll. 37-40.
[334] Sprout, November 4, 2010, p. 105, ll. 27-37.
[335] Sprout, November 4, 2010, p. 105, ll. 44 – p. 106 l. 1.
[336] Sprout, November 4, 2010, p. 106, ll. 1-5.
[337] Sprout, November 4, 2010, p. 106, ll. 4-8.

year funding agreements are necessary in order to provide some stability and allow First Nations to hire and engage people and make long-term commitments.[338]

266. At the August 23, 2011 hearing on diseases, Dr. Craig Stephen testified that it is very important to have a person whose job it is to be the knitter together, the communicator, the linker. Ideally, government could take this lead. Specifically, in science today there is a very big push for knowledge and knowledge translation, and taking complex issues and trying to communicate them to other stakeholders, other scientists, and other groups. Going forward there could be a strong recommendation that government play an important role in facilitating communication to broad stakeholders worrying about sockeye salmon.[339]

(b) First Nations TEK and Assisting with Data Collection

267. With respect to steps being taken to incorporate TEK within ecosystem science, Dr. Laura Richards testified that some of the enumeration of stocks is being done by First Nations,[340] and that where possible, DFO tries to partner with First Nations.[341] However, at this point, DFO has not really formalized any specific processes around traditional ecological knowledge.[342]

268. Mr. Sprout indicated that while there are not extensive formal arrangements that identify protocols for factoring in traditional knowledge, there are a number of practical examples. In particular, DFO has advisory processes where First Nations will provide their perspective on the status of the stock of concern and then factors those into the decision-making.[343] Aboriginal fishermen and fishing communities have quite a lot of useful information with respect to the specific ecosystems in their traditional territories, and this information could be extremely useful for science when developing models and other approaches to ecosystem science.[344] Further, there is an opportunity for the department to reflect on collecting information in some of these locations that First Nations live in, things like salinity information and temperature information. This might be very helpful in better describing some of the ocean conditions and possibly explaining the vexing issues that have been discussed during the hearings.[345]

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[338] Sprout, November 4, 2010, p. 107, ll. 27-34.
[339] Dr. Stephen, August 23, 2011, p. 100, ll. 15-32.
[340] Dr. Richards, November 4, 2010, p. 113, ll. 36-37.
[341] Dr. Richards, November 4, 2010, p. 113, l. 39.
[342] Dr. Richards, November 4, 2010, p. 113, l. 46-47; p. 114, l. 1.
[343] Sprout, November 4, 2010, p. 114, ll. 16-38.
[344] Sprout, November 4, 2010, p. 115, ll. 14-20.
[345] Sprout, November 4, 2010, p. 115, ll. 21-33.

269. Mr. Sprout also set out that DFO does engage First Nations doing various kinds of assessment on the Fraser River, including providing information back to the department. However, there is room for expanded surveys and more work in this area.[346]

270. In addition, in responding to a question about whether DFO is going to take the steps to continue with the cultural shifts that need to happen in order to move, Mr. Sprout indicated that any future arrangement that involves First Nations where they are comfortable with the information that is collected. It is preferable to have First Nations be part of the process in terms of the fisheries decision, as opposed to them not being involved, not collecting information, not being part of the process.[347]

271. Importantly, DFO often overlooks the extent of the contribution towards eco-system knowledge that First Nations can provide. Further, the role of TEK should be integrated into the scientific research projects identified as priorities. As set out above, Mr. Marmorek indicated that TEK is a very important form of knowledge, because of time span in both duration and resolution. Namely, First Nations have been at particular locations for a long period of time. If something unusual happens before any scientists get up there with sampling gear, the First Nations know about it.[348] Beyond TEK there is also a role for First Nations to play with respect to data collection.[349]

272. The hearings on diseases established that there was little research regarding the levels of disease in Fraser River sockeye as it relates to other exposures to pathogen. With respect to this research, Dr. Johnson agreed that DFO scientists in silo, or industry should not do this research, but done more broadly and input form First Nations is welcome.[350] In particular, Dr. Johnson indicated that First Nations had known for a long time that the sockeye were coming back to the river carrying sea lice scars and wounds.[351] Dr. Johnson felt that First Nations input is valuable because they are on the river, and DFO does not have the staff to be everywhere.[352]

273. Importantly, Dr. Kent (also at the hearings on diseases) addressed questions regarding an eco-health approach and that Indigenous knowledge is key to finding an

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[346] Sprout, November 4, 2010, p. 122, ll. 12-25.
[347] Sprout, November 4, 2010, p. 122, ll. 26-36.
[348] Marmorek, September 20, 2011, p. 98, ll. 24-45.
[349] Marmorek, September 20, 2011, p. 99, l 11.
[350] Dr. Johnson, August 23, 2011, p. 95, l. 5
[351] Dr. Johnson, August 23, 2011, p. 95, l. 13
[352] Dr. Johnson, August 23, 2011, p. 95, l. 16

historic baseline of what fish health is.[353] In response, Dr. Kent indicated that is very useful to integrate Indigenous knowledge with scientific method, and that they do not have to be kept separate. Further, there is a way of inter-phasing the two and this could be a very useful endeavour.[354] In addition to Dr. Kent's evidence, Dr. Stephen indicated that the importance is not to think in terms of primacy of information (who's might be more or less important) but to actually build a collegial trusting relationship were we can see the evidence and how it contributes to different parts of this complex problem.[355]

K. Conclusion on Causes of Decline of Sockeye Salmon

274. The evidence indicates that DFO failed to obtain fundamental time-series data for all life-stages of Fraser River Sockeye salmon. These data gaps suggest that DFO's decision-making is generally ill informed. While it is easy to blame this state of affairs on the scientists, it is just as likely that the lack of data is the result of decision-makers directing the science. Overall, the evidence suggests applying an informed ecosystem approach to obtain comprehensive time-series scientific data.

275. In addition, traditional ecological knowledge provided by First Nations should also form an integral part of the scientific data for Fraser River Sockeye salmon. As well, science needs to look at the cumulative effects paradigm and not at individual factors in isolation. Tragically, the one consistent message throughout the course of these hearings is that nobody really knows what is causing the declines in Fraser River sockeye.

[353] Dr. Kent, August 23, 2011, p. 103, l. 28
[354] Dr. Kent, August 23, 2011, p. 103, ll. 33-46
[355] Dr. Stephen, August 23, 2011, p. 104, l. 25

276. Moving forward, we recommend the following:

a. Establishing a quasi independent Board that includes First Nations representatives to manage and account for fishery science;

b. Collecting necessary science data with priority given to areas along the marine migratory route;

c. Continuing to research the inter-relationship of potential factors (cumulative effect s paradigm) as opposed to only researching factors in isolation;

d. Building on and then maintaining an adequate database of information regarding Fraser River sockeye;

e. Including Traditional Ecological Knowledge to an ecosystem-based approach;

f. Incorporating adaptive management techniques to decision-making;

g. Facilitating clear lines of communications between decision-makers and scientists, First Nations, and resource users.

ALL OF WHICH IS RESPECTFULLY SUBMITTED this 17th day of October, 2011.

"Robert J.M. Janes"
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"Sarah E. Sharp"
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"Holly Vear"
Holly Vear

APPENDIX A

General Principles from the Western Central Coast Salish First Nations

Aboriginal Fisheries

1. The Department of Fisheries and Oceans adopt policies which are consonant with Canada's obligations under s. 35. In particular:

    a. Adopt an approach to consultation that furthers reconciliation and is more likely to result in decision making that is consistent with s. 35. In particular:

        i. Engage in more open and effective information sharing that includes establishing process that take into account Traditional Knowledge rooted in demonstrable long term sockeye related presence in particular areas;

        ii. Allow potentially affected Nations to have a greater and more meaningful role in decision making;

        iii. Establish clear and explicit regulatory guidelines that require and enable DFO to address substantive concerns being raised by Nations with respect to fisheries issues (that is, enable the substantive accommodation discussed below);

        iv. Remove existing impediments to consulting with respect to economic fisheries, including economic fisheries based upon aboriginal and Douglas Treaty rights.

    b. Adopt an approach to decision making and accommodation which properly tries to ascertain the scope, extent and preferred means of practice of pre-contact and pre-sovereignty aboriginal rights and treaty rights and then respect those rights by avoiding infringement and providing accommodation. Concretely this requires:

        i. Adopting regulations and policies that attempt to identify and adjust for actual FSC needs, including changes in factors that affect needs such as population growth.

ii. Adopt regulations and policies which allow for the recognition of traditional places in which fisheries occur, such as the south arm and mouth of the Fraser (for the communities descendant of the historic Cowichan people) or the marine interception fisheries of the southern Vancouver Island Nations generally.

iii. Adopt regulations and policies which allow for legally effective shared decision making.

iv. Adopt regulations and policies which allow for principle based recognition of economic fisheries that will allow for the participation of all willing First Nations in the economic fisheries.

v. Adopt approaches to the recognition of economic fisheries as a means of defraying the costs associated with carrying on FSC fisheries in the context of modern fisheries management by DFO.

c. Move toward a model of effective shared decision making recognizing the unique and constitutional role of the aboriginal peoples in the prosecution of, the enjoyment of and the management of the Fraser River Sockeye Fisheries and the fisheries generally.

d. Not adopt a terminal fisheries model (absent a modern treaty agreement permitting this) given the pre-Contact and pre-sovereignty interception fisheries.

2. DFO should engage with First Nations on the development of its strategic goals, including the concept of the global endpoint goals. This will entail the abandonment of the culture of secrecy and arbitrariness around these matters and require the development of effective forums for engagement and mechanisms for transparent, principle –based decision making.

Development of Better Science that Incorporates Traditional Knowledge

3. Canada should provide appropriate funding to the Department of Fisheries and Oceans to ensure that the knowledge and information gaps demonstrated by this Inquiry are addressed. This would include:

a. Supporting the independent and transparent pursuit of scientific research within DFO. This includes permitting and encouraging the publication and dissemination of scientific research data and findings without political, industrial or bureaucratic interference.

b. Supporting independent academic research in university and other settings.

c. Supporting the gathering and incorporation of Traditional Knowledge into this research.

d. Supporting mechanisms for the broad dissemination of the results of the scientific research through the stakeholder community.

4. The independence of the scientific research undertaken should been enhanced by having the scientific research supervised and directed by an independent Board that is made up of representatives of broad stakeholder groups, including representatives of aboriginal governments.

5. The scientific research give a high priority to undertaking the research necessary to gather the data necessary to address the changes in the fisheries likely to be caused by climate change. This will require giving a clear mandate to carry out research into conditions not only in the freshwater habitats but also at sea in the far ocean habitats and in the approaches.

Habitat Protection

6. Given the current state of knowledge of the causes of the decline in the Fraser River Sockeye populations, habitat protection in the freshwater and approach habitats must be given a high priority.

Habitat Restoration

7. Habitat restoration should be pursued both in the Fraser and elsewhere to promote improved habitat both for the Fraser River Sockeye Stocks and also other stocks which can serve as alternative fisheries opportunities.

Department of Fisheries and Oceans Management

8. There should be an audit done of the management structure of DFO that is reviewed with aboriginal nations (and other stakeholders).

9. There should be legislative and regulatory change to allow for greater opportunities for genuine co-management with First Nations (and potentially others).

10. The direction of the science and research aspects of DFO should be transferred to an independent body that is not part of the operational structure of DFO.

Table of Recommendations – WCCSFN

	Recommendation	Reference
Topics Specific to Aboriginal Interests		
1)	DFO should ensure that science incorporate Aboriginal Traditional Knowledge.	Page 19 paragraph 100
2)	DFO should ensure research and fisheries management incorporate the aboriginal perspective and TEK, particularly that of the Cowichan.	Page 20 paragraph 103
3)	The Commissioner should recommend that DFO formalize and implement, in consultation with First Nations, and based on demonstrable long terms sockeye related presence in particular locations, specific processes for incorporation of aboriginal world view and traditional knowledge.	Page 20 paragraph 104
4)	Allocations for FSC fish should meet First Nations' dietary and cultural needs.	Page 21 paragraph 107
5)	DFO endpoint allocations for First Nations' FSC salmon should not remain fixed and static from year-to-year.	Page 21 paragraph 110
6)	The global endpoint allocation for FSC fisheries should be based on consultation with First Nations.	Page 22 paragraph 114
7)	DFO's allocation policy and allocation decisions should be premised on the legal foundation that First Nations' FSC right to fish is founded in s. 35 of the *Constitution Act*.	Page 20 paragraph 105
8)	The Commission should recommend that DFO step back from its current strategy on aboriginal fishing and engage in an open process of consultation and negotiation that includes disclosure, discussion about ultimate goals, and adaptation community nee.	Page 23 paragraph 117
9)	DFO should develop a finalized allocation policy to comprehensively guide the FSC allocation process.	Page 24 paragraph 121
10)	Once a comprehensive policy is established, DFO should consistently apply the policy in making FSC allocation decisions.	Page 24 paragraph 122
11)	FSC allocations must be based on clear policy direction informed by transparent consultation process with First Nations.	Page 24 paragraph 122
12)	DFO decisions regarding FSC allocation should be based on evidence of historical use and occupation.	Page 25 paragraph 126
13)	DFO decisions regarding FSC allocation should not be based on modern treaties or modern geographical location.	Page 25 paragraph 126
14)	In its decision-making process DFO should not consider alternative sources of protein as substitutions for allocations of preferred species.	Page 24 paragraph 125
15)	DFO should consult with First Nations and conduct a	Page 25 paragraph 127

	needs assessment for each First Nation in making FSC allocations.	
16)	A needs assessment should be take into account increasing population numbers.	Page 25 paragraph 128
17)	DFO's FSC allocation should be based on a strength of claim assessment that takes into account historic use and occupation.	Page 27 paragraph 135-136
18)	DFO's on the ground allocation practice should be consistent with any comprehensive policy established.	Page 25 paragraph 129
19)	DFO's allocation assessment must take into account the recent *McIvor* amendments to the *Indian Act*.	Page 26 paragraph 131
20)	DFO's FSC allocation policy should be transparent.	Page 26 paragraph 133
21)	DFO's FSC allocation policy must have a clearly articulated mechanism that provides for revision and reallocation where warranted by a needs assessment.	Page 26 paragraph 134
22)	In the event DFO contemplates any move to a terminal fishery DFO must engage in deep consultation with First Nations.	Page 28 paragraph 138
23)	DFO must provide economic fishing opportunities to all First Nations with an interest and sufficient capacity.	Page 31 paragraph 154
24)	The process by which DFO grants economic fishing opportunities should be transparent, clearly communicated and subject to review.	Page 31 paragraph 154
25)	First Nations funded under AAROM should be divided in accordance with their traditional fishing areas or greater Nations associations, as opposed to the current practice of dividing First Nations by locations and DFO's fish management areas.	Page 33 paragraph 162
26)	First Nations should not be denied FSC access to their traditional fishing areas under AAROM.	Page 33 paragraph 162
27)	Under AAROM First Nations should not be denied the ability to participate in decision-making that affects their traditional fishing areas.	Page 33 paragraph 162
28)	DFO should not adopt a terminal fishery model.	Page 34 paragraph 169
29)	DFO should continue to provide marine commercial fishing opportunities to First Nations through PICIFI.	Page 35 paragraph 170
30)	A true co-management relationship should be developed between DFO and First Nations were both parties have equal decision making powers.	Page 35 paragraph 172
31)	A co-management agreement should recognize the authority of the First Nations, not only the authority of the Minister.	Page 35 paragraph 173
32)	DFO should adopt a comprehensive definition of co-management that is in accordance with the Integrated Aboriginal Policy Framework.	Page 37 paragraph 180&185
33)	A co-management agreement should recognize First Nations' constitutionally protect priority rights to fishery.	Page 38 paragraph 183-184
34)	DFO's policy to not develop a management arrangement that fetters the Minister's discretion should not be a barrier to developing a true co-management process.	Page 36 paragraph 174

35)	DFO's policy to not develop a process for recognition of First Nations title and rights should not be a barrier to developing a true co-management process.	Page 36 paragraph 174
36)	The Washington State co-management experience should be a practical guide in the development of a co-management model.	Page 38 paragraph 187-193
Fisheries Management, Agencies, Structure & Policies		
37)	DFO conduct an audit and develop and inventory of all DFO final and draft policies.	Page 9 paragraph 43
38)	Once a policy audit is complete, DFO review all final and draft policies with First Nations and interested stakeholders.	Page 9 paragraph 43
39)	Once policies have been reviewed with First Nations and stakeholders, DFO should produce a comprehensive list of all its policies and make them available to the public.	Page 9 paragraph 43
40)	To avoid a conflict of interest, the position of Regional Director of Fisheries and Aquaculture should be split into two positions, Regional Director of Fisheries and Regional Director of Aquaculture.	Page 9 paragraph 45
41)	Should changes in DFO structure be undertaken or recommended, DFO should consult with First Nations in regard to those changes.	Page 9 paragraph 46
42)	The PSC and the Fraser Panel should have meaningful representation from First Nation appointed representatives with a mandate from their First Nations, or from First Nations with interests on the Fraser River.	Page 11 paragraph 56-59
43)	Decisions made at the Fraser Panel and PSC should require consultation with First Nations with interests on the Fraser River.	Page 11 paragraph 58
44)	The four principles set out in the WSP 1) conservation; 2) honour obligations to First Nations; 3) sustainable use; and 4) open process, should guide the Commissioner in making recommendations.	Page 13 paragraph 66-67
45)	There should be greater First Nation involvement in the implementation of Strategy 1 of the WSP, in particular in the identification of conservation units and benchmarks.	Page 14 paragraph 70
46)	DFO should develop a timeline and realistic implementation plan for fully implementing strategies 1-4 of the WSP.	Page 14 paragraph 71
47)	DFO should work with First Nations in implementing TEK into strategies 1-4 of the WSP.	Page 14 paragraph 72
48)	DFO support the recommendations contained in the Gardner Pinfold performance review.	Page 15 paragraph 74
49)	DFO should work to immediately develop an integrated planning process in accordance with Action step 4.2 of the WSP.	Page 15 paragraph 76
50)	First Nations must be participants in any integrated planning process.	Page 15 paragraph 77
51)	Any implementation of, and changes to, the WSP requires	Page 15 paragraph 81

	deep consultation with First Nations.	
52)	Implementation of the WSP should be a DFO priority.	Page 15 paragraph 82
53)	Should the WSP be implemented, First Nations' participation in the decision-making process, particularly at the integrated planning stage, should be incorporated.	Page 16 paragraph 83
54)	Should the WSP be implemented, First Nations should have appropriate representation at the local level to ensure protection of local populations and accommodation of First Nations' rights and social values.	Page 16 paragraph 84
55)	An independent board should be established to monitor implementation of the WSP.	Page 16 paragraph 85
56)	Should an independent board be established to monitor implementation of the WSP, this board should include representation from First Nations, the commercial and recreational sector and non-DFO personnel from the Government of Canada.	Page 16 paragraph 85
57)	A paradigm shift in DFO to ecosystem-based management should be a focus of DFO.	Page 16 paragraph 86
58)	Should the *Fisheries Act* be renewed, a true co-management regime similar to the Kunsta'aa Guu-Kunst'aayah Reconciliation Protocol should be put in place.	Page 17 paragraph 92-93
59)	Consultation with First Nations must be carried out should the Government of Canada embark on amending the *Fisheries Act*	Page 17 paragraph 94
60)	DFO must address the priorities identified by the DMC in September 2010 in a timely manner and ensure they are a priority moving forward.	Page 17 paragraph 95
61)	Renewing treaties, in particular the Douglas Treaty needs to be a DFO priority going forward.	Page 18 paragraph 96
62)	The negotiation of an interim measures agreement under the British Columbia Treaty Process is a priority.	Page 18 paragraph 96
63)	Renewal of *Laroque* and PICIC funding should be a priority.	Page 18 paragraph 97
Management of the Fraser River Sockeye Fishery		
64)	To improve pre-season forecasts there should be 1) better in-season monitoring; 2) updating of forecasts in-season; and 3) linking in-season decisions to those updated forecasts.	Page 40 paragraph 197
65)	To improve pre-season forecasts there should be increased monitoring of the ocean environment.	Page 40 paragraph 197
66)	To improve pre-season forecasts there should be more research completed on the links between ocean and salmon survival rates.	Page 40 paragraph 197
67)	DFO should make it a priority to secure test fishing funding for the 2012/2013 fiscal year or beyond.	Page 41 paragraph 201
68)	First Nations with capacity should be given the first opportunity to conduct test fisheries.	Page 42 paragraph 203
69)	DFO should make it a priority to secure funding for	Page 43 paragraph 208

	monitoring and enforcement.	
70)	In light of impending budget cuts, DFO should have greater First Nations and other stakeholder involvement in enforcement and monitoring of the *Fisheries Act*.	Page 43 paragraph 211
Fraser River Sockeye Salmon Habitat		
71)	Protection of fish habitat should be a DFO priority.	Page 44 paragraph 214
72)	DFO should develop habitat indicators in order to assess whether progress is being made in achieving net gain on fish habitat in accordance with the 1986 Policy for the Management of Fish Habitat.	Page 45 paragraph 216
73)	DFO should make it a priority to fully implement the Habitat Policy as soon as possible.	Page 45 paragraph 217
74)	DFO should be accountable to fulfill their obligations under the recommendations of the Commissioner of Environment and Sustainable Development in a timely manner.	Page 45 paragraph 220
Causes for the Decline of Fraser River Sockeye Salmon – Cumulative Effects		
75)	Addressing existing data and research gaps should be a DFO priority.	Page 51 paragraph 239
76)	DFO should develop survival estimates for many of the Fraser River stocks during the lifecycles period between fall fry and recruitment.	Page 51 paragraph 239
77)	DFO should address research gaps in exposure information, particularly for pathogens.	Page 51 paragraph 239
78)	DFO should address research gaps regarding predation.	Page 51 paragraph 239
79)	DFO should address the current shortage of quantitative analyses of correlations and consistency.	Page 51 paragraph 239
80)	DFO should conduct further research on diseases in wild stocks in contrast to captive stocks.	Page 52 paragraph 241
81)	DFO should conduct further research on the impacts of diseases, parasites, viruses and bacteria at a population level with wild salmonids.	Page 52 paragraph 241
82)	DFO should conduct further research on the effects of contaminants in the Fraser River, including the interactive effect of contaminants, and disease agents and water temperatures.	Page 52 paragraph 242
83)	DFO should conduct further research in regard to the data gaps indicated by Mr. Nelitz during the March 14, 2011 freshwater ecology hearings.	Page 52 paragraph 243
84)	DFO should make it a priority to conduct an evaluation at an ecosystem-level to uncover mechanisms affecting survival of Fraser River sockeye through each habitat the salmon pass through.	Page 53 paragraph 244
85)	DFO should design and implement a database mirroring that suggested by Mr. Marmorek in his evidence given on September 19, 2011.	Page 53 paragraph 245
86)	DFO should make it a priority to collect scientific data in the North Pacific, Queen Charlotte Sound, and the Strait	Page 53 paragraph 246

	of Juan de Fuca migratory routes.	
87)	DFO should develop a focused oceanographic and fisheries research program targeting the Strait of Georgia, Queen Charlotte Sound and extending along the continental shelf to the Alaska border.	Page 53 paragraph 248
88)	A focused oceanographic research group should have participation from First Nations and other stakeholders.	Page 53 paragraph 248
89)	DFO should ensure there is proper dialogue between DFO scientists and management in order for science to adequately inform management decisions.	Page 54 paragraph 249
90)	DFO should ensure that scientific research is not driven by political policy.	Page 54 paragraph 250
91)	DFO should ensure that their risk analysis moves beyond scientific inquiry to include the perspectives of other interested stakeholders, including First Nations.	Page 54 paragraph 251
92)	DFO's research and management decisions, conclusions regarding climate change, and multiple stressors should be nested within an adaptive management approach as described by Mr. Marmorek.	Page 55 paragraph 254
93)	DFO fisheries managers should monitor salinity and temperature conditions and use this information to manage expectations in geographical locations beyond Barkley Sound.	Page 55 paragraph 256
94)	DFO should make it a priority to protect biodiversity while still balancing the objective of harvest levels by various groups.	Page 55 paragraph 257
95)	In implementing an ecosystem approach, DFO must develop the capacity within First Nations' communities and other stakeholders.	Page 57 paragraph 259
96)	DFO should be dedicated to working closely with First Nations through the forum and other initiatives to build capacity and get a better understanding of the knowledge in First Nations' communities.	Page 57 paragraph 260
97)	DFO should work with First Nations in developing Tier 1 to 3 models as mechanisms for better compiling and integrating aboriginal knowledge and scientific knowledge.	Page 57 paragraph 262
98)	DFO should be dedicated to establishing multi-year funding for First Nations in order to help build capacity and engage in scientific dialogue.	Page 58 paragraph 263
99)	In order for science to be acceptable to First Nations, DFO should encourage and promote First Nations participation and be open and transparent in sharing scientific knowledge and receiving TEK.	Page 58 paragraph 264
100)	Government should play an important role in facilitating communication of knowledge to broad stakeholders with an interest in Fraser River sockeye.	Page 58 paragraph 266
101)	DFO should develop a formalized process around the incorporation of TEK within ecosystem science.	Page 59 paragraph 267
102)	DFO should actively engage First Nations in collecting	Page 59 paragraph 268-269

	information and conducting various assessments on the Fraser River.	
103)	It should be a priority for DFO to incorporate TEK into ecosystem science.	Page 60 paragraph 271
104)	Scientific knowledge should not be given primacy over TEK.	Page 60 paragraph 273
105)	DFO should establish a quasi-independent Board that includes First Nation representatives to manage and account for fishery science.	Page 62 paragraph 276
106)	DFO should make it a priority to collect scientific data in areas on the marine migratory route.	Page 62 paragraph 276
107)	DFO should continue to research the inter-relationship of potential factors (cumulative effect paradigm) as opposed to only researching factors in isolation.	Page 62 paragraph 276
108)	DFO should build on and then maintain an adequate database of information regarding Fraser River sockeye.	Page 62 paragraph 276
109)	DFO should include the contribution of Traditional Ecological Knowledge to an ecosystem approach.	Page 62 paragraph 276
110)	DFO should incorporating adaptive management techniques in to decision-making.	Page 62 paragraph 276
111)	DFO should facilitate clear lines of communications between decision-makers and Scientists, First Nations, and resource users.	Page 62 paragraph 276

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