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Recommendations for Justice Bruce Cohen Commission to report to the Prime Minister of Canada

This presentation is about the conservation of Fraser River sockeye in its diversity and abundance for the future. This about the protection of the public interest in salmon and recognition of the salmon's contribution to the whole ecosystem and to the way of life of First Nations and for all who live in BC.

- **Conservation must be enshrined as the highest priority, and this requires an unwavering commitment to the Precautionary Approach.**
- **Fully implement the Wild Salmon Policy.**
- **Remove the current over-reliance on non-selective mixed-stock fisheries as they are an obstacle to maintaining the biological diversity of Fraser sockeye and pose a threat to the long term resilience of the fisheries and our salmon-dependent ecosystems.**
- **Government must enshrine its commitment, under the Fisheries Act, to protect fish habitat.**
- **The Prime Minister and the Federal Government of Canada must protect salmon into the future by taking concrete action on Climate Change to reduce greenhouse gas emissions. Immediate action must be taken.**
- **Canada must commit to a scientific and strategic justification of its Salmon Enhancement Program with respect to its pledge to maintain diversity and abundance of wild salmon.**
- **Canada must commit to ensuring ecosystem considerations are given priority in salmon management and the Wild Salmon Policy.**
- **Management of wild salmon is in desperate need of reform. Mandates within Fisheries and Oceans are often contradictory (promoting aquaculture and protecting wild salmon) and such conflicts should be eliminated so that DFO can do its original job of protecting wild fish. Science is underfunded, as is the Wild Salmon Policy implementation. Conservation of wild fish should not be fettered by an institutional stubbornness to change fishing methods. Support science and stock assessment, and place conservation and the Wild Salmon Policy at the top of government priorities.**

- **Canada must work on reconciliation with First Nations over aboriginal fishing rights.**

- 1) **Conservation must be enshrined as the highest priority, and this requires an unwavering commitment to the Wild Salmon Policy and the Precautionary Approach.** To ensure the future of sockeye salmon in the Fraser River, managers can no longer be driven by maximizing the fishery and allowing extractive use of salmon habitat. The Wild Salmon Policy clearly states that *“Conservation of wild salmon and their habitat is the highest priority for resource management decision making.”* It is time that the Wild Salmon Policy was fully implemented. We must conserve and rebuild all of the genetically unique and irreplaceable stocks of salmon that we have not yet lost – as many as 40 distinct stocks for Fraser sockeye alone.

This commitment that DFO has made requires a Precautionary Approach, and that is also clearly spelled out on page 15 of the Wild Salmon Policy.

This commission must bear in mind the primacy of these commitments that DFO has made – *to conservation above all else, and to managing with a precautionary approach* – and evaluate whether they have been fully met in current and recent management practices. Too much “old” thinking about mixed-stock fishing and maximum sustained yields remains stubbornly entrenched within the department and is a serious impediment to managing for biodiversity. Good managers are not allowed to do their jobs when it comes to conservation because of outmoded thinking, peer pressure against change, and a too-weak commitment to wild salmon from Canada’s legislators and policy makers.

In the face of scientific uncertainty the precautionary principle must prevail.

- 2) **Remove the current over-reliance on non-selective mixed-stock fisheries as they are an obstacle to maintaining the biological diversity of Fraser sockeye and a threat to the long-term resilience of the fisheries and our salmon-dependent ecosystems.** The mixed stock fishery for Fraser sockeye has brought *at least* 2 known sockeye stocks, Cultus and Sakinaw, to the brink of extinction. Many more are substantially depleted compared to historic levels and many are at risk. For there to be a vibrant salmon fishing industry well into the future, overfishing of Fraser sockeye and other salmon species must never happen again. Fishing must only occur when there is a known surplus and abundance of stocks that can be fished without risk of overfishing weaker stocks, and fishing plans must plan and account for ecosystem requirements.

The industry must relinquish its dependence on the mixed stock marine fishery, and it is long past time for a major upriver shift in fishing capacity and effort. If done right, the end result would be a vibrant and diverse commercial fishery that allows managers to make truly risk-averse decisions in-season with much less dependence on pre-season forecasts. (e.g. not always fishing to mortality ceilings for weak-stock sockeye and coho out of necessity of allocation pressures). If the fish are there, we catch them, if not, we don't.

This commission must look at whether the current focus on marine mixed-stock fisheries is in the public interest, ask why DFO has allowed this outdated paradigm to persist, and give careful consideration to the contradictions within the economic and scientific arguments.

- 3) **Government must enshrine its commitment under the Fisheries Act to protect fish habitat.** Habitat-related parts of the Fisheries Act and DFO's "no net loss" policy for salmon habitat are not being adhered to in the Fraser watershed and on the migration routes of Fraser sockeye. (eg gravel removal in spawning channels in the lower Fraser)

The hydrology of the Fraser River and its tributaries is changing due to the massive die-off of trees killed by the mountain pine beetle and further exacerbated by the related extreme and extensive rapid logging and road building. There are studies that estimate the potential of 30% or more increase in peak flows, and changes in the timing of Spring run-offs which could severely impact salmon survival. The science is very clear that changing weather patterns related to human-caused global climate change are affecting flows in the Fraser more and more every year. There has been no attempt to look at the cumulative impacts of the extreme level of logging in so many watersheds at once.

Excessive and poorly-regulated groundwater withdrawals and the massive diversion of Nechako River water to Rio-Tinto Alcan's Kemano hydroelectric facility on the north coast are exacerbating the devastating effects of below-average flows and higher than average water temperatures on Fraser sockeye during their summer migrations. And more hydropower developments are being proposed for the tributaries of the Fraser watershed now than at any time in history – with no environmentally-based planning process to speak of.

The habitat loss suffered in the lower mainland due to urban sprawl and agriculture are obvious, to say nothing of the massive increase in pollution from sewage and toxic urban runoff that urbanization has brought. In the marine migration routes, recent surveys of Fraser sockeye near open net fish farms have raised troubling questions about the effect of these farms on juvenile Fraser sockeye during the most vulnerable time of their life cycle.

It is not widely known that in BC fish have no right to water. There is no legal protection of groundwater and water is typically overallocated to other water users. This is becoming very serious in the mid and upper reaches of the Fraser River system, especially in the Okanagan region where drought conditions are becoming prevalent.

Through all of these developments DFO has been unable or unwilling to uphold its obligation to protect our precious salmon. At worst, they have knowingly turned blind eyes towards countless preventable acts of degradation and loss of salmon habitat. The BC provincial government has been responsible for massive habitat destruction, alteration and pollution and must be held accountable, but it is DFO's ultimate responsibility to uphold the Fisheries Act, and they have failed to do so. This commission must not shy away from addressing these failures, and the management culture, at both levels of government, that has allowed them to occur.

4) The Prime Minister and the Federal Government of Canada must protect salmon into the future by taking concrete action on Climate Change to reduce greenhouse gas emissions. Immediate action must be taken to uphold the Kyoto Treaty and targets.

All of these salmon habitat problems are intertwined and elevated by the increasing impacts of global warming. It is no secret that in the urgent fight to mitigate global warming, Canada has become the worst actor among industrialized nations. So here too the federal government is failing to uphold the public interest in salmon conservation. This commission should not shy away from this troubling reality. Canada must take concrete action on Climate Change and set bold solid targets for the reduction of greenhouse gas emissions. They have totally failed to do so.

Globally, the transfer of atmospheric carbonic acid into ocean waters is a huge threat to ocean life. And a different recent study in *Nature*, co-authored by Canadian leading scientist Boris Worm, found that the world's oceans are experiencing a dramatic decline in phytoplankton, as much as a 40% decline over the last 40 years. The right temperature in the ocean and availability of food is critical for salmon survival in their ocean migrations. What is happening in our oceans is like a black box, much more needs to be known.

5) Canada must commit to a scientific and strategic justification of its Salmon Enhancement Program with respect to its pledge to maintain diversity and abundance of wild salmon. Salmon hatcheries and large-scale managed spawning channels remain a known and poorly-mitigated threat to the diversity and abundance of wild salmon. Salmon hatcheries and large-scale managed spawning

channels, such as Weaver Creek, (lower Fraser), pose multiple risks to wild salmon. These are well-documented in the scientific literature, and they include: reduced genetic fitness by interrupting processes of natural selection, and allowing wild fish to interbreed with hatchery raised fish; competition between hatchery and wild fish in the marine and freshwater environments; spread of disease to wild fish; and exacerbation of mixed-stock fishing impacts by attracting fishing effort to artificially enhanced stocks. The goals of the Wild Salmon Policy and the Salmon Enhancement Program are fundamentally at odds, and the Department has failed to reconcile the two. This commission should look carefully at what factors are stopping this from happening.

There is also an international dimension to the issue of so-called “enhancement”. Japan and Russia are flooding the high seas with record numbers of hatchery-raised salmon and recent studies have suggested that our wild, irreplaceable populations of British Columbia salmon may be at a competitive disadvantage when food in the ocean is limited. This issue must be addressed internationally and multilaterally, but as yet the federal government has failed to assert the Canadian public interest in this manner.

6) Canada must commit to ensuring ecosystem considerations are given priority in salmon management and the Wild Salmon Policy. Fraser River sockeye salmon are known to be essential to the healthy function of riparian and freshwater ecosystems in the sub-watersheds that feed the mighty Fraser and comprise one-quarter of the land mass of British Columbia. For years the spawning escapements to these watersheds have been grossly inadequate. The Department is to be commended for including ecosystem considerations in the Wild Salmon Policy, but they have failed to implement it in a timely manner. This commission must ask why this important work has taken so long and should press the government to expedite it.

7) Management of wild salmon is in desperate need of reform. Mandates within Fisheries and Oceans are often contradictory (promoting aquaculture and protecting wild salmon) and such conflicts should be eliminated so that DFO can do its original job of protecting wild fish. Science is underfunded as is the Wild Salmon Policy implementation. Conservation of wild fish should not be fettered by an institutional stubbornness to change fishing methods, support science and stock assessment, and place conservation and the Wild Salmon Policy at the top of government priorities.

Canada must commit to reforming fisheries management and culture.

Reform of the management processes and decision making to remove the present domination by fishing groups, whose mandate is to apply significant pressure to increase fishing opportunities for their members. If Conservation is truly the overwhelming priority of DFO then real balance needs to be brought to these

management processes including the Integrated Harvest Planning Committee and the Fraser Panel, where conservation interests have only one observer which can clearly threaten the primacy of conservation objectives.

At present wild salmon planning is fragmented. Commit to watershed-based planning that recognizes salmon as the keystone species in the watershed. Increased emphasis on the cumulative effects that impact salmon watersheds as a whole.

bowing to pressure by special interest groups at the expense of conservation.

8) Canada must work on reconciliation with First Nations over aboriginal fishing rights.

A final principle is reconciliation with First Nations. They live and have traditionally depended on the salmon that come home to all of the large and smaller streams in the Fraser River system.

The Commissioner and this inquiry needs to recommend that government change its way of “doing business” with First Nations. The fishery must not just be environmentally sustainable and economically sustainable but also culturally sustainable.

Use of science and other information

This inquiry cannot just be about science (and enviros and fishermen agree in that respect) but it must be about how government *responds* and *manages* in the face of scientific information and traditional knowledge – knowing things is great, but is what we do with that knowledge that matters. For example, we know that the climate is changing and that this is impacting salmon..... but what are we doing about it?

Another issue is misinformation. For example the constantly stated issue of “overspawn” which has appeared frequently in the recent press. The most recent paper debunking this came in 2002 from the Pacific Fisheries Resource Conservation Council. The Chair, the Honourable John Fraser said, “This long overdue paper brings much needed science to the question of over-escapement and sockeye stock collapse. On the basis of the data available there is no evidence that higher escapements have resulted in stock collapse....”

There is no “waste” in nature. The abundance of nutrients from the dying sockeye of 2010 will renew health in a vast web of life that includes forests, grizzly bears and future salmon.

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