

Chapter 1 • Introduction

In Volume 1 of this Report, I examined in detail the management of the Fraser River sockeye salmon fishery by the Department of Fisheries and Oceans (DFO) and other organizations, and in Volume 2, I explored the possible causes of the decline of those sockeye stocks. It is now time to draw conclusions and set out my recommendations for improving the future sustainability of the Fraser River sockeye salmon fishery.

The conclusions and recommendations I make in Chapter 2 of this volume are drawn from and rely on my findings as set out in volumes 1 and 2. Although in this chapter I refer to and summarize some of the evidence, volumes 1 and 2 contain greater detail.

As well, not all aspects of the management of the fishery on which I made findings are the subject of recommendations. In some management areas, the evidence indicates that DFO or other organizations are doing a good job, and although I make findings, I have no need to recommend improvements. In other areas, it is not my role to micro-manage DFO by suggesting detailed improvements

to every element of its work relevant to Fraser River sockeye. Instead, my recommendations reflect those matters so important to the future sustainability of the Fraser River sockeye fishery that I must urge DFO or the Government of Canada to take prompt action. Having said that, it is my hope that DFO will give careful consideration to the evidence I discuss and the findings I make in volumes 1 and 2 because they contain additional suggestions for improved management of the Fraser River sockeye salmon fishery.

■ The events that precipitated this Commission of Inquiry

Notwithstanding the large amount of information presented in the two preceding volumes, it is important to remember the events that precipitated this Inquiry. When I began my work in November

2009, the Fraser River sockeye fishery had just experienced its worst return since the 1940s. It was the third consecutive year in which the commercial fishery had remained closed. For nearly two decades, there had been a steady and profound decline in abundance.

As the preamble to the Terms of Reference establishing this Inquiry states, the decline was attributed “to the interplay of a wide range of factors, including environmental changes along the Fraser River, marine environmental conditions and fisheries management.” The Government of Canada wished to take all feasible steps to identify the reasons for the decline and the long-term prospects for Fraser River sockeye salmon stocks, and, in addition, to determine whether changes are needed to fisheries management policies, practices, and procedures.

■ The importance of the Fraser River sockeye salmon fishery

Early in my mandate, in order to gain a deeper appreciation of the importance to British Columbians of Fraser River sockeye and their recent decline, I conducted 10 public forums on the mainland and Vancouver Island. These forums were well attended, and many in attendance made articulate, sincere, and thorough oral and written submissions covering most, if not all, of the issues being investigated by the Commission. Although some of these submissions were critical of the Inquiry process, all shared a common and passionate commitment to the sustainability of Fraser River sockeye salmon, and many offered important insights into the issues under investigation.

I also made 14 site visits to First Nations drift net and dip net fisheries, hydroacoustic counting stations, hatcheries, land- and ocean-based salmon farms, canneries, a pulp mill, and spawning grounds. At the evidentiary hearings in October 2010, I spoke about my appreciation for these experiences:

For me, it was an honour and a privilege to have the opportunity to travel to many locations in

the Fraser watershed and along sockeye migratory routes where the Fraser sockeye has played a key role in the cultural, social and economic fabric of these communities and where there is a commitment to preserving this iconic fish in the interests of all British Columbians and Canadians. On a personal note, I was often moved by the warmth and passion with which presenters made their submissions at the public forums, addressing the sustainability of the Fraser sockeye.¹

The significance of this fishery is reflected in the several dozen examinations, investigations, and reports into various aspects of it that have been undertaken over the past three decades, focusing on DFO’s management of the fishery, fleet reduction, salmon allocation, Aboriginal fishing, salmon farms, conservation, habitat protection, and consultative arrangements. These reports resulted in more than 700 recommendations, most of which were directed at DFO. I summarized those reports, the recommendations contained in them, and DFO’s response to the recommendations in my October 2010 Interim Report.

Many of these previous reports were limited in scope to a specific aspect of the fishery, such as habitat or salmon farms, or to a specific year’s return. Also, unlike most previous investigations, this Commission is the first inquiry, since the 1982 Pearse Commission on Pacific Fisheries Policy, dealing with the Fraser River sockeye fishery under the authority of the *Inquiries Act*. This authority gave the Commission powers to compel document production and summon witnesses to testify under oath or affirmation.

■ My mandate to encourage broad co-operation among stakeholders

One of the provisions of the Terms of Reference unique to this Commission was the direction “to conduct the Inquiry without seeking to find fault on the part of any individual, community or organization.” Rather, I was mandated to encourage broad co-operation among stakeholders. I am pleased to

be able to report that, throughout the Inquiry’s proceedings, counsel for the various participants, while vigorously advancing their clients’ interests, acted with a high degree of professionalism in adopting a collaborative and co-operative approach. This response enabled me not only to gather information and evidence on which to build a better and clearer understanding about the past declines but also to recommend the necessary steps and solutions toward ensuring the future sustainability of the Fraser River sockeye salmon fishery.

■ Causes of the decline

As a result of the Commission’s extensive evidentiary hearings and scientific research program, the public now knows much more about Fraser River sockeye salmon, the stressors they face throughout their fascinating life cycle, and DFO’s work in managing the fishery and protecting sockeye habitat. The Commission investigated several potential causes of decline across the five different life stages of Fraser River sockeye salmon. Those potential causes included predation, infectious disease, contaminants, climate change, stressors in the freshwater environment (logging, agriculture, gravel removal, pulp and paper mills, metal mining, municipal wastewater, and other development-related impacts on fish habitat), and stressors in the marine environment (harmful algal blooms, salmon farms, sea lice, variations in marine productivity, and competition with hatchery and other species / stocks of wild salmon). Some individuals, I suspect, hoped that our work would find the “smoking gun” – a single cause that explained the two-decade decline. The idea that a single event or stressor is responsible for the 1992–2009 decline in Fraser River sockeye is appealing but improbable. Throughout the hearings I heard that sockeye experience multiple stressors that may affect their health and their habitats and which can cause death. Several witnesses emphasized the importance of considering the cumulative effects of these stressors rather than individual stressors in isolation. In Chapter 2, Recommendations, I state that DFO should develop and carry out a research strategy to assess the cumulative effects of stressors on Fraser River sockeye.

Because of the scientific research projects I commissioned for this Inquiry and the testimony of the many expert witnesses, much more is now known about the reasons for the decline in abundance and productivity (the number of adult recruits returning per spawner) of Fraser River sockeye salmon. In addition, more is known about what we do not understand. Key knowledge gaps remain.

Where does that leave us? In Volume 2, Causes of the Decline, I concluded that the evidence led before this Commission has identified numerous stressors that may have negatively affected Fraser River sockeye salmon over the past 20 years. At the same time, there are patterns of declining productivity at a regional scale which suggest that mechanisms operating on larger, regional spatial scales, and/or in places where a large number of correlated sockeye stocks overlap, should be seriously examined. I also concluded that it is not a matter of choosing one potential cause over the other. The available evidence shows that both Fraser River-specific stressors (such as development along the river or contaminants in the water) and region-wide influences (such as marine conditions in the Strait of Georgia or Queen Charlotte Sound) may have contributed to the long-term decline. Factors in the marine environment appear particularly implicated in the broad-based regional decline of salmon stocks. Regrettably, that is as far as the evidence takes me. Filling the knowledge gaps will be a major endeavour.

■ DFO’s role in managing the fishery

I turn now to DFO’s role in managing the Fraser River sockeye salmon fishery. During the course of this Inquiry, some (but certainly not all) presenters at public forums and some witnesses at hearings spoke critically of DFO, alleging that it has mismanaged the fishery, is responsible for the decline, or is otherwise dysfunctional or out of control. DFO was criticized for its frequently unreliable pre-season forecasts and for falling behind in habitat protection.

Throughout the Inquiry, I have repeatedly reminded myself that the Fraser River sockeye salmon

fishery is only one narrow slice of a wide range of DFO programs and activities in the Pacific Region and that the Pacific Region is but one of six regions in DFO's Canada-wide organization. It would be inappropriate for me to comment on DFO's overall management and administration, except insofar as it has an impact, directly or indirectly, on the Fraser River sockeye fishery.

During the evidentiary hearings, scores of DFO employees testified about their work. DFO personnel, especially those at the field level, communicated a sincerity about and dedication to sockeye salmon and its conservation that I found compelling. Some expressed frustration at being pulled in many different directions. Others regretted having to cut back on core programs because of reduced funding. Many told me they were worried about the health of Fraser River sockeye and other stocks and the uncertain future that lies ahead.

By any measure, the Fraser River sockeye salmon fishery is a challenge to manage, given the anadromous life cycle, the many stocks (some of which are threatened), and the multitude of natural and human-caused stressors that sockeye experience throughout their lives. From what I have learned over the past two-and-a-half years, I am satisfied that DFO's employees in the Pacific Region have done a creditable job in challenging circumstances.

At the higher levels within the department, I perceived a preoccupation with the development and revision of policies – an attitude that the solution to any problem is a new policy. I am not opposed to policies, and I do not presume to say how many are sufficient. However, creating a policy is not enough; it is through implementation that policies bring change. In Chapter 2, Recommendations, I call for action on two pivotal DFO policies that have yet to be fully implemented: the 1986 Habitat Policy and the 2005 Wild Salmon Policy.

One of the great benefits of a commission of inquiry is the light it sheds on the operations of our government institutions. This Inquiry is no exception. Through the Commission's ability to require production of DFO documents, our extensive evidentiary hearings, and our scientific research program, a great deal of information about DFO's inner workings and in-house research has come into the public domain. In my view, such transparency is healthy. In the next chapter, I recommend that DFO continue such openness by developing

and maintaining an inventory of information about Fraser River sockeye salmon research and by making this research available to non-DFO scientific researchers.

■ DFO's role in the decline

To what extent, if any, can DFO be held responsible for the two-decade decline in Fraser River sockeye salmon? It is, I think, fair to say that DFO has been aware for years of declining salmon populations and of the existence of many of the stressors discussed in Volume 2, *Causes of the Decline*, and that it has had some understanding of the plausible mechanisms by which those stressors may have cumulatively contributed to the decline. What DFO has done little of, however, is undertake or commission research into these stressors in order to gain a better understanding of whether cause-effect relationships exist.

Given my conclusion in Volume 2 that the causes of the decline are most likely to be found in the cumulative effect of numerous stressors, as well as in mechanisms operating on larger, regional spatial scales, it would not be appropriate to fault DFO for failing to take decisive action on any particular stressor. However, DFO's lack of research into the various stressors discussed in this Report means that the department had no capacity to draw firm conclusions about the decline as the years unfolded and, therefore, was precluded from taking remedial action in a timely manner. For example, as one DFO research scientist, Dr. Jim Irvine, told me, if DFO had implemented the Wild Salmon Policy, managers could not have prevented the low return of 2009, but they would have had the information to better predict, understand, and react to the low return.² (The Wild Salmon Policy is discussed in Volume 1, Chapter 10, *Wild Salmon Policy*, and in Chapter 2, *Recommendations*, of this volume.)

■ Recommendations

Through this Inquiry, I have been able to identify inadequacies in the management system for Fraser River sockeye salmon. That system would benefit from reforms, and my recommendations on these matters are set out in Chapter 2 of this volume.

As a result of this Inquiry, there now exists a better understanding of the plausible mechanisms by which a variety of freshwater and saltwater stressors may have contributed to the two-decade decline. However, there is much to be learned about the actual impact of these stressors on Fraser River sockeye. For that reason, in Chapter 2, I make recommendations for specific scientific research projects that will, if undertaken, develop important baseline data, provide better information about Fraser River sockeye and the stressors they face throughout their life stages, and increase DFO's capacity to identify cause-effect relationships.

In making these recommendations, I am mindful of the economic times in which we live. In recent years, DFO has had to do more with less, and the March 2012 federal budget presages further reductions in staff and programs. However, my role is to make recommendations to improve the future sustainability of the Fraser River sockeye salmon fishery, not to present a pared-down set of recommendations that may be more compatible with current funding limitations but ignores what truly needs to be done.

■ The uncertain future

The recommendations to which I now turn will, I believe, improve the management of the Fraser River sockeye fishery and augment our understanding of the stressors threatening those stocks. I wish the narrative ended there but, regrettably, it does not: Fraser River sockeye face an uncertain future.

First, the shrinking resources I referred to earlier, which may result in delays in implementing reforms and research, mean that the stressors to which sockeye are exposed and the deterioration of sockeye habitat will continue. If implementation of the recommendations called for in this Report is delayed, the continuing threats to stocks may make remedial action all the more challenging when it does begin.

Second, the waters constituting the habitat for Fraser River sockeye are warming, and because Fraser River sockeye live near the southern limit of the Pacific sockeye range, this change will be particularly difficult for them. To the extent that warming waters result from climate change, solutions will be found primarily at national and international levels. But action is possible, as I recommend near the end of Chapter 2, Recommendations.

Finally, many of the amendments to the *Fisheries Act* will have a significant impact on policies and procedures examined by this Commission and on important measures of habitat protection. As I describe further in Chapter 3, Legislative amendments, I am not in a position to make recommendations regarding these changes. As required by my Terms of Reference, I have set out my findings and recommendations in this Report for the future sustainability of the Fraser River sockeye fishery. Notwithstanding the recent legislative amendments, I urge the federal government, in the interests of conserving this iconic species of salmon, to heed my findings and to implement these recommendations.

Notes

- 1 Transcript, October 25, 2010, p. 2.
- 2 Transcript, December 7, 2010, pp. 45–48.