

Recommendations Related to Fraser River Sockeye Salmon and Responses by the Government of Canada 1982-2010

Executive Summary

Introduction

The Cohen Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River was announced on November 5, 2009. In response to a November 25, 2009 request from Cohen Commission counsel, Fisheries and Oceans Canada (DFO) has set out recommendations contained in twenty five reports relating to Pacific salmon, and in many instances specifically to Fraser River sockeye salmon, and has included associated Government responses.

These reports were initiated by, or prepared for, the Government of Canada. This Executive Summary is not intended to be exhaustive, but rather, provides an overview of key recommendations from the larger document and examples of DFO's responses. The larger attached document reflects the efforts of DFO to provide, in the time available, as much relevant information as possible to the Commission regarding the Government of Canada's responses to the recommendations contained in these twenty-five reports.

The reports contained in this compilation spanned the period from 1982 to 2005, and included those commissioned by the Government as well as those prepared for the Government including the Auditor General of Canada and the Standing Committee on Fisheries and Oceans. These reports were chosen on the basis that they focused exclusively on the Fraser River¹ or contained significant recommendations pertaining to Fraser River sockeye.² Reports that were not initiated by, or prepared for, the Government of Canada were not included in this document.

Recommendations—General Themes

Over six hundred and seventy-five recommendations were drawn from the twenty five reports. These recommendations can be categorized, in no particular order, into the following ten themes:

Themes	Number of Recommendations
1. Conservation & Stewardship	73
2. Access & Allocation	42
3. Aboriginal Fisheries	40
4. Economic Viability	66
5. Consultation	135
6. Fisheries Management	179
7. Aquaculture	19
8. Enforcement	62
9. Science/Research	38
10. Salmonid Enhancement	23

Theme #1—Conservation and Stewardship

Summary of Recommendations

Seventy-three recommendations address conservation and stewardship, with the majority of the recommendations³ referring to habitat management and federal responsibilities (legislation/regulations, policy and decision-making); the need for research and assessment of fish habitat; and resources for habitat-related activities such as restoration. Other recommendations,⁴ address the overarching priority of conservation, protection of wild salmon stocks, and issues of risk and uncertainty.

Summary of Responses

From DFO's perspective, conservation is the primary objective guiding management of the resource. While conservation is a responsibility shared by all users and cannot be achieved by one department or government alone, DFO has demonstrated its commitment to conservation as an overarching principle through the development of policies and actions to support conservation. For example, DFO responded to recommendations of the 1982 Pearse Commission by developing the 1986 *Policy for the Management of Fish Habitat*. This policy reflects the Department's commitment to conservation and provides a statement of DFO's objectives, goals and strategies for the management of fish habitats supporting Canada's freshwater and marine fisheries.⁵ This policy remains the cornerstone of the Habitat Management Program; in 2007-08, DFO Pacific Region received 1,909 habitat referrals under the *Fisheries Act* and reviewed them according to this Policy.

In addition to the *Policy for the Management of Fish Habitat*, some DFO actions that respond to the recommendations that relate to conservation and stewardship include:

- DFO's Habitat Restoration and Salmon Enhancement Program (1997-2002) provided \$35 million to community groups and agencies to support 550 habitat restoration, stewardship, and stock rebuilding projects.
- In 1998, conservation measures were put in place to protect late run sockeye salmon, including Cultus Lake sockeye which was designated as endangered by the Committee on the Status of Endangered Wildlife in Canada.⁶
- In 2004, DFO launched the Environmental Process Modernization Program (EPMP) to improve effectiveness and transparency of the Habitat Management Program. By 2008, the EPMP had developed: a risk management framework and operational policies; streamlining tools, processes and protocols; a mandatory staff training program; a new program governance structure for Habitat Compliance modernization; formal partnering arrangements to engage key partners and stakeholders; and had implemented organizational changes to address the application of environmental assessment processes to major projects.

Theme #2—Access & Allocation

Summary of Recommendations

Forty-two recommendations relate to access and allocation to fish stocks and address: allocation policy; rules and priorities for allocations to different sectors (i.e. aboriginal, sport and commercial harvesting sectors); intersectoral allocations; and inter-gear allocations within the commercial sector.

Summary of Responses

From 1996 to 1997, three independent advisors were appointed by the Minister of Fisheries and Oceans to provide advice on Pacific salmon allocation among First Nations and the recreational and commercial harvesting sectors.⁷ In addition, through consultation with commercial salmon fishery stakeholders, further advice on allocation among the three commercial salmon gear sectors was provided.⁸ These efforts led to the publication of *An Allocation Policy for Pacific Salmon* in 1999 with the objective of clarifying the policy direction for Pacific salmon, establishing clear principles, and articulating operational policies.⁹ The policy affirms the overarching importance of conservation in the management of the resource and states that after conservation needs are met, First Nations' food, social and ceremonial (FSC) requirements and treaty obligations have first priority in salmon allocation.

The *Allocation Policy* also provides guidance for inter-gear allocation of catch within the commercial sector and promotes selective fishing practices. Today, the *Allocation Policy* guides the development of annual fishing plans through the Integrated Fisheries Management Plan (IFMP) process. Section 5 of the draft 2010 South Coast Salmon IFMP contains extensive references to the *Allocation Policy* and how it should be implemented to divide catch and harvest opportunities among First Nations, recreational and commercial harvesters.

Theme #3—Aboriginal Fisheries

Summary of Recommendations

Forty recommendations address the management of Aboriginal fisheries (e.g. licensing, co-management, catch reporting, enforcement); the types of Aboriginal fisheries (e.g. fisheries for food, social and ceremonial purposes, treaty fisheries and harvest agreements); economic viability (including "pilot sales" fisheries), and policy and planning issues.

Summary of Responses

In response to various reports and recommendations, DFO has pursued or introduced the following policy and program initiatives related to Aboriginal fishing:

- In 1992, the *Aboriginal Fisheries Strategy* (AFS) was announced with the objective of providing Aboriginal groups an opportunity to participate in the management of the fishery, increase their capacity, develop a foundation for treaties and increase economic fisheries opportunities for First Nations. AFS agreements contain provisions for Aboriginal fisheries planning, consultation, licensing and designation, enforcement, monitoring and reporting. From 1992 to 2003 "Pilot Sales" fisheries were a component of the AFS whereby, through agreements made between DFO and Aboriginal groups, some Aboriginal communities were authorized to harvest specified amounts of fish, subject to conservation needs, for sale subject to agreed-upon management, monitoring and enforcement regimes.¹⁰
- DFO's *Policy for the Management of Aboriginal Fishing* (1993) provides principles and procedural guidelines for DFO's management of Aboriginal fishing respecting the law on Aboriginal fishing

rights, particularly in light of the Supreme Court Decision, *R. vs. Sparrow* and reflecting DFO's AFS. This policy applies to all species of fish.

- DFO's Allocation Transfer Program (ATP), established in 1994, provides Aboriginal groups with access to commercial fisheries through the voluntary retirement of licences from commercial fisheries and the issuance of communal licences to Aboriginal organizations. Since 1993, the ATP has facilitated the retirement of approximately 130 commercial licences and the issuance of communal licences to Aboriginal organizations in the Pacific region.¹¹
- In 2004, the Aboriginal Aquatic Resources and Oceans Management (AAROM) program was established to provide funds to Aboriginal groups to establish aquatic resources and oceans management bodies. The goal of AAROM is to help Aboriginal groups participate effectively in advisory and decision-making processes used for aquatic resources and oceans management.
- In 2007, DFO announced the Pacific Integrated Commercial Fisheries Initiative (PICFI) that provided \$175 million over five years to retire the licences and quota of fishers who want to leave the commercial fishery, and to facilitate greater participation in a wide range of commercial fisheries by First Nations throughout British Columbia (BC).¹²

Theme #4—Economic Viability

Summary of Recommendations

There are sixty-six recommendations respecting economic viability in the commercial fishery. These recommendations mainly address: reducing overcapacity in the fishing fleet¹³ and the corresponding need for job creation and training; and cost-recovery, including concepts of user-pay and royalties.¹⁴

Summary of Responses

From the mid-1990s and onward, DFO responded to recommendations respecting economic viability with various initiatives and programs, particularly those focused on licence retirement. In 1995, further to the recommendations of the Fraser River Sockeye Public Review Board, DFO set up a series of discussions known as the Pacific Policy Roundtable. These discussions focused on the development of future management options for the commercial fishery. The discussions were guided by the principles of conservation, economic viability and partnerships. Participation in the discussions was broad with representation from the commercial, Aboriginal, and recreational sectors, coastal communities, DFO, and the Government of BC. In December 1995, the Pacific Policy Roundtable produced a report on the Renewal of the Commercial Pacific Salmon Fishery.¹⁵

The Pacific Salmon Revitalization Strategy (PSRS), announced in March 1996 in response to the Pacific Policy Roundtable report, was a comprehensive strategy to revitalize the west coast commercial salmon fishery to help conserve salmon stocks and ensure a sustainable harvest.¹⁶ The PSRS addressed all commercial salmon fleets and included: fleet reduction, single gear licensing, area licensing and the ability to stack more than one area license on a vessel. As part of this Plan, an \$80 million voluntary licence retirement program and a new commercial licensing system were announced to address the economic viability of commercial salmon fleets.

In June 1998, the Pacific Fishery Adjustment and Restructuring (PFAR) Program, was announced. PFAR provided \$400 million to help support various programs including funding for additional restructuring of the fishery (mainly fleet reduction) and addressed many of the individual and community adjustment needs identified in the Pacific Policy Roundtable report,¹⁷ and reports of the BC Jobs Protection

Commission.¹⁸ As a result of the licence retirement component of PFAR, the commercial salmon fleet was reduced by approximately 54 percent from its pre-1996 level.

Theme #5—Consultation

Summary of Recommendations

More than half of the one hundred thirty-five recommendations addressing consultation originate from one report (Institute for Dispute Resolution, 2001).¹⁹ The majority of the consultation recommendations (83 of 135) address the components of consultation (e.g. scope, mandate, goals and objectives; planning and implementation; structure, process and participation).

Summary of Responses

The number of recommendations around the theme of consultation was a clear indication that First Nations and fishery stakeholders were not fully satisfied with their involvement in fisheries-related decision-making. Some of these discussions were based, in part, on the legal obligation to consult First Nations prior to taking any management action that could affect aboriginal rights. Much of DFO's consultation takes place in ongoing advisory processes that serve as a forum for discussing issues and developing recommendations to the department. For Pacific salmon fisheries, the annual cycle of pre-season planning, in-season management and post-season review involves extensive levels of consultation with First Nations and stakeholders during each phase of the cycle.

In response to these recommendations, efforts have been made over the past decade to strengthen consultation processes through establishing opportunities and capacities for those with an interest in fisheries resource issues such as policy development, integrated fisheries management planning, and inter-jurisdictional, eco-system and watershed-based planning and management.

Methods of engagement include formal sector or interest-based processes such as the Commercial Salmon Advisory Board (CSAB), the Integrated Harvest Planning Committee (IHPC), the Sport Fishing Advisory Board (SFAB) and the Marine Conservation Caucus (MCC); the establishment of the IHPC, CSAB and its subcommittees were substantially influenced by the Institute for Dispute Resolution 2001 report.

The IHPC, comprised of representatives from the CSAB, SFAB, MCC and a number of First Nations, is the primary forum for the development of IFMPs for salmon.

First Nations have identified three “tiers” of engagement on fisheries matters: Tier 1 – First Nation to First Nation, Tier 2 – First Nation with government and Tier 3 – First Nation with others. DFO is working with many BC First Nations through its Aboriginal fisheries programs to develop processes, structures and capacity at all three levels.²⁰

In addition to the formal advisory processes, DFO has established a Consultation Secretariat in the Pacific Region that supports public and stakeholder consultations on a variety of fisheries policy and program topics (e.g. Wild Salmon Policy, PICFI and *Fisheries Act* Renewal). To enhance consultation skills and abilities, DFO has also developed a national Consultation Framework and Toolbox, as well as training programs for staff who are involved in consultations. To date, more than 350 DFO Pacific Region staff have received consultation training.

Finally, DFO works closely with many non-governmental organizations, independent experts and other levels of government to meet its objectives for broad-based consultation and engagement. Since the late 1990s, DFO has provided funding support to initiatives such as the Fraser Basin Council, the Pacific Fisheries Resource Conservation Council, the First Nations Fisheries Council and the Integrated Salmon

Dialogue Forum. DFO has worked collaboratively with these groups on a broad range of issues related to salmon conservation and management.

Theme #6—Fisheries Management

Summary of Recommendations

Over one-quarter (179) of all recommendations address fisheries management. The key issues include: the priority of Aboriginal FSC requirements and treaty fisheries; management of the commercial fishery (e.g. ministerial authority; the public right to fish; accountability; fleet management and licensing; harvest management; escapement); and the policy, licensing, management, and information requirements of the sport fishery. There is some overlap in these recommendations with other themes, notably Access & Allocation, and Aboriginal Fisheries.

Summary of Responses

DFO has responded by shifting from using “Input Controls” (e.g. limited entry licensing, vessel and gear limitations) to “Output Controls” (e.g. defined shares); and using finer resolution stock assessment information in the management of the fisheries resource. This shift in management approach has evolved over the past two decades with the development of a number of policy and institutional arrangements, as outlined below.

- DFO’s *Pacific Coast Commercial Fishing Licensing Policy: Discussion Paper* published in 1990, provides the commercial fishing industry and other interested parties with a clear, consistent statement of Fisheries and Oceans’ policy respecting licensing in Pacific commercial fisheries.²¹
- The implementation of the *Pacific Salmon Revitalization Strategy* (1996) began the first round of significant salmon licence retirement.²² Licence retirement was continued and significantly expanded under the PFAR Program.²³
- In 1999, DFO introduced IFMPs, which are the primary resource management tool through which DFOs policies are applied. In addition to ensuring that conservation and ecosystem approaches are respected, IFMPs detail fishing plans for aboriginal, sport and commercial fisheries.²⁴ IFMPs also contain management measures, including total allowable catch, fishing seasons and areas, control and monitoring of the harvest, decision rules, licensing, any requirements of the *Species at Risk Act*, and habitat protection measures.
- *Canada’s Policy for the Conservation of Wild Salmon (2005)* (Wild Salmon Policy) was adopted after five years of consultation with Canadians concerned about the protection of Pacific salmon. It defines a new approach to salmon conservation in the Pacific Region and specifies clear objectives, establishes strategies to meet them and presents a decision-making process to ensure that salmon conservation choices reflect societal values. In 2005, the Minister of Fisheries and Oceans at the time stated, “The Wild Salmon Policy significantly transforms the management and conservation of wild salmon, their habitats and dependent ecosystems. It provides the foundation for other initiatives currently underway to reform fisheries and habitat management in the Pacific Region.”²⁵
- Under this Policy, the conservation of salmon and their habitats is identified as the first priority for resource management. The policy is based on the protection of aggregates of spawning stocks that have similar genetic characteristics, called Conservation Units (CU), and their

habitats. Two reports related to the identification of Conservation Units and their status have been released: *A Framework for the implementation of the Wild Salmon Policy: Initial lists of Conservation Units for British Columbia* and *Indicators of Status and Benchmarks for Conservation Units in Canada's Wild Salmon Policy*.

- The Wild Salmon Policy addresses the identification and protection of ecosystems, including: (1) defining operational ecosystem units based on CUs and habitat types; (2) determining ecosystem reference states and targets; (3) identifying ecosystem objectives with sectors, partners and stakeholders; and (4) developing indicators and a monitoring plan. Tools are now being developed to assist staff in establishing CU-specific benchmarks in the fall of 2010.
- Recognizing the highly migratory nature of Pacific salmon and that over the course of their lifecycle, fish originating in the rivers of one country are often subject to the fisheries of another, Canada and the United States signed the *Pacific Salmon Treaty* (PST) in 1985. The PST provides the framework with which the two countries work together to conserve and manage Pacific salmon. Under the PST, the Pacific Salmon Commission, supported by the Northern, Southern and Fraser River Panels as well as technical committees, was established. The panels were set up with representation from First Nations and the commercial, recreational, and environmental sectors. The panels provide recommendations on the management of the fisheries in their area of responsibility before and after each season's harvest. The Fraser River Panel is unique in that it has responsibility for in-season harvest regulation of Fraser River sockeye and pink salmon within a specified area.

Theme #7—Aquaculture

Summary of Recommendations

Nineteen recommendations respecting aquaculture focus on: the need for a precautionary approach; the framework for licensing salmon farming; systems for monitoring and enforcement; and research to understand the effects of salmon farming on wild stocks and their habitats.

Summary of Responses

DFO has developed policies, programs and administrative arrangements to manage aquaculture in a sustainable manner.

In 1987, DFO developed *Guidelines for the Development and Operation of Aquaculture Facilities* to prevent or minimize impacts to wild fish and fish habitats and to avoid conflicts between aquaculture and fishery activities. The Guidelines outline requirements for development, operation, and abandonment of freshwater and marine salmon culture and processing operations.²⁶

The Government of Canada and British Columbia (BC) entered into the *Canada-British Columbia Memorandum of Understanding on Aquaculture Development* (1988) to advance the growth and development of the aquaculture industry in BC. This agreement clarifies the roles and responsibilities of each party in advancing the aquaculture industry.²⁷

In 1995, Cabinet endorsed the *Federal Aquaculture Development Strategy* (FADS), confirming the federal government's commitment to aquaculture development.²⁸ In response to the FADS, the *Aquaculture Policy Framework* (2002), states that DFO, as the lead federal agency for aquaculture development, is “committed to creating policy conditions that increase both the public’s confidence that aquaculture is

being developed in a sustainable manner and the aquaculture industry's competitiveness in global markets."

DFO has worked with the Government of BC and industry to develop processes for assessing and monitoring the habitat impacts to finfish aquaculture sites. These programs and activities include managing farm site impacts on the benthic environment using a modeling program called DEPOMOD and developing a quantitative threshold for a harmful alteration, disruption or destruction of habitat under s.35(2) of the *Fisheries Act*. In cases where the threshold is exceeded, a *Fisheries Act* authorization is required along with development of compensatory habitat.

DFO aquaculture research has focused on farmed-wild salmon interactions related to sea lice. Until recently, this work focused on pink and chum salmon, but has now expanded to include sockeye salmon.

As a result of the British Columbia Supreme Court decision in *Alexanda Morton vs. A.G. of British Columbia et al.*²⁹, DFO is currently developing new federal aquaculture regulations under the *Fisheries Act*.

Theme #8—Enforcement

Summary of Recommendations

Sixty-two recommendations address enforcement. These recommendations focus on the need to strengthen and enhance the enforcement function in Pacific Region, with emphasis on: the creation of a Pacific Region Enforcement Branch and increasing the deterrent impact of fisheries law enforcement by ensuring sufficient human and financial resourcing and adequate penalties (e.g. larger fines, forfeiture of vessels, gear, equipment and illegal catch).

Summary of Responses

DFO has responded to these recommendations by making organizational changes within the Conservation and Protection (C&P) Branch, developing clear policy and operational guidelines, increasing resources, as well as improving program efficiencies through new initiatives and increased penalties.

With respect to adequate penalties, the *Fisheries Act* was amended in 1991 to significantly increase monetary penalties and to expand the option of imprisonment for all summary offences.

The *Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the Fisheries Act* (2001) lays out general principles for application of the habitat and pollution prevention provisions of the *Fisheries Act*. The Policy explains the role of regulatory officials in promoting, monitoring and enforcing the legislation. This national policy applies to all those who exercise regulatory authority, from the Minister to enforcement personnel.³⁰

The Pacific Region Enforcement Program was created when DFO reorganized field responsibilities in 1993. Further changes have since been implemented, including the pilot "line reporting" project which was reviewed and subsequently implemented within Pacific Region in 2007. All Fishery Officers in the Pacific Region now report to a Regional Director of C&P. Improved integration with other sectors and efficiencies within the C&P program have been documented under this organizational change.³¹

Other enforcement efforts implemented in response to recommendations from the reports have included relationship building efforts with First Nations and stakeholder groups through the establishment of programs such as Restorative Justice. This approach was initially used for violations by First Nations citizens, but has since been expanded to include commercial, recreational and habitat

violations. The Restorative Justice Program diverted 26 cases from the courts in 2004, a number that has grown to over 120 cases in 2009.

Additional funding of \$1.2 million was provided to C&P as a result of the Williams Review in 2004, including the addition of three more fisheries officers in the Lower Fraser River Area.

Theme #9—Science/Research

Summary of Recommendations

Thirty-eight recommendations address science/research. These recommendations focus on: (1) the information requirements to support fisheries management; (2) stock assessment (including: pre-season forecasts of run size; in-season estimates (including hydro-acoustics) and escapement counts; (3) research into factors contributing to survival and mortality of fish in marine and fresh water; and (4) longer-term assessments of the status and health of individual salmon stocks and their habitats.

Summary of Responses

DFO has responded to these recommendations by developing new technologies for stock assessment, supporting more ecosystem-based approaches to management and by aligning research initiatives in areas identified as priorities.

Studies have been undertaken to improve assessment and monitoring of sockeye runs, including radio-telemetry studies to assess mortality rates, genetic testing to improve stock identification and improvements to test fisheries.

The pre-season run-size estimates have been improved by presenting the estimates for a range of productivity levels to characterize recent trends observed in stock returns. The Environmental Management Adjustment Model which estimates in-river migration mortality has been improved through more timely inputs of environmental data.

Under the auspices of the Canadian Scientific Advisory Secretariat (CSAS), the Pacific Scientific Advice Review Committee (PSARC) was set up as the Pacific Region body responsible for review and evaluation of scientific information on the status of living aquatic resources, their ecosystems, and on biological aspects of stock management. Five subcommittees (Groundfish, Pelagic, Invertebrates, Salmon and Habitat) review species and habitat issues. In addition, special PSARC meetings are convened to review high priority and cross-cutting issues independent of the subcommittee structure.³²

Theme #10—Salmonid Enhancement

Summary of Recommendations

There are twenty-three recommendations respecting salmonid enhancement. These recommendations emphasize: the benefits and costs of salmonid enhancement; federal-provincial agreements on enhancement; planning and evaluation of enhancement activities and facilities; enhancement policies and priorities; interactions between enhanced and wild salmon stocks; implications for fisheries management; and levels and sources of funding.

Summary of Responses

DFO responses to these recommendations focus on planning and evaluation of enhancement facilities, policies and new initiatives.

DFO's *Salmonid Enhancement Program* (SEP) was initiated in 1977. In addition to major projects (i.e., large-scale hatcheries), SEP included four other programs: Public Involvement, Community Economic Development; Minor Projects and Lake Fertilization.³³ SEP now works within the framework of the Wild Salmon Policy. Its priorities, determined regionally through the production planning process, include a balance of harvest, rebuilding and enhancement for assessment objectives. At present, there are more than 10,000 volunteers who regularly support salmon enhancement projects and programs in BC.

All enhancement projects and the overall program are subject to economic analysis using the SEP Evaluation Model (SEPEM) that tracks project and program performance on five accounts: economic performance; employment creation; economic opportunities for First Nations; development of economically disadvantaged communities and regions; and recreational opportunities. Following the Report of the Commission on Pacific Fisheries Policy, a risk assessment module was added to SEPEM.³⁴ Throughout the 1990s, cost-benefit analyses of the program were conducted to derive key performance indicators. Program evaluations were also conducted by DFO Audit and Evaluation. The Program operates within guidelines and practices for genetic management, production planning and carcass management. The Guideline on Genetic Management is designed to maintain population biodiversity.

The management of SEP has evolved over time, reflecting new priorities for the Department and the fishery. In 1998, for example, as part of the coho response plan and consistent with the *Selective Fisheries Policy*, mark-selective fisheries based on hatchery production began for southern coho. SEP now supports strategic enhancement of critically low stocks such as Cultus sockeye. SEP is responsible for all salmon tagging, which is carried out by DFO in Pacific Region and is used for stock assessment data and management, including some obligations under the PST.

Conclusion

Since 1982, numerous evaluations and subsequent reports have provided DFO with recommendations related to salmon conservation and management, including some of specific relevance to Fraser River sockeye salmon. During this time, DFO has responded to these recommendations in a variety of ways including outreach and engagement leading to signing of treaties and agreements, policy development and implementation of new programs in the areas of fisheries and fish habitat management, enhancement, aquaculture, Aboriginal fisheries, enforcement, and science and research as detailed in the following document, the Recommendations Related to Fraser River Sockeye Salmon and Responses by the Government of Canada (1982-2010).

¹ e.g., Pearse, 1992; Fraser River Sockeye Public Review Board, 1995; Standing Committee on Fisheries and Oceans, 2003.

² e.g., Pearse, 1982; Pacific Policy Roundtable, 1995; Office of the Auditor General of Canada, 1997; Standing Committee on Fisheries and Oceans, 1998.

³ e.g. Pearse 1982; Fraser River Sockeye Public Review Board 1994

⁴ Pearse 1982, Office of the Auditor General 2005, Fraser 1994, May 1996

⁵ Fisheries and Oceans Canada (1986), Policy for the Management of Fish Habitat, DFO

⁶ Cultus Sockeye Recovery Team (2005), National conservation strategy for sockeye salmon.

⁷ Toy, Samuel (1998), *Recommendations for Policy Changes Implementing Several Recommendations of Dr. A. W. May's Report 'Altering Course' on Intersectoral Allocations of Salmon in British Columbia* (March 16, 1998).

⁸ Kelleher, Stephen (1998), *Report to the Honourable David Anderson, Minister of Fisheries and Oceans, re: Commercial Salmon Allocation*. (April 30, 1998) p. 1

⁹ Fisheries and Oceans Canada (1999), *An Allocation Policy for Pacific Salmon, A New Direction*.

¹⁰ http://www.pac.dfo-mpo.gc.ca/tapd/economic_e.htm.

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- ¹¹ Government Response to the Fourth Report of the Standing Committee on the Fisheries and Oceans (The West Coast Report, April 1999), 13 pp.
- ¹² Backgrounder: One Fishery For All of Us. 2007.
- ¹³ Pearse, Peter H. (1982), pp. 75-76.
- ¹⁴ Fraser River Sockeye Public Review Board (1995), p. 45.
- ¹⁵ Pacific Policy Roundtable (1995), Report to the Minister of Fisheries and Oceans on the Renewal of the Commercial Pacific Salmon Fishery. (December, 1995).
- ¹⁶ Press Release: Minister Announces Plan to Revitalize Salmon Fishery.
- ¹⁷ Fisheries and Oceans Canada (2010), *this document*, pp. 106-107. Response to Recommendation #9 in Pacific Policy Roundtable (1995).
- ¹⁸ ARA Consulting Group Inc (1996), *Fishing for Answers: Coastal Communities and the BC Salmon Fishery*. (September 30, 1996). GSGislason & Associates Ltd (1998), *Fishing for Money: Challenges and Opportunities in the BC Salmon Fishery*. (June 10, 1998).
- ¹⁹ Institute for Dispute Resolution (2001), *Independent Review of Improved Decision Making in the Pacific Salmon Fishery*. (May 16, 2001).
- ²⁰ *Ibid.*
- ²¹ Fisheries and Oceans Canada (1990), *Pacific Coast Commercial Fishing Licensing Policy: Discussion Paper*. Also published as Fisheries and Oceans Canada (various years), *Pacific Region Commercial Licensing Handbook* and Fisheries and Oceans Canada (various years), *A Guide to Commercial Fisheries Licensing Policy for Pacific Region, Canada*.
- ²² News Release – Minister Announces Plan to Revitalize Salmon Fishery, March 29, 1996, DFO-38487[00-05].
- ²³ Backgrounder - The Pacific Salmon Fishery A 15 year Perspective, June 19, 1998. Fisheries and Oceans Canada (2010), p. 137, Response to Recommendation #1 in ARA Consulting Group Inc (1996), *Fishing for Answers*.
- ²⁴ Fisheries and Oceans Canada (2010), p. 149. Response to Recommendation #2 of Office of the Auditor General of Canada (1999).
- ²⁵ News Release – Adoption of Wild Salmonid Policy Continues of Pacific Fisheries, June 24, 2005, DFO-18097.
- ²⁶ Fisheries and Oceans Canada (1987), *Guidelines for the Development and Operation of Aquaculture Facilities*.
- ²⁷ See: http://www.oag-bvg.gc.ca/internet/English/oss_20010502_e_23746.html.
- ²⁸ <http://www.-mpo.gc.ca/aquaculture/ref/FADS-SFDA-eng.htm>.
- ²⁹ *Alexandra Morton et al vs. the A.G. of British Columbia and Marine Harvest Canada* (2009) B.C.S.C.
- ³⁰ See: <http://www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=D6B74D58-1>.
- ³¹ Fisheries and Oceans Canada (2010), p. 280. Response to Recommendation #1 of Standing Committee on Fisheries and Oceans (2005).
- ³² Fisheries and Oceans Canada (2010), pp. 154-155. Response to Recommendation #4 of Standing Committee on Fisheries and Oceans (1998).
- ³³ See: <http://www.pac.dfo-mpo.gc.ca/sep-pmvs/about-sujet-eng.htm>.
- ³⁴ *Salmonid Enhancement Program Evaluation Model Guide to SEP Evaluation Methodology*, draft, 18 pp., DFO-02089.