

THE SALMON FISHING INDUSTRY IN BRITISH COLUMBIA

by

Gaurav Parmar

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APPROVAL

Name: Gaurav Parmar
Degree: Master of Business Administration
Title of Project: The Salmon Farming Industry in British Columbia

Supervisory Committee:

Dr. Tom Lawrence
Senior Supervisor
Associate Professor of Change Management
Simon Fraser University

Dr. Carolyn Egri
Professor of Management and Organizational Studies
Faculty of Business Administration
Simon Fraser University

Date Approved:

Jan. 3/06



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ABSTRACT

The purpose of this paper is to help the reader understand who are the governing bodies, what legislation applies, and what the strategic impacts of that legislation are on the salmon farming industry in British Columbia.

First, the reader is presented with a history of the salmon farming industry, which allows the reader to appreciate why the legal context is so important to the salmon farming industry.

Second, the reader is presented with a summary of the applicable statutes and regulations to salmon farming in British Columbia.

Third, the reader is presented with a discussion on some of the issues, threats, and opportunities for salmon farm operators.

Fourth, the reader is presented with an integrative summary analysis. This identifies by group/interest, the key players in the regulation of salmon farming to help the reader understand the competing perspectives on salmon farming.

DEDICATION

Special thanks are owed to my parents, Om Kumar Parmar and Rajinder Kumari Parmar, whose support throughout my education years has been unbroken, and multi-faceted.

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1 INTRODUCTION

The purpose of this paper is to help the reader understand who are the governing bodies, what legislation applies, and what the strategic impacts of that legislation are on the salmon farming industry in British Columbia.

The purpose of this section of my paper is to present the reader with a history of the salmon farming industry which will allow the reader to appreciate why the legal context is so important to the salmon farming industry.

The first salmon farm in British Columbia began operations in 1971.¹ In marine waters, Atlantic, Chinook, and Coho salmon are the principle species under culture in British Columbia.² Some companies are experimenting with black cod and the holding of wild-caught halibut.³

The salmon aquaculture industry developed from ten operating farms in 1984 to a peak of 135 farms in 1989.⁴ However, due to rationalization and consolidation, the number of companies has declined from 50 in 1989 to 12 in 2002.⁵

Salmon farms are primarily located in and around the northeast and west coasts of Vancouver Island. Ninety per cent of the industry's jobs are outside of Victoria and Vancouver which helps to diversify and stabilize B.C.'s coastal communities.⁶

¹ *BC Salmon Aquaculture Industry*, online: BC Ministry of Agriculture and Lands http://www.agf.gov.bc.ca/fisheries/bcsalmon_aqua.htm (last modified: 17 August 2005).

² *Ibid.*

³ *Ibid.*

⁴ *Ibid.*

⁵ *Ibid.*

⁶ *Ibid.*

British Columbia is the fourth largest producer of farmed salmon in the world after Norway, Chile, and the United Kingdom.⁷ For example, in 2004, the British Columbia salmon aquaculture sector produced more than 61,000 metric tons of Atlantic, Chinook and Coho salmon. The sale of the harvest generated \$212 million in farm gate value.⁸ At the wholesale level, the value of the products shipped to market was \$294 million.⁹

It is also noteworthy that in terms of production shares Atlantic salmon (76%) and Chinook salmon (22%) are the predominant salmon species farmed in British Columbia with Coho salmon (2%) produced on a smaller scale.¹⁰

The salmon farming industry in British Columbia has become increasingly integrated with hatcheries, grow-out, processing and marketing operations.¹¹

Furthermore, seventy per cent of BC's farmed salmon was exported in 2003, 92 per cent of which was destined for the U.S. market. Farmed salmon exceed the wild salmon sector in harvest quantity and value and in the wholesale value of processed products, partially because of declines in the commercial harvesting sector. Production is regionally based, primarily on North Vancouver Island, Clayquot Sound and the Campbell River areas of British Columbia.¹²

However, there have been problems since salmon farming began in the 1970's with small locally owned establishments mostly on the Sunshine Coast of British Columbia. Poor environmental conditions, poor siting, disease outbreaks and a challenging market caused many farms to go out of business or be purchased by larger companies.¹³

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ *Salmon Aquaculture in British Columbia*, online: BC Ministry of Agriculture and Lands http://www.agf.gov.bc.ca/fish_stats/aqua-salmon.htm (last modified: 28 October 2004).

¹¹ *Ibid.*

¹² *Ibid.*

¹³ *History of Salmon Farming in British Columbia*, online: CAAR Farmed and Dangerous <http://www.farmedanddangerous.org/salmonfarming/history.html>

Many of the farms were located in inlets and bays with minimal tidal activity which caused damage to the marine environment around them.¹⁴ Waste and excess feed could not be adequately flushed away from sites. Disease outbreaks and challenging market conditions many farms to go out of business or be purchased by larger companies. By the mid 1980s the growing pains in the industry were overcome and there are now over 80 active salmon farms on the coast of British Columbia. First Nations, coastal communities, fishermen, and environmentalists are voicing serious concerns about the quickly mounting number of fish farms and their negative effects on the ocean and local communities.¹⁵

In 1995, the government of British Columbia, in consultation with the federal Fisheries and Oceans Canada, imposed a moratorium on British Columbia's salmon farming industry, limiting the number of salmon farm licences to 121.¹⁶

The Province ordered an environmental review of the industry. In September 1996, the Salmon Aquaculture Review Panel, which included about 30 stakeholder representatives, held hearings in communities throughout the BC coast for eight months. After four months, in August 1997, the Environmental Assessment Office issued a comprehensive report with 49 recommendations that covered a range of issues from where farm sites should be located to how to deal with escaped salmon (particularly the introduced Atlantic species), waste management, and research priorities.¹⁷

Many groups and individuals felt these recommendations did not go far enough to protect the marine environment. The vast majority of the 49 recommendations have not been implemented. The salmon farming industry continues to cause environmental degradation and

¹⁴ History of Salmon Farming in British Columbia, online: Living Oceans Society <http://www.livingoceans.org/fishfarms/history.shtml>

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ *Ibid.*

social unrest within coastal communities. Several First Nations governments have repeatedly stated they do not want salmon farms in their traditional territories, and in some cases have even served eviction notices to the farms only to have their request ignored.¹⁸

It is estimated that tens of thousands more farmed salmon have escaped into the wild since 1997. Once multinational corporations entered the BC industry, they quickly introduced Atlantic salmon to Canada's Pacific Coast. Atlantic salmon are the predominant farmed salmon worldwide and consequently familiar to store owners and consumers. Atlantic salmon are docile when penned at high densities and take better to farming than Pacific species.¹⁹

As the industry grew, so did incidents of sea lice outbreaks, which are believed to have caused the collapse of 8 pink salmon runs in the Broughton Archipelago.²⁰ Sea Lice are crustacean parasites that can also affect fish. Both wild and farmed salmon are at risk. Sea lice can lower the fitness of salmon, and in some cases be lethal, as they create open lesions on the surface of the fish that compromise its ability to maintain its salt-water balance. When infection rates are high enough, the parasites feed on the fish at rates greater than the fish can feed itself, literally eating the fish alive. Young salmon are much more vulnerable due to their small size. The Federal Fisheries and Oceans (DFO) is responsible for wild salmon. The province has jurisdiction over salmon farms. In British Columbia, lice from wild salmon returning the oceans to spawn can result in an increase in the levels of lice on fish farms in the fall and early winter. There does not appear to be a risk to human health from sea lice. Sea lice live on the outside of the fish and feed on mucous on the outer surfaces of the fish. They would not affect human

¹⁸ *Ibid.*

¹⁹ *Ibid.*

²⁰ *Ibid.*

health if eaten, but the lice usually fall off or are cleaned off during harvesting or processing activities before the fish reach the end consumer.²¹

A further 1.6 million pounds of farmed fish have been destroyed as a result of Infectious Haematopoietic Necrosis (IHN), a highly contagious virus that could possibly be amplified on the farms and subsequently transferred on-mass to wild salmon.²²

Opponents of salmon farming state that salmon farming poses serious risks to the marine environment, wild Pacific salmon and other marine species, and criticize government and industry for an inability to effectively address these and other reported problems associated with salmon farming. In fact, opponents of the industry state that despite these risks, the government of British Columbia has moved to expand the industry. For example, opponents point to the fact that in September 2002, the government lifted the seven-year moratorium on new licences, which means salmon farming can expand to the northern reaches of BC's coast.²³

Among the many reported problems associated with salmon farming in British Columbia are parasite infestations on wild salmon, escapes of Atlantic salmon in Pacific waters, untreated waste discharge into the ocean, and the unsustainable harvest of other fisheries around the world to make the feed for farmed salmon. Despite these well-documented concerns, the governments of Canada and British Columbia continue to invest heavily into industry expansion through incentive programs and weakened operating and management practices.²⁴

The Coastal Alliance for Aquaculture Reform (CAAR) was formed in 2000 in order to counter government plans for expansion and to bring crucial information to the public about how salmon farming is affecting Canada's Pacific Ocean. These groups include the Living Oceans Society

²¹ *Sea Lice FAQs*, online: Fisheries and Oceans Canada <http://www-comm.pac.dfo-mpo.gc.ca/pages/release/p-releas/2004/statement-sealice-faqs.htm> (last modified: 30 July 2004).

²² *Ibid.*

²³ *Ibid.*

²⁴ *Ibid.*

and environmental groups and First Nations whose goal is to protect wild salmon, coastal ecosystems, cultural traditions, and human health from destructive salmon-farming practices.²⁵

CAAR believes a sustainable salmon farming industry is only possible with the following conditions:

Develop technology that eliminates the risk of disease transfer to wild fish and escapes of farmed salmon into the wild;

Guarantee fish farm waste is not released into the ocean;

Label all farmed fish so consumers can make informed choices;

Develop feed for farmed salmon that does not deplete stocks of nutritious fish from around the world as current practices do;

Ensure that wild life is not harmed as a result of salmon farming;

Prohibit the use of genetically modified fish;

Eliminate the use of antibiotics, biocides and harmful chemicals in salmon farming;

Ensure contaminants in farmed salmon do not exceed safe levels for human consumption; and

Respect the views of coastal residents by not locating farms in places opposed by First Nations or other local communities.

²⁵ *Ibid.*

2 THE LAW

There are a number of statutes and regulations that apply to the fishing industry and in turn the salmon farming industry.

A statute is a law passed by a legislative body.²⁶ A regulation is the act or process of controlling by rule or restriction.²⁷ Statutes often empower government agencies to create further rules to carry out their functions. As long as these regulations meet the terms of the statute, they have the effect of law.²⁸

The legislative body may be federal, provincial, or municipal in jurisdiction.

2.1 Fisheries Act

In Canada the federal government has jurisdiction over fishing that is not inland. The main act that applies is the *Fisheries Act*, R.S. 1985, c F-14.²⁹ The *Fisheries Act* is binding on Her Majesty in right of Canada or a province.³⁰ However, the *Fisheries Act* does not affect the Provincial right to authorize the granting of fishery leases that confer an exclusive right to fish in property belonging to a province.³¹ Furthermore, the *Fisheries Act* does not prevent the Minister of Fisheries and Oceans (the “Minister”) from granting written permission to obtain fish for purposes of stocking or artificial breeding or scientific purposes.³²

²⁶ *Black's Law Dictionary*, 7th ed., s.v. “statute”.

²⁷ *Ibid.*, s.v. “regulation”.

²⁸ Richard Yates, *Business Law in Canada*, 5th ed. (Scarborough, Ontario: Prentice-Hall Canada Inc., 1999) at 9.

²⁹ *Fisheries Act*, R.S.C. 1985, c. F-14.

³⁰ *Ibid.*, at s. 3(2).

³¹ *Ibid.*, s. 3(1).

³² *Ibid.*, s. 4.

“Fish” are defined in the Fisheries Act to include parts of fish, shellfish, crustaceans, marine animals and any part of shellfish, crustaceans or marine animals, and the eggs, sperm, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.³³

Using the *Fisheries Act* as authority the Minister may designate any person or class of person as a fishery officer or a guardian and may limit in any manner the Minister considers appropriate the powers that a fishery officer or fishery guardian may exercise under the Fisheries Act and any other act of Parliament.³⁴ The powers and protections of a fishery officer or fishery guardian include the power and protection of a peace officer under the *Criminal Code*³⁵ of Canada.³⁶

Fishery officers and guardians have a number of powers for the purpose of ensuring compliance with the *Fisheries Act* and its associated regulations. A fishery officer or guardian may enter and inspect any place, including any premises, vessel or vehicle, in which the officer or guardian believes on reasonable grounds there is any work or undertaking or any fish or other thing in relation to the *Fisheries Act* or its associated regulations. In this respect, the officer or guardian may open any container, examine any fish or other thing that the officer or guardian finds and take samples of it, conduct any tests or measurements, and require any person to produce for examination or copying any records, books of account or other documents that the officer or guardian believes on a reasonable ground contain information that is relevant.³⁷ The owner or person in charge of a place that is inspected by a fishery officer or fishery guardian has a duty to assist to enable the officer or guardian to carry out the inspection, and provide the officer or guardian with any relevant information.³⁸ However, it should be noted that where any

³³ *Ibid.*, s. 2.

³⁴ *Ibid.*, s. 5 (1).

³⁵ *Criminal Code*, R.S.C. 1985, c. C-46.

³⁶ *Supra* note 4 at s. 5(4).

³⁷ *Ibid.*, s. 49 (1).

³⁸ *Ibid.*, s. 49 (1.1).

place, premises, vessel or vehicle is a dwelling house, a fishery officer or fishery guardian may not enter that dwelling-house without the consent of the occupant except under the authority of a warrant.³⁹ Authority to issue a warrant may be made on an *ex parte* application to a justice of the peace.⁴⁰ An *ex parte* application is done or made for the benefit of one party only, and without notice to, or argument by, any person adversely interested.⁴¹ If the justice of the peace is satisfied the justice of the peace may issue a warrant under his hand authorizing the fishery officer or fishery guardian named therein to enter that dwelling house subject to any conditions as may be specified in the warrant.⁴²

The *Fisheries Act* grants authority for any fishery officer, fishery guardian, or peace officer to arrest without warrant a person who that fishery officer, guardian or peace officer believes, on reasonable grounds, has committed an offence against the *Fisheries Act* or any of its regulations, or whom he finds committing or preparing to commit an offence against this Act or any of its regulations.⁴³

Any fishing vessel, vehicle, fish or other thing that the officer or guardian believes on reasonable grounds was obtained by or used in the commission of an offence under the Fisheries Act or will afford evidence of an offence under the Fisheries Act may be seized by the officer or guardian. Furthermore, any fish that the officer or guardian believes on reasonable grounds was caught, killed, processed, transported, purchased, sold or possessed in contravention of the Fisheries Act or its regulations may be seized.⁴⁴

³⁹ *Ibid.*, s. 49 (2).

⁴⁰ *Ibid.*, s. 49 (3).

⁴¹ *Black's Law Dictionary*, 7th ed., s.v. "ex parte".

⁴² *Supra* note 12.

⁴³ *Ibid.*, s. 50.

⁴⁴ *Ibid.*, s. 51.

The fishery officers and guardians also have the authority to deal with disputes between persons relating to fishing limits or claims to fishery stations, or relating to the position and use of nets and other fishing apparatus.⁴⁵

The *Fisheries Act* grants authority to the fishery officers and guardians to determine the distance between fisheries, boundaries of estuary fishing, and the designation of gurry grounds.⁴⁶

It is interesting to note that the Minister may, in his absolute discretion, wherever the exclusive right of fishing does not already exist by law, issue or authorize to be issued leases and licenses for fisheries or fishing, wherever situated or carried on.⁴⁷ Leases or licenses for any term exceeding nine years shall be issued only under the authority of the Governor in Council.⁴⁸

The Governor in Council, except where licence fees are prescribed in the *Fisheries Act*, also has the power to prescribe the fees that are to be charged for fishery or fishing licences.⁴⁹

The Minister has the authority under the Fisheries Act to suspend or cancel any lease or licence issued under the Act if the Minister ascertains that the operations under the lease or licence were not conducted in conformity with its provisions.⁵⁰

The *Fisheries Act* sets out general prohibitions. For example:

1. Fishing in limits leased to another is strictly prohibited⁵¹;
2. Seines, nets or other fishing apparatus are not to be placed in a manner that shall obstruct navigation of boats and vessels⁵²;
3. The main channel is not to be completely obstructed. One-third of the width of the main channel at low tide in every tidal stream shall be always left open without any fishing apparatus or logs blocking the entrance⁵³;

⁴⁵ *Ibid.*, s. 52.

⁴⁶ *Ibid.*, ss. 54-56.

⁴⁷ *Ibid.*, s. 7(1).

⁴⁸ *Ibid.*, s. 7(2).

⁴⁹ *Ibid.*, s. 8.

⁵⁰ *Ibid.*, s. 9.

⁵¹ *Ibid.*, s. 23.

⁵² *Ibid.*, s. 24.

4. The Minister may authorize devices to place and maintain barriers to prevent the escape of fish held for breeding purposes or any other purpose that the Minister deems in the public interest⁵⁴;
5. No one shall fish in any manner within twenty-five yards downstream from the lower entrance to any fish-way, canal, obstacle or leap⁵⁵;
6. Use of explosives to hunt or kill marine animals other than porpoises, whales, walruses, sea-lions and hair seals is strictly prohibited⁵⁶;
7. No one shall erect, use or maintain nets, weir, or other device that unduly obstructs the passage of fish⁵⁷;
8. No one shall catch, fish for, take, buy, sell, possess or export any fish for the purpose of converting it into fish meal, manure, guano or fertilizer, or for the manufacture of fish into oil, fish meal, or manure or other fertilizer product without a permit issued from the Minister. However, the Minister may by publishing a notice in the *Canada Gazette* except any kinds of fish from the above.⁵⁸; and
9. No one shall purchase, sell or possess any fish that has been caught in contravention of the *Fisheries Act* or its regulations.⁵⁹

Unless otherwise specified within the *Fisheries Act* every person who contravenes this Act or its associated regulations is guilty of an offence punishable on summary conviction or to an indictable offence.⁶⁰ A summary conviction offence is defined as a conviction of a person for a violation or minor misdemeanor as the result of a trial before a magistrate sitting without a jury.⁶¹ For a first summary conviction offence the fine is not to exceed one hundred thousand dollars and, for any subsequent offence, to a fine not to exceed one hundred thousand dollars or to imprisonment for a term not exceeding one year, or both.⁶² An indictable offence is defined as a crime that can only be prosecuted by indictment.⁶³ Indictment is defined as the formal written accusation of a crime, made by a grand jury and presented to a court for prosecution against the accused person.⁶⁴ For a first indictable conviction the fine is not to exceed five hundred thousand

⁵³ *Ibid.*, s. 26 (1).

⁵⁴ *Ibid.*, s. 26 (3).

⁵⁵ *Ibid.*, s. 27 (c).

⁵⁶ *Ibid.*, s. 28.

⁵⁷ *Ibid.*, s. 29 (1).

⁵⁸ *Ibid.*, s. 31.

⁵⁹ *Ibid.*, s. 33.

⁶⁰ *Ibid.*, s. 78 (a).

⁶¹ *Black's Law Dictionary*, 7th ed., s.v. "summary conviction".

⁶² *Supra* note 4 at s. 78 (a).

⁶³ *Black's Law Dictionary*, 7th ed., s.v. "indictable offence".

⁶⁴ *Black's Law Dictionary*, 7th ed., s.v. "indictment".

dollars and, for any subsequent offence, to a fine not to exceed five hundred thousand dollars or to imprisonment for a term not to exceed two years, or to both.⁶⁵

Note that the *Fisheries Act* states that where a contravention of this Act or its regulations is committed or continued on more than one day, it constitutes a separate offence for each day on which the contravention is committed or continued.⁶⁶

It should be noted that where a corporation commits an offence under the Fisheries Act, any officer, director, or agent of the corporation who directed, authorized, assented to, acquiesced in or participated in the commission of the offence is considered a party to the offence and guilty of the offence and is liable on conviction to the above punishment. This is regardless of whether or not the corporation has been prosecuted.⁶⁷

Also noteworthy is that a person who is convicted of an offence under the *Fisheries Act* and the court is satisfied that as a result of committing the offence the person acquired monetary benefits the court may order the person to pay an additional fine in an amount equal to the court's finding of the amount of the benefit.⁶⁸

If the person convicted holds a valid lease or licence the court may order the cancellation of that lease or licence.⁶⁹

When a person is convicted of an offence under the Fisheries Act the court may also order any one or more of the following prohibitions in addition to any punishment imposed:

1. prohibiting the person from doing any act or engaging in any activity that may, in the opinion of the court, result in the continuation or repetition of the offence;

⁶⁵ *Supra* note 4 at s. 78 (b).

⁶⁶ *Ibid.*, s. 78.1.

⁶⁷ *Ibid.*, s. 78.2.

⁶⁸ *Ibid.*, s. 79.

⁶⁹ *Ibid.*, s. 79.1.

2. directing the person to take any action the court considers appropriate to remedy or avoid any harm to any fish, fishery or fish habitat that resulted or may result from the commission of the offence;
3. directing the person to publish, in any manner the court considers appropriate, the facts relating to the commission of the offence;
4. directing the person to pay the Minister an amount of money as compensation, in whole or in part, for the cost of any remedial or preventive action taken by or caused to be taken on behalf of the Minister as a result of the commission of the offence;
5. directing the person to perform community service in accordance with any reasonable conditions that may be specified in the order;
6. directing the person to pay Her Majesty an amount of money the court considers appropriate for the purpose of promoting the proper management and control of fisheries or fish habitat or the conservation and protection of fish or fish habitat;
7. directing the person to post a bond or pay into court an amount of money the court considers appropriate for the purpose of ensuring compliance with any prohibition, direction or requirement mentioned in this section;
8. directing the person to submit to the Minister, on application by the Minister within three years after the date of the conviction, any information respecting the activities of the person that the court considers appropriate in the circumstances; and
9. requiring the person to comply with any other conditions that the court considers appropriate for securing the person's good conduct and for preventing the person from repeating the offence or committing other offences under this Act.⁷⁰

The *Fisheries Act* does have application to water other than Canadian Fisheries Waters.

The *Fisheries Act* and its regulations that apply to any or all of Canadian fisheries waters, in relation to any fishing vessel or aircraft on or over the High Seas that is subject to the jurisdiction of Canada, is deemed to extend and apply to the High Seas. The Governor in council has the authority to make regulations respecting fisheries located in waters other than Canadian fisheries waters applicable to vessels or aircraft subject to the jurisdiction of Canada.⁷¹

2.2 Fisheries Act Regulations

The associated regulations of the Fisheries Act are:

Aboriginal Communal Fishing Licences Regulations, [SOR/93-332]

Alberta Fishery Regulations, 1998, [SOR/98-246]

Atlantic Fishery Regulations, 1985, [SOR/86-21]

⁷⁰ *Ibid.*, s. 79.2.

⁷¹ *Ibid.*, s. 87.

British Columbia Sport Fishing Regulations, 1996, [SOR/96-137]
Chlor-Alkali Mercury Liquid Effluent Regulations, [C.R.C., c. 811]
Dogfish Exemption Notice, [C.R.C., c. 836]
Fishery (General) Regulations, [SOR/93-53]
Fish Health Protection Regulations, [C.R.C., c. 812]
Fish Toxicant Regulations, [SOR/88-258]
Foreign Vessel Fishing Regulations, [C.R.C., c. 815]
Management of Contaminated Fisheries Regulations, [SOR/90-351]
Manitoba Fishery Regulations, 1987, [SOR/87-509]
Marine Mammal Regulations, [SOR/93-56]
Maritime Provinces Fishery Regulations, [SOR/93-55]
Meat and Poultry Products Plant Liquid Effluent Regulations, [C.R.C., c. 818]
Metal Mining Effluent Regulations, [SOR/2002-222]
Newfoundland and Labrador Fishery Regulations, [SOR/78-443]
Northwest Territories Fishery Regulations, [C.R.C., c. 847]
Ontario Fishery Regulations, 1989, [SOR/89-93]
Pacific Fishery Management Area Regulations, [SOR/82-215]
Pacific Fishery Regulations, 1993, [SOR/93-54]
Pacific Hake Exemption Notice, [SOR/86-750]
Petroleum Refinery Liquid Effluent Regulations, [C.R.C., c. 828]
Potato Processing Plant Liquid Effluent Regulations, [C.R.C., c. 829]
Pulp and Paper Effluent Regulations, [SOR/92-269]
Quebec Fishery Regulations, 1990, [SOR/90-214]
Roe Herring Exemption Notice, [C.R.C., c. 837]
Saskatchewan Fishery Regulations, 1995, [SOR/95-233]
Yukon Territory Fishery Regulations, [C.R.C., c. 854]

Several of the regulations appear to have direct relevance to the Salmon Fishing Industry in British Columbia.

The *Pacific Fishery Management Area Regulations*⁷² are regulations respecting the enumeration and description of management areas in the Canadian fisheries waters of the Pacific Ocean and the waters of the Province of British Columbia. This regulation has several schedules

⁷² *Pacific Fishery Management Area Regulations*, S.O.R./82-215.

that define the management area boundary descriptions and the waters of the Province of British Columbia.

The *Pacific Fishery Regulations*⁷³ are regulations that apply in respect of the management and control of fisheries in Canadian fisheries waters in the Pacific Ocean and the Province of British Columbia.

The *Pacific Fishery Regulations* state that where salmon has been caught by commercial fishing, no person shall off-load that salmon at any place other than a fish landing station, a registered vessel, or a vehicle licensed as a fish buying station under the *Fisheries Act* of British Columbia. However, this does not apply to a person who catches salmon and sells it directly to an individual in Canada for the purpose of consumption by that individual. Furthermore, the operator of a vehicle shall off-load any salmon received from a registered vessel at any place other than a fish landing station. The regulation states that the operator of a fish landing station at which salmon is off-loaded shall provide information respecting each off-loading by forthwith completing the form supplied by the Minister for that purpose, mail a copy of the completed form within seven days after the date of the off-loading to the Statistics Unit of the Department of Fisheries and Oceans, keep a copy of the completed form for two years after the date of the off-loading and forthwith provide a copy of the completed form to a representative of the Department when requested to do so.⁷⁴

The *Pacific Fishery Regulation* specifies that the Regional Director-General may determine the monthly allowable catch for an export zone and shall give notice of the monthly allowable catch, prior to the commencement of any salmon fishery in any calendar month, to the owner or operator of each vessel in respect of which a licence has been issued. The regulation defines the export zones. The regulation grants authority to the Minister who may issue, in

⁷³ *Pacific Fishery Regulations*, S.O.R./93-54.

⁷⁴ *Ibid.*, s. 17.

respect of a vessel, a licence to off-load salmon in the United States. The Minister may specify in a licence issued conditions respecting the export zones or zones in which salmon may be taken on board for the purpose of off-loading in the United States and the port or ports in each zone at which representatives of the Department shall be embarked and disembarked. It should be noted that if notification has been given to the operator by a representative of the Department that the total weight from that export zone taken on board vessels for off-loading in the United States has reached the greater of 25 percent of the total allowable catch for that export zone in that calendar year and the percentage, calculated for that calendar year of the total allowable catch for that export zone in that year. Note that a licence issued under this section expires on December 31 of that year.⁷⁵

Furthermore, the *Pacific Fisheries Regulations* state that no person shall attempt to drive salmon from one area of water to another.⁷⁶ Salmon fishing boundaries may be designated by a fishery officer erecting or causing to be erected:

1. in respect of tidal waters, not more than one nautical mile from the mouth of a river, creek or stream, two orange- or yellow-coloured triangular signs, each side of which is at least 1.5 m in length and 12 cm in width; and
2. in respect of non-tidal waters, orange-coloured triangular signs, each side of which is at least 50 cm in length.⁷⁷

The regulation states that no person shall fish for salmon in tidal waters within a circle, the diameter of which is the straight line between two erected orange-coloured signs or in tidal waters between the mouth of a river, creek or stream and the straight line between two yellow-coloured signs, or in any non-tidal waters other than waters bounded by orange-coloured signs.⁷⁸

Salmon close times and the type of gear that may be used to fish for salmon are specified within the regulation. For example:

⁷⁵ *Ibid.*, s. 18.

⁷⁶ *Ibid.*, s. 49.

⁷⁷ *Ibid.*, s. 52 (1).

⁷⁸ *Ibid.*, s. 52 (2).

53. (1) No person shall fish in any waters set out in column I of an item of Part I of Schedule VI for the species of salmon set out in column II of that item with the type of fishing gear set out in column III of that item during the close time set out in column IV of that item.

(2) No person shall troll in any waters set out in column I of an item of Part II of Schedule VI for the species of salmon set out in column II of that item using the type of vessel set out in column III of that item during the close time set out in column IV of that item.

54. (1) Where a close time set out in an item of Part I of Schedule VI is varied pursuant to section 6 of the *Fishery (General) Regulations* to permit salmon fishing by gill net, the notice referred to in section 7 of the *Fishery (General) Regulations* shall specify one of the gill net mesh sizes set out in column I, one of the maximum gill net depth limits set out in column II, one of the maximum gill net hang ratios set out in column III, one of the minimum corkline to web distances set out in column V and one of the maximum corkline to web distances set out in column VI of the table to this section.

(2) Where a close time has been varied to permit salmon fishing with a gill net in accordance with subsection (1), no person shall fish for salmon with a gill net that has

(a) any meshes that are not contiguous and uniform in size;

(b) a mesh size other than that specified in the notice;

(c) a depth greater than the maximum depth specified in the notice;

(d) webbing with a total length, when compared to the length of the corkline to which it is hung, in a ratio greater than the maximum hang ratio specified in the notice; or

(e) a corkline to web distance less than the minimum corkline to web distance or greater than the maximum corkline to web distance specified in the notice.

(3) Where a close time set out in an item of Part I of Schedule VI is varied pursuant to section 6 of the *Fishery (General) Regulations* to permit salmon fishing with a purse seine, the notice referred to in section 7 of the *Fishery (General) Regulations* shall specify one of the minimum purse seine bunt mesh sizes set out in column IV of the table to this section.

(4) Where a close time has been varied to permit salmon fishing with a purse seine in accordance with subsection (3), no person shall fish for salmon with a purse seine that has, in the final 18 m of the bunt, a mesh size that is less than the minimum bunt mesh size specified in the notice.

Salmon size limits are specified within the regulation. The regulation states that no person who is trolling for salmon shall catch and retain a coho salmon that is less than 30 cm in length, measured from the tip of the nose to the fork of the tail, or where the head has been removed, 26 cm in length, measured along the shortest length of the body to the fork of the tail.⁷⁹ Moreover, the regulation specifies that in certain areas no person who is trolling for salmon shall catch and retain a Chinook salmon that is less than 67 cm in length, measured from the tip of the nose to the fork of the tail, or where the head has been removed, 56 cm in length, measured along the shortest length of the body to the fork of the tail, or 62 cm in length in other areas with the head on and 51 cm in length along the shortest length of the body to the fork or the tail.⁸⁰

This regulation also specifies salmon gill net sizes and close times for specified areas.

For example,

57. (1) No person shall fish for salmon in the waters set out in column I of an item of the table to this section during the close time set out in column II of that item from a vessel where the aggregate length of gill net on the drum or drums of the vessel and in the water is greater than the net length set out in column III of that item.

(2) No person who is fishing for salmon shall

(a) set a gill net in the water and leave it unattended; or

(b) use an anchored gill net in any waters except those of Subarea 10-11 or the Taku or Stikine Rivers. SOR/94-391, s. 4; SOR/97-365, s. 1.

Salmon Purse Seines are also defined in the regulation and the regulation states that "depth", in respect of a purse seine, means the sum total of the mesh sizes of all meshes in a perpendicular row of meshes from the corkline to the lead line; (*chute*)

⁷⁹ *Ibid.*, s. 55(1).

⁸⁰ *Ibid.*, s. 56.

"length", in respect of a purse seine, means the aggregate total length of the seine corkline and any lead attached to it and includes any part of the seine corkline on the net drum of the vessel from which it is being used. (*longueur*)

(2) No person shall fish for salmon with a purse seine that

(a) has a mesh size of less than 70 mm;

(b) is less than 270 m in length; or

(c) is less than 20 m in depth.

(3) No person shall fish for salmon in any Area other than Area 20 with a purse seine that is more than

(a) 400 m in length; or

(b) 52 m in depth.

(4) No person shall fish for salmon in Area 20 with a purse seine that is more than

(a) 550 m in length; or

(b) 80 m in depth.

The relevant schedules in the regulation are:

1. SCHEDULE VI
(Sections 53 and 54)
SALMON CLOSE TIMES;
2. PART I
NETS AND FISHWHEELS; and
3. PART II

TROLLING

The *Fishery (General) Regulations*⁸¹ have relevant prohibitions to the salmon farming industry. For example, the *Fishery (General) Regulations* state that no person on board a fishing vessel that is subject to the jurisdiction of Canada shall fish or trans-ship fish in waters other than

⁸¹ *The Fishery (General) Regulations*, S.O.R./93-53.

Canadian fisheries waters except under the authority of a licence.⁸² The regulation goes on to state that no person who is on board a fishing vessel that is subject to the jurisdiction of Canada shall, in waters that are subject to the jurisdiction of the United States, have any fishing gear on board the fishing vessel unless it is stored below deck, or otherwise removed from the place where it is normally used for fishing and placed where it is not readily available for fishing.⁸³ The regulations continues to state that no person who is on board a fishing vessel that is subject to the jurisdiction of Canada shall, while the fishing vessel is in waters that are subject to the jurisdiction of the United States, resist or obstruct any enforcement officer of the United States while the officer is engaged in the enforcement of the fisheries laws of the United States.⁸⁴ The regulation grants authority to the Minister who may issue a licence authorizing the use of a vessel that is subject to the jurisdiction of Canada in fishing or trans-shipping fish in waters other than Canadian fisheries waters if the fishing or trans-shipping of fish carried out under the authority of the licence would not contravene or undermine any international fisheries conservation scheme. In the case where the fishing or trans-shipping of fish is to be carried out in waters that are subject to the jurisdiction of another state, the fishing or trans-shipping of fish by that vessel is authorized by a competent authority of that state.⁸⁵

2.3 British Columbia Fisheries Act

The British Columbia *Fisheries Act*⁸⁶ states that there is a ministry of Aquaculture and Commercial Fisheries Branch responsible for the administration of the Act. A director of fisheries, supervisor of fisheries and inspectors of fisheries, and other officers and employees as required for the functioning of the branch, may be appointed under the *Public Service Act*⁸⁷. The Act further states that every officer and constable of the provincial force as defined in the *Police*

⁸² *Ibid.*, s. 65.

⁸³ *Ibid.*, s. 66.

⁸⁴ *Ibid.*, s. 67.

⁸⁵ *Ibid.*, s. 68.

⁸⁶ *Fisheries Act*, R.S.B.C. 1996, c. 149.

⁸⁷ *Public Services Act*, R.S.B.C. 1996, c. 385.

*Act*⁸⁸, and every conservation officer, is an inspector of fisheries under this Act and has power to act in that capacity in every part of British Columbia. An inspector under the *Fish Inspection Act* is an inspector of fisheries under this Act.

In the discharge of their duties the minister, director of fisheries, supervisor of fisheries and inspector of fisheries may enter on and pass through or over private property without being liable for trespass, and without warrant enter any premises, building, boat, car or other place on or about which any fishing implements or apparatus are located, and may inspect and examine all fishing implements and apparatus found there.⁸⁹

The Act continues to state that a person who obstructs, hinders, delays or interferes with the minister, or any officer in the discharge of his or her duties under the Act or in the exercise of any power vested in him or her by that section, commits an offence and is liable on conviction to the penalties provided in the *Offence Act*⁹⁰.

The British Columbia *Fisheries Act* states that a person must not fish or take fish, or attempt to take fish, within British Columbia or its coastal waters, unless the person holds a valid licence issued for that purpose and has paid the fee prescribed by the Lieutenant Governor in Council.⁹¹ Only the following persons are entitled to apply for and obtain a licence: a Canadian citizen (over the age of 16)⁹², a person who is serving or has served in the Canadian Armed Forces, and a person who has been lawfully admitted to Canada under the Immigration Act (Canada) for permanent residence.⁹³ The Act grants authority for an order in council that may impose licence fees either generally as to all fish or as to certain specified kinds of fish and may have effect in all of British Columbia or in any part of it. The licence fee may vary in amount in

⁸⁸ *Police Act*, R.S.B.C. 1996, c. 367.

⁸⁹ *Supra* note 61 at s. 3.

⁹⁰ *Offence Act*,

⁹¹ *Supra* note 61 at s. 8 (1).

⁹² *Ibid.*, s. 8 (3)

⁹³ *Ibid.*, s. 8 (2)

its application to the taking of different kinds of fish.⁹⁴ Any person who fishes or takes fish, or attempts to fish, without having paid the licence fee imposed by order of the Lieutenant Governor on Council, or who is convicted of any other offence is liable on conviction to the penalties provided in the Offence Act.

The Act specifies that a licence is required for a person to process fish or aquatic plants, or operate a plant in British Columbia or its coastal waters, unless the person holds a licence issued for that purpose or has paid a fee as prescribed by the Lieutenant Governor in Council. A person must not operate a fish buying station unless the person holds a licence issued for that purpose and has paid the fee prescribed by the Lieutenant Governor in Council.⁹⁵

It is noteworthy that the Act stipulates that in all prosecutions for offences the burden of proof is on the person purchasing, obtaining or processing the fish:

1. the place where any fish were caught;
2. the person by whom the fish were caught;
3. the nets, seines, traps or other means by which the fish were caught;
4. the person from whom the fish were bought or obtained.⁹⁶

The penalties for contravention of the above may range from \$500 to \$10,000.⁹⁷

2.4 The British Columbia Fisheries Act Regulations

The British Columbia *Fisheries Act Regulations*⁹⁸ state that an applicant for a licence must pay the appropriate fee set out in Schedule IV to that regulation.⁹⁹ The regulations also state that a licence is necessary to operate a fish buying station.¹⁰⁰ Furthermore, a fisherman who holds a fisherman's vending licence must provide to the Department of Fisheries and Oceans (Canada)

⁹⁴ *Ibid.*, s. 9.

⁹⁵ *Ibid.*, s. 13.

⁹⁶ *Ibid.*, s. 25.

⁹⁷ *Ibid.*

⁹⁸ *Fisheries Act Regulations*,

⁹⁹ *Ibid.*, s. 1.

¹⁰⁰ *Ibid.*, 18.

on a weekly basis a record, prepared at the time of removal of fish from the fisherman's boat, of all fish removed since the previous report, and must retain a copy for the fisherman's own records. The records must contain:

1. (a) purchaser or offloader's name, address and telephone number;
2. (b) fisherman's name and address;
3. (c) date of purchase or offloading;
4. (d) name and CFV number of catching vessel used;
5. (e) description of gear used to harvest the fish and days spent fishing in each area;
6. (f) area or areas of catch and days spent fishing in each area;
7. (g) the individual species of each fish sold or offloaded;
8. (h) the description of the product or landed form of each species sold or offloaded;
9. (i) the number of fish (pieces) of each species sold or offloaded;
10. (j) the weight of each species sold or offloaded;
11. (k) the price paid for each species sold;
12. (l) the total value of each species sold or offloaded.

2.5 The British Columbia Fishing Collective Bargaining Act

The *Fishing Collective Bargaining Act*¹⁰¹ applies to persons engaged in the catching or harvesting of fish and to persons purchasing fish. It deals with numerous issues including voluntary recognition, unfair labour practices, successor rights, strike or lockout, dismissal provisions in the collective agreement, determination of appropriate unit, first collective agreement, change during certification or bargaining, effect of certification, refusal to purchase fish, and the jurisdiction of the labour relations board. The *Labour Relations Code*¹⁰² and the regulations under it apply in respect of the matters to which this Act applies, but if there is a conflict or inconsistency between this Act and the Code, this Act applies.¹⁰³

¹⁰¹ *Fishing Collective Bargaining Act*, R.S.B.C. 1996, c. 150.

¹⁰² *Labour Relations Code*, R.S.B.C. 1996, c. 244.

¹⁰³ *Supra* note 76 at s. 3.

2.6 The British Columbia Farming and Fishing Industries Development Act

The British Columbia *Farming and Fishing Industries Development Act* was brought into force in 1996. The British Columbia *Farming and Fishing Industries Development Act*¹⁰⁴ grants authority to the minister to establish a fund to promote the interests of all producers of a commodity.¹⁰⁵ All producers of a commodity may form a council. This council is a corporation and has all powers of a corporation.¹⁰⁶ The Act also deals with issues related to revenue and expenditure, refunds of levy, audits, annual reports, annual general meetings, offence and penalty situations, and powers to make regulations.

2.7 The British Columbia Salmon Marketing Council Regulation

The *British Columbia Salmon Marketing Council Regulation*¹⁰⁷ is a regulation of the *Farming and Fishing Industries Development Act* and deals with the levy, payment of the levy, and records requirements.¹⁰⁸

The *British Columbia Salmon Marketing Council* provides education and promotion of BC Wild Salmon at home and in international markets. It is an association formed in 1991 to represent the harvesters and processors of commercially caught BC wild salmon.

The *BC Salmon Marketing Council* has a mandate to

1. benefit and promote the BC wild salmon industry;
2. conduct research and educational programs for the development and promotion of commercially harvested BC wild salmon; and

¹⁰⁴ *Farming and Fishing Industries Development Act*, R.S.B.C., c. 134.

¹⁰⁵ *Ibid.*, s. 2.

¹⁰⁶ *Ibid.*, s.3.

¹⁰⁷ *British Columbia Salmon Marketing Council Regulation*, B.C. Reg. 302/91.

¹⁰⁸ *Ibid.*

3. communicate to national and international markets the quality, availability, and value of BC wild salmon.

The BC Salmon Marketing Council is governed by an industry elected, voluntary board of directors and managed by a hired General Manager.¹⁰⁹

¹⁰⁹ *BC Salmon Marketing Council*, online: www.bcsalmon.ca

3 ISSUES, THREATS, AND OPPORTUNITIES FOR SALMON FARM OPERATORS

In this section of my paper I will discuss some of the issues, threats, and opportunities for salmon farm operators. As the salmon farming industry has developed there has been an obvious lack of governmental control and regulation. The protection and conservation of wild fish and their habitat has suffered.

The *Langer* report was funded by the Suzuki Foundation which is an opponent of salmon farming.¹¹⁰ The Honorable Stuart Leggatt served as inquiry commissioner into salmon farming in British Columbia. Leggatt served as a judge for 17 years, retiring from the Supreme Court of British Columbia in 2000. He was a member of the B.C. Legislature from 1979 to 1983, and a Member of Parliament from 1972 to 1979.

Leggatt's report states that the use of net-pen technology floating in the ocean has caused many environmental problems.¹¹¹ The problem with this technology is that what is put in the sea pen will in some quantity spread beyond the pen and settle on the ocean bottom. Furthermore, farmed salmon are susceptible to disease and predators from the marine environment outside the cage. Predators such as seals and sea lions are a further concern.¹¹²

In order to control these predators, the government, Department of Fisheries and Oceans, may issue salmon farms predator-control permits that shall allow marine mammals like seals and

¹¹⁰ Langer, Otto E., "Is there a bottom line in the Wild Salmon – Farmed Salmon Debate? - A Technical Opinion –", online: David Suzuki Foundation <http://www.davidsuzuki.org/oceans/publications.asp> (last modified: March 2003).

¹¹¹ *Ibid.*

¹¹² *Ibid.* at 3.

sea lions to be shot and killed.¹¹³ However, there is concern that such licenses may be abused and control over the mandatory reporting provisions have not been enforced. In particular, there is concern for the Stellar sea lion whose populations are red-listed under provincial species at risk policy.¹¹⁴

A cultivation of salmon crowded into a net pen is a prime candidate for disease. In particular, the threat of sea lice populations may cause harm to the salmon. Furthermore, the introduction of Atlantic salmon is a threat in that they may have less resistance to natural diseases or parasites indigenous to the Pacific coast.¹¹⁵

The discharge of waste is another potential problem. The defecation of fish feces and deposition of excess food products on the ocean bottom is a problem. The impact is confined to the local area and can cover the ocean floor. Reducing food waste and removing the fish for a period of time is one application used to mitigate these adverse effects. Indeed, the David Suzuki foundation has criticized the Provincial Ministry of Agriculture, Food, and Fisheries regulations, specifying the sampling and testing of sulfide generation, which may be too simplistic and may not adequately protect the benthic life under a fish farm.¹¹⁶

There is concern that there is the potential for the escape of Atlantic Salmon. This may result in the possible colonization of West Coast habitats and the subsequent competition with Pacific Salmon. However, the potential for the escape of Pacific salmon may be as great or a greater threat to the health of wild salmon stocks. For example, farmed Pacific species, which include Coho and Chinook, are most often hybridized and will readily cross with local salmon, thereby altering their genetic makeup.¹¹⁷

¹¹³ *Ibid.*

¹¹⁴ *Ibid.*

¹¹⁵ *Ibid.*

¹¹⁶ *Ibid.*

¹¹⁷ *Ibid.*

Another concern is that fish farms are consuming more and more of the world's diminishing fish meal resources. The concern is that fish meal fisheries have been over-exploiting global fish stocks. Indeed, the practice of taking fish from a protein-poor Third World country's fishery to produce salmon for wealthy North American and European consumers raises not only concerns for ecosystem integrity, but also significant ethical issues.¹¹⁸

There may be significant human health issues to consider when consuming or handling farm salmon. Farm salmon are subject to diseases such as Infectious Salmon Anemia and outbreaks have led to the slaughter and quarantine of millions of fish in other parts of the world.¹¹⁹

Salmon quality has also been in question. The farmed product is generally softer in texture and is an unappetizing gray in colour. A pigment is added to the food in order to colour the flesh a more-appealing red tone. Although some indicate the addition of such pigments is not a concern in farmed salmon, high doses of these colorants can harm the human retina.¹²⁰ The European Union has recommended the reduction of the pigment Canthaxanthin in fish food from 80 mg/kg to 25 mg/kg.¹²¹ It is said that the proportion of beneficial omega 3 to omega 6 fatty acids is reduced in farmed fish when compared to wild salmon and many health experts consider this to be a health issue. It should be noted that of concern to human health is the discovery that

¹¹⁸ *Ibid.*

¹¹⁹ Legatt at 21.

¹²⁰ *Supra* note 101 at 4.

¹²¹ *Ibid.*

farmed fish may have up to 10 times the levels of persistent organic compounds such as PCBs in their tissues over that found in wild fish.¹²²

There is further concern that diseased fish are sometimes rushed through processing plants to get them to market before symptoms become visible. Another concern is the potential health risk when diseased fish are caught and handled by people. Bacteria found on diseased fish can cause a variety of infections in humans ranging from diarrhea to necrotizing fasciitis (flesh eating disease). In 1997, Toronto doctors reported nine cases of *Streptococcus iniae* infection among plant workers who handled fish imported from United States farms. Farm salmon should be labeled to allow consumers to make an informed choice when they purchase salmon.¹²³

However, there are some who point out that British Columbia farm salmon are approved by federal inspectors in Canada and the United States and is sold for higher prices on world markets than wild salmon. Farm salmon are eaten by millions of people who suffer no ill effects.

¹²⁴

Some experts have argued that farming salmon will take the pressure off wild salmon and allow diminishing wild salmon populations to recover. However, this may be misleading. Globally salmon farming now out produces the wild fishery. This has resulted in a glut of salmon on the world market and depressed prices for salmon. Wild salmon prices are approximately 20 percent of what they were 10 years ago, and farmed salmon prices have also declined, reducing industry profits.¹²⁵ Fishermen are concerned that they can no longer make a living because they cannot compete with the cheap-farmed Atlantic salmon that is available year-round. Where fishing is possible, this has put more pressure on fishermen to increase their catch. The David Suzuki foundation states that in British Columbia, government agencies are now putting less

¹²² *Ibid.*

¹²³ Legatt Inquiry at 21.

¹²⁴ *Ibid.*

¹²⁵ *Supra* note 101 at 4.

effort into conserving wild salmon, as they believe the wild salmon may no longer be an economic driver for the provincial economy. Those that depend on wild salmon for their livelihood may face a difficult future.¹²⁶

There has been strong opposition to salmon aquaculture from First Nations leaders and individuals.¹²⁷ Some First Nations leaders contend that salmon farming is a denial of aboriginal rights and a threat to the resources they have depended on for generations.¹²⁸ First Nations have stated that they oppose fish farms on their territories and consider the failure to consult with First Nations on this issue to be immoral and possibly illegal.¹²⁹

The lands and waters of British Columbia continue to be the subject of claims of aboriginal title and aboriginal rights. These claims have been acknowledged by the courts and have not been resolved by governments.¹³⁰ First Nations have argued that it is unjust, risky, and unnecessary for the aquaculture industry to have expanded and to continue to expand into new territories before their claims are resolved. The concerns of aboriginal people in general or aboriginal concerns on the specific siting of fish farms in particular have been brushed aside as the industry has developed in British Columbia.¹³¹

Some first nations have stated that their way of life is being destroyed. For example, first nations have claimed that their access to traditional foods is a major link to their traditional way of life and culture.¹³² First Nations have equated this to genocide.¹³³

¹²⁶ *Ibid.*

¹²⁷ The Honourable Stuart M. Leggatt. Clear Choices, Clean Waters, The Leggatt Inquiry into Salmon Farming in British Columbia. Report and Recommendations.

¹²⁸ *Ibid.* at 8.

¹²⁹ *Ibid.*

¹³⁰ *Ibid.* at 9

¹³¹ *Ibid.*

¹³² *Ibid.*

¹³³ *Ibid.*

The B.C. government's Salmon Aquaculture Review (SAR) noted that First Nations had received very few benefits from salmon aquaculture but experienced a greater impact than any other group. It also noted that recent court rulings on aboriginal rights established the Province's obligation to ensure that proposed activity will not unjustifiably infringe aboriginal rights.¹³⁴

The Crown owes a special fiduciary relationship to aboriginal peoples. The courts in the leading decision *Delgamuukw v. British Columbia* have recognized this.¹³⁵ It has been stated that the alienation of coastal fish farms cannot be justified because there has been neither consultation nor compensation.¹³⁶ *Delgamuukw v. British Columbia* states that:

This aspect of Aboriginal title suggests that the fiduciary relationship between the Crown and Aboriginal peoples may be satisfied by the involvement of Aboriginal peoples in decisions taken with respect to their lands. There is always a duty of consideration. Whether the aboriginal group has been consulted is relevant to determining whether the infringement of Aboriginal title is justified, in the same way that the Crown's failure to consult an aboriginal group with respect to the terms by which reserve is leased may breach its fiduciary duty at common law: *Guerrin*. The nature and scope of the duty of consultation will vary with the circumstances. In occasional cases, when the breach is less serious or relatively minor, it will be no more than a duty to discuss important decisions that will be taken with respect to lands held pursuant to Aboriginal title. Of course, even in these rare cases when the minimum acceptable standard is consultation, this consultation must be in good faith, and with the intention of substantially addressing the concerns of the Aboriginal peoples whose lands are at issue. In most cases, it will be significantly deeper than mere consultation. Some cases may even require the full consent of the Aboriginal nation, particularly when provinces enact hunting and fishing regulations in relation to Aboriginal lands.¹³⁷

The Legatt Inquiry into Salmon Farming in British Columbia determined that the provincial and federal regulators are failing to effectively monitor and regulate the industry and its impacts on the environment and other interests.¹³⁸ Furthermore, the Legatt Inquiry states that the Department of Fisheries and Oceans is not meeting its responsibilities to protect wild salmon

¹³⁴ *Ibid.*

¹³⁵ *Delgamuukw v. British Columbia* {1998} 1 C.N.L.R. 14.

¹³⁶ *Ibid.*

¹³⁷ *Ibid.*

¹³⁸ *Ibid* at 18.

stocks.¹³⁹ The concern is that the Department of Fisheries and Oceans mandate by law is to protect wild fish, but the Department of Fisheries promotes and supports the salmon farming industry, which has proven to be detrimental to wild stocks.¹⁴⁰ Some of the other findings and comments from the Legatt Inquiry indicate that:

1. Government monitoring and enforcement of salmon aquaculture is inadequately funded, under-staffed and dependant on industry compliance without independent verification;
2. British Columbia Waste Management Act violations by salmon farmers had not been enforced;
3. The Department of Fisheries has been slow to act to sea lice outbreaks particularly in the Broughton archipelago;
4. The Provincial Government's Salmon Aquaculture Review produced 49 recommendations in 1997; dealing with issues such as farm siting, waste discharges, disease control, and escapes. Only a few of these recommendations have been implemented; and
5. Despite a moratorium on new salmon farm sites, production levels at existing sites have doubled between 1995 and 2000 with no government controls or sanctions. There is a risk of government "regulatory negligence" due to failure to control salmon farm pollution.¹⁴¹

There have been cross border conflicts between British Columbia and Alaska. Indeed, the current practice of salmon farming in British Columbia has put a strain on good relations between British Columbia and Alaska.¹⁴²

Law in Alaska, because of threats to wild stocks and other resources from British Columbia practices, bans salmon farming and all finfish aquaculture.¹⁴³ Indeed, escaped Atlantic salmon from British Columbia farms have migrated into Alaska waters.¹⁴⁴ Atlantic salmon have been found and caught from the southern Panhandle to the Aleutian Islands, in the Bering Sea and in various freshwater systems.¹⁴⁵ Alaskans refer to these Atlantic salmon as "biological

¹³⁹ *Ibid.*

¹⁴⁰ *Ibid.*

¹⁴¹ *Ibid.*

¹⁴² *Ibid* at 20.

¹⁴³ *Ibid.*

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

pollution” because they state that Atlantic salmon pose a threat to wild Pacific stocks. The concerns include disease, colonization, interbreeding, predation, habitat, destruction and competition.¹⁴⁶ Alaska would like Canada and British Columbia to create a management policy that provides for zero risk of any escape and release of farmed salmon. Furthermore, Alaska would like Canada and British Columbia to allow for no further farms north of present locations and to limit Atlantic salmon production at current levels. The Alaskans are concerned that expansion of the industry north of the Prince Rupert area near the Alaska border will add to the issues.¹⁴⁷

¹⁴⁶ *Ibid.*

¹⁴⁷ *Ibid.*

4 SUMMARY

There are numerous stakeholders involved in the salmon farming industry each with a different perspective on the issues involved. First Nations have been strong opponents of salmon farming and contend that salmon farming is a denial of aboriginal rights and a threat to the resources they have depended on for generations. First Nations consider that the government has failed to consult with the First Nations people on salmon farming issues. First Nations consider the failure of government authorities to consult with First Nations on the issue of salmon farming to be immoral and possibly illegal. Moreover, the lands and waters of British Columbia continue to be the subject of claims of aboriginal title and aboriginal rights. These claims have been acknowledged by the courts and have not been resolved by governments. First Nations groups take the position that it is unjust, risky, and unnecessary for the aquaculture industry to have expanded and to continue to expand into new territories before their claims are resolved. Furthermore, aboriginal groups feel that their way of life is being destroyed.

Environmentalists have numerous concerns with the salmon farming industry. These concerns include the escape of Atlantic salmon and the colonization of the Pacific Salmon habitat, disease and parasite transfer from farm salmon to wild Pacific salmon, environmental effects of waste and other substances released from salmon farm net cages, removal storage and disposal of dead farm salmon, predation of farm salmon of juvenile wild salmon and other species, the cumulative effects of salmon farming on the health of wild salmon and other species, the role of government in regulation of salmon farming on the health of wild salmon and other species, conflicts with other industries such as eco-tourism, and commercial fishing, cross-border conflicts between British Columbia and Alaska, and farm salmon and human health issues.

Proponents of the salmon farming industry refute the Langer report and its findings. Salmon farm operators consider the economic benefits to the employees, communities and governments. These proponents point to flourishing salmon farming industries in communities such as Campbell River and Port Hardy, which have suffered declines in other industries, and to the fact that the economic activity generated by the salmon farming industry has helped fill these gaps and has been welcomed in these communities. The B.C. Ministry of Agriculture, Food, and Fisheries reports that the industry produced 49,400 tonnes of farmed salmon with a wholesale value of \$320 million in the year 2000. The B.C. Salmon Farmers Association reports that on its website that about 3000 people are employed directly and indirectly in the industry. Over 92% of the direct jobs are in coastal communities outside Victoria and Vancouver.¹⁴⁸ British Columbia is poised to benefit from the increased worldwide demand. Furthermore, British Columbia has many natural advantages to benefit from industry expansion including thousands of miles of coastline, a clean marine environment and the labour force and services in coastal communities.

In order for this industry to move forward and flourish there should be more consultation among the different stakeholders involved. The numerous issues discussed within this paper must be addressed. Indeed, only with communication may the issues be resolved.

¹⁴⁸ *BC Salmon Farmers Association Facts*, online: BC Salmon Farmers Association <http://www.salmonfarmers.org/> (last modified: 2005).

REFERENCE LIST

- BC Salmon Aquaculture Industry*, online: BC Ministry of Agriculture and Lands
http://www.agf.gov.bc.ca/fisheries/bcsalmon_aqua.htm (last modified: 17 August 2005).
- BC Salmon Farmers Association Facts*, online: BC Salmon Farmers Association
<http://www.salmonfarmers.org/> (last modified: 2005).
- BC Salmon Marketing Council*, online: www.bcsalmon.ca
- Black's Law Dictionary*, 7th ed., s.v. "ex parte".
- Black's Law Dictionary*, 7th ed., s.v. "indictable offence".
- Black's Law Dictionary*, 7th ed., s.v. "indictment".
- Black's Law Dictionary*, 7th ed., s.v. "statute".
- Black's Law Dictionary*, 7th ed., s.v. "summary conviction".
- British Columbia Salmon Marketing Council Regulation*, B.C. Reg. 302/91.
- Criminal Code*, R.S.C. 1985, c. C-46.
- Delgamuukw v. British Columbia* {1998} 1 C.N.L.R. 14.
- Farming and Fishing Industries Development Act*, R.S.B.C., c. 134.
- Fisheries Act Regulations*, B.C. Reg 140/76.
- Fisheries Act*, R.S.B.C. 1996, c. 149.
- Fisheries Act*, R.S.C. 1985, c. F-14.
- Fishing Collective Bargaining Act*, R.S.B.C. 1996, c. 150.
- History of Salmon Farming in British Columbia*, online: CAAR Farmed and Dangerous
<http://www.farmedanddangerous.org/salmonfarming/history.html>
- History of Salmon Farming in British Columbia, online: Living Oceans Society
<http://www.livingoceans.org/fishfarms/history.shtml>
- Labour Relations Code*, R.S.B.C. 1996, c. 244.
- Langer, Otto E., "Is there a bottom line in the Wild Salmon -- Farmed Salmon Debate? - A Technical pinion --", online: David Suzuki Foundation <http://www.davidsuzuki.org/oceans/publications.asp> (last modified: March 2003).
- Offence Act*, R.S.B.C. 1996, c. 338.
- Pacific Fishery Management Area Regulations*, S.O.R./82-215.
- Pacific Fishery Regulations*, S.O.R./93-54.
- Police Act*, R.S.B.C. 1996, c. 367.
- Public Services Act*, R.S.B.C. 1996, c. 385.
- Richard Yates, *Business Law in Canada*, 5th ed. (Scarborough, Ontario: Prentice-Hall Canada Inc., 1999) t 9.

Salmon Aquaculture in British Columbia, online: BC Ministry of Agriculture and Lands
http://www.agf.gov.bc.ca/fish_stats/aqua-salmon.htm (last modified: 28 October 2004).

Sea Lice FAQs, online: Fisheries and Oceans Canada <http://www-comm.pac.dfo-mpo.gc.ca/pages/release/p-releas/2004/statement-sealice-faqs.htm> (last modified: 30 July 2004).

The Fishery (General) Regulations, S.O.R./93-53.

The Honourable Stuart M. Leggatt. Clear Choices, Clean Waters, The Leggatt Inquiry into Salmon farming in British Columbia. Report and Recommendations.