THE AQUACULTURE POLICY COMMUNITY: A CASE STUDY OF THE SALMON FARMING INDUSTRY IN BRITISH COLUMBIA AND THE ROLE OF ADVOCACY COALITIONS ON THE POLICY PROCESS

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Abstract

With the introduction of salmon farming in British Columbia in the late 1970's, aquaculture went from a small "cottage" style industry based on the harvesting of shellfish, to a rapidly expanding multi-million dollar industry demanding a wide range of government services. Very quickly salmon farming generated controversy as supporters clashed with opponents over the economic and health impacts of the industry. The purpose of this thesis is to describe and interpret the evolution of the aquaculture policy community in British Columbia, and to analyze the role played by competing advocacy coalitions within the policy community. The goal will be to test the theory that a policy community will be dominated by the belief system of one advocacy coalition, and that any policy deviation from its beliefs will not be the result of the actions of a weaker coalition to influence state decision makers within the policy community, but rather from sources external to the policy community.

To provide a context for assessing the evolution of the aquaculture policy community in British Columbia, a historical dimension has been incorporated into the study. This encompasses an examination of the pre-conditions that led to the establishment of salmon farming in B.C., including economic, scientific and political factors.

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CHAPTER 1

INTRODUCTION

Aquaculture is defined as the cultivation and harvesting of finfish, shellfish and aquatic plants. Prior to the introduction of salmon farming in the late 1970s, aquaculture garnered little public attention or government oversight. Government activity centered around allocating leases and tenures on Crown Land to individual shellfish growers. Since there was no specific legislation or guidelines pertaining to the industry, issues were dealt with in an ad-hoc manner by the provincial or federal agency most affected.

By the early 1980s, a new, aggressive aquaculture industry based on salmon farming established itself on the British Columbia coast. Within the province there was a broad-based consensus on the positive socio-economic benefits of the new industry. A state bureaucracy soon developed to support industry development. Roles and responsibilities between the federal government and British Columbia and between provincial agencies were allocated. Policies favouring industry development were implemented. The consensus favouring industry development was soon challenged as new issues emerged. Groups opposed to the industry on health, environmental and esthetic grounds formed. By

the mid-1990s these groups had managed to successfully challenge the pro-development consensus and change aquaculture policy direction.

The purpose of this thesis is to describe and analyze the development of the aquaculture policy field in British Columbia. In order for salmon farming aquaculture to establish itself as a major economic activity in the province, a number of elements need to be present. These include a sound scientific and technological base, favourable economic conditions and a viable political environment. The thesis will analyze the economic and technological conditions that led to the establishment of the industry in British Columbia, the allocation of roles and responsibilities among state structures to regulate the industry, and the causal factors which underlined policy choices within the provincial realm of authority.

In general terms the public policy system in Canada can be viewed as an important element of a larger political system. The political system is concerned with wide-reaching issues such as organizing elections, recruiting political participants within the party system, providing peaceful changes to leadership, and providing an acceptable degree of safety to citizens. In specific terms the policy process is the means by which the leaders of government can carry out their

obligations as they interpret them, regarding the issues concerning the larger political system. In Canada, G.Bruce Doern and Richard W. Phidd have argued that the policy making process encompasses a wide-range of environmental, individual and historical processes. They view it as:

> an amalgam of and interplay of ideas, numerous structures headed by individual elected and appointed persons who are engaged in ranking, balancing and allocating scarce resources of money, political energy and time.[1]

Doern and Phidd reject any notion that policy choice is the product of a weak state automatically responding to the demands of powerful external interests or the actions of an all-powerful state imposing its will on society. Their central theme is that the policy process is an interplay between society, the economy and government.

This interplay approach can be illustrated in the concept of policy communities. A. Paul Pross has used the term to describe groups of government agencies, interest groups, interested media, academics and individuals, who for a variety of reasons have an interest in a particular policy field and attempt to influence it.[2] Pross separates policy communities into two sub-groups, the subgovernment and the attentive

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[1] G. Bruce Doern and Richard W. Phidd, Canadian Public Policy: Ideas, Structures and Process, (Toronto: Methuen, 1988), p. 34.

[2] Paul A. Pross, Group Politics and Public Policy, (Toronto: Oxford University Press, 1986), p. 261-72.

public. The subgovernment is where the policy making authority is located. It is comprised of the government agencies most involved in formulating policy and regulating the field and a small group of interests usually associated with powerful interest groups or corporations with a direct interest in the field. The non-government elements of the sub-government have enough influence to be consulted regularly and enjoy access to senior government officials. They are often relied upon by government to provide expert knowledge and advice. The authority of the subgovernment is used to limit the participation of other interests in the policy process. Those who are excluded but wish to be included have been called the "attentive public" by Pross. This group can include government agencies wishing to expand their influence in a policy area, academics and interest groups who are not in the inner-circle of the policy process.

The use of policy communities is a valuable tool for understanding the policy process because of its recognition of a wide range of state and non-state actors active within the policy process. Equally important is to focus on a timespan of a decade or more. This is to ensure that policies are given the opportunity to be tested and evaluated as to their adequacy.

Furthering our understanding of the policy process, Paul Sabatier has introduced the concepts of advocacy coalitions and belief systems within the structure of policy subsystems. According to Sabatier, advocacy coalitions:

> ....share a set of normative and causal beliefs and often act in concert. At any particular point in time, each coalition adopts a strategy(s) envisioning one or more institutional innovations which it feels will further its policy objectives. Conflicting strategies from various coalitions are normally mediated by a third group of actors, here termed "policy brokers," who's principal concern is to find some reasonable compromise that will reduce intense conflict.[3]

Sabatier argues that policies should be "conceptualized" in the same manner as belief systems. Advocacy coalitions are composed of groupings of individuals from a variety of organizations who share "beliefs" as to what the issues are and a common understanding as to how problems should be interpreted and solved. Belief systems "involve value priorities, perceptions of important causal relationships, perceptions of world states (including the magnitude of the problem)."[4]

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[3] Paul Sabatier, "An advocacy framework of policy change and the role of policy-oriented learning therein," Policy Sciences, (Dordrecht: Kluwer Academic Publishers: 1988), p. 134.

[4] Ibid. p. 132.

Sabatier identifies three structural characteristics of "belief systems" which illustrate the depth of belief members share. Each advocacy coalition is held together by a deep core belief shared by all members and is impervious to change. Within the context of the aquaculture policy community a core belief of the anti-aquaculture advocacy coalition, (which will be explained in detail later in the chapter), could be that the primary belief is the end of salmon farming as a industry in British Columbia. The deep core is followed by a near core comprised of strategies designed to achieve deep core beliefs within the policy community. An example within the pro-development advocacy coalition could be a belief in self-regulation of all aspects of operating a salmon farm. A third is a "set of secondary aspects comprising a multitude of instrumental decisions and information searches necessary to implement the policy core."[5] An example relevant to either coalition would include the allocation of budgets to fund a particular program. These three categories exhibit a decreasing resistance to change from Deep Core through secondary aspects.

What makes aquaculture an interesting challenge to the student of public policy is that it has no significant policy history. With the introduction of

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[5] Ibid. p. 134.

salmon farming in the late 1970s, the aquaculture industry went from cottage industry status with little government regulation to a rapidly expanding multi-million dollar industry demanding a wide range of government services. Policy makers had no previous history to consult nor were they familiar with the individuals and corporations acting on behalf of the industry.

By the early 1980s, technological advances and market conditions combined to make salmon farming a significant player in the British Columbia economy. Very quickly a pro-industry development advocacy coalition emerged. The coalition consisted of industry representatives, provincial bureaucrats, government and opposition legislators, some academics, biologists, journalists, and coastal area political and business leaders. This diverse group shared a belief system that aquaculture, if properly encouraged could become a major industry rivaling the forestry and commercial fishing sectors. The coalition dominated the early policy process and played a crucial role in determining which provincial agencies would control policies and programs in this new policy community.

Economic issues dominated the agenda of the policy community. The development of salmon farming occurred during a severe economic recession which severely affected resource based industries. During the early

1980s the provincial forest economy collapsed, partly due to the high interest rates in the United States which resulted in a drop in housing construction and thus led to less demand for BC forest products. Another cause was an oversupply of product due to the construction of more lumber and pulp mills than was justified by market demand. By the 1980s the mining industry was in severe financial shape due to competition on the world market. The consequence of the collapse in the resource sector was high unemployment, increased bankruptcies and an increase in the numbers of people living under the poverty line. For the government the collapse meant an increase on social service expenditures and a loss of revenues from personal and corporate taxes.[6]

The development of new policies to promote industry development occurred against a backdrop of change within the provincial bureaucracy. As part of its response to the recession of the early 1980's, the Social Credit Government introduced a "restraint" program which "downsized" the provincial bureaucracy by cutting programs, budgets and jobs.[7]

In the midst of this recession the aquaculture industry began to show promise as a potential employer

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[6] Patricia M. Marchak, "British Columbia: New Right Politics and a New Geography," Canadian Politics in the 1990's, (Toronto: Nelson, 1990), p. 45.

[7] Ibid. p. 50.

and revenue producer. The industry was publicly endorsed by a broad spectrum of provincial interests, including the New Democratic Party opposition and the media who urged the Social Credit Government to create policies to facilitate aquaculture development.[8]

The pro-development advocacy coalition was able to shape the way in which aquaculture issues were defined. This was a crucial point in the evolution of the aquaculture policy field because issue definition can have a significant impact on the nature and scope of policies used. For example, there has been a worldwide debate between aquaculture experts as to whether salmon farming is a fishery or an agricultural practice. Like the fishing industry it operates in the sea and harvests a product which has been traditionally defined as "common property". Common property refers to resources such as fish which are considered to be owned by the people of Canada and are regulated by the federal government. Salmon farming has also been described as an agricultural practice because its product is cultured and grown to maturity in a confined area.

The pro-development advocacy coalition strongly favoured categorizing salmon farming as an agricultural practice.[9] The British Columbia government exercises

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[8] A survey of newspaper articles, journals and Hansards during the development stage of salmon farming, (1979-84) show a wide consensus favouring industry development.

[9] Butler David, "Whose bay is it anyway?" Canadian Aquaculture, Fall 1996.

greater jurisdictional control over agriculture than the federally dominated commercial fishing sector. Industry members of the coalition preferred provincial authority over what they interpreted as a federal government dominated by salmon farming's natural rival, the commercial fishery sector. The province could be expected to desire a large regulatory stake in a field not specifically mentioned in the Canada Act nor in its predecessor, the British North America Act. Provinces have historically attempted to obtain as much responsibility as they can from the federal government. "Province building" is a term used to describe the process by which provincial governments construct state structures, including bureaucracies, state enterprises and legislative control to protect and manage provincial economies and protect them from interference from Ottawa.[10]

The coalition also favoured the agricultural label because it would better suit the industry's use of human intervention in the growing process. This would include the use of growth hormones and the application of vaccines to prevent disease. These are common practices within the agricultural sector and garner little public concern. The coalition also favoured the agriculture route in order to take advantage of major agricultural

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[10] Garth Stephenson, Unfulfilled Union:Canadian Federalism and National Unity, 3rd. edition, (Toronto:Gage, 1989).

programs available to farmers, including tax credits on fuel, research and development programs and subsidies. They were successful in having the provincial agency in control of aquaculture programs, the Marine Resources Branch of the Ministry of the Environment, moved in its entirety to a newly created Aquaculture and Commercial Fisheries Branch of the Ministry of Agriculture, Fisheries and Food (MAFF).

By the early 1980s an anti-development advocacy coalition of environmentalists, foreshore landowners, commercial fishermen, and officials within the federal Department of Fisheries and Oceans (DFO) emerged. This anti-development advocacy coalition had a very different view as to how issues should be defined. Rather than viewing the problem as one of formulating a set of policies to further the economic growth of the industry, they were concerned with the impact of the industry on the environment. They shared a core belief that the industry had a detrimental impact on the environment and should be strictly regulated and prevented from expanding. While members of the group shared this belief, they differed in their motives. The most important client group of DFO, commercial fishermen, viewed salmon farming as a rival in the competitive seafood marketplace. They were also concerned that diseases particular to farmed species could spread to wild fish. Environmental groups were concerned with a

wide variety of potentially damaging side effects of salmon farming, including potential disease spread, the danger of escaped farmed Atlantic salmon breeding with wild Pacific breeds and weakening the genetic pool, the human health risks of eating farmed salmon raised on growth hormones, and the impact of salmon farm sites on local ecosystems. Foreshore landowners and recreational users of coastal waters expressed concern over the "desecration" of pristine coastline with unsightly salmon farms.

After describing the process that led to the allocation of roles and responsibilities between British Columbia and the federal government, and between provincial agencies, the thesis will focus on the role played by the two advocacy coalitions on the process of policy choice and change. As we have seen, the pro-industry development coalition was the dominant player during the formation of the aquaculture policy community and was instrumental in shaping the way issues and problems were defined. However, there were two periods of substantive policy change when the anti-development advocacy coalition was able to successfully challenge the dominant coalition and redefine issues. In 1986 and again in 1992 they were able to have moratoriums declared on the granting of tenures for new salmon farm sites. Chapters Four and Five will attempt to determine how the anti-development advocacy coalition was able to

successfully challenge the primacy of the pro-development coalition, and evaluate the impact this success had on the belief systems of both coalitions. For example, were the core and secondary belief systems of each coalition altered to reflect the changed policy environment? How did the pro-development coalition respond to the challenge to its primacy? Were new strategies adopted?

There has been a lot of academic interest in the concept of understanding policy change. In all societies change is constrained by a number of social, economic and legal factors in which the policy process is but a small part.[11] Other factors including changes in science and technology, and changes in governing coalition can have a causal effect on policy change.[12] The role of science and technology, the impact of other policy communities, and the influence of change in governing coalitions will be tested in Chapter 4. In each case we will consider their adequacy in explaining the anti-development coalition's influence on aquaculture policy change in 1986.

The industry was made possible through science and technological developments (see Chapter 2). The pro-advocacy coalition has long used science as a

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[11] Sabatier, p. 134.

[12] Ibid. p. 134.

justification for its "belief" that the industry is safe and deserving of support. The anti-development coalition also makes use of science studies to bolster its "belief" that the industry is a danger to the environment and should be severely regulated, if not abandoned.

Changes in governing the coalition can have an impact on policies in direct and indirect ways. Indirect impacts can be seen when a new governing coalition makes changes to a policy community that impact another. In looking at the 1986 policy change the thesis will evaluate the influence changes from the federally dominated commercial fishing policy community had on the provincial aquaculture policy community.

Directly, a political party can promise to make drastic changes in a policy community if successfully elected. For example, the Conservative government elected in Ontario in 1995 campaigned on and subsequently implemented sweeping changes to the social welfare policy community. In the BC election campaign of 1991, aquaculture was not an issue for either the governing Social Credit Party or the opposition New Democratic Party (NDP). However, after the election of the NDP in 1991 aquaculture policy direction changed.

Chapter Five will attempt to determine the causal factors which lay behind the post-1991 changes. The goal will be to determine whether the two parties can

be expected to respond differently to aquaculture issues, and to determine if there has been a shift in influence between the two advocacy coalitions within the policy community after 1991. Chapter Five will present a brief background sketch of the Social Credit and NDP parties. The purpose will be to determine if their ideological roots, histories, and activities in other policy areas gives us reason to expect that they would respond differently to aquaculture issues, or that the influence of the advocacy coalitions would shift as a result of a change in government.

Methodology

A number of different sources were used to compile research for this project. Interviews were conducted with government officials from the provincial Ministry of Agriculture, Fisheries and Food, and the Ministry of Environment, Lands and Parks; and the federal Department of Fisheries and Oceans. Also interviewed were representatives of the British Columbia Salmon Farmers Association, the Oyster Growers Association of British Columbia and the Aquaculture Industry Advisory Council. A survey of aquaculture related newspaper and journal articles was conducted, as well as a search of legislative material, including excerpts from Hansards and relative legislation and regulations.

CHAPTER 2

Aquaculture Industry Development

Introduction

The purpose of this chapter will be to evaluate the economic potential of the aquaculture industry and to make a case for its inclusion as a major resource based industry in British Columbia. As was discussed briefly in the previous chapter, there was a widespread belief in British Columbia during the early and mid 1980s that aquaculture development would provide economic relief to a province in the grip of a severe economic recession. This chapter will describe the economics of the industry in order to determine if the enthusiasm for aquaculture among industry, politicians and media was justified. This will be accomplished by first outlining the history of aquaculture throughout the world, focusing on its transition from a small industry based on the cultivation of shellfish to a major industry centered on salmon farming and utilizing sophisticated scientific technology. Next, the chapter will look at the industry in Canada and then British Columbia to determine whether or not it is a viable economic activity. Issues to be addressed will be whether the physical characteristics of the BC coastline suit the industry, the market

potential for BC farmed seafood products, and the expertise of the labour force.

This chapter will also provide background for some of the issues to be addressed in Chapters 4 and 5. These include the arguments made against the industry by the anti-development advocacy coalition.

Industry Overview

Aquaculture is defined as the cultivation and harvesting of finfish, shellfish and aquatic plants. The notion of a self-sustaining fishery which can produce a fresh product on a year round basis has garnered a great deal of interest in this era of declining wild fish stocks.

Since the introduction of salmon farming in the mid 1970's, Canadian aquaculture has developed into a major resource based industry. The value of Canadian aquaculture production has grown from $7 million in 1980 to $290 million in 1993.[13] This has meant a significant number of spin-off industries such as feed production, fish hatcheries, cage manufacturing, boats and motor sales, processing, transportation and construction. The additional value of supplies and services as reported in a study funded by the New Brunswick government was $766

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[13] K. Heen, "The Distribution of Salmon Aquaculture," Salmon Aqucaculture, K. Keen, R.L. Monahan and F. Utter eds, (New York:John Wiley and Sons, Inc. 1993), pp. 10-58.

million.[14] With a projected increase in demand for fish and seafood products and the inability of the commercial wild fishery to meet market demand, the outlook for aquaculture appears bright.

Aquaculture began as an ancient art and is recorded as being carried out in fresh water ponds in ancient Egypt and China around 500 BC. Even though the farming of finfish and shellfish has been pursued successfully for more than 2,000 years, its potential is far from being fully developed. Today China produces half of the world's total supply, mainly in inland waters.[15] In other regions with lower populations, and where the wild stocks have been readily available for food, aquaculture was not viewed as an important source of seafood until population levels began to strain the limits of natural production.

What differentiates aquaculture from wild fisheries is that at some point in the growing process, artificial means are used to enhance growth. In shellfish, aquaculture enhancement can simply be the collecting of seed gathered from wild shellfish and spread on beaches controlled by the aquaculturalist. The seed fertilizes the shellfish (oysters or clams), which are then

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[14] Ibid. p. 50.

[15] K. Folsom, World Salmon Culture, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, United States Department of Commerce, (Silver Spring Maryland: September, 1992), p. 323.

harvested when the offspring reach a certain age and size. Finfish aquaculture is a much more sophisticated process requiring considerable expertise and resources.

Salmon aquaculture can be broadly defined as any form of human intervention in the growing process. The three main areas in which this occurs are: first, the enhancement of wild stocks through the use of smolts (minnow size salmon) developed from eggs in hatcheries and then released into streams and rivers in the hope that they will mix with and increase natural stocks; second, ocean ranching in which artificially reared smolts are released into rivers and allowed to migrate out to sea and are then captured when they return to the rivers they were initially released in to spawn; and third, the raising of smolts in pens until they are of sufficient size to be harvested. The raising of salmon from smolts to adults in pens is the practice most commonly associated with aquaculture and will be the main focus of this thesis. However, before an analysis of net-pen aquaculture policy in British Columbia is begun, it is important to understand the relationship enhancement has had with the development of salmon net-pen aquaculture.

Enhancement of salmon dates back to the late 1700s in Europe, and the world's first salmon hatchery was established in Canada in 1857. Salmon hatchery techniques developed in Canada were adopted in the US in

1860 and were introduced to Japan in 1877, when the first national hatchery was built in Chitose, Hokkaido Island. However, it was not until the 1950s that hatcheries were introduced on a large scale. The 1950 Japanese Aquatic Resources Conservation Act, stimulated the growth of different species of salmon, including chum, pink, and cherry. The USSR was also growing a number of salmon species in the 1940s and 1950s. In Canada, prior to 1960, most of the salmon harvest came from wild stocks. Development of significant enhancement programs in Canada occurred during the 1960s and 1970s.

The evolution of the salmon farming industry can be divided into three distinct periods. A period of industry development from 1970 to 1979, a period of industry expansion from 1980 to 1988 and a period of decline which began in 1989 and continues today.

1970-1979: Industry Development Period

By the 1970s, the USSR led the world in the enhancement of salmon.[16] With the acceptance of the 200 mile limit fishing zone, Japan increased its aquaculture

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[16] John Bardac, Aquaculture-The Farming and Husbandry of Freshwater and Marine Organisms, (New York: Wiley and Sons, 1972), p. 868.

production.[17] By 1979, Japan's hatchery-based salmon harvest was 74,397 metric tons, representing 45 percent of its total salmon supply.[18]

In the United States, Alaska was the first state to recognize the potential for enhancement to bolster wild stocks. In 1971, the Alaska state legislature enacted the Fisheries Rehabilitation, Enhancement, and Development Act, and, in 1973, established non-profit hatcheries.[19] By the late 1970s, much of the harvest of salmon in the western United States was dependent upon hatchery released salmon. In 1960, hatchery produced salmon accounted for less than 10 percent of estimated total salmon supply originating from Washington, Oregon and California, about 53 percent by 1969, and approximately 75 percent in 1980.[20]

Salmon ranching has been tried with limited success in Chile, Japan, Iceland, Norway, United States, and Canada. The success of this practice is dependent upon having a sufficient amount of salmon released into streams and rivers and having them return to spawn. However, the numbers of surviving salmon returning has

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[17] F.L. Orth, Market Structure of the Alaska Seafood Processing Industry, Volume 2, Finfish, (University of Alaska Sea Report: 1981), p. 406.

[18] Ibid. p. 414.

[19] Ibid. p. 420.

[20] Oregon Department of Fish and Wildlife, Comprehensive Plan for Production and Management of Oregon's Anadromous Salmon, Part 2, Fish Division Anadromous Fish Section, (Portland:1982), p. 25.

not been large enough to be considered a success. It is thought that the returning fish are being caught at the mouths of rivers by commercial fishermen, and therefore are not able to make it far enough upstream to be collected by the ocean ranchers. However, throughout the 1970s, several experiments with salmon ranching were undertaken in Chile and interest remains to this day.

While governments were developing salmon enhancement programs to bolster the wild fishery, private pen raised salmon began to be tried on a limited basis. The private sector began to see the advantages in taking government developed eggs and smolts and rearing them in captivity until they were ready for market. In this manner the losses occurred by releasing smolts into the wild to take their chances against nature would in theory be far lower. Fish could be grown in a controlled environment to a predetermined size and be delivered to markets year round.

In 1969, a Norwegian company, (Gronverdt Brothers) began growing salmon on the island of Hitra. By 1972, there were five farms producing a total of 46 metric tons in Norway, and by 1980, there were 173 farms producing a total of 4,300 metric tons.[21]

Following Norway's lead, the Nicharo Fisheries Company in Japan began producing sockeye, chinook, pink

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[21] Heen, pp. 10-58.

and chum, using eggs acquired from Washington and Oregon hatcheries. By 1980, Japan reported production of 1,855 metric tons of pen raised salmon. In Scotland, the production of pen-raised salmon began in 1968 and had its first harvest in 1972.[22] It usually takes three to four years before smolts are large enough to be marketed.

In North America, the United States took the lead in the development of pen raised salmon. An Oregon company (Oceans Systems Incorporated - a subsidiary of the Campbell Soup Company) began producing coho and pink salmon in 1971. By 1980, salmon production had reached an estimated 391 metric tons.[23]

In 1972, a company in British Columbia began the industry in Canada with eggs purchased from a government hatchery. The industry remained small with production of only 39 metric tones in 1979. New Brunswick began the first significant Canadian pen raised aquaculture operation in 1977 and by 1980 it had produced 6.3 metric tons.[24]

By 1980, only Norway had established a significant pen raised salmon industry. In 1980, world aquaculture

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[22] Ibid. pp. 10-58.

[23] Ibid. pp. 10-58.

[24] Ibid. pp. 10-58.

production of pen raised Atlantic salmon was 13,321 metric tons, and 2,371 of Pacific salmon.[25]

1980-1988: Industry Expansion Period

The 1980s saw the rise of salmon farming aquaculture as a major seafood industry. Even though farmed salmon accounted for approximately 1 percent of total salmon supply.[26] By 1980, improved technology developed in Norway made pen raised salmon an economic possibility. World production increased over thirteen-fold between 1980 and 1987.[27] Other nations, including Scotland, Chile, Canada, the United States, Ireland, the Faroe Islands, New Zealand, and Australia introduced salmon farming.

Many salmon farmers believed that farmed salmon would eventually exceed the harvests of the world commercial wild fishery. At the industry's onset in Canada, the commercial wild fishing sector did not appear to consider salmon farming a credible threat.[28] In the

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[25] Ibid. pp. 10-58.

[26] Peter Riley, An Economic Analysis of the Market for Atlantic Salmon Aquaculture, (Kingston: University of Rhode Island Press, 1988), p. 262.

[27] Ibid. p. 265.

[28] A review of the Canadian commercial fishing industry journal, Fisheries, from the early to mid 1980's reveals an emphasis on fisheries management issues (ie. quotas, gear regulations) and not on the potential for competition from the aquaculture sector.

early 1980s, the primary concern of those in the commercial wild fishery focused on fisheries management issues, such as quotas and gear restrictions.

In the late 1970s, two policy changes concerning Japan and Europe resulted in a significant opportunity for farmed salmon to carve a niche in the market-place. Japan signed international agreements that had the outcome of limiting its wild catches, and it adopted the 200 mile limit.[29] Because of these policy changes, Japan's reliance on imported salmon increased. The response in North America to the increased requests from Japan for more salmon was to shift domestic production from canned to fresh and frozen. In the mid-1970s over 60 percent of North American salmon was canned, however, by the mid-1980s, the proportion of salmon canned dropped to the 30 percent range. During the 1980s, most frozen and fresh salmon from North America was exported to Japan. As a result of the emphasis placed on exports to Japan, the North American industry did not undertake major efforts to develop domestic markets. This created an opportunity for the farmed salmon industry.

To make up for demand from the North American market (primarily the US market) imports increased rapidly in the mid-1980s. Norwegian farmed salmon was the major beneficiary. Most imports went to expensive restaurants

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[29] Riley, pp. 263-75.

in the north-eastern United States, but markets soon developed throughout the US. By the early 1980s, fresh farmed salmon from Norway began to replace wild salmon from Europe and most of the Eastern US by the latter part of the decade. Farmers were able to produce sufficient quantities of fresh, salmon year-round for large markets. As a result of "aggressive marketing efforts by Norway, and the growing economies in North America, Japan and Europe, farmed salmon was absorbed by the market at high prices."[30]

By the mid-1980s, pen raised salmon aquaculture was rapidly being established in Scotland, Ireland, Canada, Chile and other regions. By 1983, world farmed salmon production exceeded the world chinook wild harvest and by 1986 exceeded the world coho harvest.[31]

1988-1995: Period of Industry Decline [32]

The years 1988 and 1989 were the most successful in the history of the aquaculture industry. By 1989, the salmon farming industry accounted for over 20 percent of world supply. As farms continued to produce more and

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[30] Ibid. pp. 263-75.

[31] Ibid. pp. 263-75.

[32] The statistics for this section were taken from:
Y. Kusakabe, A Joint Analysis of the Japanese Salmon Market, Marine Resources, (University of Alaska: 1993), pp. 102-123.

more salmon (a 45 percent increase between 1988 and 1989), and the commercial wild sector enjoyed record harvests, prices began to fall.

The post 1989 period has been marked by bankruptcies, take-overs and downsizing. In response to declining prices in the United States, the Coalition for Fair Atlantic Salmon Trade (FAST) accused Norwegian companies of receiving subsidies and dumping salmon in the US at prices below costs. The US International Trade Commission ruled that Norwegian farms were dumping salmon. In retaliation a countervailing duty of 2.27 percent and an antidumping duty which ranged from between 15.65 to 31.81 percent was placed on Norwegian farmed salmon. The duties caused Norway to be uncompetitive in the US market. Norway's share of imports dropped to less than 5 percent by 1991, and have not recovered.

The US penalties on Norway, as well as similar actions in Europe resulted in the bankruptcy of many Norwegian firms. Lower salmon prices caused a number of closures and corporate take-overs in British Columbia. Between 1988 and 1990, the number of BC farms declined from 150 to 118. By 1995, the number had dropped to around 100. Bankruptcies and corporate take-overs were also common in the United States and Scotland.

In spite of low prices and a decline in the number of farms, the salmon farming industry continued to

increase production throughout the early and mid-1990's. Reduced costs and improved husbandry resulted in increased harvests.

In the early and mid 1990s, farmed salmon could be found in all major North American markets. The major reason for this has been the ability of salmon farmers to supply a fresh product on demand to suppliers. It is interesting to note that a survey conducted for a salmon farmers interest group in the US found that during the highly prized Copper River wild chinook and sockeye runs in Alaska, premium restaurants such as the Quarter Deck in the Captain Cook Hotel (Anchorage Alaska) were serving fresh, farmed Atlantic salmon.

The Industry in Canada

The development of a significant aquaculture industry in Canada has occurred in response to many of the issues previously discussed. Dwindling stocks of ocean fisheries, limitations on traditional fishing resources resulting from overfishing, the Law of the Sea, the effects of pollution on natural habitats for fish and shellfish, the proximity to the large United States market and scientific advances in rearing farmed species has spurred the growth of the aquaculture industry in Canada.

Salmon hatcheries have been in place in Canada since 1857. These initial efforts were small scale government operations and to this day enhancement (hatchery) programs remain government controlled (federal) and operated. By the mid 1920s, the federal government had a wide network of hatcheries across Canada, including ones for salmon. Even though the history of public sector aquaculture is relatively long, actually outdating the formation of the country, private sector aquaculture, particularly salmon farming, is a relatively new industry.

Atlantic salmon is the most valuable species being farmed on both coasts. The prime area for the culture of Atlantic salmon on the east coast is in the Bay of Fundy, off the coast of New Brunswick. Smaller operations can be found in Quebec (Gaspe Peninsula), Nova Scotia and Newfoundland. In British Columbia, Atlantic and Pacific salmon are cultured extensively in the Georgia Strait and on the pacific side of Vancouver Island. Shellfish, notably clams and oysters have been cultured on a small scale and with little public attention for most of this century.

Aquaculture History in British Columbia

As has been previously stated, public sector aquaculture through enhancement (hatcheries) has been

carried out in Canada since the last century. However, the purpose of enhancement was to bolster wild stocks through the release of smolts and not to encourage the growth of smolts into mature fish under controlled conditions.

The earliest mention of any type of private aquaculture in British Columbia can be found in the archives of the provincial Department of Crown Lands. Their records indicate that in 1903, the Eastern Oyster (CRASSOSTREA VIRGINCIA) was introduced. It was cultured until 1940, in Boundary Bay, until it was considered no longer commercially viable. The first mention of clam farming in the Crown Land archives comes in 1907 when four operations were licensed to cover approximately 18 miles of foreshore around Massett Inlet and Graham Island in the Queen Charlotte Islands.

Salmon aquaculture began experimentally in British Columbia in the mid-1970s. The Pacific breeds, coho and chinook were raised from eggs obtained from federal government hatcheries and raised to the smolt stage in fresh water for approximately 8 months. The smolts were then transferred to salt water pens where they reached maturity. It takes anywhere from 15 to 24 months to grow a salmon to a market ready size (2 kilos for coho, 3 kilos for chinook).[33] By the early 1980s salmon

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[33] John Leibovitz, "Aquaculture: Farming of the Future," Modern Veterinary Medicine, (January 1985), p. 23.

farming had become the dominant aquaculture activity in British Columbia and required substantial government regulation and management.

There has been a significant amount of interest in expanding finfish and non-finfish aquaculture in British Columbia to include species other than salmon. There has been pilot projects studying the feasibility of growing species which were previously abundant in the wild, including cod, halibut, sea cucumbers, sea urchins and geoducts.

The cultivation of sea plants has not as of yet become a commercially viable activity. However, by 1994, there was some interest in cultivating kelp as a food source and for its chemical properties. The British Columbia government has begun preliminary research into the feasibility of allowing kelp farming.

Salmon farming is a relatively new industry in British Columbia. In the mid 1970s, the first salmon farms were established in Alberni Inlet on Vancouver Island and Sechelt on the mainland. The industry has experienced rapid growth since 1985 and is currently in a stage of transition and rationalization. In 1990, the salmon farming industry's landed value was over $90 million. [34] In comparison with other agricultural commodities, salmon farming was ranked the fourth

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[34] Factsheet, The British Columbia Salmon Industry, Ministry of Agriculture, Fisheries and Food, November, 1994, p. 1.

largest agricultural commodity in BC after dairy, cattle, and poultry, and accounted for nearly 5 percent of BC's total agricultural worth. Just three years earlier in 1987, salmon farming ranked thirty-third. [35]

The salmon farming industry is currently composed of approximately 100 operating farms utilizing 1149 hectares of Crown aquatic land. [36] This represents an 18% decrease in the number of farms and a 22% decrease in the number of hectares available for farming since December, 1989. [37] The primary species being cultured are chinook and Atlantic salmon. Smaller quantities of coho are also being produced.

During the initial stages of industry development, farmers focused on establishing sites on the Sunshine Coast. The perceived advantages were close proximity to suppliers, transport infrastructure, and markets in Vancouver. By the late 1980s, much of the Sunshine Coast was considered poorly suited for salmon farming. The industry realized the need to seek out coastal areas with better water-quality characteristics, as well as fewer potential conflicts with upland owners and other resource users. Expansion has shifted to the Campbell River region and the west and north coasts of Vancouver

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[35] Ibid. p. 2.

[36] Factsheet, The British Columbia Salmon Industry Ministry of Agriculture, Fisheries and Food, July 1995, p. 1.

[37] Ibid. p. 1.

Island. Initial expectations of expansion on the north coast (Prince Rupert area) have not been realized, largely due to the high cost of creating a new infrastructure and harsh climatic conditions. Currently, over 60% of the existing and proposed farms are located near or accessed directly to Vancouver Island. [38]

A large number of salmon farmers came on line in the late 1980s and harvested their first crops in 1989. They intended to use the resulting revenues to reduce debt loads and fund future operations. However, 1989 saw a substantial increase in world salmon production, and prices dropped 30% to $40% as supply outpaced demand. Although BC production more than doubled in 1989, industry revenues increased by less than 60%. [39] These financial problems were further compounded by plankton blooms in the Sunshine Coast area which contaminated some farms.

The result has been a process of rationalization and corporate consolidation. Twenty-six companies, representing 30% of all active salmon farming companies in the province, were placed in receivership between 1989 and 1991. [40] Many of these firms were struggling

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[38] Ibid. p .1.

[39] Ibid. p. 1.

[40] The British Columbia Salmon Industry: Current Industry Status, Ministry of Agriculture, Fisheries and Food, June, 1995, p. 1.

with a combination of business problems, including high leveraged financial structures, high production costs, and environmentally poor site locations. Another major contributing factor was the costs associated with learning to culture non-domesticated Pacific salmon species and the adoption of unproven bio-technology (ie. neutered fish) in the mid-1980s. When market prices fell below the cost of production, these firms could no longer generate sufficient cash flow to satisfy creditors. Though the majority of failed farms along the Sunshine Coast have been removed from production, 70 per cent of failed farms in other regions have been purchased as going concerns by new or existing aquaculture companies. [41] Virtually all assets involved in these receiverships have been purchased by other BC salmon farmers.

Vertical business integration is becoming more prevalent in aquaculture. Some 54 per cent of BC's operating salmon farming companies concentrate strictly on growing salmon. Of the large corporate firms, nine are owned by major agribusiness, seafood, or feed supply companies and operate their own hatcheries and/or processing plants. [42] Many also have their own sales force within the company. These integrated corporations

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[41] Ibid. p. 1.

[42] Ibid. p. 1.

account for over 75 per cent of the industry's total production. [43]

Salmon farming in BC was largely initiated by foreign capital, primarily Norwegian. Many companies and individuals brought expertise developed in the European salmon aquaculture industry to Canada's west coast. A survey of 54 salmon farms undertaken by the DPA Group in 1986 revealed a total foreign investment worth $9 million. By 1989, total foreign investment in salmon farming was estimated at $100 million for 135 farms, representing one-third of total investment by industry. [44]

Today, foreign investment exists in all sectors of the industry, including farming equipment manufacturing, and provision of related services. The absolute dollar value of foreign investment in the industry has increased along with the total investment, but the ratio of foreign to domestic investment appears not to have changed substantially. Statistics pertaining to this are difficult to obtain and substantiate, particularly when companies sell public shares that may be owned world-wide. However, a study on the financial structure of the industry in BC, prepared in 1990 by Coopers and Lybrand Consulting Group, determined that 62 per cent of

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[43] Ibid. p. 1.

[44] Ibid. p. 1.

all salmon farming companies were Canadian controlled and that these companies accounted for 41 per cent of the industry's total production capacity. [45]

Production Overview

British Columbia's salmon farming industry has developed during a period of rapid expansion of salmon farming around the world. International competition for markets and the need for lower production costs are the challenges faced by the industry in BC.

World supply of farmed salmon has increased from approximately 48,800 tons in 1985 to an estimated 318,000 tons in 1990 while the commercial wild catch has remained relatively constant. [46] This net increase in global supply dramatically reduced world prices for salmon in 1989 and 1990. The impact on salmon farming industries world-wide has been considerable. Farmed salmon prices dropped by 30 per cent to 40 per cent in 1989 precipitating a restructuring of the industry in BC. Profit margins, particularly for many chinook producers, have eroded to the point where 1991 selling prices are at or below many farmers' costs of production. Canadian farmed salmon is sold principally

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[45] Ibid. p. 2.

[46] Heen, p. 26.

as fresh product. Approximately 70 per cent of BC's production is exported to the United States. [47]

The industry's original culture efforts focused on chinook and coho species up until the mid-1980s. However, coho salmon were found to have significant early maturation problems. Neutered coho culture was tried in 1987 in an unsuccessful attempt to solve this problem. Coho now comprises only a small component of the production output of the industry. The industry became self-sufficient in its chinook broodstock requirements by 1988. This allowed for exponential increases in chinook production to over 10,000 tonnes by 1989.[48] Chinook has been the dominant native species grown in the BC industry since 1989.

While considerable gains have been made in husbandry and management practices of chinook salmon since 1985, the severe decline in chinook prices places a major constraint on the economic viability of the species. Compounding the problem, farmed chinook prices drop every summer to that of the wild fishery, which is usually below the industry's cost of production. In addition, chinook prices are consistently lower than

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[47] Policy Position Paper, " Provincial Role in Aquaculture," Ministry of Agriculture, Fisheries and Food, October, 1994, p. 1.

[48] Heen, p. 26.

those for Atlantic salmon, and Atlantic salmon do not face a drop in summer prices.

In response to the difficulty in economically rearing chinook, a strong trend has occurred towards the culture of Atlantic salmon in BC. The first Atlantic salmon eggs from Scottish hatcheries were imported to BC in 1985 and reared under strict quarantine conditions. Atlantic salmon production has grown steadily during this period and today accounts for close to 70% of total BC salmon farming production and continues to grow. [49]

Major diseases, such as bacterial kidney disease (BKD) and vibriosis, cause significant production losses in BC farms. It is estimated that disease results in the loss of 15-30 per cent of salmon prior to harvest, a direct economic loss of between $30 to $50 million annually.[50] Some areas have been frequently hit with blooms of toxic algae which have caused considerable fish losses.

Rearing of salmon smolts in lake net pens has been adopted as a cost effective method in Scotland and Chile. Because it requires less capital investment, net-pen rearing is less costly than the standard method of flow through, land-based hatchery rearing using pumped groundwater. The quality of smolts from lake

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[49] Heen, p. 29.

[50] Ibid. p. 53.

facilities is generally better. Net-pen rearing in lakes is particularly appropriate for smolts which have to be reared over a year or more (ie. Atlantic and chinook).

The technology of lake-pen rearing is relatively simple, and there are currently four private sector lake net-pen rearing operations in the Province. The Ministry of Environment, Lands and Parks has also used various lakes to culture fish for enhancement for over ten years. However, access to suitable lakes is contentious. Resistance to the expansion of private sector lake rearing has resulted from perceived impacts such as destruction of recreational fishing opportunities, potential negative interactions with native fish stocks, and disease transfer possibilities. The industry views lake-pen rearing as being crucial to the cost-efficient production of Atlantic and chinook smolts.

Marketing Overview

Virtually all of BC's farmed salmon production is sold fresh. In contrast, just 3 per cent of the Province's commercial salmon catch is typically sold as fresh product This highlights the market separation of

B.C.'s commercial fishery and salmon farming industries.[51]

In 1992, close to 70 per cent of all BC farmed salmon was exported to the United States, of which half was consumed in California. Just over 20 per cent was distributed across Canada, including 8 per cent sold locally in BC. Approximately 10 per cent was sold to Japan. Significantly, BC is now the leading exporter of farmed salmon to the United States, having surpassed Norway in 1991. As was addressed earlier in this chapter, the US International Trade Commission found Norway guilty of selling salmon into US markets at less than fair market value. A countervailing duty was imposed on Norwegian salmon, causing Norway's US exports to decline to almost nil.

The product is primarily sold fresh, gutted, and with head on. It is distributed through channels established to handle fish from the wild fishery. There is no distinct distribution system set up specifically for farmed salmon, a situation some industry members see as being detrimental to price stability and profitability. This has led to the recent formation of farmed fish distribution and marketing firms by the two largest vertically integrated aquaculture feed companies in BC.

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[51] "Salmon Industry," Fact Sheet, Ministry of Agriculture, Fisheries and Food, 1992, p. 2.

World production of farmed salmon peaked in 1991 and has declined by approximately 5 percent.[52] This is largely due to the continuing financial pressures facing the industry world-wide. Norway's industry is undergoing a major restructuring, which has caused production to decline from 163,000 tons in 1990 to 135,000 tons in 1994.[53] Scotland's output has declined from 1991's 36,000 tons to 25,000 tons in 1993 and 1994.[54] All other European producers have also had declining production levels since 1991. Chile's salmon production is expected to stabilize at 35,000 tons.[55]

British Columbia's close proximity to the vast US market is one of the industry's primary competitive advantages. West coast salmon farmers can access any American market-place within 24 hours of harvest. Market research has shown that US consumers perceive Canada as the premier supplier of fresh salmon to their country. Canada is also well-known as the leading trading partner of the US. BC farmed salmon is therefore ideally positioned to exploit these advantages.

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[52] Folsom, p. 341.

[53] Ibid. p. 344.

[54] Ibid. p. 344.

[55] Ibid. p. 345.

The problems and challenges facing the BC salmon farming industry are the same as those currently being experienced by other salmon-growing areas. By placing the emphasis on production rather than marketing, farmers in Scotland and Norway have experienced financial difficulties in recent years. In the past, husbandry and business inefficiencies were compensated by high market demand and corresponding prices. Markets are changing, and farm production costs are exceeding returns worldwide. Industry is recognizing that better control must be gained over production costs if farmers are to survive in increasingly competitive markets.

In most other major salmon-producing nations, salmon farming has been "government led." The primary initiative to establish a salmon farming industry was undertaken by governments with major financial programs supporting development. In BC, the private sector took the initiative to start and drive the growth of this new industry. Development evolved within a framework defined by the provincial and federal governments.

Economic Challenges

The establishment and development of salmon farming in British Columbia cannot be viewed in isolation from world production. Farmed salmon has become a major

global supply source of fish products. Other countries have created specialized distribution systems for aquaculture seafood in order to capitalize on potential value. In order to survive in British Columbia, the industry believes that it must make a transition from being production-driven to being market driven. International trade is one area in which industry has encouraged government to assist salmon farmers.

Cost of production is another area which BC salmon farmers need to contain to remain competitive. Production costs for BC are estimated at $6,300 to $7,000 per ton, including processing.[56] This falls in the middle range for other producing areas, whose costs per tonne are estimated to be:

Scotland	$6,500 to $8,000
Norway	$5,500 to $9,000
Chile	$5,000
New Brunswick	$6,000

The ranges for Scotland and Norway reflect the fact that more northerly sites have higher costs of production. Chilean producers realize substantial savings in labour and feed costs, but transportation charges to the US are higher. BC's close proximity to US markets gives producers a significant advantage in terms of lower transportation costs. Theoretically, this should act as

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[56] Department of Fisheries and Oceans, Report #94, 1991, p. 3.

a buffer against higher production costs. However, this advantage is greatly diminished when industry markets frozen farmed product.

Another large factor in the cost of production is inventory mortality rates. Fish mortality rates in BC initially exceeded those in other parts of the world and are slowly being brought under control. This is opposite to the situation in Norway and Scotland, where mortality rates are increasing yearly.

Environmental Issues

We live in an age of heightened awareness of environmental and personal health. While opponents of the industry have expressed their concerns over possible environmental dangers inherent in salmon farming, some consumers have expressed interest about the product they are consuming, the environment in which it is raised, and whether the production practice is overly consumptive of resources or environmentally unsound.

Salmon farming requires clean water to grow its product. Many coastal areas in other parts of the world are not suited to salmon farming because of industrial pollution, unsuitable water temperatures, or the physical configuration of coastline. While much of British Columbia's coastline is optimal for salmon

culture, there is sufficient area to establish working sites.

Of primary concern is the pollution of coastal waters by other industrial users. Pulp mill discharge, ballast water and waste from ships, and municipal sewage are all considered to be major sources of pollution in coastal waters. There are, in some cases, regulations governing these categories of pollution, but often the regulations are not enforced sufficiently. There appears to be a strengthening of the political will to undertake enforcement activities with enough commitment to achieve the necessary results. Salmon farms have also been accused by environmental groups of polluting water with by-products generated by the operation of the farms.

Periodic high temperatures and the resulting phytoplankton blooms have precluded some coastal areas as viable coastal sites. Conflict with other users, such as recreationalists is also a problem. The industry is making a move to more remote areas with greater oceanic influence in order to escape these problems. The development of transportation infrastructures in outlying regions is the key to this relocation.

Salmon farms are contiguous with waters containing wild fish and their attendant diseases. In conventional agriculture, attempting to isolate production animals

from disease organisms is standard operating practice. This is impossible to undertake in salmon farming, so disease must be controlled through preventive measures such as vaccination and stress minimization. BKD and vibriosis presently account for most of the disease-related mortality on BC farms. Furunculosis and marine anemia are also prevalent.

Salmon farmers are currently dependent on antibiotics to combat diseases. Although dependence may lessen with production of new and more effective vaccines, domestication of fish, and improved husbandry practices, farmers will continue to need access to antibiotics to treat their fish because disease organisms are endemic in wild populations. The use of antibiotics have raised concerns over the health of the fish, the environment and the consumer.

Atlantic salmon appear to be particularly susceptible to sea lice. Consequently, as the industry focuses on this species, the problems created by sea lice can be expected to increase. In addition, caprellids (tiny crustaceans that inhabit fouled netting) have been known to infest BC farmed salmon. In Europe, sea lice are treated with an organophosphate. This treatment has caused much controversy because of concerns about environmental damage and about dangers to workers applying the treatments.

Predation by a number of wild animals, particularly seals and otters, inflicts significant losses on many BC salmon farms. Over the years farmers have experimented with different methods and various technologies in attempts to resolve the problem. Success has been inconsistent at best. Animal welfare issues arising from the industries need to control predators has become a contentious issue.

The purpose of this chapter was to make a case for the economic viability of the aquaculture industry in British Columbia. The next chapter will trace the process of determining jurisdiction, and roles and responsibilities between state agencies to regulate the industry. The very issues which made aquaculture economically attractive, also made implementing policies difficult in a province and nation beset with economic difficulties. In an era of government budgetary problems, it can be expected that the province and federal government would clash over control of this potentially lucrative field. Furthermore, conflict could also be expected within the provincial bureaucracy as ministries and agencies engage in conflict over control of programs and the increased budgets and staffing required to implement them.

The environmental and health issues raised over the aquaculture industry's husbandry practices and the location of salmon farm sites as described in this

chapter became a catalyst for the emergence of an anti-industry development advocacy coalition. Chapters 4 and 5 will trace the development of the coalitions and describe and interpret their attempts to dominate the aquaculture policy community.

CHAPTER 3

Allocation of Roles and Responsibilities Among State Structures

The goal of this chapter is to describe the state response to the introduction of salmon farming. The chapter will be divided into three sections. The first will focus on the pre-salmon farming era in British Columbia. There will be a brief descriptive history of the development of aquaculture policy from its beginnings at the turn of the century until the establishment of a viable salmon farming industry in 1980. This pre-salmon farming era was characterized by a small "cottage style" industry based on the harvesting of oysters and clams. There was little in the way of government regulation. Issues such as health threats, pricing and leases were dealt with in an ad-hoc basis by relevant provincial or federal agencies.

The second section focusing on salmon farming, will trace the development of federal-provincial jurisdiction over roles and responsibilities for the regulation of the new industry. The third section will describe the process of allocating roles and responsibilities between provincial agencies.

Section One - Pre-Salmon Farming Era - 1903-1980 [57]

It would not be difficult for the casual observer of the aquaculture industry in British Columbia to conclude that the industry began with the introduction of salmon farming in the late 1970s. The economic potential of salmon farming, as well as the controversial elements found in the land tenure process, health and environmental issues have brought aquaculture into the public consciousness. However, unknown to many, British Columbia has had a small but successful aquaculture industry based on the culture of shellfish for most of this century.

As was noted in the previous chapter, oysters were first cultivated in 1903 and clams in 1907. The primary provincial regulator of aquaculture policy during this pre-salmon farming era was the Department of Crown Lands (and its successors the Ministry of Forest Lands and Water Resources, and the Ministry of Lands, Parks and Housing), acting under the authority of the Land Act. The Land Act did not mention aquaculture, and there were no Land Act regulations specifically directed towards aquaculture. Policy was dictated by way of guidelines set out in the Land Administration Manual. These guidelines governed grants of aquatic Crown Land by way

[57] The pre-salmon farming information was obtained from an untitled document found in the Ministry of Environment, Lands and Parks, Crown Lands Division.

of license or long term lease. The guidelines did not have the force of legislation.

Other agencies which had a smaller stake in aquaculture during this period included the Ministry of Health, Ministry of Recreation and Conservation, provincial Department of Fisheries and the federal Department of Fisheries and Oceans.

Since there was no specific legislation or guidelines pertaining to the industry, issues were dealt with in an ad-hoc manner. Agencies were added to the policy community as issues emerged and tread on different areas of jurisdiction. For example, in 1925, an outbreak of typhoid fever in the United States was thought to be the result of oyster culture in that country. Subsequently, in British Columbia all applications for oyster leases were subject to the approval of the provincial Department of Health.

Another example can be found in the discovery of "wild oyster bootlegging" in the early 1960s. It was discovered that illegal oyster producers were mass moving tons of wild oysters from the sea- bed onto unoccupied Crown foreshore lots and producing them for harvest and sale. Because they had to pay nothing for the lease/tenure they were operating on (as their operations were illegal and thus not licensed), their overhead costs were low, they had no taxes to pay, and they were able to sell their product at far below

current market value. Therefore, the legitimate operators were being illegally squeezed out of the market-place. In response to complaints by legitimate operators, the government in March 1965, formed a shellfish committee at the deputy minister level consisting of individuals from the Department of Recreation and Conservation, Ministry of Lands and Forests, Ministry of Health, and Department of Fisheries. Through an Order-in Council the committee passed wild oyster regulations which were designed to protect the interests of license holders and prohibit unauthorized persons from exploiting the resource.

The aquaculture industry prior to 1980 was characterized by a low level of policy activity. Policy centered around three main issues:

1) The setting of prices for oyster and clam farming leases and determining the length of leases
2) Ensuring that operations function in a sanitary manner; and
3) Acting in a police function to discourage poaching.

Section Two: State Response to Salmon Farming Development

Overview

By 1980, conditions appeared ripe for the creation of a significant aquaculture industry in British Columbia based on the potential of salmon farming. As discussed in Chapter Two, the virtual abandonment of the North American market by the commercial wild fishery in favour of the more lucrative Japanese market, combined with advanced rearing techniques developed in Norway, and a North American movement towards a more healthier life-style, led to the establishment of salmon farms in British Columbia.

The coastal region of British Columbia provides the most favourable environment for salmon aquaculture in Canada. In order to successfully farm salmon, a location requires a sheltered location with sufficient tides to cleanse the water on a daily basis, and water temperatures must remain above 7 degrees Celsius, the temperature at which salmon will die. The coast of British Columbia provides these pre-conditions. Furthermore, the closeness of the United States market, and the large labour pool of qualified technicians and biologists in the province enhances the potential for success of the industry. By the early 1980's, salmon farming development had been placed on the political agenda. Encouraged by the potential of the industry as reported in the media, and by the industry, the Social Credit government, included aquaculture development as a key element in its economic diversification strategy.

In 1980, the provincial cabinet made a "commitment to enhance and assist the aquaculture industry." This commitment was primarily aimed at "promoting the diversification of the industry, and increasing efficiency and effectiveness in the use of Crown lands for aquaculture production".[58] In October 1980, the cabinet released the following statement regarding its intentions towards the aquaculture industry:

> The Government recognizes the great potential of aquatic Crown lands for the production of fish, shellfish, and various other aquatic organisms for human use and consumption. Realization of this potential will enhance the Government's ability to increase provincial self-sufficiency in food production, as well as help diversify the provincial economic base. The Government acknowledges this potential by recognizing the requirements of aquatic lands favourable for aquatic use.[59]

It must be noted that state structures were in a state of flux during this period. Provincial agencies with mandates that would presumably bring them into the aquaculture regulatory process were frequently shifted from ministry to ministry and subject to downsizing. Some agencies,(including Marine Resources Branch of the Ministry of Environment, Crown Lands of the Ministry of Lands, Parks and Housing, and the Food section of the Ministry of Agriculture and Food) would have welcomed

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[58] This quote was taken from an untitled policy position paper written in 1988 by officials at the Ministry of Lands, Parks and Housing. The paper was an evaluation of then current policies regarding the state of Crown Land policies relating to
the regulation of salmon farms on Crown Land foreshore, p. 1.

[59] Ibid. p. 1.

increased responsibilities for regulation of some or all portions of the industry as a method of stemming the tide of budget and employee cuts which were rumored to be imminent within the public service in the early to mid 1980s.

Policy during this period revolved around allocating responsibilities within the public service to manage and develop this potentially profitable industry. The policy process developed in the following way:

1) allocation of responsibilities between the federal and provincial governments,
2) allocation of responsibilities between provincial agencies.

Allocation of Federal and Provincial Responsibilities

Canada has had a federal system of government since Confederation in 1867. In the traditional interpretation of federalism it is possible to allocate responsibilities between two levels of government in such a way as to allow both levels of government to have full authority and responsibility to act within its own area of jurisdiction without reference to the other level of government. Provincial governments may be in control of education, natural resources and local governments, while the federal government has responsibility for trade, defense and banking, but each can act unilaterally within its own sphere of influence

can act unilaterally within its own sphere of influence as if the other government does not exist. The only mechanism needed to maintain the balance is a Supreme Court which can decide issues of contention.

The framers of the British North America Act did try to follow this model of federalism. Separate institutions were set up at the provincial and federal levels and each had their own sources of revenues. However, the framers of Confederation clearly favoured a dominant federal role as illustrated in the federal government's right to disallow any provincial act within a year of its adoption. This right has not been used since 1943.

Despite the imposition of a federal system that attempted to allocate clear cut divisions of power between levels of government, while maintaining a preference for a strong federal mandate through disallowance and right of appointments, provincial governments have grown in power in the modern Canadian state. A possible reason is in the very nature of having separate governments, regions dissatisfied with federal policies seek provincial governments to speak on their behalf and accommodate their interest. Provincial control over natural resources, considered unimportant in 1867, has become a source of wealth and power for some provinces. Other areas of provincial control which have grown in importance to Canadians since

Confederation include education, health ,social services, property and civil rights. The expansion of power by the provinces has been labeled "province building."[60] Provincial governments have attempted to obtain as much responsibility as they can from the federal government. "Province building" as a concept became prominent during the 1960s when provincial governments began to construct sophisticated state structures, including bureaucracies, state enterprises and legislative control to protect and manage provincial economies and protect them from interference from Ottawa. Since the 1970s government expenditures have risen at a rate which has outpaced revenues. Consequently, control over a new industry such as aquaculture, with its potential to generate revenues would be attractive to both levels of government.

The relationship between British Columbia and the federal government over aquaculture jurisdiction will focus on a "province building" perspective. The goal will be to determine if the Social Credit and NDP governments attempted to use this industry to extend provincial jurisdiction over a practice not mentioned in the Constitution Act; and whether traditional sources of

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[60] Garth Stephenson, "Federalism and Intergovernmental Relations," Canadian politics in the 1990's, Michael Whittington and Glen Williams ed. (Toronto: Nelson Canada 1990), p. 392.

federal/provincial conflict such as western alienation are important factors which transcend party ideology.

The introduction of salmon aquaculture necessitated the introduction of a series of policies to regulate and manage the industry. Regulation was required to ensure that Crown land was leased to salmon farmers in a manner that maximized the economic potential of the farm while minimizing the possible environmental or health impacts to fragile coastal areas. Management consisted of producing policies to foster the growth of an aquaculture industry which would better realize the provincial government's goal of diversifying the economy. Aquaculture was viewed by the government as a vehicle to provide stable employment and revenues to coastal communities. It would provide an alternative economic activity to the traditional forestry and commercial fishery sectors which were prone to frequent downturns.

Before the industry could be regulated and managed, the question of jurisdiction between the federal and provincial governments had to be settled. Jurisdiction in Canada is divided between the federal government and the provincial governments by the Constitution Act (prior to 1982 the British North America Act). Within the Act, the division of powers is primarily effected by sections 91 and 92. Section 91 is the primary source of federal jurisdiction and Section 92 is the primary

provincial source. Neither one of these sections or any other mentions or uses the word aquaculture. Since all jurisdiction in Canada must be within the realm of one of the two legislative authorities, aquaculture jurisdiction needed to be settled before policies could be effectively implemented. Traditionally, the two levels of government in Canada have settled jurisdictional disputes through the courts or through negotiation.

The Meaning of Jurisdiction

Both the federal Parliament and the various provincial legislatures enact laws which affect us in a variety of ways. In combination, these laws regulate and penalize a broad range of activities and embrace all segments of society.

In order to enact any given law, the enacting body, that is the Federal Parliament or Provincial legislature in question, must have "jurisdiction" over the subject being regulated or penalized. If legislation is enacted in an area over which the enacting body has no jurisdiction, it is describe as ultra vires, or outside the jurisdiction of the enacting body. Legislation which is found to be ultra vires is invalid and has no further affect.

Consequently, the mere enactment of a law does not make that law valid. To determine validity one must first determine whether the enacting body has the jurisdiction to deal with the subject in question. Similarly, the first step in drafting new laws or recommending amendments to existing laws is to verify that one has the jurisdiction to make the desired changes.

In general, jurisdiction means that the provinces own the natural resources within their boundaries. At Confederation, the provinces retained the bulk of their Crown Lands and resources acquired originally as British colonial territories. This policy was continued on the entry of British Columbia into Confederation, with the result that the Province now owns the beds of most lakes, rivers and other waters within the boundaries of the Province. Courts have affirmed Provincial ownership of the beds of freshwater lakes and rivers. The location of Provincial boundaries at the coastline has been the subject of a number of court cases, with the result that the provincially controlled property base now includes the tidal foreshore between high and low water marks, and the seabed of inland waters, including bays, harbours and estuaries. Inland waters have been described by the courts as those waters "within the jaws of the land" and specifically include the Strait of Georgia, the Strait of Juan de Fuca and Johnstone

Strait. Within the Province there are federally owned resources in cases such as Indian Lands, federal public works, defense lands and national parks.[61]

Provincial aquaculture jurisdiction is derived primarily from its property ownership of the solum, (the land underneath the water). The general principle is that fish are in their nature "mere profits of the soil over which the water flows, and that the title of a fishery arises from the right to the solum. The authorities treat this broad principle as being of general application, not " restricted to inland or non-tidal waters."[62] From the point of view of ownership jurisdiction, ownership of the right to take or use the resource is as effective a source of ownership jurisdiction as ownership of the resource itself. There are a number of provisions of the Constitution Act, which have a bearing on jurisdiction over natural resources, particularly over fisheries resources.

The first problem with fisheries resource management is to determine how to allocate the resource between competing user groups. The terms and conditions on which rights are granted are the basis for which

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[61] Land considered to be subaquatic (underwater) is the property of the province unless expressly granted away through an act of the provincial legislature. A notable exception are "public harbours." These harbours are the property of the federal government under section 108 of the Third Section of the Constitution Act. This was settled by Attorney General of Canada v. Ritchie Contracting, 1919.

[62] R. v. Robertson (1982), Attorney General of Canada v. Attorney General of Quebec.

management strategies are designed. Allocation is initially a power based on ownership. In terms of legislative jurisdiction, section 92 of the Constitution Act, gives a province legislative power over the management and sale of provincial lands, and over property and civil rights within the province. However, to conclude that the province has, by virtue of its ownership jurisdiction, exclusive powers over allocation, would be misleading. There are federal legislative powers that can affect the allocation function. In principle, provincial fisheries ownership jurisdiction extends to all waters within provincial boundaries. In the case of tidal waters (whether on the foreshore or in estuaries or tidal rivers) ownership is qualified by another and paramount title which is the public right to use tidal waters.

The limitations on the public right to fish in tidal waters is not easy to define. The Privy Council described it as:

> a right enjoyed so far as the high seas are concerned by common practice from time immemorial and it was probably in very early times extended by the subject without challenge to the foreshore and tidal waters which were continuous with the ocean. The right into which this practice has crystallized resembles in some respects the right to use a navigable river as a highway.[63]

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[63] Attorney General of B.C. v. Attorney General for Canada ,(1913), A.C. 153 at 173.

The property owner who fishes in his own watercourse (the water adjacent to his property) is exercising a property right; the fishermen or aquaculturalist who uses tidal waters is exercising a privilege. The right of the province to license aquaculture operations derives from its proprietary interest in the solum of tidal waters. The right of the federal Government to license fishing and other uses in tidal waters, where a public right has existed by virtue of the Magna Carta since 1215, is a right that the Federal Government exercises through parens patriae, it is not a proprietary right.[64]

A further problem of aquaculture jurisdiction is over the protection and conservation of the resource. Legislative jurisdiction becomes very entangled here. In general, power to control production rests with the government which owns the resource.[65] However, with respect to aquaculture, the Federal Government plays an active management role. This role stems from Parliament's legislative authority over "seacoast and inland fisheries", as set out in section 91 (12) of the Constitution Act.

The courts have consistently interpreted Federal fisheries as a jurisdiction confined solely to the

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[64] D.E. Stancil, Provincial Jurisdiction Over Living Aquatic Resources Within the Province of British Columbia. (Ministry of Environment, March 1986), p. 27-30.

[65] Ibid. p. 30.

protection and conservation of the fisheries resource. The restrictive interpretation given to Federal fisheries powers is a direct consequence of the existence of competing provincial power deriving from proprietary rights to the resource. Through its control over protection and conservation, the federal government has effective control of fisheries as they can determine fishing practices through its mandate to protect and conserve fish. This can be extended somewhat to aquaculture because farmed fish could possibly have a detrimental impact on wild fish. The province controls the processing of fish and thus has a role in where fish are landed and processed.

Although aquaculture is not specifically mentioned in the Constitution Act it is apparent that both levels of government have some jurisdiction. The Federal government has jurisdiction over "sea coast and inland fisheries" through Section 91 of the Constitution Act. This jurisdiction gives the Federal government the right to protect and conserve the wild fisheries from any potential threat and ensure the public right to use fisheries resources. This would allow the Federal government to veto any aquaculturalist from importing species not native to the region on the grounds the imported species could have detrimental effects on the local breeds. They also would have a stake in ensuring that farmed salmon do not spread disease to their wild

counterparts. The Federal government also has jurisdictional interests in the location of aquaculture operations through the Canada Shipping Act, which allows the Federal government to locate and operate public harbours. Thus aquaculturalists would need to obtain Federal approval to establish a site.

The province obtained a stake in the aquaculture industry in 1912, when the Federal government granted to British Columbia, (under section 50 (1 and 2) of the Federal Fisheries Act), the authority to lease Crown foreshore for the culture and production of oysters.[66] The grant was made before any legal action was taken by the province to determine if the federal government had jurisdiction over Crown foreshore. Furthermore, a Supreme Court decision ruled that the province owned the resources of the bed and water column in all coastal inland waters.[67]

In 1988 the provincial and federal governments formally agreed to a Memorandum of Understanding MOU regarding the regulation and managing of salmon farming. The agreement gave the province the right to license all shellfish and salmon farms and provided the federal government with authority over ensuring human safety through product inspection, fish health, research and

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[66] This information was located in an untitled document found in the library of the Ministry of Environment, Lands and Parks, Crown Lands Division and dated March 1986, p. 2.

[67] Attorney General of Canada v. Ritchie Contracting, 1919.

development and a referral function for provincially initiated aquaculture Crown land tenures to ensure the protection of wild fish habitat, wild fish stocks and marine mammals.

Section Three - Inter- Ministry Allocation of Authority

1980-1986

Running concurrently with the issues over federal/provincial jurisdiction were the decisions being made within the provincial government as to which agencies would regulate the industry. There were a number of ministries which had some interests in the industry. They were led by the Ministry of Lands, Parks and Housing which controlled the land tenure process for all shellfish and salmon farming operations. The Ministry of Environment had an interest in making sure operations did not cause harm to the environment through pollution. The Ministry of Health was concerned with the safety of all seafood consumed by humans, and the Ministry of Recreation and Tourism was entrusted with ensuring that aquaculture operations did not interfere

with the enjoyment and safety of other legitimate users of the coastline.

The potential economic and social potential of the industry, and the interest shown by the Provincial Cabinet in industry development led to the inclusion of new agencies in the regulatory process. The Ministry of Agriculture and Food focused on the marketing side of the industry, the Marine Resources Branch of the Ministry of Environment was involved in fish biology and genetic research; the Ministry of Industry and Small Business Development, Ministry of Finance, and the Ministry of Universities, Science and Communications were involved in the financial development side of the industry.

The period from 1980 to 1984 was dominated by the Ministry of Environment and Ministry of Lands, Parks and Housing (LPH). Collectively, they controlled the majority of policies pertaining to the aquaculture industry. The Ministry of Environment in 1982 had assumed provincial responsibility for commercial and recreational fisheries through its Marine Resources Branch. The Ministry of Lands, Parks and Housing retained a dominant position through its control of Crown land tenures. In February, 1983 these two Ministries established a joint LPH-Environment mechanism for assigning the responsibility for the administration

of management plans for aquaculture tenures. The agreement included the following:

1. The Ministry of Environment was to be recognized as the agency responsible for planning, management, protection and conservation of BC's aquaculture resources.

2. Maximum productivity of the province's aquaculture resources was to be a priority.

3. The creation of a site productivity rating system by which tenures could be valued.

4. The Ministry of Lands, Parks and Housing was to be recognized as the agency responsible for the administration of Crown land under the Land Act with the mandate for the management and allocation of Crown land in the province.[68]

With a mechanism in place to approve applications for aquaculture tenures, the Ministry of Environment took the lead in developing a mechanism to help foster industry development. Environment officials initiated the formation of a committee between industry, provincial and federal representatives. Meeting at the Pacific Biological Station in Nanaimo, on June 11, 1984, representatives discussed how the committee could be structured and function to identify and find solutions to major problems which were keeping the industry from developing its full potential. The following list of problems were identified:

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[68] Information found in untitled document found in the library of the Ministry of Lands, Parks and Housing, Crown Land Division dated March 1986, p. 2.

1. Lack of a satisfactory "lead agency" with whom the industry could communicate.

2. Lack of basic tenure rights in comparison with related industries

3. No sales tax exemption for materials or equipment used for aquaculture purposes.

4. No tax incentives available to stimulate the involvement of potential investors in aquaculture.

5. The lack of financing arrangements available to satisfy the unique characteristics of the industry.

6. Inadequate applications of existing research capabilities to commercially exploit aquaculture possibilities in B.C.

7. Lack of a supporting educational and technical infrastructure for the industry.[69]

The provincial response to the Nanaimo meeting was to form a Steering Committee at the Assistant Deputy Minister (ADM) level with representatives from the Ministries of Industry and Small Business Development, Agriculture and Food, and Universities, Science and Communications. The committee's task was to develop solutions to the problems within provincial jurisdiction that were identified at the Nanaimo meeting. The Ministry of the Environment was to be the lead agency on the committee.

It is interesting to note that Environment did not invite the Ministry of Lands, Parks and Housing (LPH) to

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[69] Ibid. p. 3.

It is interesting to note that Environment did not invite the Ministry of Lands, Parks and Housing (LPH) to sit on the committee. There was conflict between the Ministry of Environment and Ministry of Lands, Parks and Housing officials over industry development policies.[70] Environment viewed itself as the lead agency for aquaculture development and believed LPH should restrict itself to land tenure issues only. For itself, LPH wanted a role in development issues. Lands, Parks and Housing insisted, and was invited to be on the committee. However, this incident did lead the Cabinet to begin the search for a lead provincial aquaculture ministry which would have clear authority over all management and development issues.[71]

A lead agency sub-committee of the ADM Steering Committee met on August 2, 1984 to review the characteristics of a lead agency. The following statement from the minutes of the meeting illustrate the industry development focus the sub-committee expected the lead agency to play:

> A lead agency should be an advocate of industry interests,
>
> a coordinator of services and information, capable of speedy response to industry, a coordinator and prioritizer of research and development

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[70] Confidential interview with a former employee of the Marine Resources Branch of the Ministry of Environment.

[71] Ibid.

by provincial and federal agencies in consultation with industry,

to identify sources of financing,
have a business orientation,
have a clear statement of goals and objectives,
have the ability to lease and provide property rights equivalent to those of conventional farmers,
have enabling legislation.[72]

The Ministry of Agriculture and Food was recommended by the ADM Committee to be "lead agency" for aquaculture development. It was to be renamed the Ministry of Agriculture, Fisheries and Food. In April 1985, the Cabinet approved the recommendation. A report commissioned by the steering committee recommended that Agriculture and Food would be the most appropriate agency to manage the industry as it moves from developing to established status. Agriculture and Food had a mandate to market and promote products, a service the new industry required to gain a foothold in the domestic and global market-place. However, the lead agency was to lead, and not take sole authority for all policy areas. The Deputy Minister of Agriculture and Food, Mr. Gordon MacEachern, formed a new steering committee comprising of representatives from the Ministries of Industry and Small Business Development, Environment, Universities, Science and Communications, Finance, Lands, Parks and Housing, and Agriculture and Fisheries. The committee's role was to:

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[72] Untitled document from the Ministry of Lands, Parks and Housing, Crown Lands Division, p. 3.

* coordinate existing programs
* program development
* problem resolution [73]

The main regulators of the industry by 1986 were the Ministry of Agriculture and Food which advocated industry development issues, the Ministry of Environment which conducted environmental impact assessments on proposed salmon farms and monitored existing farms, and the Ministry of Lands, Parks and Housing which allocated Crown land tenures. In 1986, the Marine Resources Branch of the Ministry of Environment was moved to Agriculture and Food, where the new ministry was called the Ministry of Agriculture, Fisheries and Food.(MAFF) Lands, Parks and Housing was amalgamated with Environment under the name the Ministry of Environment, Lands and Parks (MELP).

By 1988, roles and responsibilities had been determined between the province and federal government and between provincial agencies. The next chapter will look specifically at the type of policies chosen with the goal to determine the causal factors which lay behind policy choices.

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[73] Ibid. p. 4.

CHAPTER 4

Policy Choice: The Role of Advocacy Coalitions within the Aquaculture Policy Community: 1980-91

The previous chapters have described the economic and technological conditions which led to the establishment of a viable salmon farming industry in British Columbia and to the debate about the regulatory roles and responsibilities of different levels of government and government agencies. The thesis will now look at the process of policy choice and policy change within the aquaculture policy field. The goal will be to determine the causal factors which underlined the policies chosen by the provincial government, as well as to describe the process by which policy was changed during the period of industry expansion from 1980 to 1991.

As was stated in Chapter One, the method chosen for this study will be the concept of policy communities and the interactions of advocacy coalitions within them. The reason for choosing this approach as a means of studying the policy process merits further explanation. As was outlined in Chapter One, the term policy communities is a concept developed and refined by a number of academics (Pross, Sabatier, and Heclo), to aid in our understanding of the complex relationship between state and non-state actors operating within the policy

process. Advocacy coalitions refer to actors within a policy community who "share a set of normative and causal beliefs and who often act in concert."[74] The concept of a policy community encompassing an entire policy field and its competing advocacy coalitions vying for primacy over the process provides a useful method of analysis because it allows for the inclusion of a wide range of societal actors operating within the field. It includes actors who exert varying degrees of influence and allows for the possibility that conditions can change and weak actors can become dominant. The goal of all coalitions is to turn their beliefs about a policy field into specific government policies and programs.

The aquaculture policy community from 1980 to 1995 was divided into two distinctive advocacy coalitions. The pro-industry development advocacy coalition was dominated by provincial bureaucrats within the Ministry of Agriculture, Fisheries and Food, the salmon farming industry and its related interest groups, some biologists, academics, provincial politicians, and some media representatives. The coalition shared a belief system that emphasized economic development, questioned the seriousness of potential health and environmental impacts of salmon farming, believed the state had an

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[74] Paul Sabatier, "An advocacy framework of policy change and the role of policy oriented learning therein," Policy Sciences, Paul Sabatier and Hank Jenkins-Smith ed. (Kluwer:Dordrecht 1988), p. 133.

obligation to provide economic incentives, and argued that self regulation was preferable to state intervention in operating practices. The anti-industry development advocacy coalition consisted of environmentalists, foreshore landowners, commercial fishing interests, some biologists, academics, officials within the Ministry of the Environment and officials within the federal Department of Fisheries and Oceans. They believed that potential health and safety issues were more important than industry development, that industry posed a serious threat to wild stocks and human health, that regulation be preferred over self-regulation. Members of this coalition also shared a deep distrust for industry backed science studies.

The chapter will test the theory proposed by Paul A. Sabatier that advocacy coalitions within a policy community will consist of one dominant coalition and one or more weaker coalitions attempting to displace the dominant coalition and translate their beliefs into government policies and programs. According to Sabatier, change can occur in two ways. First, when a coalition exerts influence by increasing political resources and by learning through experience and education how better to make a strong case as to the merits of their beliefs.[75] Secondly, through external

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[75] Ibid. p. 134.

perturbation, "the effects of systemic events - changes in socio-economic conditions, outputs from other subsystems, and changes in the system-wide governing coalition - on the resources and constraints of subsystem actors."[76]

The theory to be tested will be:

> the relative strength of different advocacy coalitions within a policy community will seldom be sufficiently altered by events internal to the policy community (ie. efforts to increase resources or to outlearn opponents) to overthrow a coalition.[77]

In the early 1980's, the policy process was dominated by the belief system of the pro-industry development advocacy coalition. However, by the mid-1980's the consensus favouring industry development began to be challenged as new issues regarding the health, environmental and esthetic impact of the industry emerged. A rival advocacy coalition coalesced around these issues and began to challenge the primacy of the pro-development coalition. By 1986, they had successfully managed to place their issues on the political agenda. They were able to force the provincial government to form an independent commission

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[76] Ibid. p. 137.

[77] Ibid. p. 136.

to investigate the state of the industry, and to declare a moratorium on industry development, pending the outcome of the commissions findings.

This chapter will examine Sabatier's argument that a policy community is dominated by one advocacy coalition and that significant policy change initiated from a rival advocacy coalition must be the result of an external perturbation.[78] The Chapter will trace the development of both coalitions and discuss their relative influence on the policy process within the provincial sphere of influence. Results were based on a review of documents from the Ministry of Agriculture, Fisheries and Food (MAFF), the Ministry of Environment, Lands and Parks (MELP), the federal Department of Fisheries and Oceans (DFO), interest group publications and personal interviews with provincial officials, industry representatives and environmentalists

The Pro-Industry Advocacy Coalition

Soon after the establishment of salmon farming in British Columbia, a pro-industry development advocacy coalition formed. The coalition shared a core belief in the merits of industry development. This diverse group

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[78] Ibid. pp. 134 - 7.

included the salmon farming industry, political representatives from both provincial parties, local government, media and provincial bureaucrats. Their belief was that a healthy aquaculture industry based on salmon farming could be expected to provide employment and economic stability to coastal regions, increase provincial revenues and expand export markets. Provincial government reports concluded that the industry was at a "take-off" stage and would, if provided with the proper government support, be a major player in the province's economy.[79]

The pro-industry advocacy coalition dominated the policy process in the early 1980s. Responding to reported successes of the industry in other nations, and the favourable physical conditions found along the BC coast, the coalition embarked on a campaign to influence government policy.[80] Unlike previous attempts to influence policy, notably shellfish farmers lobbying for favourable license and tenure fees, the new salmon farming advocacy coalition was comprised of a broad spectrum of provincial interests. Whereas the aquaculture industry before 1980 had been dominated by

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[79] Aquaculture Industry Development. Policy Position Paper . (Ministry of Environment, Marine Resources Branch, Victoria: 1984), p. 1.

[80] A survey of newspaper articles, journals and the official publication of the provincial legislature, Hansards between 1979-84, show a preponderance of positive articles and comments on the merits of salmon aquaculture development.

small, family owned operations, who had modest expectations from government, the introduction of salmon farming brought in a corporate element to aquaculture. The majority of salmon farms were owned by either Norwegian companies or large BC conglomerates such as BC Packers. These firms had abundant financial resources, experience in lobbying governments and a clearly defined belief, shared by all groups within the coalition, of maximizing BC's aquaculture potential.

In the early 1980s, the industry formed the Aquaculture Producers' Council of B.C. (APCBC), an industry-wide group representing shellfish and finfish farmers. The new salmon farming industry was the major player in this group. Along with coalition members within the provincial bureaucracy, they were able to influence the selection of a lead provincial agency for aquaculture industry development. Since the future of the industry was thought to be in supplying fresh seafood on a year round basis, the advocacy coalition wanted the lead agency to be closely connected to the food industry. They wanted the Ministry of Agriculture and Food to be named lead agency rather than the industry's traditional regulators, the Ministries of Lands, Parks and Housing and Environment.[81]

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[81] Personal interview with Manager of a salmon farm active during the early development period.

To further translate their belief system into policy, the advocacy coalition, through the APCBC, produced a series of reports which emphasized the potential of the industry as a food supplier, and thus an agricultural practice. The council produced a detailed report on the present status(1984), constraints and future prospects of aquaculture with respect to the generation of new employment and economic activity within the province. The report predicted the future growth potential of the industry, and identified five areas of constraint which included:

1) lack of assured, high quality seed supply for all stocks
2) poor access to capital to fund start-up and operating costs due to perceived risk by commercial lenders; this was aggravated by slow cash flow (3 to 5 years) after start-up;
3 restrictive bureaucracy and multi-agency involvement, lack of a positive federal-provincial government approach, and a poor problem solving attitude towards restrictive regulations;
4) lack of foreshore allocation to aquaculture and lack of control of this foreshore because of lease inconsistencies;
5) high cost of feed, high risk of disease, and no established market system.

The APCBC report identified four areas of needed government action:

1) support the industry with positive legislation, or an Aquaculture Act;
2) develop fair funding assistance for the industry as a whole, with regards to tax credits for investors, loan and insurance guarantees, and up to three year refundable interest loans;
3) provide educational extension services as required;
4) provide research, development and services in

accordance with industry's priorities.[82]

The APCBC presented the report to the Cabinet Committee on Economic Development. The committee responded by stating that the report was similar in goals to that of the province. They responded formally to the APCBC's report through the following statements which reflect the belief system of the advocacy coalition:

1) The growth potential described by the industry, (from $3 million in 1985 to 150 million, and 3,500 continuing jobs by 1995), was considered realistic, and probably conservative, given the number of new entrants in the industry, especially large corporations;
2) It was felt that aquaculture would offer the Province the opportunity to develop an environmentally clean resource-based industry in small coastal communities, with spin-off benefits for businesses and services from urban communities;
3) The Committee felt that development of the aquaculture sector would be, primarily, industry-driven, through the profit motive. But, since the infrastructure, both financial and institutional, was not yet available, and growth was very rapid, there was a need for government involvement to provide incentives and to develop services until the sector was to grow and become self-sufficient.[83]

The Cabinet Committee agreed with the coalition's desire to have the Ministry of Agriculture and Food named lead agency for aquaculture development. It also recommended the Government streamline regulations, provide financial incentives similar to those being offered to the

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[82] Aquaculture Producers Council of B.C. Report, (Vancouver: 1984), p. 1.

[83] Portions of the Cabinet Committee on Economic Development are cited in a Policy Position paper on Aquaculture Industry Development, Ministry of Agriculture, Fisheries and Food 1989, p. 1.

agricultural sector, provide education and extension services, conduct research into production and processing technologies, provide disease diagnostic and veterinary services, and marketing and quality control systems.

By the end of 1985, the Ministry of Agriculture and Food had been named lead agency, and was to act as an industry advocate. The maximization of the province's aquaculture potential was to be its prime goal. The Marine Resources Branch of the Ministry of Environment, which was responsible for the province's limited role in the commercial wild fishery, was moved to Agriculture and Food to create the Ministry of Agriculture, Fisheries and Food.(MAFF) This new ministry was to become the Government access point for the aquaculture industry.[84]

By the mid-1980s the influence of the salmon farming industry within the advocacy coalition led to the disbanding of the APCBC. Salmon farmers felt their interests would be better served through an organization solely dedicated to their specialty. As a result industry groups within the coalition became organized through the particular type of aquaculture they practiced.

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[84] Ibid. p. 1.

There are a number of aquaculture industry groups which have access and influence with the Ministry of Agriculture, Fisheries and Food (MAFF), including the British Columbia Oyster Growers Association and the British Columbia Shellfish Growers Association. The British Columbia Association of Salmon Farmers (BCASF) is by far the largest and most influential. Reflecting this reality, by the mid-1980's the pro-industry advocacy coalition was almost entirely focused on salmon farming industry development. Along with the dominant salmon farming interests within the industry members of the coalition, the state members within MAFF concurrently embraced a salmon farming focus in its policies.

As the agency responsible for aquaculture development, MAFF is the focus of industry development policies. The BCASF, along with some of the large aquaculture companies, enjoy a close relationship with all levels of MAFF. The BCASF's former executive director, Don Tillapaugh is a former employee of MAFF, and enjoys a close relationship with current MAFF employees. He is a frequent visitor to the MAFF offices in Victoria, and is often sounded out by MAFF employees on industry's responses to their aquaculture initiatives. The association has entered into joint publications with MAFF, and has with individual salmon farming corporations entered into jointly funded

projects with MAFF. Upon his resignation from the BCASF in 1995, Mr. Tillapaugh formed a consulting company and obtained a contract with MAFF.

Members of the BCASF have also been included on MAFF aquacultural advisory bodies, the most influential being the Minister's Aquaculture Industry Advisory Council (MAIAC). This council formed in 1986, has the following mandate:

> This group will able to provide an industry perspective on resolution of issues, government program priorities, inter-agency agreements, and provincial policies. Direct involvement of the industry is considered critical for the development of finfish aquaculture, and should ease its adjustment to changes in government regulation and support as it continues to evolve. The need to retain the MAIAC will be evaluated on an annual basis.[85]

From the above discussion on the activity of the pro-industry advocacy coalition it is clear that they have dominated the early policy development stages of the aquaculture policy community. This would appear to validate Sabatier's theory that one coalition usually dominates the policy community. However, by the mid-1980s an anti-development coalition began to challenge the primacy of the pro-development coalition.

The Anti-Industry Development Advocacy Coalition

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[85] Terms of Reference for the mandate of the Minister's Industry Aquaculture Advisory Council, (Ministry of Agriculture, Fisheries and Food:1986), p. 1.

In spite of the optimistic outlook for aquaculture development as portrayed by the pro-industry development coalition during this period, the rapid expansion of salmon farms alarmed and mobilized a variety of groups opposed to the industry into an anti-industry development advocacy coalition.

The geographical characteristics of the British Columbia coast which make it attractive for salmon farming, also make it desirable to other potential users of the coast, including recreational, commercial, and industrial users. Conflicts have arisen with the appearance of salmon farm facilities.

Salmon farms are floating structures which are usually located within 150 metres of the low tide mark. Net-pens are connected with walkways supported by floats. They have two nets, an outer net to deter predators such as fish and marine mammals, and an inner net which holds the fish. Food in the form of pellets are distributed in the net-pen at pre-determined intervals. Feed which is not consumed will usually pass through the net, and with fish feces, be deposited on the sea floor. The inner nets frequently become clogged with marine organisms such as mussels, and seaweed. In the late 1970's, operators dipped their nets in antifoulant compounds before installation. The compound tributyltin (TBT), a toxic substance, was used by a number of farms, but has since been banned by the Salmon

Farmers Association, and Federal government. The use of anti-foulants has been a source of concern by environmental and commercial fishing groups within the anti-industry development coalition. They fear the substance will accumulate on the sea-floor and be consumed by wild fish. Concern has been expressed by environmental groups and some segments of the scientific community over the use of growth hormones to produce faster growing fish.

The major complaint of environmentalists and the scientific community within the anti-development coalition is that the government was too quick to endorse an industry which was not based on sound scientific principles. They pointed to the lack of knowledge pertaining to the possibility of farmed salmon spreading disease to wild stocks, the consequences of escaped farmed salmon breeding with wild salmon, and the potential safety for human consumption of farmed salmon raised with growth hormones.

Members of the anti-development coalition were from many different segments of society, many of them having little in common other than the belief that the industry exerts a detrimental impact on the province. The coalition includes commercial fisheries interests including companies and unions who view salmon farming as a competitive fishery, residents and landowners of coastal areas who object to the appearance of sites

adjacent to their properties, and environmentalists who fear for the health, both human and wildlife, consequences of the industry and the potential for pollution of beaches. Most of the members of the coalition involved in opposing the industry had little influence with policy makers. Having virtually no high level contact to provincial decision makers, groups wrote letters to provincial ministries, MLAs, and newspapers. Fish and wildlife groups and outdoor recreational groups expressed their concerns over aquaculture practices, often in the form of articles in their own publications and in letters to the editor in newspapers. The lack of influence the coalition had led some of them to pursue acts of vandalism on aquaculture sites.

In spite of the anti-development coalition's ability to mobilize a credible opposition, they were unable to translate their beliefs into policies within the pro-development dominated provincial sphere of influence. However, by the mid 1980's they had achieved some success. It was not through a change in belief systems of the dominant pro-development coalition, but instead through the actions of another policy community. Members of the anti-development coalition channeled their resources away from the pro-development oriented provincial policy community and focused on influencing

the federal government through their ties with the commercial fishing policy community.

The provincial association of the Fisheries Council of Canada, which represents companies involved in the fishing and fish processing sector, and the union which represent the interests of fishermen and fish processing workers (United Fishermen and Allied Workers Union) had been opponents of an aquaculture industry in BC. Apart from wanting to eliminate any potential rival from entering the lucrative salmon market-place, commercial fishing interests were concerned over the potential health risks farmed salmon posed to wild stocks. Unlike other anti-aquaculture groups within the anti-development coalition, the fisheries sector interest groups were well organized, understood the political process and how to use it, had professional staffs, access to high level government decision makers, and were well funded.

The fisheries interest groups within the anti-development coalition were different from their salmon farming industry counterparts in the pro-development coalition, in that they had very little access to the provincial government. Instead their realm of activity was in the commercial fishing policy community which counted on the federal Department of Fisheries and Oceans (DFO) as the dominant state member. As was outlined in Chapter Three, jurisdiction for commercial

wild fisheries primarily rests with the federal government through provisions found in the Constitution, and administered by the Department of Fisheries and Oceans (DFO) via the federal Fisheries Act. Associations of fishermen have a long history of involvement with DFO. The interests of the fishing sector has long been a priority of Liberal and Conservative governments. The interests of this sector has frequently captured the public's sympathy, and federal governments have responded favorably to the lobbying efforts of fisheries groups.

Feeling their interests to be threatened by this upstart industry, the anti-development advocacy coalition, through the commercial fisheries sector, brought to bear its considerable influence with the federal government to limit the growth of the aquaculture industry. Acting on the concerns of the commercial fishery, as well as other concerns over the seemingly uncontrolled expansion of salmon farming along the BC coast, DFO wrote a letter to the provincial Ministry of Environment, Marine Resources Branch. The letter outlined the fact that in recent months (June-September 1986), the number of existing and proposed salmon farms had increased to the point where DFO's technical and biological staff were becoming concerned about maintaining the foreshore water quality

(an area of federal jurisdiction).[86] The Department of Fisheries and Oceans stated that serious consequences for both farmed and wild salmon might result if further development was to be permitted; and therefore, the official DFO position was that a moratorium should be imposed until it was satisfied that further development would not be detrimental to the resource as a whole.

The province was faced with the choice of ignoring DFO's recommendation and risking the federal government taking legal action on the grounds that continued industry expansion would contaminate wild stocks and water quality, or agreeing to the moratorium and calling for a task force or commission to investigate and make recommendations. On October 31, 1986 Premier Vander Zalm announced the province's willingness to accept the moratorium on the issuance for foreshore leases for fish farms, pending "a review of issues identified by commercial fishermen."[87] It would appear that the province considered appointing a commissioner preferable to taking its chances in the courts. Employees of the Ministry of Agriculture and Fisheries and Lands, Parks and Housing (members of the pro-industry development

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[86] Correspondence from DFO staff in Vancouver to the provincial Ministry of Environment Marine Resources Branch in Victoria, 1986, p. 1.

[87] Provincial Government press release, October 31, 1986, p. 1.

advocacy coalition), felt that the federal government was bowing to pressure from its dominant client group.[88]

On November 3, 1986 a Cabinet meeting recommended that a single commissioner be appointed to undertake a review of the finfish aquaculture industry. He/she was to report to the Minister of Forest and Lands. The commissioner chosen was Mr. David Gillespie, a lawyer from Kamloops. He was to focus on the impact of fish farming on the commercial wild fishery, potential environmental impacts, impact and involvement of local government and interest groups, and government approval and monitoring processes. The inquiry was to hold public meetings in Parksville, Campbell River, Sechelt and Prince Rupert, and to hold private meetings with government agencies involved in finfish aquaculture. Written submissions were also requested before November 30, 1986 and 300 were received, from Federal, Provincial, and Municipal agencies, interest groups and the general public.

On December 16, 1986, the report was released by the Minister of Agriculture and Fisheries. The report made 52 broad recommendations to the Government, covering government support for the industry, protection of the

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[88] This sentiment is present, although restrained, in Briefing Notes composed in October and November 1986. Also, personal interviews with individuals employed at the time with the Marine Resources Branch of MELP and with the Ministry of Land, Parks and Housings (the agency responsible at the time for granting leases and tenures) found that they felt the moratorium was not necessary and was a "public relations" exercise.

marine environment, native people's involvement, government approval systems, marketing and processing, resolving user and siting conflicts and the need for better information and extension services. Submissions were received in the form of letters, formal briefs, and oral presentations from government agencies, commercial fishermen, fish farmers, recreational boaters, native groups and oyster growers.

On January 9, 1987 a joint Cabinet submission from the Ministries of Forest and Lands, and Agriculture and Fisheries sought approval of an action plan for implementing the recommendations of the Gillespie Report.[89] The submission stated that the Report provided strong support for current government policies and programs to facilitate the growth of aquaculture. A major recommendation was to lift the moratorium and encourage orderly, responsible growth of this industry. It was stated that half the recommendations of the Gillespie Inquiry related to program initiatives were already well underway, and confirmed the need for action in the other areas. The report emphasized the need to ensure that government programs were more clearly defined and communicated to the public in a more systematic manner.

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[89] Joint Cabinet Submission from Ministry of Forest and Lands and Agriculture and Fisheries, (Victoria; January 1987), p. 3.

The Cabinet submission also dealt with Legislative, municipal, regional, and political implications. The submission declared that the public, provincial and local agencies were in favour of the lifting of the moratorium.

In response to the criticisms of the lack of regulatory control of the industry exercised by the provincial government, the lead agency responsible for aquaculture development, the Ministry of Agriculture and Fisheries, released the following statement:

> A large, completely new industry that is dependent on common property resources cannot exist in a vacuum of government involvement. Limited government intervention is needed to protect the public interest yet ensure that the economic benefits of the aquaculture industry accrue to British Columbia. The size and growth rate of aquaculture has threatened other interest groups. This significant new industry needs some regulation to ensure responsible growth and development at the same time provide a comfort factor for groups that feel threatened and would block further aquaculture development.[90]

This substantiates Sabatier's argument that when challenged a dominant advocacy coalition will sacrifice some of its secondary aspects of its belief system in order to protect the core of its beliefs. By agreeing to a modest level of government regulation, the industry was able to secure a lifting of the moratorium and proceed with industry development.

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[90] Press Release, Ministry of Agriculture, Fisheries and Food, February 12, 1987, p.1.

In spite of the acceptance of the Gillespie recommendations and the implementation of regulations to monitor health and environmental conditions on aquaculture sites, issue-oriented groups of environmentalists and home/land owners were upset over their belief that the industry still posed a health and environmental threat; and the province cared little about the location of sites. Individual employees from the Ministries of Agriculture and Fisheries, and Forest and Lands, argued that the industries' opponents had no interest in a stable aquaculture industry, and would only be satisfied with the abandonment of salmon farming in BC.[91]

Frustrated by their lack of success in lobbying the province, environmental and home owner groups began to complain to the newly created office of the Ombudsman. The mandate of the Ombudsman is to be an advocate of fairness in disputes between the public and the provincial government. In deciding to focus its attention on the complaints regarding the aquaculture industry the Ombudsman's office stated:

> This study is to be commenced on the initiative of the Ombudsman as a result of complaints received concerning aquaculture regulation in BC. The common thread running through the complaints received was a dissatisfaction with the manner in which aquaculture is regulated. Such concerns ranged from an apprehension concerning the apparent lack of legislation or regulations, to the manner and degree

[91] Confidential interview with employee of the Ministry of Agriculture, Fisheries and Food.

> in which public information is received and acted upon. Ten operating or proposed finfish net-pen facilities were identified specifically by complainants; for certain facilities, a number of complaints were received, and some of these were representative in nature, incorporating petitions of protest signed by local residents.[92]

In December, 1987 the Ombudsman's office released its report. The report covered the following issues:

* complaints
* aquaculture regulation
* a discussion of the issues
* conflict resolution
* environmental impact/health issues

Privately, officials from the two main aquaculture regulators, the Ministry of Agriculture and Food and Ministry of Lands, Parks and Housing were angry over what they felt was the legitimacy the Ombudsman's office gave to the anti-aquaculture groups.[93] Collectively, they requested the Attorney General's Office to investigate whether or not the Ombudsman had the jurisdiction to "actually question a policy".[94]

Officials from the Ministry of Agriculture and Fisheries complained that the word "aquaculture" could be exchanged for any other coastal activity, such as log booming, and not really change the thrust of the

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[92] Ombudsman's Report, (Victoria: 1987), p. 1.

[93] Confidential interview with employees of the Ministrys of Environment, Lands and Parks; and Agriculture, Fisheries and Food.

[94] Briefing Note from the Ministry of Lands, Parks and Housing dated December 1987, p. 1.

Ombudsman's report. They believed that an investigation which included the actions of other users of the coastal land base would have been more balanced. Moreover, they argued that there was no attempt to compare aquaculture issues with those of other coastal resource users in terms of complexity or severity of impact.[95]

Publicly, the Minister of Agriculture and Food, speaking for all the provincial ministries involved in the industry released the following comments to the Ombudsman:

> We viewed your report as an opportunity to positively enhance the many initiatives that were underway at the time of your writing. The concerns expressed in your report have been given serious and careful consideration and significant positive action has resulted. I would like to commend the positive support we received from you and your office in bringing this matter to a successful conclusion. I trust you may make mention of our collective achievements in this regard in your future reports.[96]

Chastised by the public airing of the perceived health and environmental threats inherent in the aquaculture industry brought out by the Gillespie and Ombudsman reports, the lead provincial aquaculture agency, the Ministry of Agriculture and Fisheries, began a long term research effort, often in conjunction with industry, to refute these public perceptions. This

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[95] Policy Position Paper from the Ministry of Land, Parks and Housing dated February 1987, p. 1.

[96] Press Release, Ministry of Agriculture and Food, January 1987, p. 1.

process, which is still ongoing in 1995, has produced numerous studies which investigate wild/farmed interactions, pollution dangers, and siting conflicts; and provide "proof" of the merits of the coalitions core industry development belief.

As we have seen, the anti-industry development advocacy coalition was able to successfully challenge the primacy of the pro-industry development coalition and effect policy change. However, they were not successful in replacing the pro-development coalition as the dominant player in the policy community. The provincial policy making bodies, the Ministry of Agriculture and Fisheries and Ministry of Lands and Parks, were hostile to the anti-industry development coalition attempt to influence policy through the federal Department of Fisheries and Oceans, and through the Gillespie and Ombudsman reports. The pro-development advocacy coalition was able to protect is core belief of industry development by agreeing to a modest level of government regulation.

The period after the lifting of the moratorium was characterized by continued development oriented policies. The strength of the coalition's influence can be seen in the creation of an Aquaculture Industry Development section of the Ministry of Agriculture, Fisheries and Food in 1988. The mandate of this section

is to foster industry development through scientific and marketing research.

This chapter has shown that the pro-industry development advocacy coalition dominated the policy community and was able to successfully repel a challenge by the anti-industry development advocacy coalition. Its members could be found throughout the provincial bureaucracy. The next chapter will evaluate the attempts by the anti-industry coalition to translate its beliefs into policies and programs during the 1990's.

CHAPTER 5

Policy Choice: The Role of Advocacy Coalitions Within the Aquaculture Policy Community: 1991-95

As was addressed in the previous chapter, the anti industry development coalition challenged the primacy of the pro-industry development coalition and was able to mount a serious threat to the core belief of the dominant coalition. In order to preserve its primacy, the pro-industry coalition softened its stand on the role of government regulation in order to protect its core belief of industry development. As was shown through documents obtained from the Ministry of Agriculture, Fisheries and Food and the Ministry of Environment, Lands and Parks, the coalition remained the dominant provincial coalition in spite of the success the anti-development coalition had through its influence with the commercial fishing policy community.

The anti-development coalition continued to express its discontent with the direction aquaculture policy was taking after the moratorium was lifted. They felt the status-quo had been restored and the provincial government, dominated by pro-industry supporters, could not be trusted to responsibly implement the recommendations of the Gillespie Report. Their concerns, expressed through media interviews and journal

publications, reflected their belief that salmon farms were continuing to be located in environmentally sensitive areas and that government regulation of operating practices could not be relied on. They pointed to the close relationship between industry representatives and provincial bureaucrats.

By the early 1990's the anti-development coalition began to achieve some success. As was the case in 1986, they were able to stop the granting of tenures for new sites and prevent expansion of existing farms. The goal of this chapter will be to examine the efforts of the anti-industry development coalition to displace the pro-industry coalition in the period from 1991 to 1995. The results will find that not only was the anti-industry coalition able to have a moratorium declared, but was also able to pose a much greater threat to the primacy of the dominant coalition.

As was done in the previous chapter the efforts of the anti-industry coalition to effect change through increasing their resources and "outlearning" their opponent was discounted as a possible explanation. There is no evidence to indicate that the anti-industry coalition was able to convince provincial officials to change their views on the merits of industry development.

However, as in 1987 change did occur, and the anti-development coalition mounted a serious challenge to the

pro-development coalition. Emphasis will be placed on the change in "governing coalitions" from the Social Credit Party to the New Democratic Party in 1991 as the prime causal factor underlying the shift in influence between the coalitions.

Working on the theory that substantive policy change is more likely to occur from an external source, such as changing governing coalitions (Sabatier, Heclo), this chapter will attempt to determine the impact of the change in government from Social Credit to New Democratic Party (NDP) in 1991. The following section (inter-governmental relations) will look at the manner in which each party dealt with the federal government and determine if their dealings with the federal government reflected strategies which favoured one advocacy coalition over the other. This will be followed by an analysis of provincial policy choices after the moratorium on industry expansion was lifted in 1987.

Inter-governmental Relations

Results were based on a comparison of the recommendations accepted by Social Credit and NDP Ministers from policy position papers and briefing notes. In this case the briefing notes and policy position papers were written by staff of the ministry of

Agriculture, Fisheries and Food and the Ministry of Environment, Lands and Parks between 1980 and 1995. The papers routinely offered the Minister a choice between a number of options ranging from the transfer of complete jurisdiction to the federal government to advocating a dominant provincial role. Due to the confidential nature of these documents the specific recommendations cannot be released, however, the subject matter of specific papers can, as well as the recommendation chosen. The purpose will be to determine if the pro-development advocacy coalition was able to achieve the goal of placing aquaculture regulatory responsibility within the scope of the provincial government. This would include giving the province the authority to license operations, grant tenures and oversee operating codes of practice.

Social Credit 1980-91

There were nineteen documents viewed. Fourteen can be classified as being concerned with potential problems. For example, if a company applies for a salmon farming license in a particular area what action should the province take? What action will the federal government take, and do they have the authority to do so? Are there any First Nations or coastal community concerns?

Five documents were concerned with specific cases. An example occurred in 1984 over the issue of which level of government had the jurisdiction to issue aquaculture shellfish licenses.[97] The province received numerous complaints from oyster lease holders about poaching. The federal government had contended to the province that it had jurisdiction over clams, and had therefore issued clam harvesting licenses to individuals who dug on provincial Crown foreshore, which easily could have been under tenure to other lawful users who had obtained provincial licenses. Provincial license holders threatened to sue the provincial government for granting them licenses on land in which the province did not have jurisdiction. Federal lease holders threatened to do the same to the federal government. In reviewing the options presented to him, the Minister choose an option which threatened to take legal action against the federal government unless an agreement granting the province the right to issue licenses was forthcoming. The matter was eventually resolved through a federal/provincial agreement which granted the province the right to issue licenses with the federal government being involved in a referral function.[98]

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[97] Policy Position Paper, (Ministry of Lands, Parks and Housing, Victoria:1984), p. 1.

[98] Federal-Provincial Memorandum of Understanding, Aquculture Licensing, 1986.

The review of documents showed that Social Credit governments adopted three strategies when dealing with the federal government over aquaculture jurisdiction. The first was to use, or threaten to use the courts to decide areas of dispute. As we have seen this led to a settlement in the shellfish harvesting dispute which gave the province the right to issue licenses. Jurisdiction over licensing salmon farms was taken to the Supreme Court of Canada at the province's insistence. The Supreme Court ruled in favour of the province deciding that B.C. was to have jurisdiction over the seabed between the mainland and Vancouver Island.[99]

The second strategy was to exert provincial influence in areas where there was at the time no industry activity. This led to the province granting future tenures to aquaculture sites on the west coast of the island and waiting to see if any court action would be forthcoming from the federal government. The third strategy was to negotiate with Ottawa to establish a Memorandum of Understanding (MOU) which would clarify roles and responsibilities. This was achieved in 1988 when an agreement was signed which gave the province the right to grant land tenures and license all shellfish

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[99] Bruce Wildsmith, Aquaculture: The Legal Framework, (Toronto: Edmond-Montgomery Ltd., 1988), pp. 101-3.

and salmon farms. The federal government retained responsibility for product inspection, fish health and research and development. They were also to have a referral function for provincially issued aquaculture Crown land tenures to ensure the protection of wild fish habitat, wild fish stocks and marine mammals.

In their dealings with the federal government, the Social Credit governments between the years 1980 and 1991 consistently pursued the pro-industry development advocacy coalition's goal of having industry development responsibility within the provincial sphere of influence. By obtaining the authority to grant tenures and license salmon farms, the province effectively controlled industry development.

New Democratic Party - 1991

There were thirty-six documents relating to the relationship between the province and the federal government between 1991 -95. Twenty-nine dealt with concerns by the province over the failure of the federal government to live up to its obligations as agreed to in the 1988 MOU. Fourteen documents cited the lack of research and development allocated to the problems faced by B.C. salmon farmers in contrast to levels allocated to the problems faced by salmon farmers in the Atlantic region, despite that region's diminished potential for

success due to poor geographical and climatic conditions (see Chapter 2). Eight were concerned with the impact of federal budget cuts on programs. Seven addressed the issues of introducing licenses for new species such as black cod, geoducts, sea urchins, sea cucumbers and kelp.

Like his Social Credit counterparts, the Minister was given a number of options relating to the position the province should take regarding aquaculture issues. Options ranged from legal action to force the federal government to comply with the terms of the MOU, to a complete withdrawal of the province from all aquaculture related regulation. In all three categories of documents the option chosen was to work cooperatively with the federal government to address the issues. The MAFF Minister David Zirnhelt met with the federal Department of Fisheries and Oceans Minister Brian Tobin in October 1994 and in January 1995 to discuss the provincial concern over the dearth of research and development aimed at issues of relevance to British Columbia. Minister Tobin announced a new federal Aquaculture development strategy which would increase funding for aquaculture related research and establish a national aquaculture research center to be located on the west coast. Minister Tobin also promised to include the province in membership of a newly created "roundtable" established to contemplate changes in the

mandate of the Department of Fisheries and Oceans. In the development of new species the province and federal government agreed to establish a committee to deal with the issue.

The survey of documents comparing both parties' relationship with the federal government shows no differences in support for the pro-industry development coalition. The only differences appear in the stridency of the approaches. Social Credit governments were more hostile to the federal government and more willing to take legal action to pursue their goals. The NDP took a more conciliatory approach and tended to place more emphasis on cooperation. This could be accounted for by the changed jurisdictional environment present during the NDP government. Social Credit negotiations with the federal government over aquaculture issues centered around framing the roles and responsibilities needed to regulate the industry, while the NDP relationship occurred after these issues had been settled through the 1988 MOU, and thus were centered around holding the federal government to its obligations as outlined in the agreement. In neither case did the belief system of the anti-industry coalition take precedence over the beliefs of the pro-industry coalition.

If the relationship between the province and federal government under both parties does not indicate any change in dominance from one advocacy coalition to

another, then another explanation needs to be explored. Next we will turn to the way in which each party regulated the aspects of the industry under provincial jurisdiction. The previous chapter looked at the role the Social Credit governments played in furthering the belief system of the pro-industry advocacy coalition between 1980 1991 and concluded, as Sabatier theorized, that significant change in the primacy of a dominant coalition will not occur in the absence of an external perturbation. In the case of aquaculture, change occurred, albeit temporarily, as a result of influence from the federally dominated commercial fishing policy community. The next section will attempt to determine if the NDP government policies strengthened the position of the anti-industry advocacy coalition over the pro-development coalition.

Provincial Policy - 1991-95

After being chastised by the Gillespie and Ombudsman's Reports, and the adoption of regulations concerning environmental and health issues that had been identified as areas of concern by the two reports, salmon farm development continued. Aquaculture tenures were granted and industry expansion, fueled by world conditions described in chapter two, continued. Tenures were granted through a referral system which had

potential salmon farmers sending in applications to the Ministry of Agriculture, Fisheries and Food (MAFF) who then conducted a bio-physical capability test on the proposed site, and if approved, sent the application to the Ministry of Environment, Lands and Parks (MELP- formally two ministries, Ministry of Environment and Ministry of Lands, Parks and Housing) who conducted an environmental assessment on the site. Between the years 1987 and 1991, the year the moratorium was lifted, tenures were routinely granted. The Federal government, through a Memorandum of Understanding signed in 1988, stayed out of the tenure process, focusing mainly on research and development. The anti-industry coalition continued to voice their opposition but were effectively shut out of the process.

The 1991 election did not foreshadow any significant future change. Both parties had expressed their support for salmon farming at various times in its development and did not make it a significant campaign issue. However, there were elements inherent within the philosophies of the parties which could lead one to surmise that they would diverge in the manner in which they choose to manage the industry. Prior to the 1991 election, B.C. politics had been routinely described as polarized. The center left New Democratic Party and its predecessor the Cooperative Commonwealth Federation (CCF) regularly obtained around 35 to 40 per cent of the

vote while the coalition of center and right-wing parties which coalesced within the Social Credit party regularly received just over 50 per cent and won every election between 1950 and 1991 with the exception of 1972 when the right coalition temporarily split.[100]

As was described in Chapter 1, the Social Credit response to the recession of the early 1980's was to embrace the policies of the "neo-conservative" movement. This led to drastic cuts in public sector employment and a reduction in government services. While reducing expenditures on the social side of spectrum, such as social services, education and health, Social Credit spent heavily on a strategy to encourage business investment.[101] They consistently favoured capital over labour. This included passing anti-union legislation which dramatically reduced the bargaining power of unions in the forestry and construction sectors. The justification was that a reduction in union bargaining power would result in a more favourable investment climate. American, Japanese and New Zealand corporations invested heavily in the mining and forestry sectors. Infrastructures were built with public money to encourage foreign investment. After signing agreements to sell B.C. coal to Japanese steel

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[100] Patricia Marchak, British Columbia, "New Right" Politics and a New Geography," Canadian Politics in the 1990's, ed. by Michael Wittington and Glen Williams, (Toronto:Nelson 1990), p. 50.

[101] Ibid. p. 51.

corporations, the Social Credit Government extended the railway three hundred kilometers to a newly constructed port in Prince Rupert and constructed a townsite at Tumbler Ridge.

As has been illustrated in research conducted on resource based industries, such as the forest sector, Social Credit governments emphasized exclusion over accommodation in its relationships to non-economic users of the natural environment. As we have seen in the aquaculture policy community, the pro-development advocacy coalition groups had been the dominant actor.[102] The anti-development coalition had to find other access points to place their views on the policy agenda, namely through the federal government and the Ombudsman.

During the election campaign of 1991, the NDP promised to re-examine the Social Credit policy of favouring the economic development of coastal areas over the interests of other legitimate users. The NDP had actively courted the support of those who were concerned with the exploitative nature of natural resource extraction as carried out in the forest sector, and actively supported by the Social Credit government. It was in keeping with this view, that the NDP expressed

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[102] Jeremy Wilson, Wilderness Politics in B.C. - The Business Dominated State and the Containment of Environmentalism, paper presented at the Conference on Organized Interests and Public Policy, May 15-16, 1989.

its concern with the manner in which the Social Credit Government had conducted its economic policies in coastal areas. Mechanisms such as the Commission on Resources and the Environment (CORE) were developed to provide input from all legitimate coastal area users, and to formulate strategies to foster a more integrated planning approach to coastal development that incorporated the concerns of a broad section of legitimate users.

When asked during an election campaign appearance in Nanaimo, NDP leader Michael Harcourt responded to concerns over the possible environmental dangers posed by the aquaculture industry by promising to re-evaluate provincial goals regarding aquaculture development. However, upon taking office, the new government, through statements made by the Minister of Agriculture, Fisheries and Food,(Bill Barlee), came out in support of the industry.

While a "business as usual" approach was being maintained at MAFF, other more significant changes were occurring at the Ministry of Environment, Lands and Parks. (MELP) Backed by a strong minister (M. Sihota), officials from MELP, having taken a peripheral role in comparison to MAFF in the policy process, began to exert their influence. Through its authority over the granting of tenures and environmental monitoring, MELP could and

did begin to investigate more thoroughly the merits of each applicant referred by MAFF.

Furthermore, the anti-aquaculture development coalition, long kept on the periphery of the provincial policy community, began to gain access to MELP officials. Groups of environmentalists such as "Save the Georgia Strait," BC Wildlife Federation, Steelhead Society of BC, and Sierra Club of BC, were listened to, and at MELP's insistence asked to join aquaculture advisory bodies such as the Ministers Aquaculture Industry Advisory Council (MAIAC). Other government initiatives such as CORE and aboriginal land negotiations were viewed as potential barriers to industry expansion.[103]

In effect, MELP and by extension the anti-development coalition, began to pose a serious threat to the primacy of the pro-development advocacy coalition. While MAFF maintained Lead Agency status for industry development, MELP began to reject industry expansion on the grounds that new sites were not compatible with new coastal planning objectives, or did not meet environmental standards. Thus the primacy enjoyed by economic users of coastal resources under Social Credit governments began to be challenged by NDP policies

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[103] Confidential interview with two members of the British Columbia Association of Salmon Farmers at the Canadian Aquaculture Association annual convention held in Nanaimo B.C., June 1995.

favouring a more inclusive role for non-economic users in the policy process.

By 1992, there was what amounted to an unofficial government moratorium on industry expansion as MELP refused to approve new sites or the expansion of exiting ones. The industry, backed by its supporters at MAFF, argued that the industry was facing serious threats from competitors located in Chile and New Zealand, and that unless expansion was allowed, the industry could not meet market demands. Sites closed due to environmental concerns or business failures were not being replaced. Salmon farm operations declined from a high of 125 sites in 1989, to a 1994 level of 100, and no new sites had been approved in over eighteen months.[104]

The Impact of Inclusionist Consultation Processes the Primacy of the Pro-Industry Advocacy Coalition

The stagnant state of the salmon farming industry in British Columbia posed a dilemma for the newly elected NDP government. While in opposition, and during the election campaign, they criticized Social Credit's environmental record, while praising the economic

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[104] Statistics obtained from the Ministry of Agriculture, Fisheries and Food.

benefits salmon farming brings to the province. They appeared to be sympathetic to both coalitions.

As was stated earlier, one of the initiatives of the NDP government was to implement a wider consultation process in making resource allocation decisions. A 1992 provincial government report on consultative processes concluded that the province had not kept pace with recent changes in the aquaculture sector and that policy would be compromised without effective consultation. The report endorsed an inclusive approach which allowed all sides to be heard. Three objectives of aquaculture consultation were identified:

* to improve public policy and decision making;
* to build public trust and support; and
* to educate public stakeholder groups and policy-makers.[105]

Acting on a campaign promise to re-address the salmon farming industry in the light of the newly found influence of the anti-industry development coalition and in view of the new inclusive consultative processes endorsed by the government, MAFF Minister Bill Barlee on March 22, 1993, announced a major review of salmon farming in British Columbia. The review was to be conducted by a newly constituted Minister's Aquaculture Industry Advisory Council. Unlike the previous

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[105] Consultation Practices Within the Seafood Sector: Options and Opportunities. Discussion Paper, Ministry of Agriculture, Fisheries and Food, 1992, p. 3.

membership, which was heavily weighted in favour of the pro-industry development coalition, the new group included members representing commercial fisheries groups, First Nations, recreational groups, and the Fisheries Council of BC.

The review was to make recommendations which were to provide the foundation for a provincial salmon farming policy that would be acceptable to both sides of the debate. The terms of reference for the review included:

A. Salmon Farming Industry: Current Status

> From both a local and global perspective, the review was to assess the status of the salmon farming industry and the prospects for growth over a five year period. To review tenure numbers, coastal areas dedicated to salmon growout operations, and anticipated applications for new operations, as well as issues that affect industry performance such as the culture of Atlantic salmon, and activities of other coastal users that negatively impact the salmon farming industry. To review the reports generated by the Gillespie Commission and the Ombudsman Office to confirm whether the recommendations have been implemented, their success, and whether additional measures are required.[106]

B. Identify Issues:

> To identify and assess critical biological, economic, social and administrative issues associated with salmon farming. Identify areas of potential impact, conflict and benefit.

C. Review Administration of the BC Salmon Farming Industry:

> To review and evaluate the regulation of the salmon

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[106] Minister's Aquaculture Industry Advisory Council, Terms of Reference, p. 1.

farming industry and associated administrative procedures including:

1. the adequacy of environmental standards;
2. effectiveness of enforcement and monitoring procedures;
3. policy compatibility between BCEnvironment and MAFF;
4. role of local governments;
5. role of tribal governments;
6. aquaculture licensing and allocation of tenures.

In June 1993, the Aquaculture Industry Advisory Council (MAIAC) released its recommendations on the salmon farming industry. The report came out in favour of industry development, as stated in the following quote;

> MAIAC considers that the responsible development of salmon farming should be encouraged in B.C. and recommends that the provincial government reaffirm its support of salmon farming. However, industry development must continue to be carried out in consultation with interest groups.
>
> Research efforts and regulatory processes must continue to address the environmental concerns and effects of salmon farming on other resources and industries. The aquatic environment is shared by many users and is home to a wide variety of aquatic life.[107]

The Attempt to Develop a Salmon Farming Policy

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[107] Minister's Aquaculture Industry Advisory Council Report, Recommendations, June 1993, p. 22.

Armed with an endorsement from the Minister's Aquaculture Industry Advisory Council, which was comprised of representatives from both coalitions, MAFF decided to initiate a salmon farming policy. An internal review conducted by MAFF stated:

> If the industry in British Columbia is to survive competition in world markets, from nations such as Norway, Chile and New Zealand, a new policy must be put into place to further provincial and ministry objectives in this sector.[108]

During 1994, officials from MAFF and MELP worked cooperatively to develop an Action Plan which would allow for the orderly development of the industry, as endorsed in the MAIAC report. MAFF took the lead in writing a draft and sending it to MELP for comments and revisions. After several meetings to work out details of the policy, and to strike a balance between the industry developmental focus of the original MAFF draft and the stringent environmental concerns of the MELP revisions, the two ministries' reached a consensus. It was agreed that the Action Plan would be quickly implemented and MELP would approve the applications of 10 new salmon farming sites, which had been tentatively approved two years before, but were delayed due to the "unofficial moratorium" initiated by MELP. Within the

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[108] Untitled Policy Position Paper, Ministry of Agriculture, Fisheries and Food, 1994, p. 1.

year a comprehensive policy with guidelines for future development would be completed and implemented.

The issue of greatest concern to the anti-development coalition was the risk of escaped Atlantic salmon breeding with native Pacific breeds and weakening the genetic pool. The issue divided provincial state structures, with MAFF taking the pro-development position that there was no evidence that escaped salmon posed a threat. Research conducted by the Department of Fisheries and Oceans and in New Zealand could not find any evidence. MELP took the position that any potential threat to wild stocks should be grounds for caution. The two ministries reached a compromise by adopting a timetable for industry to switch to the production of non-productive (sterile) Atlantic salmon by 1998. Other actions agreed to by MAFF and MELP included mandatory standards of operations, monitoring for escaped salmon, environmental standards and a research program. Essentially both ministries were representing the interests of the advocacy coalition they belonged to, and negotiated away some aspects of their belief systems. MAFF allowed more government regulation and in acquiescing to the granting of ten new sites. The question which arises out of this is whether the non-state members of the coalitions would accept the terms of the agreement? While representatives of each side in the MAIAC process agreed

in general terms to compromise, it remained to be seen if this consensus could be maintained once specific details of the Action Plan were revealed.

Fearing that their client groups would not accept the provisions of the Action Plan, MAFF and MELP formed an Assistant Deputy Minister's Committee to act as a vehicle to bring the two sides together in support of the limited industry expansion proposed in the Action Plan. This is similar to the concept of policy brokers as described by Paul Sabatier. Policy brokers "principal concern is to find some reasonable compromise which will reduce intense conflict."[109]

The draft policy was presented to a selected group of interests at a meeting in Nanaimo on February 13, 1995 by the Assistant Deputy Minister of MAFF, Mr. Stuart Culbertson, and the Assistant Deputy Minister Minister of MELP, Mr. Jim Walker. The meeting was comprised of equal representatives from the pro-development coalition (as selected by the Salmon Farming Association) and the anti-development coalition (selected by MELP and comprising of Environmental groups and commercial fisheries interests). In many ways this process was a test of the government's policy of inclusion through consultation. Groups from both sides

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[109] Paul Sabatier, "An advocacy coalition framework of policy change and the role of policy oriented learning therein," Policy Sciences, Paul Sabatier and Hank Jenkins-Smith ed, (Dordrecht, Kluwer:1988), p. 159.

representing a wide variety of groups were to be involved in discussion of a draft policy in a public setting.

In spite of the united approach between MAFF and MELP in developing a corporate policy designed to be a compromise between the polarized positions of the coalitions, and the fact that the MAIAC report was endorsed by both pro-development and anti-development groups, the participants at the meeting were unanimous in their rejection of the draft policy. The anti-development members accused the province of abandoning environmental safeguards in favour of industry development. They argued that until the full impacts of wild/farmed interactions of escaped salmon were understood and completely eliminated as a threat, no new tenures should be allowed. Some even argued for the immediate closing of all salmon farms.

Industry development representatives were no less vehement in their rejection of the policy. They felt that the unofficial moratorium on the new tenures had led to the loss of significant growth opportunities, lost investment and income. If they were to accept the costly switch to non-productive female Atlantics by 1998, they should be allowed to expand immediately and not be limited to only ten new sites. Despite the opposition, the provincial government began to implement the Action Plan.

The NDP's inclusionist policy has fundamentally altered the policy community and given the anti-industry development coalition a provincial access point in MELP. Unlike the Social Credit governments who based their electoral success on stressing the primacy of economic interests over all others, the NDP has constructed a volatile coalition of groups representing a wide segment of economic and non-economic users of the coastal environment. Thus policy and electoral success relies on finding suitable compromises to appease widely diverse groups. This approach has a dramatic impact on the state of the aquaculture policy community. Unlike the challenge in 1987, the pro-industry development coalition cannot expect the status-quo to be retained after the period of consultation is completed and policy changes announced. The anti-industry development coalition, with its power base secure at MELP, is better situated then in 1987 to oversee the implementation of the environmental elements of the Salmon Farming Action Plan.

The continued state of flux within the provincial policy community has led to changing levels of influence between the pro-industry advocacy coalition and the anti-industry advocacy coalition. During the Social Credit era, with its emphasis on the exploitation of natural resources, the belief system of the pro-development coalition took precedence. Since

aquaculture practices did not garner the same levels of hostility as the province's forestry policies, the Social Credit governments did not have to initiate any serious policies of inclusion for the aquaculture industry. Aquaculture industry development was never a major political issue, and thus Social Credit did not fear the loss of voter support over its policies. For the most part, groups opposed to the industry were mainly NDP supporters. Social Credit strategy, as with its policies in the forestry sector, stressed the economic benefits of industry expansion. The pro-development oriented Ministry of Agriculture, Fisheries and Food was the dominant provincial actor within the aquaculture policy community

With the election of the NDP in 1991, the relative influence of the advocacy coalitions within the policy community has changed and MELP has become a serious player. As a result, anti-aquaculture groups gained a key access point in the decision making process. They gained access to high level officials at MELP and have been invited to sit on advisory boards and attend meetings with high level government officials. Unlike previous Social Credit governments who could implement an exclusionist policy favouring industry development without alienating its traditional supporters, the NDP have attempted to strike a balance between its support for environmentally sound policies as advocated by the

anti-development coalition, and the economic growth potential proffered by the pro-development coalition.

Similar to the findings in the previous chapter, policy change in the post 1991 period was initiated from developments external to the aquaculture policy community. Whereas the 1987 policy change resulted from initiatives flowing out of the commercial fishing policy community, the post-1991 policy change originated with the newly elected NDP government's implementation of an inclusionist policy in the allocation of coastal resources. Initiatives such as CORE and the Environmental Assessment Act gave the anti-development coalition the grounds to challenge the previous policies of favouring economic over non-economic usage's of coastal resources. When faced with the challenge to its primacy, the pro-development coalition acted as it did in 1987. It agreed to the terms of the Salmon Farming Action Plan, which increased the level of government environmental regulation in return for the protection of its core belief of industry development.

CHAPTER 6

CONCLUSIONS

To conclude, the purpose of this thesis was to describe and interpret the development of a new policy field based on salmon farming aquaculture. To provide a context for assessing the development of the aquaculture policy community, a historical dimension was incorporated into the thesis. Chapter 2 described the scientific and economic processes that provided the basis for the industry to establish itself in British Columbia. Chapter 3 outlined the constitutional factors that guided the process by which roles and responsibilities were allocated between levels of government. Chapters 4 and 5 looked at the process by which provincial structures choose policies to regulate and encourage industry development. The primary method used to evaluate policy choice and policy change was to view the process as a struggle between two advocacy coalitions vying for the authority to shape policy. This approach takes the position that policies are not made in a vacuum by autonomous state actors. They are influenced by a wide variety of societal factors from within and outside of government. The use of advocacy coalitions provides us with a method of structuring these societal factors into groups that can be studied.

In this section, some thoughts regarding the future of the industry and the state response to it, will be presented along with a review of the findings found in the previous chapters.

Economics of the Industry

The scientific community has long been developing and refining techniques to better serve the interests of the salmon farmer. Public and private hatcheries can now produce large numbers of smolts at reasonable costs and veterinarians can produce vaccines and medical treatments to reduce losses. Science and technology along with the favourable natural characteristics of the B.C. coastline have given salmon farming the potential to be economically viable.

Continued development depends on factors other than the ability of science and technology to provide cost effective means of production. One important factor is marketing. At the beginning of the salmon farming industry, production was small, and most of the product was sold to the restaurant sector. The salmon farmer was mainly interested in husbandry issues. As the industry grew and production increased, so to did the risks. As the industry continues to produce greater volumes with more consistency, it will need to

anticipate and actively develop markets to capture a greater percentage of the frozen and fresh markets. The commercial wild fishery is still primarily based on the practice of "take what you can, when you can get it." In the off season, the commercial fishing industry tends to worry more about fisheries management policies than marketing. Also, it is difficult for the commercial fishery to develop successful marketing strategies when their stocks are inconsistent and seasonal. This provides an opportunity for the salmon farming industry to take advantage of the weaknesses of the commercial fisheries and development marketing strategies based on the ability to deliver on demand year round.

The U.S. export duties on Norwegian farmed salmon provides an opportunity for B.C. to compete in the American market. However, industry funded analysis in the United States has concluded that the price of farmed salmon will remain low due to increased competition from Chile and larger than expected global harvests of wild salmon.[110] Low prices can be expected to fuel the North American trend of corporate concentration, with marginal farms failing or being taken over by larger entities.[111] With greater concentration, marginal farms failing and improved husbandry techniques, it can be expected that

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[110] G. Gu, " State-Space Forecasting of US Farmed Fresh Salmon Wholesale Prices," Paper presented at the International Institute of Fisheries Economics and Trade, Taiwan, July 1994, p. 1.

[111] Ibid. p. 2.

costs will decline, allowing firms to be competitive at lower market prices.[112]

In B.C., MAFF and industry are beginning to work together on improving the marketing potential of B.C. farmed salmon. At the moment this consists of publishing brochures and attending international food conferences. However, there are plans to broaden the market. New products such as salmon fillets, microwavable dishes, marinated entrees and smoked products are being experimented with.

Political Viability

After establishing that salmon farming aquaculture in British Columbia was viable from a scientific and economic perspective, we then turned to the political factors required to turn these advantages into a successful industry.

The first issue that had to be settled was jurisdiction. In the early 1980's salmon farms proliferated at an astonishingly quick pace as sites sprang up all along the B.C. coast. Like many other policy fields, such as the communications industry, aquaculture was a field not envisaged by the framers of the British North America Act in 1867. What sets

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[112] Ibid. p. 14.

aquaculture apart from many other post-1867 policy fields, is that development occurred very quickly and in an era marked by an economic recession and public sector budget cutbacks and downsizing. The relationship between the province and the federal government was marked by two trends. The first being a desire of the province to be the dominant level of government; and secondly, to hold the federal government to its responsibilities in the sector. These two trends reflect a similar pattern in Canadian inter-governmental relations.[113] Provincial governments of all political parties have frequently engaged in "province building" to further the expansion of their authority and bureaucracies. Aquaculture, with its potential to increase revenues during a provincial recession was particularly attractive to the B.C. government. Much more so then to the federal government who had to walk a fine line between advocating aquaculture development and promoting the commercial wild fishery.

Documents show the province's desire to control the aquaculture regulatory process. A 1985 policy position paper states the province's position:

> The Province has the legislative jurisdiction to deal with the property aspects, both real and personal, of the aquaculture industry. Not only is the Province

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[113] Garth Stephenson, Unfilled Union: Canadian Federalism and National Unity, 3 ed. (Toronto:Gage, 1989), p. 2.

> able to control the rights to use lands essential to these operations, but provincial aquaculture licenses could be justified as a means of regulating local business and local land use, and raising revenue for provincial purposes.
>
> Federal concern in this area should be limited to the undesirable impact of the fishery resource. Federal regulation of aquaculture would be limited to those aspects which are necessarily incidental to the protection and conservation of native wild stocks.
>
> Provincial "fisheries jurisdiction" extends to all cultured resources, irrespective of whether they originate in marine or fresh water. The regulation of buying and processing of cultured fisheries resources falls under provincial jurisdiction [114]..

Besides the constitutional arguments used to justify provincial activity in the aquaculture sector, there were more basic concerns motivating provincial officials. Provincial politicians need votes to win elections and bureaucrats want to expand the budget and clientele of their agencies by excluding the federal government from a disputed policy field. Industries often take sides in disputes. The aquaculture industry in British Columbia believed that the province would be more accommodating to the industry than the federal government, primarily because of the influence of the rival commercial fishing sector within the federal Department of Fisheries and Oceans.[115] In other regions and policy fields the

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[114] Untitled Policy Position Paper dated 1985, from the library of the Ministry of Agriculture, Fisheries and Food.

[115] Personal interview with individual employed by the salmon farming division of B.C. Packers.

private sector has allied themselves with provincial governments to protect their interests against policy choices made by the federal government. For example, in the 1970's, Alberta's demands for higher oil prices and natural gas exports reflected both the interests of the industry and the province. The federal government viewed the artificial price structures as more beneficial for the country as a whole and the limiting of exports of natural gas as protection against future shortages. The federal system provides regionally based industries a power base within provincial governments. With the signing of the Aquaculture Memorandum of Understanding in 1988, the province and the industry achieved their goal of having responsibility for allocating licenses and tenures within the provincial sphere of jurisdiction.

The period beginning with the introduction of salmon farming in the late 1970's and ending with the signing of the MOU in 1988 was dominated by industry development issues. The conflict between the province and federal government can be viewed as a constitutional dispute over which level of government had the authority to regulate the industry. Both sides accepted industry development as a positive force for the provincial economy. The post 1988 relationship also revolved around industry development issues as the province continued to press the federal government to increase its research and

development input on areas of interest to B.C.'s aquaculture industry.

After discussing the manner in which roles and responsibilities were allocated among state structures, the thesis went on to look at the causal factors underlying the process of policy choice and policy change within the provincial sphere of influence. The method of analysis used was to evaluate the actions of advocacy coalitions vying for dominance within the aquaculture policy community.

The aquaculture policy community is comprised of two advocacy coalitions. The pro-industry development advocacy coalition consists of industry representatives, provincial bureaucrats, government and opposition legislators, some academics, biologists, journalists, and coastal area political and business leaders. They share a belief system that emphasized economic development, questioned the seriousness of health and environmental impacts of salmon farming, believed the state had an obligation to provide economic incentives, and argued that self-regulation was preferred over state intervention in operating practices. The anti-industry development advocacy coalition consists of environmentalists, foreshore landowners, commercial fishermen, and bureaucrats within the federal Department of Fisheries and Oceans (DFO). They believe that potential health and safety issues were more important

than industry development, that industry posed a serious threat to wild stocks and human health, and that regulation be preferred over self-regulation.

The goal of an advocacy coalition is to translate its beliefs into substantive policy. Chapters 4 and 5 tested Paul Sabatier's theory that a policy community will be dominated by the belief system of one advocacy coalition. If policy change occurs, it will be the result of an external source, such as change from another policy community or a change in governing coalitions, rather than from attempts of a rival coalition to displace the dominant coalition through marshalling political resources, recruiting new members or outlearning their opponents.

Results based on findings obtained through document searches and personal interviews covering the period from 1980 to 1995 confirms Sabatier's theory. In the period from 1980-91, the pro-development coalition's beliefs dominated the policy process. It was instrumental in having the Marine Resources Branch of the Ministry of Environment, Land and Parks moved to the Ministry of Agriculture and Food. Policies focused on ways to encourage industry expansion, providing economic incentives and allowing a significant amount of self-regulation in operating procedures. This policy direction was endorsed by provincial bureaucrats, the salmon farming industry, some biologists, academics,

provincial politicians, and some media representatives. When policy change did occur it came as a result of pressure from the federal Department of Fisheries and Oceans, acting on behalf of its major client group, the commercial fishing sector. To preserve its core belief of industry development, the pro-development coalition accepted the terms of the Gillespie Report. The report endorsed industry development and called for more government regulation.

A similar pattern emerged in 1991, when once again policy change occurred as a result of a moratorium placed on industry development. The difference in this case is that the initiative to call a moratorium came from within provincial state structures. The adoption of an inclusionist philosophy as illustrated in initiatives such as CORE, meant that economic users of coastal resources did not necessarily take precedence over non-economic users in the allocation process. To preserve its core belief of industry development, the pro-development coalition accepted tighter regulatory control in the selection of new sites and in salmon farm operating practices. In return a number of new sites were approved.

The salmon farming industry in British Columbia will probably continue to struggle. Opposition from environmental groups within the anti-industry development coalition will decrease its competitiveness. New and

changing regulations regarding issues such as waste discharge, marine mammal protection, disease control, feed additives, migrating birds, and a more rigorous licensing and tenure approval process have raised costs and eroded the competitiveness of salmon farm operations.

Although the anti-industry advocacy coalition has been successful in challenging the industry development consensus and forcing industry to adopt stricter environmental controls, it seems unlikely that the industry will disappear in British Columbia. None of the established provincial political parties would benefit from its demise. The party that could be expected to garner the majority of support from the anti-development coalition, the NDP, also relies heavily on support from the United Fishermen and Allied Workers Union. Furthermore, the commercial fishing and processing sectors are heavily unionized while the aquaculture industry relies on a non-union workforce.

There are indications that conditions external to the aquaculture policy community could have an effect on the future composition of the advocacy coalitions. The uncertain state of the commercial fishery in Canada and abroad will have significant implications for the future of aquaculture. Overfishing and loss of spawning habitats have led to dire predictions for the future of the wild salmon fishery. The release of hatchery raised smolts has in the past been viewed as the solution to

declining stocks. However, there is growing evidence that enhancement of wild stocks are contributing to their demise. This view is stated in the following comments:

> Large scale hatchery programs for salmonids in the Pacific Northwest have largely failed to provide the anticipated benefits; rather than benefiting the salmon populations, these programs may pose the greatest single threat to the long-term maintenance of salmonids. I argue that hatchery programs that attempt to add additional fish to existing healthy wild stocks are ill advised and highly dangerous.[116]

The danger posed by hatchery released salmon is that they upset the biodiversity of wild stocks. For example, there are five native Pacific breeds found in B.C. waters, sockeye, chum, pink, chinook and coho. Scientists have no way of determining the populations of each of these breeds. Typically hatcheries release huge quantities of sockeye, coho and chinook, without knowing the relative size of the native populations. There is the danger that an oversupply of one or two species will overwhelm the others in the competition for food and spawning grounds. There is also a concern that hatchery salmon are not as hardy as wild fish and may weaken the genetic pool when they breed with wild stocks.

The impact for the aquaculture policy community comes from the federal government's response to the potential crisis in the commercial fishery. Recently, the federal

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[116] R. Hilborn, "Hatcheries and the Future of Salmon in the Northwest," Fisheries, 1992, pp. 5-8.

government announced a major reduction in the size of the Pacific salmon fleet and expressed a desire to use aquaculture as a means of employing displaced commercial fishermen. Increased federal presence in aquaculture would help industry development, and a weakened commercial fishery would probably lose influence with DFO.

The debate over the merits of aquaculture industry development in British Columbia reflects a wider ongoing debate over the appropriateness of placing economic objectives over social ones. In recent years advocacy coalitions have gained strength as they questioned the social costs of doing business in fields based on resource exploitation. In numerous fields they have forced a change in traditional patterns of state-industry interaction. It remains to be seen if the economic and social forces active in the aquaculture policy community can come to an accommodation which allows for the development of an environmentally sound salmon farming industry.

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