Part B. Background

2.0 SEAFOOD INDUSTRY PROFILE

This section presents an overview of the seafood sector, its major elements, regulatory framework, revenue trends, and employment base. More detailed analysis follows in the remaining sections and appendices of the report.

2.1 The Seafood Business

To be viable and adapt to a changing business environment, an industry must know what business it is in and who its real competitors are.

2.1.1 Nature of the Business

The seafood business produces food for consumption by end consumers: retail, food service (restaurant), and institutional. The demands and tastes of these end consumers drive the entire industry. The seafood industry competes with other protein producers, including red and white meat and poultry, on a local, national, and international level. In short, the industry must emphasize the food component of the term seafood and must think globally.

The BC seafood industry must position itself as a global food business.

That seafood is a food business must permeate the thinking and conduct of industry. Food businesses market rather than sell their products; sellers merely fill orders. Marketers identify and stimulate consumer needs, develop products to meet these needs, and establish efficient systems for delivery.

Food businesses have long-term strategic plans, a vision, and strong leadership. They cooperate on high-level policy issues through cohesive industry associations that present a unified voice to consumers, governments, and others. As well, they constantly strive for production efficiencies through investments in new technology and human resources. These characteristics and attitudes frame the competition facing the BC seafood industry.

2.1.2 Industry Elements

Production, processing, and distribution are the three phases common to the food business.

The BC seafood industry produces, processes, and markets fish and shellfish into intermediate or finished food products for consumers. The industry involves several linkages or phases of activity between the natural resource in its marine environment and the final products available to consumers:

- *Production* – Fish and shellfish are harvested using a variety of nets, hooks and lines, traps, diving techniques, or other gear. In addition, they are cultured from birth through rearing and feeding to market size.
- *Processing* – Raw fish and shellfish reach commercial processors via delivery by sea to processing plants, custom unloading at transhipment points, and trucking. Processors transform the raw material into a variety of live, fresh whole, frozen whole, fillet, steak, smoked, canned, roe, and other products.
- *Distribution* – Final processed products are delivered to consumers through wholesale and retail food channels.

These three industry elements also exist for the food business in general.

2.2 Fish Harvesting

There are about 3,000 commercial fishing vessels in BC that hold a total of 7,468 limited entry fishing licences.

2.2.1 Regulatory Environment

The federal Department of Fisheries and Oceans (DFO) is constitutionally responsible for the management of both coastal and inland fisheries. In non-tidal areas, the Province of British Columbia, as the owner of the land, has jurisdiction over property and civil rights in fisheries. Some aspects of the management of non-tidal fisheries have been delegated to the Province by the federal government under several Memoranda of Understanding (see Exhibit 2).

In contrast, in tidal waters, the absolute right to issue, suspend, cancel, and refuse issuance or re-issuance of fishing licences is at the sole discretion of the Canadian Minister of Fisheries and Oceans. DFO also sets annual catch limits or quotas and regulates the fisheries.

DFO, the Canadian Coast Guard, and Transport Canada are all involved in fisheries regulation.

Almost all fisheries have limited numbers of licences and participants. Some fisheries operate under an individual quota (IQ) management system. For the majority, licences are attached to a specific vessel and specify the vessel's overall allowable length (OAL). Licences for competitive fisheries such as salmon permit access to the resource but do not guarantee a specific catch amount. Licences for IQ fisheries such as halibut allow specific catch levels. Almost all licences may be transferred. DFO Pacific Region has a policy against licensing large combination harvester-processor vessels such as groundfish freezer-trawlers.

Commercial fishermen on licensed fishing vessels must possess a valid Fisher Registration Card (FRC) issued by DFO. The Canadian Coast Guard (CCG) regulates safety equipment aboard fishing vessels. Transport Canada regulates the safety of vessels and, more recently, the certification of skippers to operate vessels.

2.2.2 Industry Structure

Most BC fish and shellfish products are sold in world markets where they comprise only a small share of global supply and must compete with products from other countries' fisheries, aquaculture products, and a wide variety of other protein sources such as poultry, red meat, and soy protein. Since pricing is determined in these world markets, the revenues for BC seafood products in any given year may not reflect actual production costs.

BC harvesters are essentially price takers in world markets.

As a result, provincial processors have little control over the prices of most of their products. What consumers are willing to pay determines the prices distributors receive. These, in turn, determine the prices for processors and hence harvesters. Thus, fishermen receive "netback prices" determined by the expected prices of final consumer products less the costs of intermediate distribution and processing. In this way, fishermen bear much of the impacts resulting from changes in retail seafood prices.

In recent years, however, the increasing consolidation and purchasing power of large big-box retailers such as Costco has resulted in price reductions at the wholesale level. These price reductions have not necessarily been passed on to retail consumers.

Exhibit 2: Federal-Provincial Memoranda of Understanding on Fisheries Issues

A: Devolution of Responsibility 1937

Agreement giving the Province authority to administer federal regulations for the conservation of fish in non-tidal waters. (Order in Council, P.C. 2532, October 12, 1937)

B: Other Fisheries Issues 1979-2002

1. General Fisheries Agreement (1985) and Subsidiary Agreements:

- Fisheries Programs (1986)
- Fish Habitat Management Activities (1986)
- Fishery Resource Management Activities (1986)
- Fishery Resource Enforcement Activities (1986)

2. Aquaculture

- Aquaculture Development (1988)
- Fish Transplant Committee (1992)

3. Enforcement/Habitat Protection

- Coordination of Fishery Resource Enforcement Activities (1987)

4. Data Collection

- Data Collection on Aquaculture (1988)
- Fish Disease Database (1995)

5. Other

- Emergency Measures (1982)
- SEP Steelhead & Cutthroat Trout Contract (1984)
- Section 33 of the Fisheries Act (1985)
- Canadian Observers on Japanese Driftnet Squid Boats (1989)
- Licensing of Inland Commercial Salmon Fisheries (1990)
- Coordination of Fish Inspection Programs (1991)
- Skeena Watershed Committee (1992)
- Coquitlam River Flow Management (1993)
- Fisheries and Seafood Diversification (1995)
- Steelhead Habitat Capability Project (1996)
- Bilateral Review of Pacific Salmon Fishery Roles & Responsibilities (1996)

The industry is resource constrained and generally has no control over the annual supply of raw material. The size and timing of catches are biologically determined. Some species, such as salmon, are only available for harvest for a short duration which affects harvesting, handling, processing practices, and the product mix.

In general, the BC capture fishery lacks vertical integration.

By world standards for fish processing and food manufacturing, most BC fish processing companies are small. BC's capture fishery generally lacks the vertical integration –the integration of harvesting, processing, and distribution functions – that characterizes other BC resource industries such as forestry and mining. There are exceptions though, such as the ownership of salmon fishing vessels by processors.

Not all transactions involve each subsector. Some fishers may sell directly to the final consumer, or the processor may sell directly to the retailer. In other cases, the wholesaler or retailer may further process the product, for example, by steaking headed and gutted whole fish. There are about 3,000 commercial fishing vessels in BC.

2.2.3 Major Fishery Species

The following are the major species groups in the BC capture fishery:

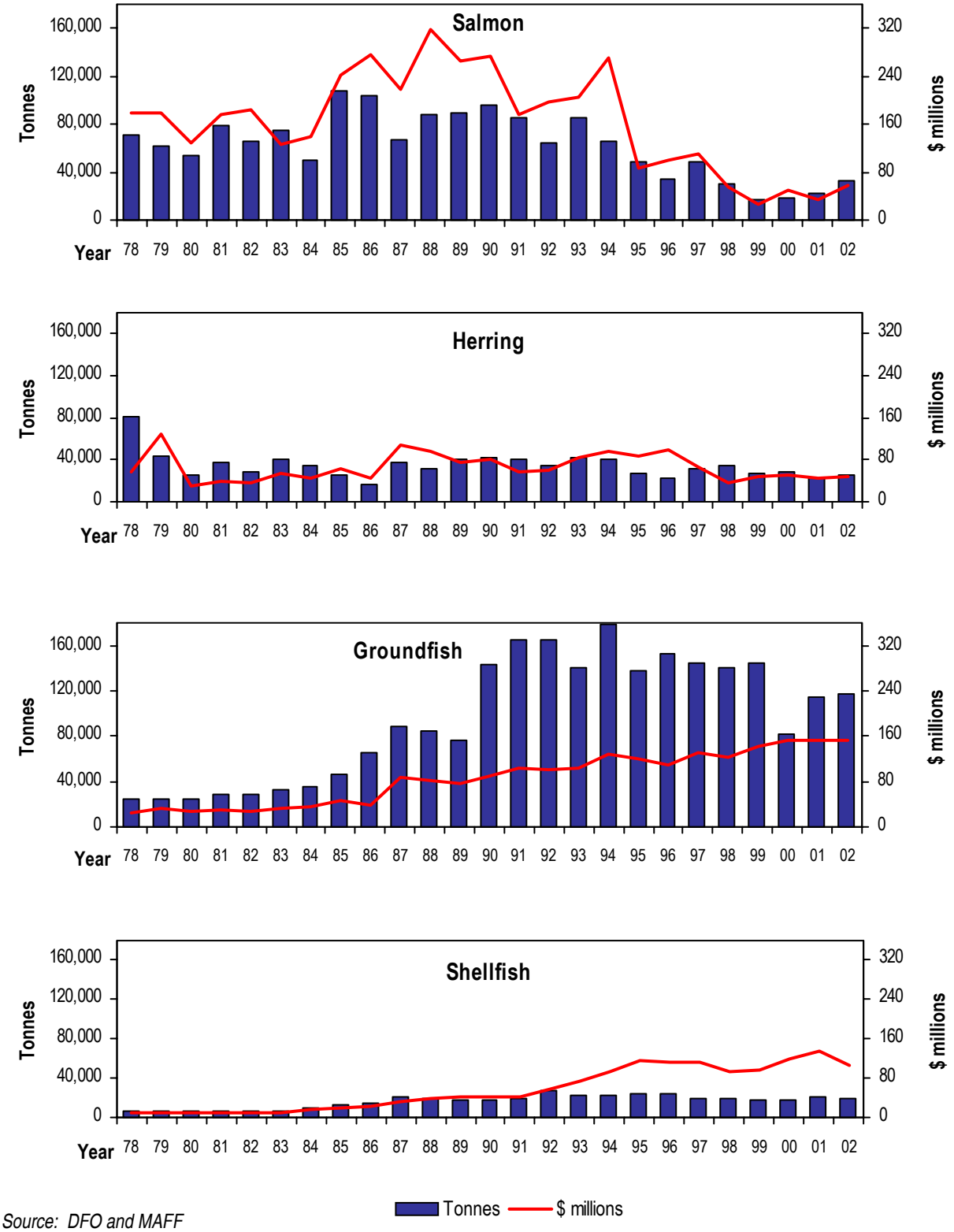
- *Salmon* – Six species of salmon (chinook, coho, sockeye, chum, pink, steelhead) spawn in BC rivers. There are directed commercial, recreational, and First Nations fisheries for the first five species, while steelhead is primarily a non-retention, recreational fishery.
- *Herring and other Pelagics* – Pelagic fish is a general term for species of fish that inhabit the water column, in contrast to groundfish which are found at or near the bottom. Aside from herring, the dominant species in BC, pelagic fish include eulachon, sardine (pilchard), tuna, and several smelt species.
- *Groundfish* **–** Groundfish is the general term for fish living at or near the seabed. Commercial groundfish species in BC include flatfish (flounder, sole, halibut), rockfish, Pacific cod, sablefish, lingcod, Pollock, and hake. Groundfish are caught by trawl, hook and line, and trap fishing gear. The groundfish trawl fleet lands over 77 species.
- *Shellfish and Invertebrates* – This group comprises a variety of species: geoducks, abalone, shrimp, prawns, Dungeness crabs, red and green urchins, euphausids/krill, sea cucumbers, and scallops. It also includes several intertidal clam species: littleneck, butter, manila, razor, and varnish.

2.2.4 Landings and Landed Value

Trends in landed volume, landed value, and wholesale value for the species groups defined above are shown in Appendix A and Exhibit 3.

	Landed Value ($ millions)				
	Salmon	**Herring**	**Groundfish**	**Shellfish**	**Total**
1982	183	36	28	9	256
1986	276	46	39	21	382
1990	273	82	90	42	487
1994	260	95	129	93	577
1998	54	37	127	94	312
2002	57	47	153	107	364

Exhibit 3: BC Fish Harvesting Landings and Landed Value by Species Group



Source: DFO and MAFF

Landed values of salmon and herring have fallen significantly over the past decade.

BC's wild salmon fishery has collapsed from an average annual 75,000 tonnes in the early 1990s to less than 50,000 tonnes since 1995. In 1999, the salmon catch reached a historic low of 17,000 tonnes. These catch declines reflect changes in both biological conditions and fisheries management. In the mid-1990s, a regime shift in the ocean environment led to lower ocean productivity, lower rates of ocean survival, and fewer salmon returns.

In response, fisheries management from the late 1990s started to focus increasingly on conservation and selective fishing (the "precautionary approach"), resulting in substantial declines in salmon fishing opportunities. At the same time, salmon prices have collapsed due to increased world supply of wild and farmed salmon. With the combination of catch and price declines, the revenue base of the wild salmon fishery is only 20% of what it was in the early 1990s.

The above catch figures from DFO exclude catch from three types of commercial aboriginal fisheries: Pilot Sales Agreements under the Aboriginal Fisheries Strategy, Excess to Salmon Spawning Requirements (ESSR) surpluses, and Nisga'a Treaty entitlements. The total catches in these fisheries averaged about 0.5 million sockeye (16% of the regular commercial catch) and about 0.5 million other salmon (8% of the regular commercial catch) annually over the 2000 to 2002 period.

	Average Catch 2000-2002 ('000s fish)				
	Sockeye	**Coho**	**Pink**	**Chum**	**Chinook**
Aboriginal Commercial					
Pilot Sales	137	1	37	19	5
ESSR	292	125	27	235	42
Nisga'a	77	6	28	0	1
	506	132	92	254	48
Regular Commercial	3,129	45	5,289	1,388	133

Source: Michelle James, "Native Participation in BC Commercial Fisheries - 2003 ", 2003

Herring catches and prices, too, have declined. Recently, annual catch volumes have been fluctuating in the 25,000 to 35,000 tonne range. Prices have declined as a result of demographic shifts and changing consumer tastes in Japan, as well as the weakening of the Japanese economy and the yen currency. Consequently, the landed value to fishermen is only one-half the level of ten years ago.

With rapid growth, groundfish and shellfish revenues now have the majority share of fishery value.

In contrast, groundfish and shellfish landed value are up significantly and have become much more important to the capture fishery. During the 1990s, groundfish revenues grew with the expansion of the hake fishery and the adoption of individual vessel quota (IVQ) management systems for groundfish trawl, halibut, and sablefish. These systems resulted in better quality fish to market. Today, salmon and herring account for only 25% of the BC capture fishery's landed value, compared to more than 75% fifteen years ago.

2.2.5 Employment and Wages

Fleet rationalization has cut fishing jobs in half from ten years ago.

Today, there are 8,375 commercial fishermen in BC with Fisher Registration Cards, less than half the number of a decade ago. This job loss reflects the salmon licence buyback programs of the late 1990s and other fleet rationalization measures. For example, stacking has allowed vessels to purchase another licence to fish additional areas or to lease additional quota.

Most fish harvesting jobs are seasonal, such that the 8,375 fishing jobs translate into only 3,410 person-years (PYs) of employment. In other words, each fishing job equals 0.4 PY of employment on average (see Exhibit 4). Crew wages, including a wage to the skipper, are estimated at $115 million for 2002, or $33,700 per PY.

2.2.6 Regional and Aboriginal Participation

Aboriginal people account for 25% of total fishing employment.

Over 60% of commercial fishermen live in the regions of Greater Vancouver, Mid-Vancouver Island (Parksville, Qualicum, Comox-Courtenay, Campbell River, Quadra Island), and the North Coast. The aboriginal share of fishing employment is 25% overall, but is higher in the salmon and herring fisheries.

2.3 Aquaculture Sector

The aquaculture industry, for the purposes of this study, comprises the hatchery and farming phases of cultured finfish and shellfish production (processing and marketing functions fall under the seafood processing sector). In 2002, there were 576 licensed marine aquaculture farms (121 finfish and 455 shellfish) mostly on Crown land tenures covering 3,918 hectares (1,191 finfish and 2,727 shellfish).

2.3.1 Regulatory Environment

An aquaculture licence must be obtained from the BC Ministry of Agriculture, Food and Fisheries (MAFF) to operate an aquaculture facility in the province. Most BC shellfish and finfish farms are located on provincial aquatic Crown land requiring a tenure (investigative permit, licence of occupation, or lease) from Land and Water BC. Farming operations that also process product must obtain a processing licence from MAFF and must be federally registered with CFIA. The BC Ministry of Water, Land and Air Protection issues waste discharge permits. Additional details on aquaculture regulation are given in Section 6, BC Aquaculture Industry.

In the mid-1990s, the provincial government imposed a moratorium on new salmon aquaculture sites, which was subsequently lifted in September 2002.

Aquaculture or farming is regulated by DFO and the BC Ministry of Agriculture, Food and Fisheries.

DFO is the lead federal agency and oversees the protection of fish and fish habitats. The Department reviews aquaculture applications to ensure the protection of wild fisheries and the marine environment, as well as safe marine navigation. For new aquaculture species, it authorizes access to wild broodstock and seed. The Canadian Food Inspection Agency (CFIA) inspects and approves processing facilities for all farmed shellfish and salmon. Environment Canada oversees water quality monitoring of shellfish growing sites.

Exhibit 4: Estimated Employment and Wages in BC Fish Harvesting 2002

No. of Limited Entry Licences		7,468
No. of Active Vessels		3,000
Employment Measures		
Jobs		8,375
Employment (PYs)		
Skippers		1,440
Deckhands		1,970
	Total	3,410
Jobs by Region		
Queen Charlotte Islands		115
North Coast		1,025
Central Coast		195
North Vancouver Island		550
Mid Vancouver Island		1680
South Vancouver Island		930
West Coast Vancouver Island		380
Victoria & Area		545
Sunshine Coast		545
Vancouver & Other		2,410
	Total	8,375
Employment by Species Group (PYs)		
Salmon		950
Herring		300
Groundfish		830
Shellfish		1,330
	Total	3,410
Aboriginal Share of Employment		25%
Wages and Benefits		
Crew Wages (including skipper)		$115 million
Wages and Benefits per PY		$33,700

Notes:
1. *Jobs equals the number of Fisher Registration Cards (FRCs).*
2. *PYs is person-years.*
3. *PY = no. of active vessels x average crew size x weeks fished / 30, i.e., 30 person-weeks fishing assumed to equal one PY.*
4. *Aboriginal share of employment is approximate and varies by fishery, i.e., aboriginal share is higher than 25% for salmon and herring fisheries and is lower than 25% for other fisheries.*

Source: GSGislason & Associates Ltd. estimates (see Exhibit A.1, Appendix A).

2.3.2 Industry Structure

While aquaculturists also face world prices, they can control their supply.

Unlike the capture fishery aquaculture, as a form of animal husbandry is not constrained by limited fish resources. However, it is subject to the availability of growing sites and, in some cases, markets. The aquaculture production cycle is closed, with farmed fish and shellfish being reared from the egg stage to a product ready for market. Further, the industry can expand production to the limit of market demand, given sufficient access to suitable marine environments. Thus, aquaculturists have significant control over the timing and quality of products sent to market.

Aquaculture is more vertically integrated than the capture fishery.

Vertical integration is more common in aquaculture, especially salmon farming, than in the capture fishery although there are also numerous small growers of oysters and clams. Most salmon farming companies have their fish custom-processed, or operate their own processing plants. This means that salmon growers usually retain ownership of their products until they are sold.

Five salmon farming companies – Heritage Salmon, Mainstream (formerly PNA), Marine Harvest, Omega, and Stolt Seafarms – comprise over 80% of BC farmed salmon production. Heritage is a Canadian company, while the others are large European multinationals. All five farm salmon in other parts of the world such as Norway, Chile, the United Kingdom, New Brunswick, and the US (Maine).

2.3.3 Production and Farm Gate Values

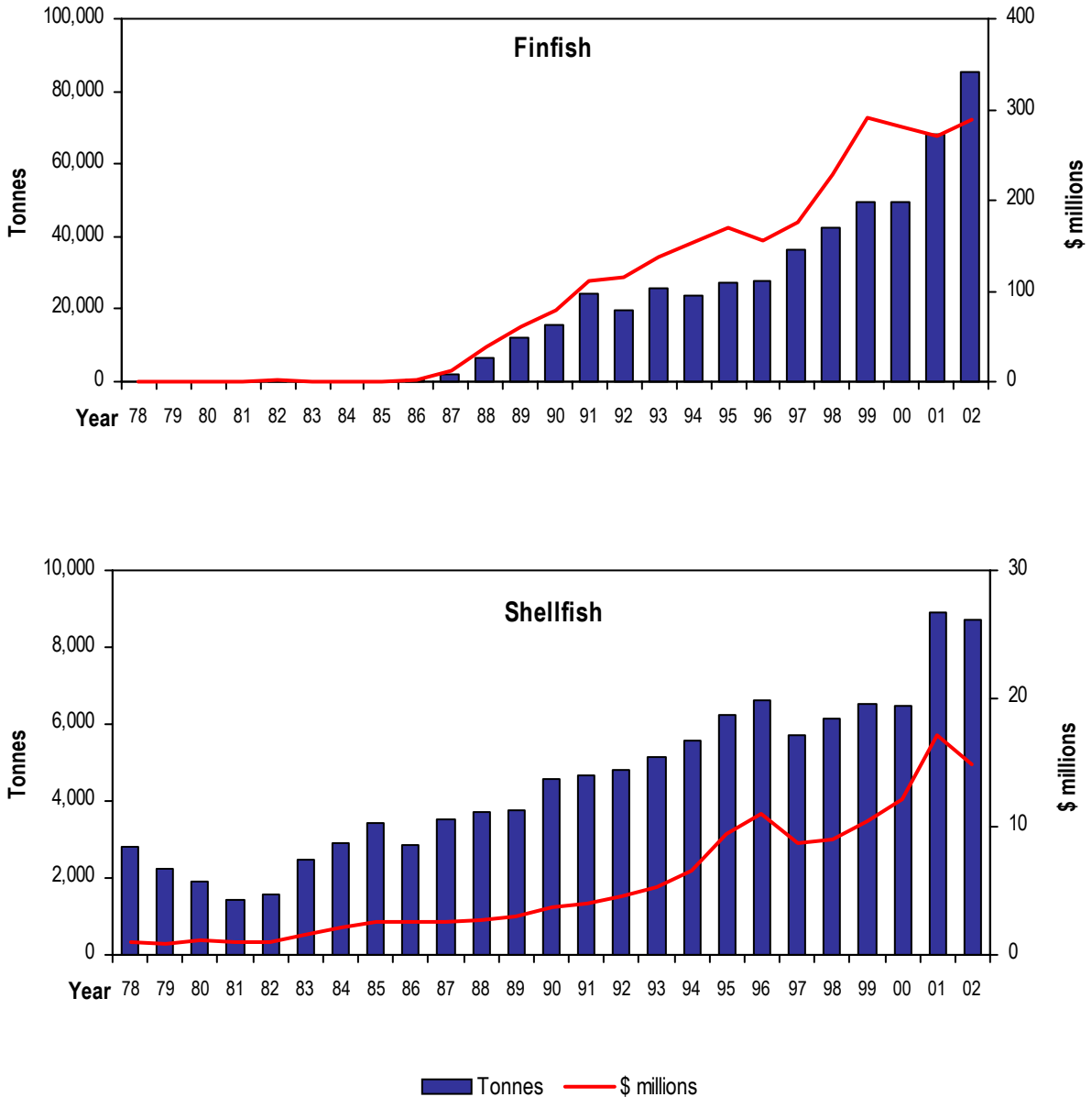
The industry can be segmented by two species groups: farmed finfish – primarily salmon (Atlantic, chinook, coho) – and shellfish (Pacific oysters, Manila clams, Japanese scallops). Several other species are in various stages of development.

Aquaculture is dominated by salmon farming, which has grown rapidly since the 1980s.

Today, farmed salmon dominates BC aquaculture production (see Exhibit 5 and Appendix B). In the late 1970s, aquaculture production consisted almost entirely of oysters, amounting to about 2,500 tonnes annually. At that time, the farmed salmon industry was in its experimental phase, with annual production below 100 tonnes. The 1980s saw tremendous growth in techniques and technology, so that by the latter part of the decade farmed salmon production had reached 10,000 tonnes annually. In 2002, production totalled 85,400 tonnes, the vast majority of which was Atlantic salmon. Other species produced include chinook, coho, and steelhead trout.

	Farm Gate Value ($ millions)		
	Salmon	Shellfish	Total
1982	1	1	2
1986	3	2	5
1990	78	4	82
1994	154	6	160
1998	229	9	238
2002	289	15	304

Exhibit 5: BC Aquaculture Production and Farm Gate Value by Species Group



Source: DFO and MAFF

The production of shellfish also grew over the same period. BC continues to produce oysters as well as Manila clams, the latter first farmed in the late 1980s, and other species. The early 1990s saw the beginnings of scallop farming, with production still somewhat limited. Geoduck and mussel culture has also begun.

Increased supply and competition have lowered farmed salmon prices.

Farmed salmon prices have declined in recent years, due to increases in world supply and competitive forces. In particular, the year 2001 was very difficult, as substantial Chilean salmon imports to the US caused price declines of 30% and more to producers.

The margin between wholesale value and farmgate/harvest value is much narrower for aquaculture than for most capture fisheries. The aquaculture sector sells the majority of its products in fresh whole form, although processing of farmed salmon into fillets and portions is increasing. In addition, the industry's substantial vertical integration means that many producers report identical wholesale and farmgate values. That is, there is no identifiable ownership transfer at the farmgate.

2.3.4 Employment and Wages

The growth in farmed salmon production in the late 1990s was fuelled by more intensive use of existing sites. Expansion into new sites was restricted by the moratorium on new tenures for much of the decade.

Salmon farming jobs are typically full-time and year-round and shellfish jobs generally seasonal.

Technological change, including automatic feeding systems and improved farming practices, has reduced on-farm labour requirements for farmed salmon. Farming and processing of shellfish is more labour-intensive than for farmed salmon. Most salmon farming jobs are full-time and year long, while farmed shellfish employment tends to be seasonal.

Total aquaculture employment is estimated at 1,730 person-years.

Total employment at the farm level is estimated at 1,410 PYs in finfish and 320 PYs in shellfish. These figures exclude important industry activities such as processing, marine transport, and marketing as well as employment in directly related suppliers (e.g., cage and packaging manufacturers, fish health). The total farm wage bill was $58 million in 2002. Wage rates are higher in salmon farming than in shellfish farming.

2.3.5 Regional and Aboriginal Participation

Essentially, all aquaculture jobs are located outside the metropolitan areas of Greater Vancouver, and Greater Victoria (see Exhibit 6). Salmon farms and their associated employment are concentrated on North Vancouver Island. Shellfish farming jobs are concentrated in Mid-Vancouver Island, including the important Baynes Sound area.

The aboriginal share of aquaculture employment is around 18%.

The aboriginal share of the workforce is growing, estimated 20% in salmon farming and 10% in shellfish farming and 18% overall. Several members of the Kitasoo, Ahousaht, and Quatsino First Nations are employed at salmon farms.

Exhibit 6: Estimated Employment and Wages in BC Aquaculture Farm Level 2002

	Finfish*	Shellfish	Total*
No. of Sites			
Licensed	121	455	576
Active	80	340	420
Licensed Hectares	1,191 ha	2,727 ha	3,918 ha
Employment Measures			
Jobs	1,600	800	2,400
Employment (PYs)	1,410	320	1,730
Employment by Region (PYs)			
North Vancouver Island	745	5	750
Mid Vancouver Island	340	200	540
South Vancouver Island	30	15	45
West Coast Vancouver Island	230	40	270
Sunshine Coast	65	60	125
Total	1,410	320	1,730
Aboriginal Share of Employment	20%	10%	18%
Wages and Benefits			
Wages and Benefits	$50 million	$8 million	$58 million
Wages and Benefits per PY	$35,500	$25,000	$33,700

Notes:
1. *Jobs are estimated (and exclude processing, transport, marketing functions as well as industry suppliers).*
2. *PY is person-year – finfish PY estimated based on 16.5 PYs per 1,000 tonnes production; shellfish PYs estimated based on 36.5 PYs per 1,000 tonnes production (both derived from MAFF surveys).*
3. *Employment and wages and salaries measures include hatchery operations.*
4. *Aboriginal share is approximate.*
5. *North Vancouver Island includes North Coast, Central Coast, and Upper West Coast Vancouver Island*

Source: GSGislason & Associates Ltd. estimates.

2.4 Seafood Processing

There are approximately 182 active fish processing plants in BC with 167 processing capture products and 66 processing aquaculture products (51 process both).

2.4.1 Regulatory Environment

Fish processing is regulated by the MAFF, CFIA, Environment Canada, and the BC Centre for Disease Control.

Once wild fish and shellfish are caught and landed, they become private property. The buying, processing, and selling of fish falls under provincial jurisdiction. The Ministry of Agriculture, Food and Fisheries licenses fish processing plants, fish buying stations, fish brokers, and fish vendors. It also licenses harvesters of wild oysters and marine plants. A Fish Buying Station Licence must be obtained from MAFF for each vessel, vehicle, and shore station that receives fish directly from commercial fishermen.

The Canadian Food Inspection Agency (CFIA) requires the registration and inspection of processing facilities where fish are prepared for export outside BC or Canada, facilities where bivalve shellfish or farmed fish are processed, and canning or retorting operations. Environment Canada oversees water quality monitoring of shellfish harvesting sites. Commercial fishing vessels used as fish buying stations must also have a Fish Hold Inspection from CFIA and a commercial fishing licence from DFO. The CFIA, Environment Canada, and DFO, which regulates shellfish growing and harvesting areas, jointly administer the Canadian Shellfish Sanitation program (CSSP).

Individuals or companies processing fish or aquatic plants require a Fish Processing Licence from MAFF. Facilities with a Fish Processing Licence do not require a separate Fish Buying Station Licence for that location if their processing licence covers the product being received. Individuals or companies purchasing fish directly from commercial fishermen for resale must have a MAFF Fish Broker Licence. Food Protection Services of the BC Centre for Disease Control inspects processing facilities where fish are prepared for sale in the province. MAFF inspects facilities where marine plants or sport caught fish are exclusively processed.

2.4.2 Industry Structure

The processing of imported fish has been increasing recently.

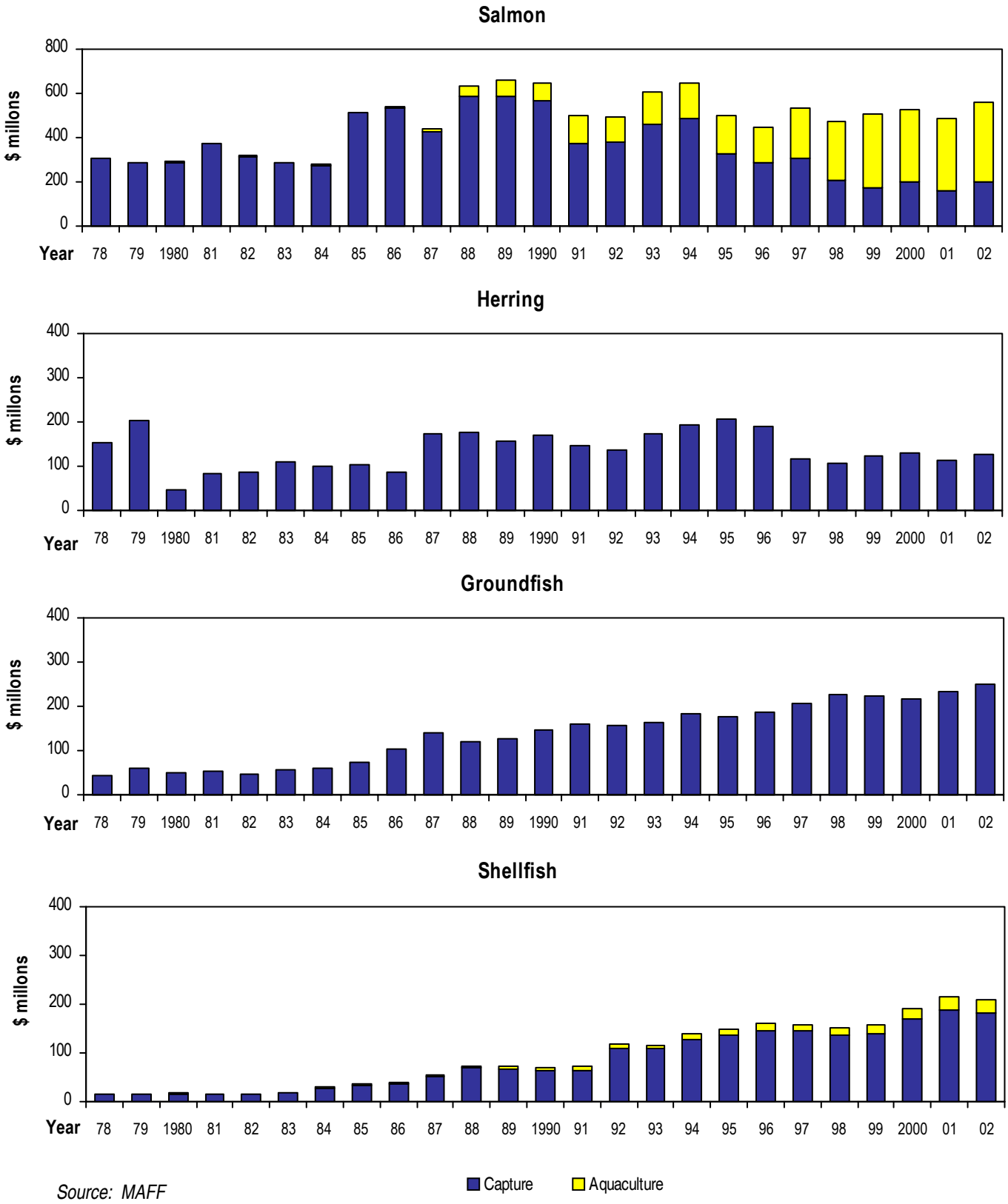
Processors use both domestic and imported raw material, with the latter increasing over time. For example, due to the significant declines in BC salmon catches, processors have purchased more Alaskan salmon. More recently, value-added processors have been importing frozen farmed salmon from Norway and Chile to produce smoked and other niche products. Some plants have in-house staff selling the processed products, while others use brokers who sell the fish on a consignment basis.

The processing sector has consolidated significantly since the early 1990s.

There has been significant consolidation in capture fish processing over the past 15 years. For example, JS McMillan Fisheries closed its 100-year-old plant in Prince Rupert in the early 1990s, and acquired the Prince Rupert Fishermen's Cooperative Fairview plant in 1995. BC Packers, once the province's largest fish processor, sold the company's fishing and processing assets to the Canadian Fishing Co. (Canfisco) in 1999.

Since 1990, several large farmed salmon processing plants have been built on Vancouver Island. These include Brown's Bay (Campbell River), Englewood Packing (south of Port McNeill), and Alpha (Port Hardy). These plants typically process salmon from only one or two companies covering several farmsites. The two largest farmed shellfish processing plants – Fanny Bay Oysters and Mac's Oysters – are located at Fanny Bay in Mid-Vancouver Island.

Exhibit 7: Wholesale Value of BC Seafood by Species Group



Source: MAFF

Economic activity in the capture fishery is generated by multiple transactions between financially independent harvesters, processors, and distributors. Harvesters from 3,000 BC vessels sell to about 180 provincial processors. Processors, in turn, sell their products to thousands of distributors worldwide, who then sell fish and shellfish to millions of consumers. Four companies – Canfisco, Ocean Fisheries, Bella Coola Fisheries, and JS McMillan Fisheries – purchase and process well over half of the BC salmon and herring catches.

There is significant diversity in species and product focus of BC capture seafood companies. Apart from the four major companies identified above, other companies such as Aero Tradiing, North Sea Products, and Walcan are significant players in salmon and herring. Several specialized groundfish operations exist, e.g., RH Wholey, Ucluelet Seafood Processors, and Port Fish for hake surimi, fillets, and headed and gutted, and Fisher Bay Seafood for groundfish fillets. (Ocean Fisheries and JSM McMillan also have major groundfish filleting operations.) Some buyers such as Kelsey Bay specialize in live groundfish. There are also a multitude of processors that specialize in shellfish including Evergreen, Sea World, Kiku, Best Honour, and TriStar. Calkins and Burke and Albion Fisheries are major distributors.

2.4.3 Processing (Wholesale) Value

All of the growth in seafood exports since the late 1980s has come from aquaculture products.

The primary markets for the BC capture fishery are the US, accounting for half of seafood wholesale values, followed by Japan. Only 13% of BC seafood is consumed in Canada. Exports of seafood products from the capture fishery have been flat, with growth in seafood exports since the late 1980s attributable primarily to aquaculture products. Exhibit 7 shows wholesale values for the seafood industry by species group.

	Wholesale Value ($ millions)		
	Capture	Aquaculture	Total
1982	464	3	467
1986	763	7	770
1990	943	90	1,033
1994	994	168	1,162
1998	680	280	960
2002	759	388	1,147

The US is the primary market for BC's fishery and aquaculture products.

The US market has become more important in terms of value and export share over the past 15 years. This dramatic growth has resulted from increased exports of fresh farmed salmon, fresh whole halibut, groundfish fillets, and shellfish products. In contrast, export sales to Japan (e.g., frozen whole salmon, herring roe) and to the European Union (e.g., canned salmon) have declined.

More than half of BC farmed salmon and shellfish is sold in the US, particularly along the I-5 corridor to Washington, Oregon, and California. The traditional farmed salmon product for sale has been dressed whole head-on fish. Increasingly, however, fillets, portions, and smoked products are being produced.

Exhibit 8: Estimated Employment and Wages in BC Seafood Processing 2002

No. of Active Plants			**Employment by Operation Type (PYs)**		
Processing Capture Products		167	Self-Processing		3,945
Processing Farmed Products		66	Custom Processing		1,745
	Total	182*		Total	5,690
Employment Measures			**Employment by Species Group (PYs)**		
Jobs		9,100	Wild or Capture		
Employment (PYs)			Salmon		1,635
Administrative		785	Herring		660
Production & Other		4,905	Groundfish and Other Finfish		1,225
	Total	5,690	Shellfish		515
				Total Wild	4,035
Employment by Region (PYs)			Farmed		
Queen Charlotte Islands		50	Salmon		1,405
North Coast		480	Shellfish		250
Central Coast		50		Total Farmed	1,655
North Vancouver Island		495	Total		5,690
Mid Vancouver Island		770			
South Vancouver Island		210	**Aboriginal Share of Employment**		30%
West Coast of Vancouver Island		325			
Victoria and Area		135	**Wages and Benefits**		
Sunshine Coast		50	Wages and Benefits		$202 million
Vancouver and Other		3,125	Wages and Benefits per PY		$35,500
	Total	5,690			

** 51 plants process both capture & farmed products.*

Notes:
1. *Self-processors are companies that process their own fish and shellfish i.e., seafood that they own. Custom processors are companies that process other companies' fish and shellfish on a fee-for-service basis i.e., seafood that they do not own.*
2. *Jobs is the sum of peak monthly employment for each of the plants.*
2. *PYs is person-years (the sum of monthly employment divided by 12).*
3. *Benefits estimated at 25% of T4 wages*
4. *Employment and wages and salaries measures include activity from processing imported raw material (e.g., salmon imported from Alaska and Norway, herring imported from Alaska).*
5. *Processing employment excludes truck and marine transport employment, but includes secondary processing*
6. *Aboriginal share of employment is approximate.*

Source: Estimates by GSGislason & Associates Ltd. based on the Processor Employer Survey 2002 by MAFF.

	Export Value ($ millions)				
	US	Japan	EU	Other	Total
1990	209	347	166	54	776
1994	331	391	83	91	896
1998	447	203	61	94	805
2002	676	195	43	89	1,003

These export values derive from Statistics Canada information. However, the Statistics Canada data values farmed salmon exports at a price 40% or greater than what BC farmed salmon companies report in their Annual Fisheries Production Schedules (AFPS) to MAFF. (Statistics Canada also, reports very little price decline since 2000, but both the AFPS and interviews conducted for this study suggest a 30 to 40% price decline.)

To expand shellfish markets, industry must educate consumers on safety and quality issues.

Markets are flat for shucked oysters. As a result, many producers are shifting to the production of live oysters in the shell that receive price premiums due to their increased popularity. The market for clams sold in the shell has been strong and growing.

2.4.4 Wages and Employment

Processing employment totals about 5,690 person-years.

The BC processing sector currently has 5,690 person-years of employment from 9,100 jobs (see Exhibit 8). The processing sector wage bill (including benefits) was $202 million in 2002. There are many seasonal and part-time jobs in plants that specialize in processing wild salmon and herring. In contrast, most jobs at farmed salmon and groundfish processing plants are full-time, year-round jobs.

Employment in custom processing plants is 30% of this total and growing. (Custom processors process other companies' fish on a fee-for service basis.) The split between jobs processing wild versus farmed fish is about 70:30 with the farmed share growing over time.

2.4.5 Regional and Aboriginal Participation

The processing industry is concentrated in the Lower Mainland. However, processing employment on North Vancouver Island (Port Hardy, Port McNeill) and Mid Vancouver Island (Campbell River, Quadra Island) is significant, following the construction of several plants during the 1990s expressly to process farmed salmon. There are several surimi processing plants in Ucluelet and Port Alberni on the West Coast of Vancouver Island. Prince Rupert on the North Coast is a regional processing centre for wild harvests, and fish processing is very important to the local economy.

About 30% of total processing employment is aboriginal.

The aboriginal share of processing employment coastwide is estimated at 30%. However, the share is much higher in Prince Rupert (60%).