



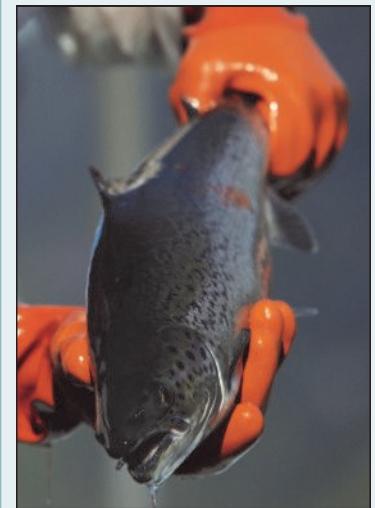
MAINSTREAM  
CANADA

## INFORMATION KIT

**Mainstream Canada** is pleased to provide you with this information kit.

This document presents an overview of our company, including our history, our First Nations partnerships, our role in the provincial and national economy, and how we grow high-quality salmon while also protecting the coastal environment in British Columbia.

This document also provides some background about the criticism faced by B.C. aquaculture businesses, and some facts about our product and practices which dispel common myths about our industry.



### WHAT'S INSIDE

Sustainable Aquaculture .....	2
About Us .....	3
Working with First Nations .....	4
Conflict and Criticism .....	5
Farmed Salmon Facts .....	6

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## WHY AQUACULTURE?

Demand for seafood is growing. In 2006, the world consumed over 140 million metric tons of fish (more than 10 kilograms per person).

By 2030, as the world's population grows, seafood demand is estimated to rise by 70 per cent.

Demand is high in North America, particularly in the United States, which in 2009 consumed more than seven kilograms of seafood per person.

In the near future, as the world's population grows, aquaculture will need to produce an additional 28.8 million metric tons every year just to maintain fish consumption at current levels.

It is doubtful that traditional fishing methods, even with stocks returning at record levels, can sustain this growing demand.

According to the United Nations Food and Agriculture Organization, farming fish under controlled conditions is "the only way to meet future demand."

Compared to traditional, land-based farming for hogs, cattle and chickens, aquaculture is the most efficient way of producing meat, using less space, less land, less feed and producing fewer greenhouse gas emissions.

Aquaculture – farming fish – is going to play an important role in feeding the world's growing population in the future.

*“Fish farming is important for producing healthy food for the growing population of the world. Our aim is to produce food in a sustainable way, which means that we operate in such a way that we do not reduce the potential for future food production based on the same natural resources.”*

*– Cermaq Sustainability Principles 2009*

### CONTINUOUS IMPROVEMENT

A profitable business allows us to:

- Continue to produce salmon that is affordable for our customers.
- Produce salmon in a way which does not harm the natural environment where we operate.
- Create jobs and economic benefits for communities on the B.C. coast.
- Fund research into fish feed which salmon can consume more efficiently, which has a lower impact on wild stocks and which has a smaller carbon footprint.
- Invest in new technologies which reduce costs of production and allow us to raise healthier fish.

## OUR MISSION IS SUSTAINABLE AQUACULTURE

We want wild fish to be here forever. We believe farmed fish is part of that future, taking pressure off wild stocks by providing an alternative source of seafood for growing global demand.

The only way we can be part of that future is by farming fish in a sustainable way. Our goal is to balance all of our environmental, social and economic responsibilities.

It is impossible for human beings to feed themselves without having an impact on nature. However, we carefully consider our environmental footprint in everything we do. We believe the steps we take to protect ocean environments make it possible for our farms to co-exist with wild fish.

It is possible for wild and farmed salmon to share the same ocean. We believe that both wild fish stocks and fish farming are important parts of humanity's future.

*“The key to achieving improved revenues through sustainable aquaculture is to demonstrate our respect for each other, the consumer, and the communities and environment in which we operate.”*

*– Cermaq Passport to Sustainable Aquaculture 2009*

## ABOUT US: A COMPANY HISTORY

- Mainstream Canada is the second-largest producer of farmed salmon in British Columbia with operations on the East and West coasts of Vancouver Island. We operate 27 farm sites, three hatcheries and two processing plants, one under contract in the Campbell River area.
- The company is part of the Cermaq Group of Norway. Cermaq is listed on the Oslo Stock Exchange and the Norwegian Ministry of trade and industry holds 43.5 per cent of the shares.
- The company's history in B.C. began in 2000 when Cermaq purchased the fish farming operations of Pacific National Aquaculture (PNA) and Pacific National Processing, a processing plant in Tofino.
- EWOS Canada is also a division of Cermaq. The Surrey, B.C.-based plant manufactures fish feed which is sold to Mainstream Canada and other fish farming companies in B.C. and Washington State. EWOS also sells feed to fish farms in Asia and to salmon enhancement projects in Alaska and the USA's Pacific Northwest.
- In 2002, the company signed a historic protocol agreement with the Ahousaht First Nation in Clayoquot Sound. This agreement is based on mutual respect and sound environmental stewardship, and ensures that both parties benefit from salmon farm operations in Ahousaht traditional territory. This agreement is very important to us and to the Ahousaht. It provides jobs and economic opportunities for the First Nation and it shows that we respect the rights of the people who were here first, catching salmon long before anyone else.
- In May 2003, the Cermaq Group amalgamated its international farming industry under one common name: Mainstream. As a result, PNA in Canada changed its names to Mainstream Canada.
- In July 2005, Mainstream Canada purchased the assets of Heritage Salmon Ltd. The acquisition enabled Mainstream to expand fish farming operations to both coasts of Vancouver Island, and to increase production in British Columbia to more than 25,000 tonnes of salmon annually.
- In July 2008, Mainstream Canada achieved ISO 14001 Environmental Management Systems certification for all salmon farming operations. This was followed with ISO 9001 Quality Management Systems and ISO 18001 Occupational Health and Safety Assessment certification across all operations in 2009.
- The protocol agreement with the Ahousaht First Nation was renewed in 2010 and now provides even greater benefits to the Ahousaht people.
- Mainstream has management offices in Campbell River and Tofino. Salmon harvested by farms on the west coast are processed in Tofino and salmon harvested on the east coast of the Island are processed in Browns Bay, north of Campbell River.



## BY THE NUMBERS

**250:**

People directly employed by Mainstream Canada, who live and work on the coast.

**200-plus:**

Number of indirect (contracted) employees who do more than 80 per cent of their work for Mainstream Canada (including divers, processing, harvest boats, truck drivers, tug and barge operators)

**\$14 million:**

Paid annually to Mainstream Canada's direct employees in salaries and benefits, including more than 80 First Nations employees.

**\$80 million:**

Spent annually by Mainstream Canada on supplies and services, which are provided by local businesses in coastal B.C. communities.

**\$600 million:**

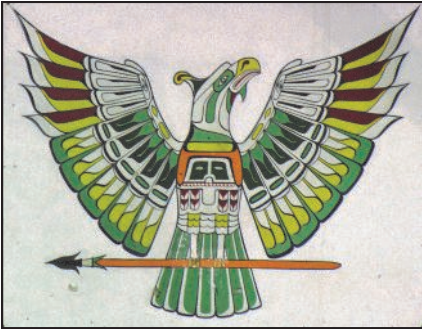
The value of B.C.'s annual farmed salmon exports.

**25,000:**

Mainstream Canada's annual production of farmed salmon in tonnes.

**27:**

Farm sites, 11 on the Island's east coast and 16 on the west.



## WORKING WITH FIRST NATIONS

Mainstream Canada operates within the traditional territory of several First Nations on the B.C. Coast.

Our relationship with these communities is extremely important to our vision of sustainable aquaculture and we strive to develop social, economic and cultural relationships that are mutually beneficial.

These relationships must be built on the following:

- A basis of trust, respect and performance, which provides stability for both parties.
- Respect for each other's distinct identities, interests and priorities while exploring common interests and opportunities.
- A mutual commitment and respect

for the historic and contemporary uses and stewardship of land, water and resources.

- Recognition and respect for and of the claims for constitutionally-protected rights and title within the farming areas.
- A commitment to the development of education and employment readiness for those in whose communities we operate.
- A commitment to honest and open sharing of information and ideas and to joint problem-solving.
- A desire to set objectives and maintain operations that are in the best business interests of both the company and First Nations.

*“Salmon farming is important in our territory, and Ahousaht have signed a protocol with Mainstream Canada to ensure our mutual interest. I want to gain insight in Norwegian fish farming and Cermaq’s operations, so that my people can make the best use of our agreement.”*

*– Maquinna (Lewis George),  
Hereditary Tye Chief of Ahousaht First Nation*

### AHOUSAHT AND MAINSTREAM CANADA: PROTOCOL AND PARTNERSHIP

- With more than 2,000 members, the Ahousaht First Nation, based on Flores Island north of Tofino, is the largest First Nation on the West Coast of Vancouver Island.
  - More than half of Mainstream Canada’s production is located in Ahousaht territory.
  - In 2002 Mainstream Canada and the Ahousaht First Nation signed a protocol agreement, allowing Mainstream to operate in Ahousaht territory. It was renewed and improved in 2010.
  - The protocol agreement does not extinguish, abrogate or deny any aboriginal rights and title of the Ahousaht First Nation.
- In exchange for allowing Mainstream Canada to operate in Ahousaht territory, members of the Ahousaht First Nation receive several benefits including:
- Jobs and skills training.
  - Financial benefits.
  - Salmon enhancement funding.
  - Business and contracting opportunities.



In 2009, Mainstream Canada managing director Fernando Villarroel (right) met with Ahousaht hereditary Chief Shawn Atleo (centre) after Atleo was named National Chief of the Assembly of First Nations.

## CONFLICT AND CRITICISM

**F**ish farming has come under heavy criticism in B.C.

This may be partly because while raising livestock on land is as old as human civilization, the practice and history of salmon farming is relatively new. It always takes time for people to adjust to new things.

Since 1984, when salmon farming really started to grow as an industry in B.C., the industry has quickly developed and improved.

Thanks to a growing global environmental conscience, there is a lot of pressure to “get it right” the first time and a low tolerance for trial and error when it comes to salmon farming’s effects on the environment.

This is good for our industry, and good for the environment. We want to make sure our farms have a minimal impact on the environment, and that people are confident we are producing salmon in an environmentally-friendly way.

When we have been able to work with our critics in a constructive relationship, they have helped us improve numerous aspects of our operations and helped us reduce our environmental impact.

However, some of the loudest criticism we face is from groups who will settle for nothing less than shutting down fish farms, ignoring the thousands of jobs and millions of dollars our industry contributes to the B.C. economy.

Many of these groups receive millions of dollars each year from American foundations.<sup>1</sup>

*“Why can’t we just let foreign countries develop aquaculture?”*

*We need a vibrant commercial aquaculture industry right here in the United States, because aquaculture can be an effective option to reduce our dependence on seafood imports, provide jobs for economically depressed coastal communities and increase regional food supply and security.”<sup>2</sup>*

Independent research<sup>3</sup> has linked these foundations to efforts to “demarket”<sup>4</sup> B.C. farmed salmon and promote Alaskan wild salmon.

Why?

Seafood is big business. Much of the salmon produced in B.C. is exported to the United States. In 2006, the United States imported \$505 million worth of farmed salmon.<sup>5</sup> Nearly 60 per cent came from B.C.

Overall, the US is a net importer of seafood. During the past decade the percentage of seafood in the US that is imported has risen from

66 per cent to 84 per cent of total seafood consumption.<sup>6</sup> That’s nearly \$10 billion per year<sup>7</sup> spent on imported seafood instead of domestic American seafood.

There are many political forces at work. NOAA, the American federal government’s National Atmospheric and Oceanic Administration, has been working to develop national standards for aquaculture within American waters. As well, the Alaskan fishing lobby is powerful, and represents a \$500 million (in 2010) industry and a competitor to farmed fish producers.

Salmon farming has evolved in B.C. over the past 30 years into a global leader in marine aquaculture. It’s not surprising – especially with \$10 billion per year at stake – that it would attract such boisterous criticism.

We are proud of what we do and welcome our critics to take a look at how we grow a reliable, nutritious, delicious and environmentally-sound product.

But we also hope people will take a critical look at the groups who have made it their mission to force salmon farms – B.C.’s largest agricultural exporter – out of business.

*“The aquaculture industry in Canada is under attack. The attackers are not well-meaning, concerned citizens, but well-financed, corporate-sized advocacy groups operating under the guise of a concerned citizenry.”*

– “Framing the Fish Farmers: The Impact of Activists on the Media and Public Opinion about the Aquaculture Industry.” Jeff Chatterton, Atlantic Institute for Market Studies June 2004. Retrieved Aug. 25, 2010.

### SOURCES

1. Grant databases of the Pew Charitable Trust, Gordon and Betty Moore Foundation and the David and Lucille Packard Foundation show tens of millions of dollars granted to some of the loudest critics of B.C. salmon farming, including the David Suzuki Foundation, Living Oceans Society and the Pure Salmon campaign. The databases are publicly available at [www.pewtrusts.org](http://www.pewtrusts.org), [www.moore.org](http://www.moore.org) and [www.packard.org](http://www.packard.org)
2. “Frequently asked questions on Aquaculture and the National Offshore Aquaculture Act of 2007.” [aquaculture.noaa.gov/us/2007.html](http://aquaculture.noaa.gov/us/2007.html) Retrieved Sept. 10, 2010.
3. “Researcher asks council to defend salmon farming industry.” Campbell River Mirror. April 15, 2010.
4. Demarketing is promoting one product by attacking another, e.g. the Coke versus Pepsi ad campaigns of the 1980s, the popular “I’m PC, I’m a Mac” Apple Computer marketing campaign.
5. Canadian Aquaculture Industry Alliance, [www.aquaculture.ca/files/production-markets.php](http://www.aquaculture.ca/files/production-markets.php). Retrieved Aug. 25, 2010.
6. “US Seafood Consumption Declines Slightly in 2009,” United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) press release, Sept. 9, 2010. Retrieved Sept. 10, 2010.
7. “Offshore aquaculture makes sense for America” by Vice-admiral (retired) Conrad C. Lautenbacher, NOAA administrator, March 2007. Retrieved Sept. 10, 2010.



# FARMED SALMON FACTS

## COMMUNITY SUPPORT

Our company is committed to sustainable salmon farming operations on Vancouver Island, which includes supporting the local communities in the areas where we operate.

Our employees live here and shop here. Our business strives to patronize other local businesses, to employ local people and to be a reliable partner for our coastal communities.

Mainstream also strives to be an active member of the community through involvement with community projects and events such as:

- Beach clean-up activities at all Mainstream community locations on World Oceans Day,
- Salmon BBQ fundraiser for the Ucluelet High School,
- Rod Brind'Amour Golf Classic for Cystic Fibrosis,
- Canadian Cancer Society Relay for Life in Campbell River.

This year the company has also made several donations to support communities in which it operates, including:

- \$10,000 to the Tofino General Hospital to help purchase a portable ultrasound machine.
- \$4,440 to the Canadian Cancer Society's Cops for Cancer fundraiser.
- Ongoing funding for wild salmon enhancement projects around the Island.

In the past the company has also supported youth employment programs, community charity events, First Nations youth activities, sports teams, and community projects; and community youth activities.

### Salmon feed is an efficient use of resources.

Our feed includes fish meal and fish oil, as well as soy beans, wheat and corn products. The fish meal and oil comes from schools of small fish not commonly used for human consumption because they have a low nutritional value. The feed also includes fish meal and oil from trimmings from fish processing plants (but does not include salmon by-products).

According to the International Fishmeal and Fish Oil Association, it takes roughly 1.68 kilograms of these small fish to grow one kilogram of salmon, which has a high nutritional value for humans.

### Farmed salmon are not dyed.

Feed for farmed salmon includes naturally-occurring pigments called carotenoids which give the fish flesh its pink colour. Wild salmon get their pigment from eating krill and algae. Carotenoids for farmed salmon are added to the feed, much like Vitamin C is added to orange juice.

### Farmed fish are rarely medicated.

We give our fish vaccines, not drugs, at the hatchery to inoculate them against common diseases found in the ocean. They contain small amounts of the inactivated organisms that cause common diseases, so the inoculated fish can develop an immune response without contracting the disease. This is called an acquired immunity and is specific to the bacteria or virus in the vaccine. If the pathogen is encountered later in life, the immune system "remembers" and is able to fight off the infection.

Vaccines are one of the biggest reasons why our fish have survival rates of more than 90 per cent.

Sometimes we may feed our fish medicated feed, but if this happens they must go through a "withdrawal period" before they are harvested to ensure no medication residue remains in their flesh.

The entire salmon farming industry has steadily decreased antibiotic use since 1997, and 2009 was an all-time low for antibiotic use across the entire industry.

In 2009, Mainstream Canada used only 14 grams of antibiotics per tonne of fish produced. That's about half of one granola bar.

### There is no definitive link between salmon farms and wild salmon mortality rates.

While some people argue sea lice from salmon farms threaten the survival of wild salmon stocks, there is no evidence this is true.

In fact, many studies, including research by DFO, show the numbers of sea lice in the Broughton Archipelago, where salmon farms are relatively close to wild salmon migration routes, have been steadily declining since 2004. And other studies show that salinity, oxygen levels and ocean temperatures have a far greater effect on wild salmon survival rates than sea lice from salmon farms.

Most telling of all, the recent high numbers of returning wild salmon seem to suggest our farms are having little or no effect on wild salmon. In 2009, pink salmon returned by the millions to B.C. rivers, including hundreds of thousands in the Broughton Archipelago, high numbers for the region. And in 2010, the Fraser River system saw its highest sockeye return in nearly 100 years, despite predictions of their demise by anti-salmon farm groups in 2008.

### Sea lice treatments are small and infrequent.

Our fish are lice-free when they are put into the ocean. They pick up sea lice – naturally occurring ocean parasites – from passing wild fish. To protect wild stocks, we feed medicated feed during the wild out-migration period, and when the lice levels on fish at our farms reach a certain level.

We treat for sea lice by either harvesting the fish if they are big enough, or feeding fish feed which has a medicine called SLICE included. SLICE is licenced for use in B.C. as a drug, not a pesticide, and can only be used with a prescription from a veterinarian. Fish are usually fed feed with SLICE once in their life cycle, typically before the spring out-migration period for wild salmon. About 250 grams of SLICE – the equivalent of half a box of sugar cubes – is all that is required to treat an entire farm.

SLICE is emamectin benzoate, the same compound used to treat parasite infections in pets, such as heartworm medication for dogs. The compound is also being studied as a treatment for rosacea, a skin condition

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in humans.

Under the provincial sea lice monitoring program, which requires treatment when sampling detects an average of three or more adult lice per fish, we normally only need to treat once a year, which is usually once per lifetime of the fish.

As with all medicated feed, fish treated with SLICE go through a “withdrawal period” before they are harvested to make sure no residue remains in their flesh.

#### **Sea lice treatments are effective.**

SLICE remains an effective way to manage sea lice because treatment – including treatments co-ordinated around the annual out-migration of wild salmon – only happens on average once per year. Fresh new populations of lice arrive in B.C. every year from migrating fish returning to the coast and infrequent use of SLICE keeps it an effective treatment against the parasite population, which constantly renews itself and does not get a chance to develop resistance.

#### **Sites are chosen for their “green energy” potential.**

Farm sites rely on tidal currents, which keeps the area clean, and on solar power, which regulates water temperatures. They are also chosen for their water circulation and oxygen levels. Cooler temperatures minimize algae and plankton blooms, which can harm fish. Dissolved oxygen levels need to be high so fish can breathe.

#### **Closed-containment systems are not a socio-economically sustainable way to farm salmon.**

The best way for us to grow salmon to harvest size is in ocean net pens.

In our current production practices, small, juvenile salmon spend one-third of their lives in “closed-containment” facilities known by our industry as recirculation units before they are put in the ocean. Thanks to our experience with this technology, we are already very knowledgeable about closed-containment systems.

This experience shows us that we could technically grow salmon to market size, but that this would not be a socio-economic sustainable solution.

To produce 100 tons of salmon in a land-based facility would require a space equiva-

lent to a soccer field. To move B.C.’s Atlantic salmon production on to land would require the equivalent of 750 soccer fields. The world’s Atlantic salmon production is currently at 1,500,000 tonnes, of which five per cent is produced in B.C. The industry’s annual growth is between 75-80,000 tonnes per year, meaning that every year B.C.’s entire production is duplicated somewhere else in the world. It’s senseless to think that that closed-containment will be able to meet this growing demand for Atlantic salmon.

As well moving to closed-containment technology would take jobs and resources away from the local communities where we operate, including many First Nations, who permit us to operate in their territory in exchange for opportunities for their members such as jobs, skills training and financial benefits. Farming salmon on land could be done anywhere, and it would make sense to do it as close to the biggest markets as possible to cut transportation costs.

From an environmental point of view, current closed-containment technology tries to replicate what occurs in natural environments. With ocean net pens, the moon gives us the water flow with the tides, the sun regulates the temperature and the sea the depth we need. Thanks to natural forces, ocean net pens demand very little energy.

We are an industry that adapts quickly to new technologies, but they have to be practical and feasible. However, as closed-containment technology evolves to grow other species of fish around the world, we continue to watch the developments with interest.

Any industrial activity has an impact but we believe we consistently demonstrate that we can grow Atlantic salmon in a natural ocean environment with minimal impact on wild stocks or habitat.

#### **Fish farms are highly-regulated.**

We follow all provincial and federal regulations governing aquaculture. As well, we make it our goal to consult with the First Nations in whose territory we operate.

We adhere to 73 pieces of federal and provincial legislation. Agencies which have oversight of our operations include the provincial Ministry of Agriculture and Lands, Fisheries and Oceans Canada (DFO), Environment Canada, the Canadian Food Inspection Agency, Canadian Environmental Assessment Agency, and Health Canada.

## **TRANSPARENCY**

We are committed to transparency in all our communications.

That includes our communications with First Nations, government, our employees, the communities where we operate and the public.

And as part of the Cermaq group of companies, we report publicly, annually on the sustainability of our operations, in accordance with the guidelines laid out by the Global Reporting Initiative [www.globalreporting.org](http://www.globalreporting.org)

This report identifies areas for improvement, and shows how Cermaq companies are performing overall in a number of areas:

- Regulatory compliance
- Energy consumption
- Greenhouse gas emissions
- Sea lice reporting
- Antibiotic use
- Fish mortality
- Vaccination use

We are also committed to transparency through third-party certification of our operations.

Mainstream Canada is certified under ISO standards for Environmental Management Systems, Quality Management Systems and Occupational Health and Safety Assessment Management System Standards, the first aquaculture company in Canada to be certified in all three areas.

As a voluntary show of our transparency, Mainstream Canada posts sea lice data for all our farms online quarterly at [mainstreamcanada.com](http://mainstreamcanada.com)

Cermaq’s 2009 annual and sustainability reports are online: [bit.ly/09cermaqreport](http://bit.ly/09cermaqreport)



## FOR MORE INFORMATION

[mainstreamcanada.com](http://mainstreamcanada.com)

Visit our website for press releases, photo galleries and more information about all our operations.

Sea lice monitoring data is also posted quarterly online.

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