



SHUT DOWN!

SALMON FARMS



Save Canada's Pacific Wild Salmon!

A clear crisp river winds through tall trees. Its turbulent waters are full of crimson salmon jumping and fighting against the currents searching for their ancestral spawning grounds. Eagles circle overhead, bears feast on the dead fish and drag their carcasses into the deep woods.

This is a scene that should be repeated year after year as wild salmon return to the rivers and streams where they were born to complete and renew their life cycle. On their journey from the ocean back to rivers and streams, their bodies nourish killer whales, grizzlies, old-growth forests and the ecosystems of British Columbia. This is the way it

has been for thousands of years – our delicate ecosystems and First Nations culture thriving on the foundation of wild salmon.

But the wild salmon are in danger. There are exceptions, like 2010's Fraser River sockeye run (see inside), but in salmon runs throughout the province we are witnessing frightening trends: lower productivity, missing fish, starving grizzly bears. The communities and people who depend on wild salmon are struggling. They are also mobilizing in unprecedented ways to protect our wild salmon from the threats putting them at risk: overfishing, habitat destruction, urban sprawl and pollution.

Then there are the **industrial salmon farms**, which threaten to be the final nail in the coffin of Canada's Pacific wild salmon – if we do not take immediate action.

Photos this page: salmon return (above) and Adams River (right) by Andrew S. Wright (cold-coast.com); Victoria Rally (below) by Jeff Linstrom



Over most of the past ten years, the Fraser River sockeye run, the most important salmon run in Canada, suffered a steep decline in productivity.¹ This trend culminated in the devastating 2009 collapse of the fishery, when 90 per cent of the wild salmon expected to return disappeared.

In response to this collapse in 2009, the federal government struck a judicial inquiry to investigate the cause. The Cohen Commission is spending a full year doing research, calling expert witnesses, and investigating all factors affecting the survival of wild salmon.² It remains to be seen whether the Cohen Commission will do the right thing for wild salmon, and hold the salmon farming industry accountable for the damage it has caused.

The time is ripe for action

in defence of wild salmon. Aquaculture, which includes the farming of salmon and other aquatic organisms, has recently moved from provincial to federal jurisdiction. This is an opportunity to strengthen protection for wild salmon and our oceans. The federal government must take concrete measures to protect our Pacific wild salmon before they suffer the fate of the Atlantic cod fish stocks.

The peer reviewed science is clear – sea lice and diseases from salmon farms are killing our wild salmon.³ The people of the coast have known this for a long time. Scientists have known this for a long time. We know what action is needed – there is no reason to delay.

It is time for the people of Canada to send a strong and clear message to government: the time is now to get salmon farms off Canada's Pacific coast.





Salmon Farms: A Clear and Present Danger

To understand the impact of industrial salmon farms, we must follow the route of wild salmon as they travel down the Fraser River from the gravel streambeds of their birth to the open ocean. All salmon spend part of their lives maturing in fresh water streams and lakes. They then out-migrate down the Fraser into the open ocean. They will spend their final years in the ocean, growing and preparing to return to spawn.

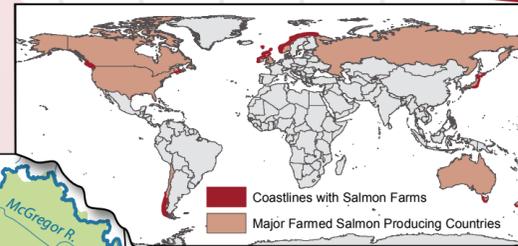
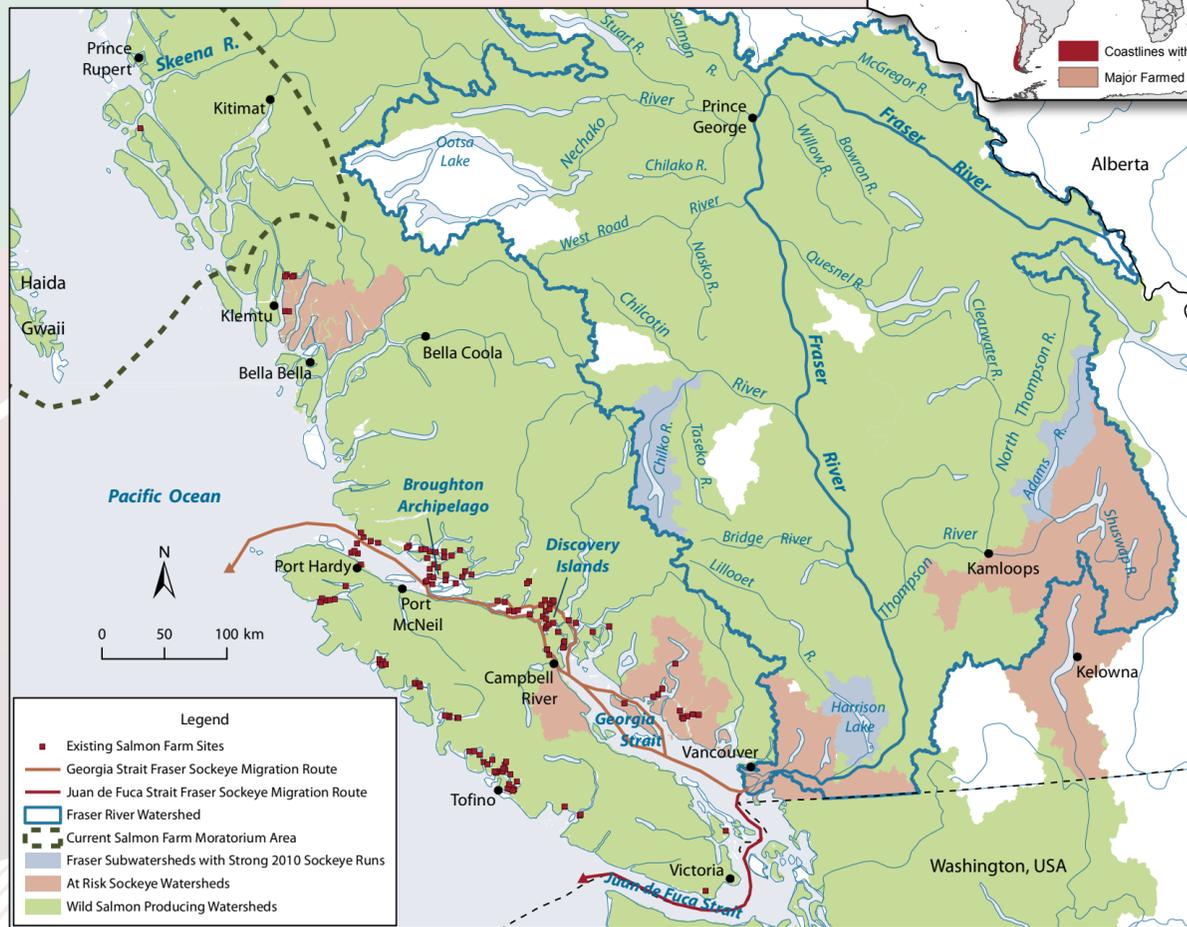
Before reaching the open ocean, the juvenile salmon must pass around Vancouver Island – usually by migrating up the Georgia Strait and through the industrial salmon farm filled waters of the Broughton Archipelago.

The salmon farming industry profits by cramming millions of fish into small pens. These close quarters make industrial salmon farms a breeding ground for disease and parasites such as sea lice.

Industrial salmon farms create a toxic and disease-laden gauntlet that vulnerable juvenile salmon have to pass on their way out to sea. Studies show elevated mortality rates for fish passing through this 'Salmon Farm Alley'.⁵

Some have advocated closed containment salmon farms, but many problems remain with this model. Salmon are carnivores and providing feed for salmon farms contributes to overfishing, especially off the Pacific coast of South America. It takes two to five kilograms of protein to produce one kilogram of farmed salmon.⁶ Closed containment salmon farms are also very energy intensive, and need lots of water to process waste. We need to make sure the solutions we are advocating make sense for our oceans.

Canada's Pacific coast already has over 100 industrial salmon farm sites. This is unacceptable. It is time to put the needs of wild salmon, and our coastal ecosystems, ahead of the interests of the salmon farm industry.



Historic Run an Exception, Not the Norm

The 2010 historic sockeye run up the Fraser River is a reminder of the bounty and abundance that used to be present in streams and rivers all over BC. An estimated 30 million sockeye returned, generating \$500 million for the economy.²⁰

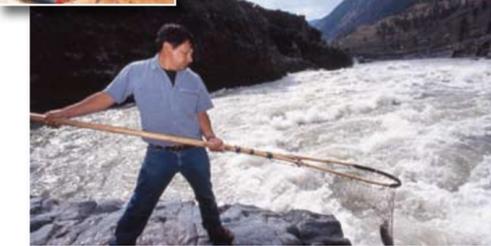
While the sheer size of the 2010 sockeye run would suggest that salmon stocks are on the upswing, not all of the Fraser River sockeye stocks returned home in record numbers. Only the Adams River, Harrison River and Chilko River excelled while spawning grounds in the upper reaches of the Fraser watershed remained nearly empty.²¹ Other salmon runs, including chum and pink, still suffered declines in 2010.

Questions remain about why the 2010 sockeye run was so abundant, but science points to several factors. First off, the

highly productive Adams River has a big run every four years, and this inflated the overall numbers. Secondly, in 2006 when the parents of this year's run were returning to spawn, the Department of Fisheries and Oceans enforced strict conservation measures that allowed more adults to return to spawn than usual. And lastly, ocean temperatures in 2008 – when the fish in question went out to sea – were much cooler than usual, similar to the temperatures from the 1970s. Cool ocean temperatures create ideal conditions for the juvenile salmon's favourite food source – energy rich zooplankton. This abundant food source likely improved ocean survival rates.²²

The miraculous 2010 Fraser River sockeye run shows the potential of wild salmon, and how vital they are to Canada's Pacific coast. We deserve healthy runs like this every year.

While the 2010 run raises more questions than it answers, one thing is clear: our wild salmon stocks still have the ability to thrive. We just need to get salmon farms out of the way.



Salmon Farms: A Catalogue of Negative Impacts

Sea Lice

Studies show that when juvenile salmon migrate past industrial salmon farms they are more likely to be infected by sea lice than their counterparts that swim in salmon farm free waters, like those off BC's North coast.⁷ Once infected by sea lice, the juvenile salmon have a compromised immune system, and are easy targets for predators.

Diseases

Industrial salmon farms worldwide have reported serious disease outbreaks of all sorts of nasty viruses. Some of the worst include infectious hematopoietic necrosis, furunculosis and bacterial kidney disease.⁸ As wild salmon swim past farms, they can be infected.

Antibiotics and Pesticides

Farmed Atlantic salmon are pumped full of antibiotics and delousing agents like SLICE, which is a potent pesticide listed by the US Food and Drug Administration as an unapproved drug that should not be used on fish destined for consumption in the US.⁹ Salmon farms in BC use over 7,000 kilograms of SLICE per year to treat lice-infested fish. These pesticides and antibiotics are discharged in the form of raw sewage – dumped directly into the ocean where they can affect other species like crabs, prawns and other crustaceans.

Toxins in the food chain

The pesticides, antibiotics and other chemicals used in the process of farming salmon can end up on your dinner plate. Studies show that farmed salmon have more toxic residue than their wild counterparts, including: polychlorinated biphenyls (PCBs), fire retardants such as polybrominated diphenyl ethers (PBDEs), dioxins, and pesticide residues.¹⁰

Canada's Salmon Farms in a Global Context

When industrial salmon farming got started on Canada's Pacific coast in the 1970s, the farms were mostly run by small companies. Since then, the industry has seen a massive consolidation by a few foreign-owned companies and an increase in both the numbers of farms and the concentration of salmon in these farms.¹¹

The three main players in the Pacific coast salmon farming industry – Marine

Harvest, Grieg Seafood BC Ltd., and Mainstream Canada – are all subsidiaries of Norwegian companies.¹² These companies also have a stronghold on the international production of farmed salmon with heavy operations in Norway, Chile and Scotland. The global industrial salmon farming picture is not pretty.

CHILE

South America's coastal waters are being overfished at an alarming rate to provide feed

for the worldwide salmon farm industry.

Chile's proximity to cheap feed make it an ideal place to farm salmon, and

it is one of the fastest growing producers.¹³ Poor regulation, overfishing and the spread of open pen feedlots have put the health of Chile's oceans at risk.

Atlantic Salmon are an invasive species in Chile, just like they are in BC. Their presence introduces new diseases and pests to the marine ecosystems. Recently the salmon farms in Chile have been devastated by an outbreak of infectious salmon anemia (ISA), which causes severe anemia in salmon, and makes it hard for them to breathe.¹⁴ Many salmon farms were forced to close. Nevertheless, new farms continue to open up in pristine ocean waters further and further south.

NORWAY

Industrial salmon farming has its roots in Norway, and it is here that we can best see its long term consequences. The massive concentration of salmon

farms have led to millions of farmed salmon escaping into the wild where they compete with wild salmon and sea trout for limited food as well as spawning grounds.¹⁵ Every fourth salmon in Norwegian seas is of farmed origin. In the great salmon river Namsen, almost 50% of the salmon caught in 2002 were escaped farmed salmon. On the western coast of Norway, in the Hardanger Fjord, nine out of ten salmon were of farmed origin.¹⁶

In time the concentration of genetically more uniform farmed salmon in the wild may diminish the rich genetic diversity present in wild salmon.¹⁷

SCOTLAND

Since the late 1980s, the number of salmon farms in Scotland has exploded to nearly 350. Recent reductions in salmon netting at sea seem to have resulted in an encouraging increase in wild stocks, except

in areas where industrial salmon farms are located.¹⁸

The sea trout, a key species in Scotland's aquatic food chain, favours the same coastal areas that are highly populated by industrial salmon farms during its maturation and marine feeding phases. This makes them extremely vulnerable to being infected by salmon farm borne diseases and sea lice.¹⁹

It seems that wherever the salmon farm industry goes, devastating environmental impacts soon follow. We risk sacrificing our wild salmon for the profit of foreign companies. If we follow this path, soon Canada will likely face the same devastating consequences already felt around the world.

Photos this page, clockwise – cleaning salmon and fishing on the Fraser River near Lillooet (Wilderness Committee photo files); killer whale (allcanadaphotos.com); sea lice (Wilderness Committee photo files)



Act now to save wild salmon

Wild salmon are critical to the health of Canada's ecosystems and economy. And your voice is critical in the fight to save wild salmon.

On December 18, 2010 the jurisdiction over aquaculture transferred from the BC provincial to federal government. This change, brought about by a BC Supreme Court decision, creates a new opportunity to turn the tide on industrial salmon farms. In order to ensure abundant and healthy runs of salmon for future generations, the Canadian government needs to act now to get salmon farms off our Pacific coast.

Citizens have already been organizing to take a stand on this vital issue. Recently, First Nations, politicians, fishers and tourism providers paddled down the Fraser River to say enough is enough. Alexandra Morton initiated the historic Get Out Migration down Vancouver Island to stand up for wild salmon rights. Activists biked the length of the Fraser River to raise awareness about the harmful impacts of salmon farms. Hundreds of people walked through the pouring rain to stand up for wild salmon outside of the Cohen Commission.

In perhaps the hightide mark of this movement, a 2010 rally which the Wilderness Committee helped to organize saw over 5,000 people crowd the lawn of the BC Legislature in Victoria to demand that the government take immediate action to get salmon farms off our coast.

The momentum to save wild salmon continues to build. We need your help to make sure the pressure we have built extends right across the country and is felt in Ottawa. We will not stop until salmon farms are off Canada's Pacific coast and the habitat wild salmon need is protected.



Photos this page - Pacific coast by Adrian Dorst; Squamish eagle by Jakob Dulisse; grizzly by Roberta Olenick; salmon rally by Jeff Linstrom

Take Action! It's time to shut down Salmon Farms

Here are a couple of important things you can do to tell Ottawa how you feel about putting the survival of wild salmon before the profits of the private salmon industry.

1) Make your voice heard

If protecting wild salmon is important to you, let the federal government know how you feel! We have made it easy for you - emailing salmon@writewild.net will send your letter to the Minister of Fisheries and Oceans and members of parliament from impacted communities.

2) Help Spread the Word!

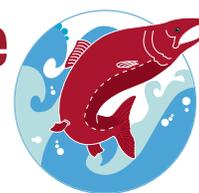
Help take the campaign to your community by signing up for the Wild Salmon Action Team. We will provide you with public outreach materials, action cards, a template for easy to organize events and the support you need to take action in your community. Email salmon@wildernesscommittee.org for more info!

info@wildernesscommittee.org • 1-800-661-WILD (9453) • wildernesscommittee.org

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Yes! I want to help save our wild salmon



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And return to the: Wilderness Committee P.O. Box 2205, Station Terminal Vancouver, BC V6B 3W2



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