

Aquaculture Timeline

1867 – American oyster farming began at Canada’s oldest oyster farm in Malagash, Nova Scotia.

1875 – Federal hatchery program in the province to enhance wild salmon stocks for recreational fishing.

1913 – The province enacted the Oyster Fisheries Act to enable private property owners to hold leases to aquatic sites.

1948 – Canada-US bilateral agreement (federal agreement) on shellfish sanitation came into effect, aimed at improving the monitoring of toxins. Canada’s commitment to this is through the Canadian Shellfish Sanitation Program.

1969 – First salmonid farming site, located in the Bras d’Or Lakes of Cape Breton where trout was farmed.

1969 – American oyster farming began in Eskasoni, when Crane Cove Seafoods, along with the Bedford Institute of Oceanography went to Japan and adopted their technology for use in Cape Breton.

1970 – Stocks of European oysters were introduced to Nova Scotia from PEI, from a Dutch breeding stock.

Early 1970s – Pest Control Product Act (federal act) is adopted, requiring pesticides to be registered before they are used in aquaculture, while also regulating how they are used.

1977 – Aquaculture Association of Nova Scotia (AANS) is established, with the purpose of developing and supporting current, and future sea farmers within the province.

Late 1970s, early 1980s – Mussel farming began in the province. Peter Darnell was one of the first, in Mahone Bay, starting in 1982.

1978 - A research project which involved Fisheries and Oceans Canada, the New Brunswick Department of Fisheries, and a private company, Marine Research Associates, showed that commercial salmon farming was feasible in southwestern New Brunswick. This research project, conducted at Lords Cove, Deer Island, produced the first harvest of farmed salmon in Atlantic Canada : 6 t in 1979 .

1981 – Striped bass culture began when eggs collected from the Annapolis River were hatched at the DFO lab in Halifax, and then re-released into the Annapolis River for monitoring. The program was not continued, however.

1981 - Atlantic Fish Specialties (AFS) began its smokehouse operations in PEI.

1983 – Aquaculture Act (a provincial act) is adopted, and becomes the first aquaculture specific act in the country.

1984 – First harvest of farmed salmon in Nova Scotia.

1985 – A company which would become Cooke Aquaculture sets up in Kelly Cove, New Brunswick as a small family enterprise run by Gifford Cooke and sons Glenn and Michael.

1987 – The first provincial lease (AQ#0001) was issued in Country Harbour, Guysborough County.

1988 – First finfish lease was site AQ#0074 in Mahone Bay.

1989 - The Cooke family business rapidly expanded in the Black's Harbour vicinity and in 1989 it purchased its first hatchery in Oak Bay.

1990 – First reported statistics on farmed scallops, where DFO reported a total of 6 tons harvested.

1990 – First time the production of European oyster was considered significant enough (6.1 tons) to not be grouped with American oyster production.

1990 – An Assessment of the Effects of Salmonid Mariculture Operations on the Environment of Shelburne Harbour. A report commissioned by I.M.A. Aquatic Farming Ltd. as a condition to making conditional approval of leases permanent. Minister Donald McInnis of NS Dept. of Fisheries states “We were pleased to see that the apparent environmental effects of this salmon farm are not significant and appear to be short-lived. The site seems to cleanse itself in the winter when salmon feeding is greatly reduced due to the cold water conditions.”

1991 – Striped bass began being cultured on a commercial scale in Stewiacke, when eggs captured by plankton nets were hatched and raised. Methods switched in 1996, when broodstock from bycatch were used as the egg source.

1991 onwards – Free veterinary services provided by the province to all finfish and shellfish farms. This allows them to be transparent and keep accurate records of disease outbreak.

1993 - Cooke Aquaculture incorporated.

1993 – The Stricklands opened the province’s first recirculation hatchery in Pictou County.

1993 – Oceanographic, Geographic, and Hydrological Parameters of Scotia-Fundy and Southern Gulf of St. Lawrence Inlets. Gregory et al., Can. Tech. Rept. Of Hydr. And Ocean Sci. #143. These data used at workshop to calculate carrying capacity of inlets to salmon aquaculture. See 1994 – Silvert.

1994 – Modelling Benthic Deposition and Impacts of Organic Loading. Silvert in Modelling Benthic Impacts of Organic Enrichment from Marine Aquaculture. B. T. Hargrave (ed) Can. Tech. Rept. of Aquat. Sci. #1949.

1994 – First reported statistics of farmed clams in the province.

1994 - GMG Fish Services Ltd. was established as a wholly owned subsidiary of Cooke Aquaculture Inc.; a part of their expansion in the aquaculture industry.

1994 - Cooke Aquaculture creates True North Salmon to begin processing, marketing and distributing salmon.

1994 – Public Aquaculture Hearing held at Weber's store, Lake Charlotte to assess application by Grant and Rosalie Keating to establish a salmon farm at Owls Head. The proponents subsequently farmed fish initially raised in Cape Breton and then shipped south for “finishing”. The salmon operations in Cape Breton were set up in the Bras d'Or Lakes; however, it was discovered that overwintering the fish there was not economic due to high mortalities stemming from 'winter chill'. The Owls Head operation failed due to a glut of salmon on the market at that time and the Keatings resorted to door to door sales in an attempt to recover their costs.

- Aquaculture lease AQ#0772 was first issued on October 24, 1994 for a ten-year term (October 31, 1994 to October 31, 2004).
- amended on January 3, 1996 to authorize the suspended culture of steelhead trout.
- assigned on April 15, 1998 from Grant Keating and Rosalie Keating to Brian C. Muise and Associates.
- assigned on May 26, 2000 from Brian C. Muise and Associates to Ocean Glen Sea Farm Inc.
- amended on June 12, 2000 to authorize the suspended cultivation of Rainbow trout.
- assigned on January 10, 2001 from Ocean Glen Sea Farm Inc. to Limekiln Fisheries Ltd.
- renewed on November 18, 2004 for a five-year term (October 31, 2004 to October 31, 2009)
- renewed on March 2, 2010 for a five-year term (October 31, 2009 to October 30, 2014).
- was assigned on August 29, 2011 from Limekiln Fisheries (2000) Ltd. to Snow Island Salmon Inc.
- was renewed on October 29, 2014 for a five-year term (October 31, 2014 to October 31, 2019).

1995 – The Federal Aquaculture Development Strategy came out, aimed at creating an economic and regulatory environment, allowing aquaculture to prosper while maintaining good environmental conditions. The Nova Scotia Aquaculture Development Strategy was revised in 2000, in 2005 and again in 2012.

1995 to 2000 –The Canada-New Brunswick-Nova Scotia New Finfish Aquaculture Species Development Program was established to provide financial and technical support for the study and development of operations to farm emerging species such as halibut and haddock. This program helped establish a halibut hatchery in Digby County as well as a halibut farm in Shelburne County.

1996 – First Nova Scotia Aquaculture Development Strategy drafted, providing a framework for aquaculture development within the province.

1996 – Fisheries and Coastal Resources Act (provincial act) is released, which became an amalgamation of the Aquaculture Act and other fisheries legislation, becoming the primary piece of legislation for aquaculture.

1997 – The Nova Scotia Department of Fisheries became the Nova Scotia Department of Fisheries

and Aquaculture.

1997 - Cooke Aquaculture Inc. purchases Atlantic Fish Specialties (AFS) in Prince Edward Island to add to their processing capacity. AFS began its smokehouse operations in 1981 and has developed a reputation as one of the world's finest producers of smoked seafood.

1997 – Halibut exploratory research began when NS investors worked with an Icelandic company for a land based grow out, and collected broodstock in Shelburne County.

1997 - Southwestern New Brunswick produced 94% (18,600 t) of the total farmed Atlantic salmon harvest in the Maritimes, at 80 marine growout sites, plus 5 brackish water sites for smolt acclimation, occupying a total of approximately 900 ha (data from New Brunswick Department of Fisheries and Aquaculture).

Nova Scotia produced the remaining 6% (1,100 t) of farmed salmon at 11 marine growout sites. There are currently no marine salmon growout sites on Prince Edward Island.

While the volume of farmed salmon is relatively small in comparison to harvest fisheries landings, in terms of value, farmed salmon has become one of the most important fisheries industries in the Maritime Provinces. In New Brunswick, the value of farmed salmon production is almost equal to the value of all harvest fisheries landings. While salmon farming has become extremely important to the economy in the Maritimes, the total east coast production represents only 3% of the total world production of farmed salmon.

1997 - Newfoundland produced 610 t of farmed Atlantic salmon in 1997, all from Bay d'Espoir. British Columbia, which is currently the largest producer of farmed Atlantic salmon in Canada, produced 30,800 t.

1999 - Cooke Aquaculture expands into Nova Scotia by acquiring a site at Saddle Island near Bayswater on the Atlantic coast.

1999 - The federal government and the governments of New Brunswick, Nova Scotia, Quebec, Prince Edward Island, Newfoundland & Labrador, and Nunavut signed the Agreement on Inter-jurisdictional Cooperation with Respect to Fisheries and Aquaculture. This agreement formalized the Canadian Council of Fisheries and Aquaculture Ministers (CCFAM) and several supporting committees, including a Deputy Ministers Committee, an Inter-jurisdictional Working Group of Senior Officials, and a Strategic Management Committee on Aquaculture. In addition to the CCFAM, there is an Atlantic equivalent known as the Atlantic Council of Fisheries and Aquaculture Ministers, with its own mandate to provide a forum to exchange information on and to facilitate coordination of approaches to Atlantic fisheries issues (including aquaculture).

2000 – Cooke Aquaculture takes over Di-Anna Aqua Inc. in Tiverton, and Double O Fish Ltd. and Rattling Beach Farm Ltd. in Digby.

2000 – The Nova Scotia Department of Fisheries and Aquaculture merges with the Department of Agriculture, becoming the Nova Scotia Department of Agriculture and Fisheries. Aquaculture remains a separate division under its control.

2002 – Cooke Aquaculture expands in Nova Scotia, in Liverpool Bay, to begin salmon farming.

2002 - December 20. The Honourable Chester Gillan, Minister of the Environment (PEI), representing Development and Technology Minister Mike Currie and Shawn Murphy, Member of Parliament for Hillsborough joined Mr. Glenn Cooke, Chief Executive Officer for Atlantic Fish Specialties Inc. today to announce their support for the company's plant expansion project. The company expects to create over 60 new full-time jobs. Atlantic Fish Specialties Inc. is undertaking a \$1.7 million expansion at its plant on Walker Drive in order to accommodate the recently acquired assets and production line of Allavoix Ltd., a smoked fish company based in Lyons, Illinois. The product line from Allavoix Ltd will complement the current line of AFS products and opens new markets in mid west USA.

2002 – Land based farming of Arctic char started in Millbrook, and became the first finfish facility to be run by First Nations.

2002 – First appearance of the MSX (*Haplosporidium nelsoni*) parasite in American oysters of the Bras d'Or Lakes, decimating populations, and closing most of Cape Breton's oyster sector by 2004.

2002 - Nova Scotia establishes an Environmental Monitoring Program (EMP) for the marine aquaculture industry to monitor the potential effects of aquaculture on bottom sediments.

2003 – Cooke Aquaculture acquires Fundy Salmon Ltd., L&J Salmon Ltd., Silver Hatchery and Jail Island Aquaculture in New Brunswick.

2004 - Cooke Aquaculture purchases Atlantic Salmon of Maine.

2005 - Cooke Aquaculture acquires Heritage Salmon, Stolt Sea Farm's (Norway) east coast farming and processing assets)

2005 - A Task Force on Fostering a Sustainable Salmon Farming Industry for Atlantic Canada was created, led by the New Brunswick Department of Agriculture, Fisheries and Aquaculture, and the Nova Scotia Department of Agriculture and Fisheries, among others, to identify the immediate needs and provide recommendations for addressing the long term challenges facing the industry, and for support of the market development of alternative finfish species.

2005 to 2010 Newfoundland has more than doubled its finfish aquaculture production in the last five years from 5,006 tonnes to 12,899 tonnes. The predominant finfish species in aquaculture on both coasts is Atlantic salmon.

2006 – Cooke Receives Canada's 50 Best Managed Companies designation.

2007 – Cooke Begins expansion of Newfoundland and Labrador operations.

2007 - Northeast Nutrition Inc., was established by Cooke Aquaculture Inc. after the former Shur-Gain aquaculture feed mill plant was purchased from Nutreco.

2007 - Cooke was a \$230 million dollar aquaculture company with 1,300 employees. Twelve years later, the New Brunswick based Cooke family of companies had annual revenues of \$2.4 billion and employed nearly 10,000 globally.

2007 – Sustainable Blue relocates to Centre Burlington, Nova Scotia from the UK.

2008 – Cooke Achieves Seafood Trust eco-label certification.

2008 - Acquires Salmones Cupquellan S.A., in Chile.

2008 – An MOU signed between the Canadian federal government and the Atlantic provinces to work towards a harmonized regulatory and policy environment.

2008 - An analysis of wild salmon mortality in rivers adjacent to salmon farms found an increase of 50% mortality over populations with no farming near by. JS Ford and RA Myers: A Global Assessment of Salmon Aquaculture Impacts on Wild Salmonids; PLOS Biology-
<https://doi.org/10.1371/journal.pbio.0060033>.

2009 – Road Map for Aquaculture Investment in Nova Scotia. Prepared for NSDFA by Jacques Whitford Stantec Ltd.

2009 - Marine aquaculture production in Canada was valued at \$736 million . Of this, 69% was derived from exports, 97% of which was destined to the US. The value of marine finfish aquaculture was ten times greater than that of shellfish; the value of aquaculture production in BC was ~26% greater than that in the Atlantic.

2009 – Provincial environmental monitoring program came into effect when the province released its Standard Operating Procedures (SOPs).

2009 - Dr. B. T. Hargrave, a leading scientist on the environmental effects of marine finfish aquaculture provided an independent report to FPMB in April. He concluded:
“Shallow depths and slow current velocities at both the existing farm and the proposed new lease location combined with the presence of sills that create depositional basins to retain settled organic wastes from the net pens make both locations in Port Mouton (Bay) unsuitable for salmon aquaculture. Sites with much deeper water and higher currents are required to ensure dispersion of particulate waste products”

2010 – Sustainable Blue opens pilot plant opens in Centre Burlington with a focus on niche, European species.

2010 - BC is the fourth largest producer of farmed salmon in the world after Norway, Chile, and the UK. Moreover, its aquaculture production of salmon well exceeds that of its capture fisheries for salmon (78,700 and 23,100 tonnes, respectively).

2010 - NSDFA hires Lura Consulting to conduct random phone interviews to gauge people's perceptions and views of aquaculture in the province. Majority believe aquaculture does not have negative impact on environment, does not conflict with traditional fishing industry and does not reduce the value of nearby properties. Also believe the raising farmed fish is a good idea and provides needed jobs and economic development for rural coastal areas.

2010 - As part of a C\$150 million expansion in Nova Scotia, Cooke Aquaculture is to build a fish processing plant in Shelburne County. The plant will be capable of processing 40 million pounds of salmon a year according to a report in the *Telegraph Journal*. The plant is expected to be completed within two years. To meet the needs of the plant, the aquaculture company based in Blacks Harbour is to raise production. Cooke Aquaculture has applications for four more fish farms in the Shelbourne and Digby area to add to the nine the salmon producer already owns. The company said that the new Digby farms could house fish by the spring and the Shelbourne farms will be up and running in 2012.

2010 – Cooke Acquires Ocean to Ocean, an importer, frozen seafood distribution and marketing company.

2011 - Fishermen's On-the-Water Observations. Halifax: A Report of the Coastal Community University Research Alliance. Fishermen involved in lobster, herring, scallop, and sea urchin fisheries all reported observing significant environmental changes around aquaculture sites. Within two years of an operation being established, fishermen report observing that berried female lobsters abandon the area, scallop and sea urchin shells become brittle, scallop meat and sea urchin roe becomes discolored and herring no longer come into the area. Aquaculture operations are also linked to lobster, crab and shrimp kills in the downcurrent area.

2011 - A Memorandum of Understanding established to provide for further collaboration among the Parties to advance Nova Scotia's and Canada's priorities for coastal and oceans management as outlined in Nova Scotia's Coastal Management Framework and Canada's Oceans Strategy. The Regional Committee for Coastal and Oceans Management ("RCCOM") was set up. Regional Directors-General of Fisheries and Oceans Canada, Maritimes and Gulf Regions and the Deputy Minister of the Nova Scotia Department of Fisheries and Aquaculture are responsible for progress towards the advancement of integrated oceans and coastal management under this Memorandum of Understanding.

2011 - Aquaculture lease AQ#0772 was first issued on October 24, 1994 for a ten-year term (October 31, 1994 to October 31, 2004) at Owls Head to Grant Keating and Rosalie Keating. The lease was amended on January 3, 1996 to authorize the suspended cultivation of Steelhead trout. AQ#0772 was assigned on April 15, 1998 from Grant Keating and Rosalie Keating to Brian C. Muise and Associates, and subsequently was assigned on May 26, 2000 from Brian C. Muise and Associates to Ocean Glen Sea Farm Inc. AQ#0772 was amended on June 12, 2000 to authorize the suspended cultivation of Rainbow trout. AQ#0772 was assigned on January 10, 2001 from Ocean Glen Sea Farm Inc. to Limekiln Fisheries Ltd. AQ#0772 was renewed on November 18, 2004 for a five-year term (October 31, 2004 to October 31, 2009). AQ#0772 was renewed on March 2, 2010 for a five-year term (October 31, 2009 to October 30, 2014). AQ#0772 was assigned on August 29, 2011 from

Limekiln Fisheries (2000) Ltd. to Snow Island Salmon Inc. AQ#0772 was renewed on October 29, 2014 for a five-year term (October 31, 2014 to October 31, 2019).

2011 – Cooke acquires Culmarex S.A., the largest sea bass and sea bream farming operation in Spain.

2012 – The Association for the Preservation of the Eastern Shore (APES), an anti open-pen aquaculture community group, was formed.

2012 – NS Department of Fisheries and Aquaculture (NS DFA) releases a report, Aquaculture Strategy Creating Sustainable Wealth in Rural and Coastal Nova Scotia.

2012 – The province offered up \$25 million in loans to Cooke Aquaculture in order to help the company expand.

2012 – Kelly Cove Salmon Ltd., a subsidiary of New Brunswick-based Cooke Aquaculture Inc., has been granted the right to operate two fish farming pens in Shelburne County's Jordan Bay. The government said a condition of the agreement includes site monitoring by a third-party consultant. Kelly Cove Salmon will also be required to establish a committee to provide a forum for communication with the community. Fisheries Minister Sterling Belliveau said the company went through a rigorous two-year application process that concluded the sites would pose minimal risk to the area's environment. Twenty-four of the 30 cages at each farm will be stocked during the first growing cycle and they may all be used in the second, Transport Canada communicated, Chronicle Herald reports. Cooke's venture includes two separate fin fish sites at the opening to Jordan Bay. They will take up 40 ha, according to Transport Canada documents. The sites will each have 30 cages and be situated 2.1 km apart. The plan is to stock each site with 550,000-700,000 fish.

2012 – True North Salmon processing facilities certified to British Retail Consortium (BRC) Standard for Food Quality and Safety.

2012 – Cooke owned, Salmones Cupquellan, earns Best Aquaculture Practices (BAP) certification in Chile.

2012 - Cooke achieves Canada's Best Managed Companies Platinum Club member status.

2012 - Glenn Cooke is featured on the TV show Undercover Boss Canada.

2012 – Royal Society of Canada report.

- open net pen aquaculture (e.g., salmon, trout) can affect biological diversity in an area several kilometres from a farm operation, although farther-reaching impacts are possible

- Wild bottom-dwelling organisms and their habitat can be affected by the large volume of organic and dissolved nutrient wastes and chemical inputs, such as antibiotics, anti-foulants, and pesticides that are released from open net pen farms; an open net pen farm producing 500 tonnes of fish will typically release 100 tonnes of waste directly into the environment

- Exchange of fungal, bacterial and viral diseases and parasites such as sea lice between farmed and wild fish can seriously threaten the persistence of wild fish populations.

- Interbreeding between wild fish and escapees of the same species threatens the reproductive capability and recovery potential of wild populations of conservation concern.

2012 - Shelburne Harbour quarantined due to outbreak of ISA in salmon farm. Ocean Trout held lease

from 2012 to 2016 when it was renewed for 10 years.

2012 - Three years after Greenpeace's first ranking of Canada's eight largest supermarket chains on seafood sustainability, Overwaitea Food Group has become the first chain to attain a "green" rating, in part due to its complete removal of open net-pen farmed salmon from its stores. Overwaitea Food Group (OFG) is the first of Canada's eight largest food retailers, and the third in North America, to stop selling the highly controversial product. The move by the company comes at a time when reports of viral outbreaks on salmon farms on the east and west coast of North America are prevalent and public outcry directed at the industry is mounting. Loblaw and Safeway support and are seeking closed-system alternatives; however, these more sustainable options are not currently found in those stores.

2012 – June 4. In all, close to 300 people from across Nova Scotia gathered at the Lord Nelson Hotel in Halifax on Monday to raise the alarm about open-pen salmon farms in the waters off coastal communities.

2012 - A group called the Atlantic Coalition for Aquaculture Reform (ACAR), which lists more than 100 members, called for a moratorium on open-net pen aquaculture until a proper scientific and economic analysis of the practice is done.

2012 - The Canadian Food Inspection Agency (CFIA) will allow salmon with Infectious Salmon Anemia (ISA) to be sold in New Brunswick. This decision was made after a thorough risk assessment and it was determined that the ISA virus strain present in New Brunswick posed a low risk to wild salmon populations.

2012 - APES asked for, and obtained, environmental monitoring data for the Owl's Head salmon farm from the Nova Scotia Department of Fisheries and Aquaculture. The Owl's Head lease is owned by a subsidiary of the Scottish company, Loch Duart. According to the data they received, the Owl's Head salmon farm exceeded provincial monitoring guidelines in 2009 and 2010. Sulphide levels in the sediments were more than four times above provincial guidelines. The farm was fallowed for two years and restocked in 2012. Bill Williams, a member of APES, said the problem with the fish farm starting-up is that the monitoring stations around the fish farm with the highest impacts in 2009 were not re-tested in 2012 and the new environmental monitoring sites don't follow the province's rules for monitoring. "They might as well have thrown darts at a map to pick their monitoring stations," said Williams. "It's hardly scientific and it sure doesn't meet the standard set out by the province". He said that in 2011, the NS Department of Fisheries and Aquaculture released new standard operating procedures (SOP) for the environmental monitoring of aquaculture sites in 2011. The SOP states that "sampling stations will be evenly spaced on either side of centre along the longitudinal axis beginning with a station at either end of the axis". William wants to know why the province isn't enforcing their own rules.

2013 – January, CBC News: Salmon from a quarantined Nova Scotia aquaculture farm are now being moved to a fish plant in Blacks Harbour, N.B. for processing. Cooke Aquaculture is the first company to process fish with infectious salmon anemia (ISA) under a new set of rules set by CFIA. About 240,000 salmon from Cooke Aquaculture's quarantined Coffin Island Farm near Liverpool, N.S. will be transported by tanker truck to New Brunswick in the coming weeks. The first shipments of fish were sent last week.

2013 – February, An outbreak of ISA at a Cooke facility in Shelburne resulted in the company destroying 700,000 fish.

2013 February- The film ‘Salmon Confidential’ follows biologist Alexandra Morton as she unravels the mysteries of BC's declining salmon stocks using some of the world's top fish labs. It documents Morton's journey as she attempts to overcome roadblocks thrown up by government agencies and bring critical information to the public.

2013 February – Halifax Media Coop: No More Environmental Impact Assessments for Salmon Farms in Nova Scotia. the federal government's omnibus budget implementation bill in July 2012. Among its many changes was a rewrite of the Canadian Environmental Assessment Act, eliminating federal responsibility for most of the thousands of assessments they had conducted each year, including those already underway for aquaculture sites like Shoal Bay and Spry Harbour. On CBC Radio's The House, Natural Resources Minister Joe Oliver defended the federal policy changes. "We did eliminate the review of some projects which were inconsequential," said Oliver. "And that's been used as sort of an instance of reduced environmental protection. In fact, we've been focusing on the projects that can have an environmental impact, and not whether a rink should be set up in a national park." It turns out that among Oliver's "inconsequential" projects are open net pen fish farms, a slightly more contentious public issue than your average rink.

Dalhousie environmental law professor Meinhard Doelle says provinces will need to reassess their role in the wake of the drastic federal pullback in environmental assessment. "You can't expect provincial laws to be adequate to the task right now in any province, because they were developed based on an assumption that the federal government was willing to play a role that it is no longer willing to play." Provinces will have to determine "whether there are projects that they now feel should be assessed provincially to ensure that they're not missed," says Doelle. In Nova Scotia, the Environment department response is, well, no. Spokesperson Lori Errington says there are no plans to review the Environment Act or its regulations to make up for the massive gap left by the federal government.

2013 – Based on data collected from the sea bottom beneath the former "Sandy Point" salmon farm site in Shelburne's inner harbour, marine scientist Inka Milewski told an audience Tuesday in Shelburne that the bottom resembled a virtual "dead zone". Compared to 100 or more samples of 20 different aquatic species at a control site nearby, the biodiversity of the sea bottom beneath the former site has been reduced to one sample each of only two species.

2013 - Chronicle Herald: Environmental monitoring of a controversial Eastern Shore salmon farm has failed to retest areas with high sulphide levels, says a local community group opposed to open-pen aquaculture. "They've avoided those sites," Bill Williams, a member of the Association for the Preservation of the Eastern Shore, said Wednesday in an interview from Sheet Harbour. The association obtained environmental monitoring data for the Owls Head salmon farm late last year from the provincial Fisheries and Aquaculture Department. Snow Island Salmon, a subsidiary of the Loch Duart of Scotland, owns the Owls Head lease. The Association said the data indicated that Owls Head exceeded provincial monitoring guidelines in 2009 and 2010, with sulphide levels in sediments more than four times above acceptable levels.

Vimy Glass, manager of aquaculture development with the Fisheries and Aquaculture department, said Wednesday the association made "some generalizations from a great deal

of data that aren't necessarily accurate." Glass, who said she would be happy to meet with the association to go through the data, said that while some readings were high, the site is considered healthy. Shane Borthwick, Snow Island's vice-president of operations, said sulphide levels peak just before harvest and subside after harvest, when a farm site is fallowed for 18 months. "It's important to manage sulphide," Borthwick said. The company has followed provincial guidelines, he said. Marine biologist Inka Milewski, who analyzed the data for the association, said provincial regulators are wrong to think the biological effects of high sulphide from fish farms can be easily reversed. "My research in New Brunswick and Nova Scotia indicates that the toxic effects can last years," Milewski said in a news release. "The water depth and currents in the bays and estuaries of Nova Scotia are just too shallow and too weak to accommodate the massive amount of waste produced in open-net pen salmon farms." Milewski, an adviser with the Conservation Council of New Brunswick, advocates land-based aquaculture, which the Nova Scotia government has said isn't commercially viable.

2013 – CBC: Nova Scotia's Department of Fisheries and Aquaculture tested 30 dead salmon taken Feb. 28 from six pens at the Snow Island Salmon Inc. operation at Owl's Head, N.S., none tested positive for ISA. "We did not find any reportable disease at the site," said Dr. Roland Cusack, the province's chief fish veterinarian. Cusack said cold water and stormy weather in February are the likely cause of the fish kill last month.

2013 - Snow Island has applied to the province for leases on two aquaculture sites at Spry Harbour and Shoal Bay on the Eastern Shore. Last fall, it withdrew an application for a site at Beaver Harbour, 10 kilometres east of the West River, after the Atlantic Salmon Federation raised concerns about its potential impact on migrating wild salmon.

2013 - Chronicle Herald Headline: EASTERN SHORE GROUP ROLLS OUT ANTI-SALMON FEEDLOT CAMPAIGN ON METRO BUSES.

For the next two months, seven metro bus lines will carry a message from residents of the Eastern Shore that says "Save Our Coastal Waters and Economy. Tell Premier Dexter to Stop Open Pen Fish Farming", along with directions to two websites, NSapes.ca and salmonwars.com.

The campaign is designed to educate metro residents about the risks of current open pen salmon farming practices in the province. The campaign was initiated by the Association for the Preservation of the Eastern Shore (APES), a group opposed to open pen salmon farms. This outreach to metro was paid for by donations from hundreds of local citizens concerned about plans to set up salmon feedlots in their bays, which are in HRM, said Marike Finlay, President of APES. We've decided it is time to take this campaign to the city streets.

2013 – Proposed finfish aquaculture site at Shoal Bay: DFO CSAS Science Response 2013/003. Considerable reduction in feed and stocking rates would be required to keep deposition rates at a safe level. During the period of maximum feeding (when fish biomass is highest) a safe feeding rate would support a stocking rate of 4,400 fish per cage compared to the proposed stocking of 15,150 fish per cage.

2013 – March. The Nova Scotia Department of Fisheries and Aquaculture announced this morning that it has refused to grant a license to Snow Island Salmon, Inc., a subsidiary of Scottish aquaculture giant, Loch Duart, for a new salmon aquaculture site in Shoal Bay.

2013 – Moratorium was placed on new finfish and shellfish farms in Nova Scotia.

2013 – Although tunicates have been negatively impacting shellfish farms since the early 2000s, four new species of tunicates invade mussel farms, severely impacting production levels.

2013 - Cooke Aquaculture Inc. establishes North Market Seafood in Saint John, New Brunswick. They acquired and rebranded an existing fish-and-chip shop, Lord's Lobster, in the Saint John City Market.

2013 – Cooke owned A.C. Covert of Dartmouth, Nova Scotia, launches Jail Island brand for wild-caught seafood.

2013 – Natural Sciences and Engineering Research Council of Canada (NSERC) and Dalhousie University create Cooke Industrial Research Chair (IRC) in Sustainable Aquaculture with Dr. Jon Grant.

2013 – Sustainable Blue Atlantic Salmon finishes construction of freshwater hatchery to switch focus to Atlantic Salmon.

2013 – Ivany Report is released, challenging the province to commit to transforming the aquaculture industry to grow in rural and coastal communities. NS-DFA announced that a new regulatory framework for aquaculture would be developed through public consultations led by a newly commissioned body, the Doelle-Lahey Panel.

2014 – Doelle-Lahey Report released, calling for a massive overhaul of the aquaculture regulations in the province, to one that helps the industry become more high value, low impact. One of the main recommendations was the creation of a classification system under which coastal areas would be rated as green, yellow or red based on their relative suitability for finfish aquaculture. The report also recommended the creation of a standing regulatory advisory committee that would provide ongoing advice on the implementation of the proposed regulatory framework and its continued improvement.

2014 – The Gardner Pinfold Report says that land based, closed containment aquaculture is technically feasible, but the financial feasibility has yet to be proven commercially.

2014 - Cooke Aquaculture acquired Marine Harvest's Scottish subsidiary, Meridian Salmon Farms Ltd. for \$203 million. The sale was part of an European Commission divestment order following Marine Harvest's takeover of Norway's Morpolin 2013.

2014 – RH Loucks, RE Smith, EB Fisher. Interactions between finfish aquaculture and lobster catches in a sheltered Bay; Marine Pollution Bulletin: Vol. 88, Issue 1. Paper documenting situation in Port Mouton Bay.

2014 March - Chronicle Herald : Over two decades, at least \$138 million of taxpayer money has compensated Canadian fish farms for sick, culled stocks. All the culls were in Nova Scotia, New Brunswick and Newfoundland and Labrador. Several East Coast environmental groups joined forces recently to count up the total cost of all known payouts. The Canadian Food Inspection Agency has

made some of the compensation numbers public only recently, including \$13 million to Cooke Aquaculture for a 2012 cull near Shelburne.

Between 1996 and 2006, \$75 million was paid by federal and provincial governments, they said, though they did not specify which companies and provincial governments were involved. From 2007 to now, at least \$63 million has been paid, including about \$43 million for six culls on the south coast of Newfoundland in 2012 and 2013

Cooke Aquaculture has received \$13 million in federal compensation after it was forced to slaughter a million salmon at a Nova Scotia fish-farming operation because of a virus outbreak, according to Freedom of Information documents. The New Brunswick-based company got the money back in 2012 after an infectious salmon anemia (ISA) outbreak at the company's farms in Shelburne County. Cooke received the money in June and December of 2012 but the amount was only made public recently within a Freedom of Information request to the Canadian Food Inspection Agency. The company wouldn't confirm the amount when contacted by CBC News, except to say it's no different than any other compensation farmers receive for damaged crops. A spokesperson pointed to a \$2.3-million aid package the provincial and federal governments have offered to strawberry farmers after a virus destroyed their crops.

2015 – The science sub-group of ACAR met at the Marriot Hotel to review and summarize the scientific data related to open-pen fish farming and to identify possible deficiencies. It was decided that applying a genuine progress index (GPI) would determine the true costs of this industry.

2015 – Cooke acquires Hermitage Processing of St. John's Newfoundland and Labrador.

2015 – In response to the Doelle-Lahey Report, the Fisheries and Coastal Resources Act is amended to provide new aquaculture regulations. Namely recognizing aquaculture as a legitimate use of the coastal resources and as an industry that brings positive and economic benefits to communities; more transparent and stronger environmental regulations, and the creation of an independent review board (ARB) that will make application decisions on leases and licences.

2015 – Cooke family creates Cooke Seafood USA Inc. and acquires the Wanchese Fish Company in North Carolina.

2016 – Cooke Seafood acquires Icicle Seafoods, Inc. which has three main components: a major farmed salmon operation in Washington State, its wild salmon arm in Alaska, and everything else it buys or has quota for in Alaska, like pollock, crab, halibut, black cod, and even Togiak herring.

2016 - Cooke Aquaculture has formally announced the acquisition of Uruguayan seafood firm Fripur and Argentinean hake fishing company Grinfin and establishes a new company Cooke Uruguay. The final closing of the Fripur deal took place on 14 December. Fripur had previously filed for bankruptcy and had laid off hundreds of employees. It went up for auction in 2015 and Cooke placed the winning bid earlier this year. Cooke's acquisition of Grinfin, a Fripur subsidiary, was completed in November and the company has already resumed operations, according to Cooke. That purchase was made through Wanchese Argentina, which is owned by Cooke Seafood USA.

2016 - Cooke Aquaculture Chile acquires Marine Harvest processing plant in Tepual, Chile.

2016 – The province lifted the moratorium on new shellfish, trout, and seaweed farms.

2016 – Challenge to Loucks et al. (2014) by Grant J., Barrell J., and Filgueira R. Lack of interaction between finfish aquaculture and lobster catch in coastal Nova Scotia. *Mar. Pollut. Bull.* **110**. This paper shows no effect of fish farm on lobster catches in Grand Manan area. However, there are high flushing rates here, as currents are high in the Bay of Fundy as opposed to Port Mouton Bay where water depth is shallow and flushing rates are low.

2016 August - The Ecology Action Centre is calling on the Nova Scotia Department of Fisheries and Aquaculture (NSDFA) Minister Keith Colwell to process the current lease 'renewal' application by Cooke Aquaculture in Shelburne Harbour as what it actually is – a new site application. This would ensure the new provincial aquaculture regulations adopted in 2015 after a lengthy tax-payer funded panel, broad consultations, and the Doelle-Lahey Report, are implemented with a full assessment by an Independent Panel. Cooke's site 0602, now up for lease 'renewal', could easily be mistaken for the same 'site 0602' that was closed by Cooke in 2011 after sediment testing results exceeded acceptable standards multiple times over years. In reality, this "renewal" site is actually a physically a new site, located 40m away from the 'old 0602' with completely new boundaries, a larger area, new infrastructure and soon, new fish. "Given the history of poor testing levels and community conflict over this particular site, it is difficult to see the Minister's decision to treat this as a renewal as anything but an effort to avoid a full ecological and economic assessment", says Susanna Fuller, Marine Conservation Coordinator of the Ecology Action Centre.

According to the consultation document, the new site 0602 is located in shallower water, closer to shore, with a similarly slow current and flushing rate. It is difficult to argue that the 'new 0602' will not also succumb to rapid waste accumulation problems that lead to the closure of the 'old 0602'. The renewal application does not provide an explanation for the applicant's move to a new location. Cooke Aquaculture has stated they use best aquaculture practices to ensure the "marine environment remains healthy and productive". "If this is the case they should be able to farm at their original site indefinitely. If Cooke is arguing the 'old site' is not suitable for salmon production, it seems they should not have been granted a license in the first place. On top of that, no evidence has been presented publicly to show moving to a new site a mere 40m away will produce better results," says Shannon Arnold, Marine Policy Coordinator at the Ecology Action Centre.

To date no salmon ocean aquaculture site has undergone the new independent panel assessment, put in place partly as an effort to increase social acceptability of the industry. The Ecology Action Centre urges the Department of Fisheries and Aquaculture to put their new regulatory process to test, make public a full assessment of this new site in both the ecological fit and economic contribution or the new regulations will look like little more than window dressing on a process that never actually changed.

2016 Nov. 21 - Fisheries Committee: Evidence of meeting #35 for Fisheries and Oceans in the 42nd Parliament, 1st session. Chief Robert Chamberlin (Vice-President, Union of British Columbia Indian Chiefs). Rebukes government for lack of consultation with indigenous nations regarding fisheries.

"We must expand on the closed containment initiative of Kuterra, of the 'Namgis First Nation on the north end of Vancouver Island, and we must take the fish farms out of the ocean and put them on the land. If you think about it, we will then be able to provide a greater opportunity for economic development to a broader range of first nations that don't necessarily have to be coastal. It will meet many of the goals that the government has stated to close the socio-economic gap that first nations are faced with."

2017 - DFO released their Aquaculture Activities Regulations, which then prompted Nova Scotia to shift their standard operating procedures (SOPs) to align with the federal regulations.

2017 May An operation in the Annapolis Valley that farms salmon in tanks on land has received a \$1-million repayable loan from the Atlantic Canada Opportunities Agency to expand its business. Sustainable Blue Fish Farming Ltd. in Centre Burlington has spent 10 years developing what it calls a "zero discharge" closed-containment system to raise Atlantic salmon.

2017 - Moratorium lifted on new finfish farms in Nova Scotia.

2017 - In their brand new Bridgewater office, two Cooke Aquaculture employees find themselves behind six big screens remotely feeding their fish in Digby, the entire system is controlled and monitored with high resolution webcams above and below the surface as well as a database which indicates temperature, oxygen level, tides, etc. The system is controlled via the office computers and connected to a large barge via an on-shore WiFi system. The barges were customized for and with the Cooke's specific needs to meet the requirements for Canada. The barges have a feed capacity of 300T feed and are built with four feeding lines with 12-hole selector valves.

2017 – Cooke Inc. acquires Omega Protein, a nutritional product company and a leading integrated provider of specialty oils and specialty protein products.

2017 – Tasmania. Tassal has breached 19 Aquaculture Stewardship Council standards in Macquarie Harbour. Which includes the Tasmanian Wilderness World Heritage Area. The ASC has identified four 'major' breaches, including a failure to comply with state and federal laws. A single major breach, if not remedied, results in a loss of ASC accreditation. Other breaches include a failure to meet minimum fish welfare conditions, a failure to present mortality reports to auditors and having no effective mechanism to handle community complaints. This is an indictment on the government, who have cheered the industry on, imposing no real regulations.

The industry is almost unchecked under the Hodgman Government. Minister Rockliff repeatedly refers to his tough regulations, including fines, in an attempt to pretend the government is protecting Tasmania's marine environment. His so-called big fines don't even apply to Macquarie Harbour.

2018 – Cooke acquires The Fish Company, a Florida based seafood distribution company.

2018 - Cooke Aquaculture Inc. is named the winner of the 2018 Private Business Growth Award.

2018 - Cooke Aquaculture was given an option to lease in order to explore the possibility to establish a new aquaculture site in Liverpool Bay. They have six months to conduct their feasibility assessments, and this would be the first new farms since the moratorium was lifted.

2018 - Scottish Salmon farmer, Loch Duart is looking to wind up its operations in Canada "as soon as practical". The company saw its operation profit fall 28 percent in the financial year to March 31. "In Canada the previously reported and long awaited Canadian revised application process for sea farming sites is yet to produce anything substantial on which to base the company's progress in the county, it added. As a result the company previously wrote-down the values of its interest in the area to the immediately realizable tangible assets and is 'unconvinced of the merits of a continued presence in the country' "The company retains little more than licenses to operate and the Canadian operations will

be wound down as soon as practical', it said"

2018 December 20 - Matt Jones: Aquaculture North America, Nova Scotia: Open for business. 2018 saw continued and substantial growth for the aquaculture industry in Nova Scotia. Aquaculture Association of Nova Scotia (AANS) Executive Director Tom Smith says that after several challenging years, including teething problems brought about by a new regulatory framework in 2015, the province's aquaculture industry has grown steadily in the three years since. The 2015 regulatory framework instituted ushered in the modernization of the province's aquaculture industry; a key aspect of these reforms has been the development of a new aquaculture licence and lease application process. Smith says key to that growth is the industry's proactive approach in the intervening years when the framework was being developed — the AANS spent a tremendous amount of time in communities in the province building public trust. "We've been active in municipal government engagement, not just at the provincial level, illustrating to and informing consumers in those communities how seafood farmers can be responsible stewards of our oceans, but also be economic generators and wealth generators for communities around the province."

2019 March – Protect Liverpool Bay created a go-fund-me page to stop Cooke Aquaculture's proposed salmon farm expansion in Liverpool Bay, with the goal of raising \$50,000.

2019 March - Kelly Cove Salmon Ltd., a subsidiary of Cooke Aquaculture, submitted an application to the Nova Scotia Department of Fisheries and Aquaculture requesting approval for the expansion of its current salmon farm in Liverpool Bay from 14 cages to 20, while also expanding by two new sites of the same size.

2019 April - A petition put forth to Queen's County municipality council to halt the expansion of salmon farming in Liverpool Bay, requesting a permanent moratorium on new salmon farms.

2019 April - A British Columbia based company, Cermaq Canada, was granted four options to lease sites in Nova Scotia by the provincial government, where they have plans to explore the possibility of expanding into Digby, Guysborough, and Richmond. Cermaq declined the opportunity to establish a presence in Nova Scotia after some months of investigation of the situation here. At public meetings they encountered stiff opposition to their plans and after a more detailed examination of coastal sites to be made available determined that they were too shallow and poorly flushed to sustain the amount of fish needed to make a profit. The company knew it would have no social licence and could only sustain a profitable enterprise at the expense of environmental degradation. The dominant company operating in Nova Scotia today has no such scruples as sustained profit is clearly its only goal and has mounted an ongoing PR campaign and threatens litigation to quell complaints of coastal communities attempting to fight the despoilment of their local embayments.

2019 – The AANS, in collaboration with Merinov, received funding to head a project in seaweed sugar kelp cultivation trials at three farms in Cape Breton. Merinov is a sea-to-market industrial research centre that leads the way in innovation and specializes in technology specific to fisheries, aquaculture, processing and marine bioresources.

2019 May – NSDFA authorizes option to lease for 12 new aquaculture development sites throughout the province.

2019 – Cooke acquires Seajoy Food Corporation Group, one of the largest vertically integrated, premium shrimp farms in Latin America. Seajoy’s shrimp farms are located in Honduras and Nicaragua including processing plants, hatcheries, and breeding programs

2019 - Cooke acquires Farallon Aquaculture de Nicaragua S.A., a vertically integrated producer of farmed shrimp and a leading supplier of branded fresh-frozen shrimp. Glenn Cooke: “We will integrate the company into our Seajoy operations, which allows for us to achieve Seajoy’s certifications for producing environmentally and socially responsible seafood from groups such as the GAA (Global Aquaculture Alliance), 4-star BAP (Best Aquaculture Practices), and ASC (Aquaculture Stewardship Council).”

2019 - Cooke acquires All Seas Wholesale, Inc., San Francisco, California based seafood distributor of up to 40 species of fresh seafood, live shellfish, and frozen products.

2019 - Jon Grant, Michelle Simone and Tara Daggett. Long-term studies of lobster abundance at a salmon aquaculture site, eastern Canada. Can. Jour. Fish. Aquat. Sci. Vol 76, No. 7, July 2019. These results indicate that the fish farm had no obvious impact on lobster density at any point in the salmon production cycle and that inshore lobster abundance followed trends similar to those of the general fishery of LFA 38. (Grand Manan area which is well flushed.)

2019 - Cooke Aquaculture has agreed to pay more than \$150,000 to the state as part of an agreement to resolve violations found at multiple net pen sites across Maine. Among several violations identified by state regulators, the Maine Department of Environmental Protection says the company exceeded fish density limits in its net pens, didn’t provide complete annual stocking notices on time, and didn’t properly sample for sulfides in facilities it operates. Cooke has paid numerous fines in the hundreds of thousands of dollars over the years. The company’s revenues are some \$1.5 billion. Thus the \$150,000 fine in this article amounts to one ten-thousandth of Cooke’s annual revenues. Clearly Cooke considers fines to be a normal cost of doing business, and it clearly prefers paying paltry fines to the cost of cleaning up its act. It is a chronic, habitual offender, and it will continue to be until these fines amount to more than a gentle pat on the wrist.

2020 Mar 1 - Over 300 people attended a public information session in N.S, on Sunday to highlight the risks associated with open-pen fish farms. The session, organized by Twin Bays Coalition at the St. Margaret’s Community Centre, was held in opposition of the Nova Scotia government’s plan to impose industrial scale open-net pen fish farming in Atlantic waters. Sunday’s rally saw three environmentalists from British Columbia speak to their struggles with open-pen fish farms along the West Coast, with hopes of establishing country-wide opposition against them. One of these was Chief Robert Chamberlain (see Nov.1, 2016). It also heard from three different lobster fishermen, the mayor of Mahone Bay, as well as others. Cermaq Canada is considering spending \$500 million to create up to 20 open-pen salmon farms and support facilities in five Nova Scotia locations, including in Mahone Bay, St. Margarets Bay, St. Marys Bay and two sites in Chedabucto Bay. Cermaq claims the farms could create more than 300 jobs and suggests the farms would contribute \$500 million to the local economy.

2020 – True North Seafood, Inc. the processing division and flagship brand of Cooke Inc., acquires the business of Mariner Seafood, LLC, in New Bedford, Massachusetts. Mariner, an international fresh and

frozen seafood company, specializes in processing a broad range of premium wild and farmed species including scallops, haddock, cod, salmon and shrimp.

2020 – Atlantic Sapphire Homestead property in South Florida, which took three years to build and opened in 2020, ships out 300,000 pounds of salmon weekly to grocery stores such as Publix and Sprouts in Florida and beyond. It's one of only a few indoor salmon farms in the U.S., and the largest one in the world, according to Gunnar Aasbø-Skinderhaug, deputy CEO and CFO.

2020 - AQ#0772 Two finfish farm leases for Owls Head Bay were approved. Proposed Term: 10 years. Cultivation Method: Marine cage cultivation. Applicant: Snow Island Salmon Inc. Species: Atlantic Salmon, Rainbow trout. (see earlier, 1994, for history of this site).

2020 June - Dalhousie graduate student, Jenny Weitzman conducts a survey and interviews with stakeholder groups (residents, NGO, wild capture fisheries, or business/tourism) regarding finfish aquaculture, focusing on Liverpool, Shelburne, Digby.

2021 – Francis Campbell, Chronicle Herald: The St. Mary's Bay Protectors, the Association for the Preservation of the Eastern Shore, Protect Liverpool Bay, the Atlantic Salmon Federation and individuals Brad Armstrong and Geoff LeBoutillier have hired Ecojustice, an environmental law charity, to prepare for the board hearing regarding the expansion of the aquaculture operations. A number of groups say it's time the province stopped turning a blind eye to lease violations at salmon farm sites near Liverpool. Ecojustice lawyers, on behalf of community groups, are demanding that the two ministers put the rights of communities and the environment ahead of the aquaculture industry's interests. The demand letter sent by the group urges the ministers to stop facilitating lease and licence violations at the five open-net pen sites and asks for a response from government by March 12.

2021 May - John Risley, CEO of Clearwater, calls for moratorium on ocean-based salmon farming.

2021 – Not on My Watch: How a renegade whale biologist took on governments and industry to save wild salmon. By Alexandra Morton. *An urgent, essential read for anyone who cares about the rapidly dwindling wild salmon population of British Columbia. Meticulous, penetrating and passionate, Morton's thorough exploration of the history and effect of placing an industrial zone in prime wild salmon habitat is chilling and infuriating.*

2021 - Cooke Aquaculture announced it had a deal with the Millbrook First Nation to transfer its hatchery licence to Cooke's subsidiary, Kelly Cove Salmon.

2021 – Sustainable Blue completes additional saltwater grow out facility, increasing capacity to 1,000 metric tonnes per annum.

2022 - The "Off the Table" anti-farmed salmon movement was launched by WildFish. This campaign

aims to raise awareness about the environmental, sustainability, and welfare impacts of open-net salmon farming. It calls on chefs and restaurants to take farmed salmon off their menus.

2022 – Salmon Wars: The dark underbelly of our favourite fish. By Douglas Frantz and Catherine Collins. Documentation of how the industrialization of Atlantic salmon threatens this keystone species, endangers our health and environment, and lines the pockets of our generation's version of Big Tobacco.

2022 – Washington State authorities have informed Canadian seafood company Cooke Aquaculture that its finfish net pen aquaculture leases on state-owned aquatic territories will not be renewed and that it has until December 14 to wrap up operations. For years, the New Brunswick company has been farming Atlantic salmon locally, but it switched to farming steelhead trout when Washington State banned the farming of non-native species (i.e., Atlantic salmon) in March 2019. The ban stemmed from the collapse of Cooke's net pens in 2017 where 263,000 Atlantic salmon escaped. Cooke was fined \$332,000 for that incident.

DNR's letter denying an extension of Cooke's leases lists several areas where the firm violated terms of the leases, said the agency. It said further that it "determined that allowing Cooke to continue operations posed risks of environmental harm to state-owned aquatic lands resulting from lack of adherence to lease provisions and increased costs to DNR associated with contract compliance, monitoring, and enforcement."

2022 - August, Tassal Group was acquired by the Canadian aquaculture company Cooke Inc. at 5.23 Australian dollars per share, or a total of 1.7 billion Australian dollars (1.19 billion US dollars). This was the third, highest offer Cooke Inc. made to Tassal.

2023 - Cooke filed a lawsuit asking for relief from the Chile's Superintendency of the Environment (SMA), mandates. At the time, Cooke Aquaculture Chile CEO Andrés Parodi said in a letter to Chile Environment Minister Maisa Rojas that SMA's order to significantly reduce production at its farms is "simply unthinkable from an economic standpoint and would lead to the need to close those centers, besides constituting a regulatory expropriation."

2023 - Canadian Science Advisory Secretariat Science Response from Fisheries and Oceans Canada concluded that there was no significant link between parasitic lice infestations at B.C. salmon farms and infestations in wild salmon exposed to those farms in four regions. A group of 16 professors and research scientists sent an open letter to minister of Fisheries and Oceans Canada Joyce Murray. The group said they had serious concerns about the processes in the report, and that it "falls far short of the standards of credible independent peer review and publishable science."

2023 - Government has completed a regulatory review of Nova Scotia's aquaculture regulations. The goal of the review was to identify ways to improve the regulations, so they support the low-impact, sustainable growth of the aquaculture industry. The Aquaculture Regulatory Advisory Committee hired a third-party consultant, Davis Pier, to lead stakeholder engagement during the review. The Committee

submitted a Final Report and recommendations to the Minister in March 2023.

There were 3 themes in the recommendations:

- applying the right level of regulation to both small and large operations
- sharing more information and making it easier to find and understand for better transparency
- creating more opportunity for public participation in the application process for licences.

2023 – *The New Fish: The truth about farmed salmon and the consequences we can no longer ignore.* By Simen Saetre and Kjetil Ostli, This book tells the story of the origins of farmed salmon and the consequences of that action: wealth accumulated by a few at the expense of the health of wild salmon and the ecosystems in which they exist.

2023 - Mussel production in Prince Edward Island, the largest producer of mussels in Canada, declined 10.9 percent year over year, totaling 15,543 tonnes in 2023. Export quantities of mussels decreased to 11,296 tonnes in 2023, compared with 2022. But the price of exported mussels increased 11.8 percent, yielding a 0.3 percent increase in total export value of \$49.3 million.

2023 - British Columbia, the largest producer of oysters, produced 7,371 tonnes of oysters, 11.8 percent less than it did in 2022.

2024 March - The company behind a massive spill of Atlantic salmon in 2017 has thrown in the towel on its efforts to keep farming fish at two sites in Puget Sound. Cooke Aquaculture withdrew its appeal Friday of a 2022 Washington Department of Natural Resources order to shut down its floating farms off Bainbridge Island, just west of Seattle, and Hope Island in Skagit County.

2024 April - Sustainable Blue, a land-based salmon farm in Nova Scotia, was placed in receivership. The court order granting the receivership was in response to an application by minority shareholders who have been keeping the company afloat since an equipment malfunction last November. A filter that removes dissolved carbon dioxide released by fish failed in the building holding the largest salmon on site. Within 12 hours, 96,000 market-ready Atlantic salmon worth \$5 million died. They represented all the fish scheduled to be harvested between Nov. 28, 2023, and July 31, 2024. Shareholders, Thane Stevens and Jim Lawley, say restructuring is the only way the company can survive. Stevens said the company can be viable but it must last until the next batch of Atlantic salmon will be big enough for sale. About 480,000 salmon on site were not affected by the filter failure.

2024 May - Environmental NGO Fundación Terram announced in an investigative report that nine Chilean salmon-farming firms had racked up 95 cases of overproduction in the country's natural reserves from 2012 to 2023, harvesting more than 67,000 metric tons (MT) of salmon above their authorized limits. At the time of the report's release, none of the cases mentioned had been sanctioned by Chile's Superintendence of the Environment (SMA).

2024 June 27. An alliance of groups opposed to open net pen aquaculture in Nova Scotia held a press conference at the Wooden Monkey restaurant on Thursday, calling on the province to end the practice. The event was organized by the Healthy Bays Network "*It's time for the government to listen and act*

against these unethical practices threatening our waters and our livelihoods,” the release said. *“It’s been 12 years since the last big press conference on this issue, and not much has changed.”* Its members say government regulators need to realize feedlot finfish aquaculture is *“neither acceptable nor sustainable”* in Nova Scotia.

The Moderator: Robin Tress, Council of Canadians

The Presenters:

- Heather Mulock Coldwater Lobster Association
- Andrew Clarke Atlantic Salmon Federation
- Brian Muldoon Protect Liverpool Bay
- Simon Ryder-Burbidge The Ecology Action Centre
- Lil MacPherson The Wooden Monkey
- Stewart Lamont Tangier Lobster Company

The public relations vice president for Cooke Aquaculture Inc./Kelly Cove Salmon Ltd disputed much of what was said during Thursday’s press conference. Joel Richardson said the Healthy Bays Network, Twin Bays, the Atlantic Salmon Federation, and the Ecology Action Centre were being dishonest with the public and elected officials. *“These activist groups are spreading false and misleading information about salmon farm regulatory compliance and make-believe salmon farm expansions around St. Margaret’s Bay/Mahone Bay and area. Atlantic Canadians don’t believe the lies about aquaculture being promoted by environmental activist groups who only care to fear-monger through desperate fundraising tactics off the backs of hard-working people in coastal communities,”* Richardson wrote.

2024 September - Chile’s government struck an agreement with two salmon-farming firms to relocate their concessions outside of national parks, but according to environmental NGO Fundación Terram, the two firms should have some of those concessions wholly revoked for exceeding allotted production capacity for years. AquaChile and Cooke Aquaculture signed an agreement with the Chilean government in December 2023 to relocate a total of nine aquaculture concessions, effectively relocating their operations from three national parks – Isla Magdalena, Laguna San Rafael, and Bernardo O’Higgins.

2024 November - Financial Post PORTLAND, Maine (AP) — An environmental organization has served a notice of intent to sue one of the world’s largest aquaculture companies for violations of the Clean Water Act in Maine _ allegations the fish farmer ardently denies. Conservation Law Foundation contends Cooke Aquaculture’s salmon farming sites off the Maine coast pollute the state’s bays, where lobster fishing is a key industry.

2024 November – Herald (Scotland): Call to 'halt' salmon industry and do cost-benefit analysis.

An open letter has called on the Scottish Government to “urgently commission an independent Cost-Benefit Analysis of Scotland’s salmon farming industry, to consider its wider economic impacts”.

Until these impacts are assessed, said the letter, signed by a coalition of 54 Scottish businesses, charities, community groups and individuals, “there should be a halt on further growth of the industry.”

2025 - A Stats Canada report has shown that in 2023, the sales of Canadian aquaculture products and services decreased by 4.7 percent compared with 2022 to C\$1.3 billion, while product expenses declined by 3 percent. In British Columbia, aquaculture sales in British Columbia were down 35.9 percent, while sales in the Atlantic provinces increased 68.8 percent.

Nationally, farmed finfish production fell to 107,144 tonnes in 2023, a 15.7 percent decline from 2022. While the average farmed finfish price rose 9.7 percent to \$10.52 per kilogram. Over the same period, the total farmed finfish value decreased 7.5 percent to \$1.1 billion.

Farmed finfish production in British Columbia declined 41.4 percent in 2023, compared to 2022 because many farms stopped operations along important migratory routes for wild salmon. As a result, British Columbia represented 47.9 percent of national finfish production for the first time since reporting began in 1991. On the other hand, farmed finfish production in the Atlantic provinces increased 52.4 percent year over year, with New Brunswick leading at +137.5 percent and Newfoundland and Labrador following at +90.1 percent, as finfish production recovered from environmental and biological issues.

Export quantities for farmed Atlantic salmon—including fillets—decreased to 64,469 tonnes (-18.0 percent compared with 2022). The United States accounted for 98.6 percent of total exports of Canadian farmed Atlantic salmon by quantity in 2023.

Canadian farmed shellfish production also declined in 2023, down 4.5 percent to 38,699 tonnes. Despite the decrease in production, farmed shellfish value edged up to C\$126.5 million (+1.0 percent), as the average farmed shellfish price increased to \$3.27 per kilogram (+5.7 percent). Production of shellfish in Prince Edward Island—Canada’s primary producer of farmed shellfish, accounting for 52.5 percent of the national total—decreased to 20,684 tonnes (-4.8 percent) compared with 2022. Farmed shellfish sales accounted for 9.7 percent of total sales of Canadian aquaculture products and services.

2025 January - Opinion: We need science-advice reform at Fisheries and Oceans Canada; Business Intelligence for BC., Dr. Gideon Mordecai, Research Associate at the University of British Columbia's Institute for the Oceans and Fisheries.

It took months of meetings, written requests and public pressure to receive an official response from Fisheries and Oceans Canada (DFO) to a 1.5-year-long wait for a request related to a widely condemned DFO report. This report found, contrary to mountains of peer-reviewed evidence, that infestations of sea lice on open-net salmon farms do not influence numbers of lice on wild salmon. Our appeal was simple: For the report’s authors to share the data used to reach their conclusion, to enable us to reproduce the analysis—a fundamental principle of modern science. The eventual response? A data sheet with much of the key data removed.

The DFO is currently under investigation by the Integrity Commissioner for silencing its own scientists. As a result of this interference, DFO science advice continues to reach conclusions that support a low risk to wild salmon, in contrast to the peer-reviewed international evidence that concludes the opposite.

I am not alone in my criticism—several reports from within the federal government have raised concerns about the DFO’s science advice on salmon aquaculture, including from the Office of the Auditor General, the Office of the Chief Science Advisor and the Parliamentary Committee on Fisheries and Oceans. Its science review processes have been dominated by industry voices, facilitated

by movement of individuals between positions in the salmon farming industry and regulatory roles at DFO. This is a well-used tactic: Co-opt the regulatory body and its science, while marginalizing any scientists who disagree with your message as “activists”.

2025 February - Bob Brown Foundation has captured horrific images and video of thousands of dead farmed salmon being pumped out of their factory farm cages at a Tassal owned fish farm lease called Creeses Mistake, on the Tasman Peninsula. The footage comes on the heels of mass deaths being reported all around the state only weeks ago. The Foundation is calling on Tassal and Salmon Tasmania to disclose how many tens of thousands of fish have been dying. “Every summer, hundreds of thousands of factory farmed salmon die in these cramped pens. Every summer the salmon industry covers this up and refuses to tell the public how many salmon die because they know the public would be outraged. “As much as 15% to 20% of all farmed salmon die as part of this environmentally and morally bankrupt industry. The closest number of animal deaths in Australian farms I could find was battery cage chickens at 4%. The salmon industry is out of control.”

2025 March 4, – Blacks Harbour, NB – Kelly Cove Salmon Ltd., the Atlantic Canadian salmon farming division of Cooke Aquaculture Inc., is pleased to announce the acquisition of the defunct operations of Aqua Bounty Canada Inc. (“Aqua Bounty”) on Prince Edward Island.

Aqua Bounty was focused on land-based biotech farming and was best known for the development of its Genetically Engineered salmon. Cooke does not farm or sell any GE seafood products and has no plans to do so with this acquisition. Cooke supports transparency for consumers and has “egg to plate” traceability capability to demonstrate the origin of its product. KCS intends to produce large smolts for stocking its existing ocean salmon farming sites in Atlantic Canada.