To: Jon Hindar (CEO, Cermaq): jon.hindar@cermaq.com

Subject: Non-Disclosure of Disease Data

Date: 24 May 2012

Cc: Cermaq's Board of Directors: cermaq@cermaq.com
Bård Mikkelsen: bard.mikkelsen@broadpark.no
Rebekka Glasser Herlofsen: post@noreco.com
Åse Aulie Michelet: info@photocure.no
Jan Helge Førde: jan.forde@ewos.com
Reidun Karlsen: reidun.karlsen@cermaq.com
Jan Erik Korssjøen: ola-jo.tandre@telenor.com
Helge Midttun: he-mid@online.no
Ted Andreas Mollan: ted.mollan@ewos.com

Cc: Cermaq's Corporate Management Team
Tore Valderhaug: tore.valderhaug@cermaq.com
Geir Molvik: geir.molvik@cermaq.com
Kjell Bjordal: kjell.bjordal@ewos.com
Geir Sjaastad: geir.sjaastad@cermaq.com
Synne Homble: synne.homble@cermaq.com

Jens Stoltenberg, Prime Minister of Norway: postmottak@smk.dep.no
Stephen Harper, Prime Minister of Canada: pm@pm.gc.ca
King Harald IV of Norway: post@slottet.no
Sigbjorn Johnsen, Norwegian Minister of Finance: postmottak@fin.dep.no
Trond Giske, Norwegian Minister of Trade and Industry: trond.giske@nhd.dep.no
Halvard Ingebrigtsen, State Secretary, Norwegian Minister of Trade and Industry: halvard.ingebrigtsen@nhd.dep.no
Mette Wikborg, Director General, Ownership Department, Norwegian Ministry of Trade and Industry: mette.wikborg@nhd.dep.no
Lisbeth Berg-Hansen, Norwegian Minister of Fisheries: postmottak@fkd.dep.no
Else Berit Eikeland, Norwegian Ambassador to Canada: emb.ottawa@mfa.no
John Hannaford, Canadian Ambassador to Norway: oslo@international.gc.ca
Keith Ashfield, Canadian Fisheries Minister: keith.ashfield@parl.gc.ca and min@dfo-mpo.gc.ca
Carl Seip Hanevold: carl.hanevold@cermaq.com
Siri Vike: siri.vike@ewos.com
Astrid Aam: astrid.aam@cermaq.com

In advance of Cermaq's 'Sustainability Seminar 2012' to be held in Oslo later today (24 May), could you please provide more specific information on infectious diseases?

Please also note that GAAIA will file a formal complaint later this morning with the Oslo Stock Exchange (Børs) in relation to Cermaq's non-disclosure of disease data.

GAAIA's complaint provides evidence of non-disclosure in Canada relating to:

**1) Cermaq's refusal to publish disease data**
**2) Damning disease data released via the Cohen Commission**
**3) Cermaq's refusal to allow Government inspectors onto sites**
**4) Lack of transparency on risks of Infectious Salmon Anaemia**
**5) Breach of bio-security relating to Infectious Haematopoietic Necrosis**

More details are enclosed below via the Appendix: 'Damning Evidence of Non-Disclosure of Disease Data.'

Will your presentation today include details of Cermaq's escalating infectious disease problems in British Columbia, Canada?

The Canadian Press, Vancouver Sun, Toronto Star, CBC News, The Salmonist and even the Disaster News Network have all featured Cermaq's disease crisis over the last week. Only yesterday (23 May), the Ha-Shilth-Sa newspaper criticised your subsidiary, Mainstream Canada, for failing to inform local First Nations over the disposal of diseased farmed salmon. If The Economist featured this issue then Cermaq would be sure to make a splash on the front page:

It is becoming clear in any language that Cermaq's problems are going viral – with The Vancouver Sun, The Canadian Press and CTV News reporting yesterday (23 May) that a Grieg Seafood farm on the Sunshine Coast was now officially quarantined due to Infectious Haematopoietic Necrosis (IHN). Here's a Chinese report from 19 May.

Read more via 'Viral outbreak in Cermaq farm in Clayoquot'

In plain English, how can Cermaq be 'sustainable' if your salmon farming operations are disease-ridden?

In August 2011, Cermaq and Friends of the Earth Norway signed a joint statement in which Cermaq conceded culpability for infectious disease problems in Chile. It was certainly a case of 'mea culpa' when Cermaq's CEO Geir Isaksen admitted in the Annual Report 2008 that it had been a "painful year" with the spread of infectious diseases in Chile and huge financial losses. If you don't move quickly in Canada you will be forced to follow suit in next year's report.

CEO's comments:

**A PAINFUL YEAR**

Cermaq has been through a painful year. The main reason is that a virus disease, infectious salmon anaemia (ISA), which causes immense mortality and reduced growth for Atlantic salmon, has spread to all the fish farming regions in Chile.

Sadly, Cermaq is now making the same mistakes in British Columbia. Cermaq ignores the situation in Canada at its peril and is derelict in its duty to shareholders and to the Oslo Stock Exchange (Børs). The lack of transparency in terms of disease reporting for Cermaq's Canadian operations is alarming.

Even in your short tenure as Cermaq's CEO you should be fully aware of the considerable criticism of Cermaq. GAAIA wrote in May 2011 to Cermaq Board of Directors, Cermaq management, Norwegian Government officials and the Oslo Stock Exchange (Børs):

"Cermaq's Board of Directors and Cermaq's Corporate Management Team have exhibited a woeful lack of transparency to both shareholders and investors and may be in breach of the disclosure and reporting requirements to the Oslo stock exchange," stated the letter. "Furthermore, Cermaq is now covering up disease risks in British Columbia which could lead to significant financial losses for shareholders, investors and the company itself as well as untold ecological losses, impacts on wild Pacific salmon and communities which depend upon healthy wild salmon populations."

This letter is enclosed in the previous correspondence below (and is available in full online here). More information is enclosed in a letter sent in March 2011 to Cermaq's CEO Geir Isaksen, the King of Norway and Norway's Minister of Trade and Industry (as owner of Cermaq) – read in full online here.

More specific details are also available in the enclosed Appendix ('Damning Evidence of Non-Disclosure of Disease Data') and online via 'Raining on Cermaq's 'Sustainability' Charade' and 'Déjà vu at Cermaq's AGM.'

In relation to the ongoing 'Salmon Farming Kills' lawsuit between Cermaq and GAAIA you will be aware that Cermaq's lawyers argued in court AGAINST the fact (a fact admitted publicly by Cermaq) that 'Salmon Farming Spreads Disease.'

Read more via 'Norway's Injunction Kills Free Speech' and 'Closing Norway's Noose on Freedom of Speech'

A document marked as an exhibit and made publicly available in February during the 'Salmon Farming Kills' trial was a submission by Cermaq's lawyers in Canada to the Office of the Information & Privacy Commissioner in 2008 admitting that "disclosure [of disease data] would result in 'undue financial loss' to Mainstream," "damage Mainstream's business" and referred to "the harm which such information in the wrong hands can do." Cermaq admitted that the publication of disease data was so damning and damaging that people would stop buying farmed salmon (read the letter in full online here).

For more information about the lawsuit and trial read 'Cermaq's Clusterfuck', 'Gagging the Truth Becomes Mainstream' and 'Cermaq Aborts Court Hearing.'

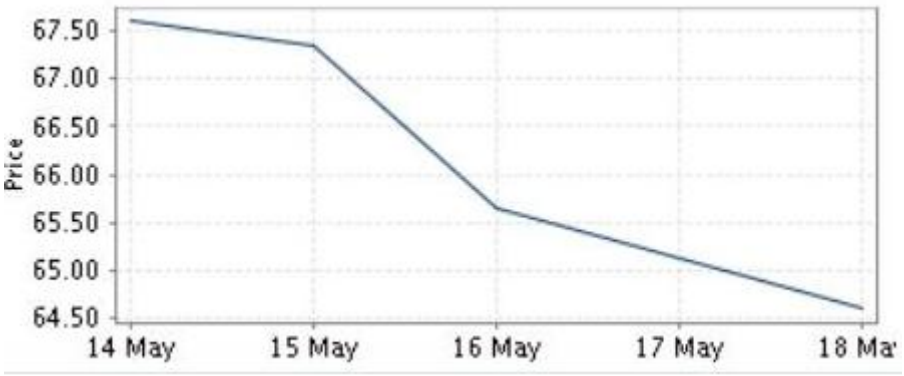
Since the trial it has also been publicised that ISA and another 'Norwegian' virus (piscine reovirus associated with Heart & Skeletal Muscle Inflammation) have been detected in Atlantic farmed salmon on sale in supermarkets in Vancouver, British Columbia.

Is Cermaq selling disease-ridden farmed salmon to supermarkets in Canada, Japan, the United States or any other markets?

For more background read 'Norwegian Disease Strikes at the Heart of British Columbia'

Cermaq patently failed to fully disclosure the implications of the Cohen Commission to shareholders, investors or the Oslo Stock Exchange. In fact, no disease data since 2010 is available via the BCSFA's 'Fish Health Database' and Cermaq, together with the salmon farming companies operating in British Columbia, have refused access to Government disease inspectors since April 2010.

Non-disclosure of ISA to the World Animal Health Organization (OIE), for example, is a serious offence and has significant penalties, financial consequences and implications for shareholders. We have already seen the impact of IHN on Cermaq's share price last week:




Read more via 'Norwegian Fish Farm Giant's Stocks Tumble on news of Clayoquot Infectious Disease Outbreak'

According to Intrafish, Cermaq reported IHN to the Oslo Stock Exchange on 16 May.

Cermaq CEO Jon Hindar.

# Mainstream detects disease at Canadian site

**Virus detected in site with around half a million fish.**

IntraFish Media

**Published:** 16 May 2012 09:27 AM
**Updated:** 16 May 2012 11:11 AM

Mainstream Canada has detected the presence of the Infectious Haematopoietic Necrosis virus (IHNv) at its Dixon Bay site.

The site, located on the west coast of Vancouver Island, holds around 500,000 fish with an average weight of around 1 kilo, Mainstream's parent company Cermaq said in a notice to the Oslo Stock Exchange on Wednesday.

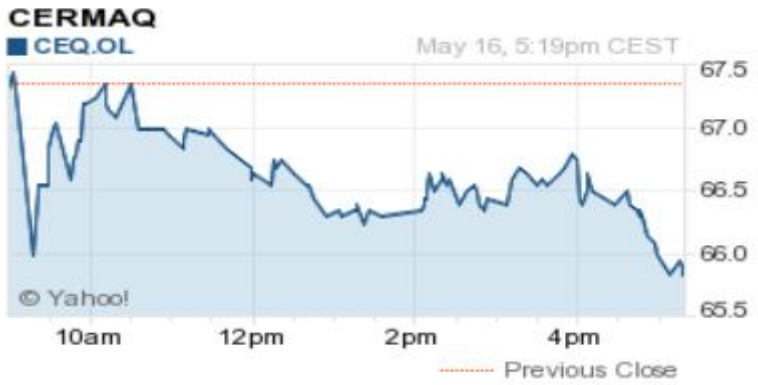
"The virus was detected by the company's fish health monitoring program, enabling effective action," Cermaq said.

"Canadian authorities have been notified and further actions, including decisions on depopulation, will follow normal routines."

**Associated Articles**

- Novartis: salmon PD vaccine just around the corner
- Decreased profits for Cermaq in first quarter
- Mainstream Canada unscathed amid B.C. storms
- Ruling denies class action status to BC salmon farm opponents

Cermaq's Chief Financial Officer told Stocklink (16 May) that the financial impact was "limited." However, Cermaq's share price plummeted during the day.




Reuters also reported on the IHN outbreak (16 May) noting that: "This information is subject of the disclosure requirements pursuant to section 5-12 of the Norwegian Securities Trading Act."

Is Cermaq not obliged to disclose more detailed disease information to shareholders and financial authorities via the Norwegian Securities Trading Act?

Cermaq's representatives in Canada appear alarmed. The Disaster News Network (18 May) and CBC News (17 May) reported Laurie Jensen, Cermaq's PR flak in British Columbia, as saying:

"This is code red. This is not good news for the fish or for the companies. We will contain this however way we can. We will lose money, it's in the millions. There's a lot of money at stake."


Read more via 'Cermaq's 'Code Red' in Clayoquot Sound'

It must be remembered that the last time there was an IHN outbreak in Clayoquot Sound a decade ago it precipitated a disease 'epidemic' with 36 farms infected and 12 million dead farmed salmon. Here's a photo of one of Cermaq's farms in Clayoquot Sound in 2001 during the IHN outbreak – with farmed salmon floating belly up on the surface:

Read more via 'Candid Canada: Infectious Diseases Going Viral!'

Cermaq's disease problems are spreading as fast as Cermaq's PR disasters. Such a policy is simply not sustainable. Surely it is time for Cermaq to stop spreading infectious diseases and start adopting closed containment technology and land-based containment?

And why is Cermaq farming an alien species – Atlantic salmon – in the Pacific? Not only is Cermaq spreading infectious diseases but you are also spreading genetic pollution (in the case of Clayoquot Sound in a UNESCO Biosphere Reserve).

Would you be available to meet in person to discuss these issues? I would be only too happy to brief you in more detail – it appears that you have been badly briefed by Cermaq management on the extent of the infectious disease problem in particular.

Yours sincerely,

Don Staniford
Global Alliance Against Industrial Aquaculture

**Appendix: Damning Evidence of Non-Disclosure of Disease Data**

GAAIA's complaint focuses on five main issues:

**1) Cermaq's refusal to publish disease data**

Cermaq has abjectly failed to publish disease data in annual reports, quarterly reports and so-called 'Sustainability' reports. Cermaq's 'Annual Report & Sustainability Report 2011' which is officially presented in Oslo today (24 May) fails to adequately address disease issues.

The report purports to address 'Fish Health' issues but it is lacking in information relating to Cermaq's operations in Canada in particular. For example, in Tor Valderhaug's 'CEO Message' it states:

"As there is always a risk of disease and other biological challenges, our primary task is to create expertise and good procedures for preventive fish health along with processes for reducing the impact of any outbreaks of disease. This was demonstrated in the summer of 2011 in Finnmark, where an ISA outbreak was well managed, both in terms of operations and in relation to the authorities. This limited the damage done to the company and upheld trust in Mainstream as a professional operator in the industry."

Cermaq also report (p2) that: "We experience that the salmon farming industry and the Chilean authorities have together taken it upon themselves to reduce the risk of an outbreak of disease similar to those happening a few years ago."

In fact, the issue of disease receives scant attention with specific reference only to losses due to parvicapsulosis at Mainstream Norway (p25). Yet, the damage being done by Cermaq in British Columbia and the trust being eroded by Mainstream Canada is ignored completely.

Cermaq does present details on sea lice infestation at Mainstream Canada but fails to detail other disease issues. Diseases are referred to in relation to vaccines.

Vaccinations are used when assessed effective for the species and in the region as an integral part of our preventive health measures. Examples of diseases the fish are vaccinated against are: IPN, SRS, Vibriosis, ISA, Furunculosis, Mouth rot, IHN and Enteric Red Mouth.

**CEQ 05 - Vaccines component**

| | Canada | Chile | Norway |
|---|---|---|---|
| SRS | - | X | - |
| Furunculosis | X | - | X |
| Vibriosis | X | X | X |
| Coldwater vibriosis | X | - | X |
| Winter sore | - | - | X |
| IPN | - | X | X |
| ISA | - | X | - |
| Enteric Red Mouth | X | - | - |
| Mouth rot | X | - | - |
| IHN | X | - | - |

Read more via 'Raining on Cermaq's 'Sustainability' Charade'

Strangely, this table appears to have been altered after its publication in April 2012. It now reads:

**CEQ 05 - VACCINATION PROGRAM**

Experience from the ISA crisis in Chile have made us work more systematically with preventive health measures in all three countries. Screening programs for monitoring relevant pathogens, vaccines, functional feeds, stress mapping, less use of antibiotic, improving water quality and more knowledge are key elements in our approach to ensure better fish health and welfare. This has given us more tools to better forecast disease events and knowledge to lower the risk for disease outbreaks.

Vaccinations are used when assessed effective for the species and in the region as an integral part of our preventive health measures. Examples of diseases the fish are vaccinated against are: IPN, SRS, Vibriosis, ISA, Furunculosis, and Enteric Red Mouth.

**CEQ 05: Vaccine component**

| | Canada | Chile | Norway |
|---|---|---|---|
| SRS | | x | |
| Furunculosis | x | | x |
| Vibriosis | x | x | x |
| Coldwater vibriosis | | | x |
| Winter sore | | | x |
| IPN | | x | x |
| ISA | | x | |
| Enteric Red Mouth | x | | |
| T. maritimum* | x | | |

* from this year class

How do you explain the differences? IHN, for example, is missing from the revised version.

Cermaq has been fore-warned of the dangers of infectious diseases for many years. In fact, in 2007 the Pure Salmon Campaign's shareholder resolution cited concerns with infectious diseases and IHN in particular.

"In British Columbia, Cermaq has experienced disease problems such as Infectious Hematopoietic Necrosis since 2002," stated the shareholder resolution. "In Clayoquot Sound and South Vancouver Island (where Cermaq's salmon farming operations are centered) the following diseases and parasites have been reported in farmed Atlantic salmon by the BC Salmon Farmers' Association since 2003: *Aeromonas salmonicida* (Furunculosis), Caprellid Infection, Myxobacterial Infection, *Lepeophtheirus* Infection (Sea Lice), *Renibacterium salmoninarum* (Bacterial Kidney Disease) and Infectious Hematopoietic Necrosis."

As my letter to Cermaq's Board of Directors in May 2011 stated:

"Cermaq's 2010 Annual Report does provide details of ISA, Pancreas Disease and other 'inflammatory type' diseases in Norway:

"The number of 'inflammatory type' diseases (PD, CMS, HSMI, ISA) in Norway has increased from less than 100 affected sites in 2001 to over 500 affected sites in 2009." (p13)

Yet there is no mention of 'inflammatory type' diseases in British Columbia. Why the non-disclosure in Canada especially since "reams of data" detailing 10 years of salmon farming

disease information (including many farms operated by Cermaq) was delivered to the Cohen Commission in January 2011 (following a ruling by Justice Cohen in December 2010 ordering the release)?

And why is there no reference to the disease data already published by the Ministry of Agriculture via the BC Salmon Farmers Fish Health Database? You will note here that Zone 2-3 is the Clayoquot Sound UNESCO Biosphere Reserve area where Cermaq is the sole operator farming Atlantic salmon. Further details on disease issues at Cermaq's farms in British Columbia were outlined in my letter to Geir Isaksen et al dated 23rd March regarding a lawsuit vs Cermaq's Canadian operator Mainstream Canada."

We know via the 'BCSFA Fish Health Database' that the latest disease information for 2010 (information is sadly not publicly available for 2011 and 2012) reveals the following disease problems for Cermaq in Clayoquot Sound for example: Lepeophtheirus Infection (sea lice); Myxobacterial Infection; Viral Haemorrhagic Septicemia Virus Infection; Aeromonas salmoncida Infection and Piscirickettsia salmonis Infection.

However, Cermaq's 'Annual Report & Sustainability Report 2011' patently fails to mention specific cases of infectious diseases at Mainstream's operations in British Columbia.

Read more via 'Raining on Cermaq's 'Sustainability' Charade'

As The Common Sense Canadian explained in August 2011:

"Documents obtained by *The Common Sense Canadian* reveal that the Norwegian-owned companies Marine Harvest and Cermaq (who together control three quarters of B.C.'s salmon farms) have been lobbying behind the scenes since at least 2008 for the Government not to release disease information. The BC Salmon Farmers Association (BCSFA) also successfully argued against the disclosure of disease data during the Cohen Inquiry, with Justice Cohen ruling in June that information must be kept confidential until the evidentiary hearings on aquaculture.

Clearly, these companies are very worried about this information getting out to the public. Marine Harvest admitted in a submission to the Office of the Information & Privacy Commissioner in 2008 that the release of disease information "would cause significant commercial harm," "undue financial loss" and that "Marine Harvest Canada's reputation could be tarnished and sales volume reduced". It further stated: "Marine Harvest is a publicly traded company on the Oslo Stock Exchange and as such, corporate reputation is very important in maintaining share price and shareholder loyalty." (On a side note, has this industry even informed their shareholders of the risk of Infectious Salmon Anemia in BC?).....

Meanwhile, Cermaq - who operate in Canada as Mainstream and whose largest shareholder is the Norwegian Government - claimed in another submission in 2008 to the Office of the Information & Privacy Commissioner that "disclosure would result in "undue financial loss" to Mainstream," "damage Mainstream's business" and referred to "the harm which such information in the wrong hands can do."

Similar statements were made by the BCSFA in submissions to the Cohen Inquiry in May this year. The industry lobby conceded that should disease data be disclosed publicly there

would be a “likelihood of misuse and irrevocable damage to the economic interests and reputations of participants and individuals.” In another submission to the Cohen Inquiry in May, the BCSFA admitted, “Irreparable damage will occur to the reputations and economic interests of the BCSFA’s member companies and their shareholders.”

While the BCSFA – whose members include the Norwegian companies Marine Harvest, Cermaq and Grieg – has been privately lobbying for the non-disclosure of disease data, they have issued public statements claiming “good health” and “healthy fish” on BC salmon feedlots. This is despite the fact that in April 2010, BC’s salmon farmers began ***refusing access to government inspectors to carry out disease monitoring*.**

Meanwhile, even the data the industry group wants the public to see reveals a host of deadly diseases, viruses, pathogens and bacteria since 2003 (published online via the "BCSFA Fish Health Database").

The latest disease data for Q1 2010 (2011 information is still not publicly available) reports the existence of: Lepeophtheirus Infection, Myxobacterial Infection, Viral Haemorrhagic Septicemia Virus Infection, Aeromonas salmonicida Infection and Piscirickettsia salmonis Infection on BC farms. A financial report published recently by Marine Harvest also reveals that the parasite Kudoa cost the company in Canada $4 million and resulted in reduced prices (kudoa causes myoliquefaction or soft-flesh syndrome which is off-putting to buyers).”

Read more via ‘Farmed Salmon Confidential: The Cover-Up’

Moreover, developments in Canada appear set to make disease information even more confidential and shrouded in secrecy. Alexandra Morton reported earlier this week (22 May):

“As we were going to ridiculous lengths just to find out where these fish are being dumped and what virus is actually in them, I got news that British Columbia is making this kind of ground-truthing illegal. In two weeks, I will be breaking the law if I inform you about a reportable disease like IHN and ISA. The lab reports will have to remain secret from you, and this Animal Health Act being proposed by Christy Clark's government seeks not only to override Access to Information, she also seeks to override the Offence Act opening the door to harsher penalties. The offence for failing to keep information confidential will draw the highest penalty.”

Read more via ‘Gov't Moving to Keep Farm Disease Outbreaks Secret’

**2) Damning disease data released via the Cohen Commission**

During Canada’s salmon inquiry (the ‘Cohen Commission’), damning disease data was revealed publicly for the first time. Cermaq reported disease information to the Cohen Commission – but why was this disease data not reported to shareholders, investors or the Oslo Stock Exchange?

Cermaq’s ‘Annual Report & Sustainability Report 2011’, for example, states that: “Cermaq and its subsidiary, Mainstream Canada, has engaged with this enquiry during 2011 and supported the commission with information requests.”

Was this disease data shared with investors and shareholders? Why was this important information not published via Cermaq's annual and quarterly reports?

Disease data made available to the Cohen Commission by the BC Salmon Farmers Association (Cermaq's subsidiaries EWOS Canada and Mainstream Canada are both members) included veterinarian reports detailing specific disease issues at Cermaq-owned farms in British Columbia. Infectious disease issues reported included, for example:

| Common abbreviations | |
|---|---|
| BCC | Brain capillary (vascular) congestion; distension of capillaries in the brain, including the meninges, is nonspecific evidence of circulating vasodilators or a mass-occupying intracranial lesion; hemorrhage sometimes occurs in severe cases. BCC is often associated with bacterial infections (e.g. mouthrot), but it also results when venous return is blocked (e.g, with thrombi, and massive intracranial hemorrhage or inflammation). BCC is not common with VHSV. |
| BHM | Brain hemorrhage (neuropil or meninges); massive hemorrhage is most likely a result of trauma, but mild hemorrhage might be secondary to vasculitis. |
| ECH | Endocardial cell hypertrophy (heart); ECH is evidence of systemic immune stimulation: probably resulting from inflammatory cell mediators released into the circulation (e.g., during a bacterial or viral infection). |
| EPH | Epicarditis, histiocytic (heart); epicarditis is evidence of chronic immune stimulation; differentials include a low grade bacterial infection and reaction to a vaccine. |
| GR | Granulomatous inflammation (no confirmed cause); differentials for granulomatous inflammation include a reaction to a vaccine and chronic bacterial disease (e.g., *Yersinia ruckeri* or *Renibacterium salmoninarum* infection). |
| ICN | Interstitial cell necrosis (kidney); large numbers of necrotic interstitial cells is the hallmark lesion of Infectious Hematopoietic Necrosis (caused by IHNV). Differentials include infection with bacteria (e.g., Yersinia ruckeri) or other viruses. |
| LFN | Liver focal/multifocal necrosis; hepatocellular necrosis can be caused by inadequate vascular perfusion (e.g., as occurs with harmful algal blooms or hypoxia) or direct cytotoxicity from viral or bacterial infections (e.g., viral hemorrhagic septicemia virus or *Piscirickettsia salmonis*). |
| LS | *Loma salmonae* infection. |
| IPR | Intestinal peritonitis or peritonitis of adjacent mesenteries; IPR is consistent with a reaction to foreign material; it is common in fish that have been vaccinated. Vacuoles (when present) probably represent lipophilic vaccine material that was removed during tissue processing (alcohol and xylene remove lipid from tissues before staining). Peritonitis can also result from a bacterial infection (e.g., *Yersinia ruckeri* or *Aeromonas salmonicida*). |
| ISH | Interstitial (hematopoietic) cell hyperplasia (kidney); ISH is evidence of increased demand for erythrocytes or white blood cells somewhere in the body. In Chinook salmon, this lesion is often associated with the clinical diagnosis of "Marine anemia". |
| LIP | Lipidosis (hepatocellular); LIP often occurs when fish are not feeding; it also occurs in cases of inadequate nutrition. |
| LKR | Leukocytic karyorrhexis (spleen); LKR is evidence of increased cell turnover, possibly as part on an active inflammatory response. |
| LSE | Lamellar subepithelial edema (gill); LSE is commonly associated with exposure to toxins, including formalin and hydrogen peroxide overdose. Lamellar edema is reversible if the inciting cause is removed. |
| MCC | Mesenteric capillary congestion (intestine); distension of capillaries in the mesenteric adipose tissue is nonspecific evidence of circulating vasodilators; hemorrhage sometimes occurs in severe cases. MCC is most commonly associated with VHSV and bacterial infections. |
| MEN | Meningitis and encephalitis (brain); MEN is evidence of immune stimulation; differentials include viruses, bacteria, and parasites (e.g., in Pacific salmon, *Loma salmonae* spores can cause a significant reaction, but they might not be detected on the H&E stain). |

| | |
|---|---|
| **PMX** | Presporogonic myxosporean (brain) infection |
| **PVL** | Perivascular lymphocytes/leukocytes (liver); PVL probably are foci of chronic immune stimulation (e.g., bacterial infection). |
| **SCN** | Single cell necrosis (hepatocytes); SCN is evidence of cellular damage in the liver. Causes of hepatocellular single cell necrosis have not been well defined in fish. Possible differentials include exposure to toxins (endogenous or exogenous) or viral infection (VHSV); single cell necrosis is a common feature of "net pen liver disease". |
| **SSC** | Sinusoidal congestion (liver); SSC is a nonspecific result of sinusoidal damage. In BC Atlantic salmon, sinusoidal congestion is an uncommon feature of infection with viral hemorrhagic septicemia virus (VHSV) and *Listonella anguillarum*. Sinusoidal congestion is one of the classic lesions associated with infectious salmon anemia virus (ISAV) infection, but ISAV has never been identified in British Columbia. |
| **TDI** | Tubular dilation (of lumen, kidney); TDI is evidence that flow of urine is abnormal. The most probable cause is some type of flow blockage. Increased sectional area of the tubular lumen can also result from attenuation of epithelial cells (e.g., after necrosis of tubular epithelial cells). |
| **TEP** | Tubular epithelial protein droplets (intracytoplasmic, renal tubules); TEP are normal in some species, or they may be an indication of glomerular disease. Ferguson ("Systemic Pathology of Fish," second edition, 2006) reports an association of renal protein droplets and high ammonia levels in salmonids. |

For example, a disease report for one of Cermaq's salmon farms in 2010 includes reference to "classic lesions associated with ISAV infections":

**Final Comment:** In addition to the ulcers described grossly, all fish have some degree of thrombosis of gill lamellar capillaries; in three of the fish, the lesions are of sufficient severity to have contributed to the fish's death. Thrombosis is evidence of increased coagulability, resulting from endothelial damage related to virus, bacterial, or parasitic infection, or exposure to toxins from harmful algal blooms. Comments on specific lesions follow:

Telangiectasis in the gill (lamellar capillary aneurysms or ruptured lamellar capillaries) most commonly results from trauma (e.g., handling).

Focal sinusoidal congestion in the liver is a nonspecific vascular lesion. Differentials include algal toxins, substances released from inflammatory cells or bacteria, and infection with VHSV; the cause is usually not determined. Sinusoidal congestion is one of the classic lesions associated with ISAV infections, but ISAV has never been identified in British Columbia. I have seen sinusoidal congestion in farmed rainbow trout fed rancid feed with high mycotoxin concentrations (unpublished data). The golden to amphophilic cytoplasmic inclusions in hepatocytes are large, up twice the size of hepatocyte nuclei. The inclusions are probably remnants of ingested erythrocytes (this type of inclusion has not been described with any salmon virus). Acid hematin accumulates when tissues are acidic during fixation; therefore, acid hematin deposits in congested foci are evidence that the congested focus was acidic. This could have occurred before death as a result of lactic acid accumulation in a region of decreased vascular perfusion.

Hepatocellular fatty change (lipidosis) often occurs when fish are not feeding; it also occurs in cases of inadequate nutrition.

Renal tubular epithelial protein droplets might be an indication of stress (e.g., recent vaccination or handling) or glomerular disease (source, "Systemic Pathology of Fish", Second edition, 2006, edited by H. Ferguson). Renal tubular intracytoplasmic protein droplets were common among fish sampled in 2009 as part of the Ministry's Fish Health Auditing and Surveillance Program in Atlantic salmon (prevalence = 36% ; n = 511).

Epicarditis is evidence of chronic immune stimulation; differentials include a low grade bacterial infection and reaction to a vaccine. It is common in Atlantic salmon "fresh silvers" that die in marine net pens, affecting 23% of the 512 Atlantic salmon hearts examined in 2009 as part of the Province's Fish Health Auditing and Surveillance Program.

Peritonitis of the spleen, intestinal ceca, and adjacent mesenteries is consistent with a reaction to foreign material; it is common in fish that have been vaccinated, affecting the mesenteries of 54% of the 514 Atlantic salmon fresh mortalities ("fresh silvers") examined in 2009 as part of the British Columbia Fish Health Auditing and Surveillance Program (40% were mild, 12% were moderate, and 2.1% were severe). Vacuoles are probably a result of vaccine material lost during tissue processing.

More details via '[Dropping the Disease Bomb!]' and '[Decade of Data Disclosed for B.C.'s Salmon Feedlots]'

Reams and reams of disease data was made available to the Canadian Government by Cermaq and is readily available online via the Cohen Commission's '[Exhibits]'. Why has this damning disease information not been shared more publicly by Cermaq?

Disease data for the period 2003 to 2010 was submitted to the Cohen Commission – including the following information relating to salmon farms operated by Cermaq (Pacific National Group) – in 2009:

| | | | | | | |
|---|---|---|---|---|---|---|
| 2-3 | Pacific National Bawden | 09-330 | Viral Haemorrhagic Septio | 29/01/2009 | NULL | Viral Haemorrhagic Septicemia Virus |
| 2-3 | Pacific National Bawden | Rx. 09-30 | Lepeophtheirus Infection | 05/04/2009 | 11/04/2009 | Not Provided |
| 2-3 | Pacific National Bedwell | \HC 09-74 | Viral Haemorrhagic Septio | 05/03/2009 | NULL | Viral Haemorrhagic Septicemia Virus |
| 2-3 | Pacific National Bedwell | Rx.09-26 | Myxobacterial Infection | 14/04/2009 | 18/04/2009 | Flexibacter sp. |
| 2-3 | Pacific National Bedwell | Rx. 09-45 | Lepeophtheirus Infection | 01/05/2009 | 07/05/2009 | Lepeophtheirus salmonis |
| 2-3 | Pacific National Binns Island | Rx 09-15 | Lepeophtheirus Infection | 12/02/2009 | 18/02/2009 | Lepeophtheirus salmonis |
| 2-3 | Pacific National Dixon | Rx. 09 -105 | Aeromonas salmonicida Ir | 12/09/2009 | 12/10/2009 | Aeromonas salmonicida |
| 2-3 | Pacific National Fortune Chann | Rx. 09-47 | Lepeophtheirus Infection | 02/05/2009 | 07/05/2009 | Not Provided |
| 2-3 | Pacific National McIntyre | Rx 09-148 | Aeromonas salmonicida Ir | 19/12/2009 | NULL | Aeromonas salmonicida null |
| 2-3 | Pacific National Millar | 09-329 | Viral Haemorrhagic Septio | 02/02/2009 | NULL | Viral Haemorrhagic Septicemia Virus |
| 2-3 | Pacific National Millar | Rx. 09-17 | Lepeophtheirus Infection | 20/02/2009 | 26/02/2009 | Lepeophtheirus salmonis |
| 2-3 | Pacific National Millar | 09-1876 | Not Provided | 13/05/2009 | NULL | Viral Haemorrhagic Sept on going |
| 2-3 | Pacific National Millar | Rx. 09-128 | Lepeophtheirus Infection | 28/10/2009 | 03/11/2009 | Lepeophtheirus salmonis |
| 2-3 | Pacific National Millar | Rx. | Not Provided | 26/11/2009 | NULL | Not Provided |
| 2-3 | Pacific National Mussel Rock | Rx. 09-71 | Aeromonas salmonicida Ir | 21/05/2009 | 31/05/2009 | Aeromonas salmonicida Pens 101, 103, |
| 2-3 | Pacific National Mussel Rock | Rx. 09-65 | Aeromonas salmonicida Ir | 11/06/2009 | 17/06/2009 | Aeromonas salmonicida |
| 2-3 | Pacific National Mussel Rock | Rx 09-81 | Myxobacterial Infection | 06/07/2009 | 10/07/2009 | Flexibacter sp. |
| 2-3 | Pacific National Rant Point | Rx.09-48 | Lepeophtheirus Infection | 06/05/2009 | 13/05/2009 | Lepeophtheirus salmonis |
| 2-3 | Pacific National Ross Pass | Rx. 09-16 | Lepeophtheirus Infection | 22/02/2009 | 28/02/2009 | Lepeophtheirus salmonis |
| 2-3 | Pacific National Saranac | Rx. 09-51 | Aeromonas salmonicida Ir | 30/04/2009 | 06/05/2009 | Aeromonas salmonicida |
| 2-3 | Pacific National Saranac | Rx 09-71 | Myxobacterial Infection | 06/06/2009 | 15/06/2009 | Flexibacter sp. |
| 2-3 | Pacific National Saranac | Rx 09-82 | Myxobacterial Infection | 11/07/2009 | 11/07/2009 | Flexibacter sp. Treatment wa |

Other data is available online via the Cohen Commission's 'Exhibits' and online via 'Victory for Disease Disclosure - Data from 2002 to 2010 Published (and more to come)!'

Read more background on the data disclosed by the Cohen Commission and the fight to keep information secret via 'Lies, Damned Lies & Salmon' and 'Norwegian Blues'

**3) Cermaq's refusal to allow Government inspectors onto sites**

In March 2010, Cermaq refused access to Government veterinary inspectors to test for infectious diseases. "I don't know how these feedlots are getting away with this, but they must have reasons for such extreme secrecy," wrote Alexandra Morton who testified to the Cohen Commission and has campaigned on greater transparency on ISA.


As revealed at the Cohen Commission, this decision was privately criticised by the Director of Aquaculture Management at the Department of Fisheries & Oceans in Canada.

**From**: Thomson, Andrew
**To**: Swerdfager, Trevor; Ford, Sharon; Porter, Edward
**Sent**: Mon Mar 29 13:34:29 2010
**Subject**: RE: letter to MAL from BCSFA re information release and further consequences

The problem with this approach of industry is that it will cause a break in the time series of fish health data that BC has been collecting, which is a issue scientifically, and they have also informed BC that they will not provide carcasses for fish health sampling.

Both of these decisions by BC SFA are short sighted as it plays back into the whole secrecy issues that the industry is criticised for.

Andrew J. L. Thomson
Director - Aquaculture Management | Directeur - Gestion de l'aquaculture
Fisheries and Aquaculture Management Branch | Direction des p□ches et de l'aquaculture

Further documents are available via the Cohen Commission's database.

Hence, since April 2010 all disease inspections in British Columbia have been co-ordinated by the industry themselves via a former EWOS (Cermaq) veterinarian, Dr. Sonja Saksida (read her CV online here), who heads the BC Centre for Aquatic Health Science (CAHS). CAHS board of directors includes Dr. Peter McKenzie who works for Mainstream Canada (i.e. Cermaq).

A disease report – detailing data for 2009 – was published in 2010 but there appear to have been no comprehensive reports made public since. CAHS now conducts 'Fish Health Audits' with much less information published.

For example, 2011 data for Q1 only relates to 15 audits and specific diseases are not broken down into regions (as is the case for the 2003-2010 data set). Even so, fish health events reported in BC during Q1 2011 include: Bacterial Kidney Disease, Skin Ulcers (filamentous myxobacteriosis) and Parasitic meningitis.

**4) Lack of transparency on risks of Infectious Salmon Anaemia**

Cermaq has known of the huge risks posed by ISA in British Columbia in particular yet has failed to disclose this information. GAAIA's letter to the Cermaq Board of Directors in May 2011 included:

"Why has the Cermaq Board of Directors not made shareholders and investors aware of the risks posed by ISA in British Columbia? If there are 35 suspected cases of ISA in British Columbia then Cermaq, as BC's second largest operator with 24% of sites, must surely be implicated. How many Cermaq-owned sites in British Columbia have been affected by ISA and why has Cermaq failed to disclose disease risks shareholders, investors and the Oslo stock exchange?" (the letter is available in full online here).

Since May 2011, further evidence of the risks of ISA has been made public. The New York Times, for example, reported in July 2011:

"A virus that has killed millions of salmon in Chile and ravaged the fish farming industry there was probably brought over from Norway, a major salmon producer has acknowledged. Cermaq, a state-controlled Norwegian aquaculture company that has become one of the principal exporters of salmon from Chile, has endorsed a scientific study concluding that salmon eggs shipped from Norway to Chile are the "likely reason" for the outbreak of the virus in 2007, according to Lise Bergan, a company spokeswoman."

Read more via 'Norwegians Concede a Role in Chilean Salmon Virus'

As The Common Sense Canadian explained in August 2011:

"In November 2008, the scientific journal *Archives of Virology* published a paper titled, "ISA virus in Chile: evidence of vertical transmission" – which identified an unnamed Norwegian broodstock company as being responsible for spreading ISA to Chile from Norway via infected eggs.

Immediately following the paper's publication, the Norwegian broodstock company AquaGen (whose shareholders include the world's #1 and #2 salmon farming companies – Marine Harvest and Cermaq) filed a formal complaint with Norway's National Commission for the Investigation of Scientific Misconduct, charging the paper's findings were inaccurate. In doing so, they (AquaGen) outed themselves as the previously unnamed subject of the report. Cermaq, who had financed the scientific research via lead author and company employee Dr. Siri Vike (and owned more than 12% of the subject egg company) said nothing at the time.

It was only in April 2011, over two years after the complaint, that Norway's National Commission for the Investigation of Scientific Misconduct unanimously ruled that the scientific research was **valid**. Cermaq was faced with no choice but to come out publicly in support of the research and in late April Dr. Siri Vike gave a presentation in Oslo, Norway, acknowledging the vertical transmission of ISA to Chile from Norway. Cermaq published the presentation – "Preventative Fish Health Work" – very quietly on their website in early May.

Unfortunately for Cermaq – which is over 40% owned by the Norwegian Government – sometime in late June of this year the company "accidentally posted online" private minutes of a "Cermaq Corporate Team" meeting in April. The notes referred to the "very sensitive" situation in B.C. and stated that: "[Salmon farm activist Don] Staniford has been twittering about Siri Vike and the article on the ISA virus and how it originated from Norway."

Following the publication of the private minutes in full online by Alexandra Morton in early July, Cermaq responded with an article on "The real ISA 'situation in BC' for Mainstream Canada" – which claimed that "the research mentioned has to do with Chile and Norway, and nothing to do with Canada," and, "there is no ISA present in our broodstock."

Read more via 'Farmed Salmon Confidential: ISA and the Cohen Commission'

The evidence for ISA in BC waters is now overwhelming despite attempts by the industry and government to cover it up. In October 2011, ISA was reported in BC for the first time – with further positive tests for ISA reported. Read a letter from GAAIA to the Canadian Government (31st October 2011) - download online here.

For more details read 'Chronology of a Cover Up in Canada: ISA in British Columbia'

In November 2011, 'Fishyleaks' published a secret report from 2003 detailing over 100 cases of ISA in BC (including in farmed Atlantic salmon).

Read more via 'Canadian Cover-Up on Infectious Salmon Virus - Leaked report reveals over 100 positive ISA cases in farmed and wild salmon'

At the Cohen Commission's ISA hearing in December 2011, it was revealed that ISA had been in BC waters since 1986 and that government agencies had orchestrated a cover-up.

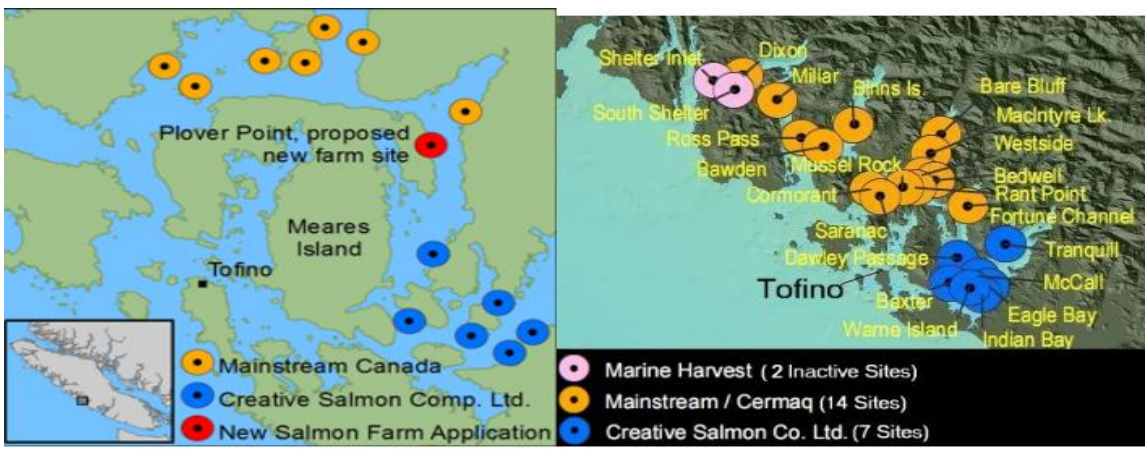
"Canadian scientist testifying in front of a commission on the collapse of the Fraser River salmon fishery says that tests done as far back as 2002 did find indicators of the Infectious Salmon Anemia (ISA) virus in pacific salmon and that her lab had discovered evidence of the virus from fish gathered in 1986," reported NPR (15 December).

CBC News reported (15 December): "Department of Fisheries (DFO) biologists have told a federal inquiry that fish samples, dating back more than two decades have tested positive for a virus potentially lethal to wild sockeye salmon — but that fact wasn't publicly reported. Dr. Kristi Miller, the head of molecular genetics for DFO in Nanaimo, told the Cohen Commission on Thursday that frozen samples dating back to 1986 have been tested, and show infectious salmon anemia (ISA) has been in B.C. waters for at least 25 years."

Friends of Clayoquot Sound reported (17 December): "Evidence surfaced December 15th at the Cohen Commission in Vancouver that Infectious Salmon Anemia (ISA) virus is present in Clayoquot Sound at Creative Salmon's chinook salmon feedlots. A newly emerging deadly virus called Heart and Skeletal Muscle Inflammation (HSMI) is also present in Creative's farmed salmon."

Read more via 'Kristi Miller Steals Show Again as Salmon Inquiry Rocked by New Virus Bombshells' and 'Clayoquot Under Virus Attack!'

Why did Cermaq not inform shareholders, investors and the Oslo Stock Exchange on the risks of ISA in British Columbia? Even if Cermaq did not introduce ISA into BC there are significant risks of ISA spreading from Creative Salmon's operations in the Clayoquot Sound UNESCO Biosphere Reserve, especially since Cermaq is seeking to expand even closer to Creative Salmon's disease-ridden operations.



Read more via ‘Sounding the Alarm in the Clayoquot Sound UNESCO Biosphere Reserve’

During the ‘Salmon Farming Kills’ trial in the Supreme Court of British Columbia, I testified that Cermaq was already afflicted by ISA in British Columbia (based on information sourced from a respected professor in Norway).

Is it true that Cermaq has suspected ISA in British Columbia for years yet has failed to warn investors or disclose this information to shareholders or the Oslo Stock Exchange? Did Cermaq spread ISA to Creative Salmon in Clayoquot Sound?  Is legal action pending?

In June 2011, Cermaq’s Communications and Corporate Sustainability Manager in Canada, Laurie Jensen, claimed during a public meeting that “ISA is an East coast disease, not a West coast disease” and that symptoms of ISA are not in B.C.

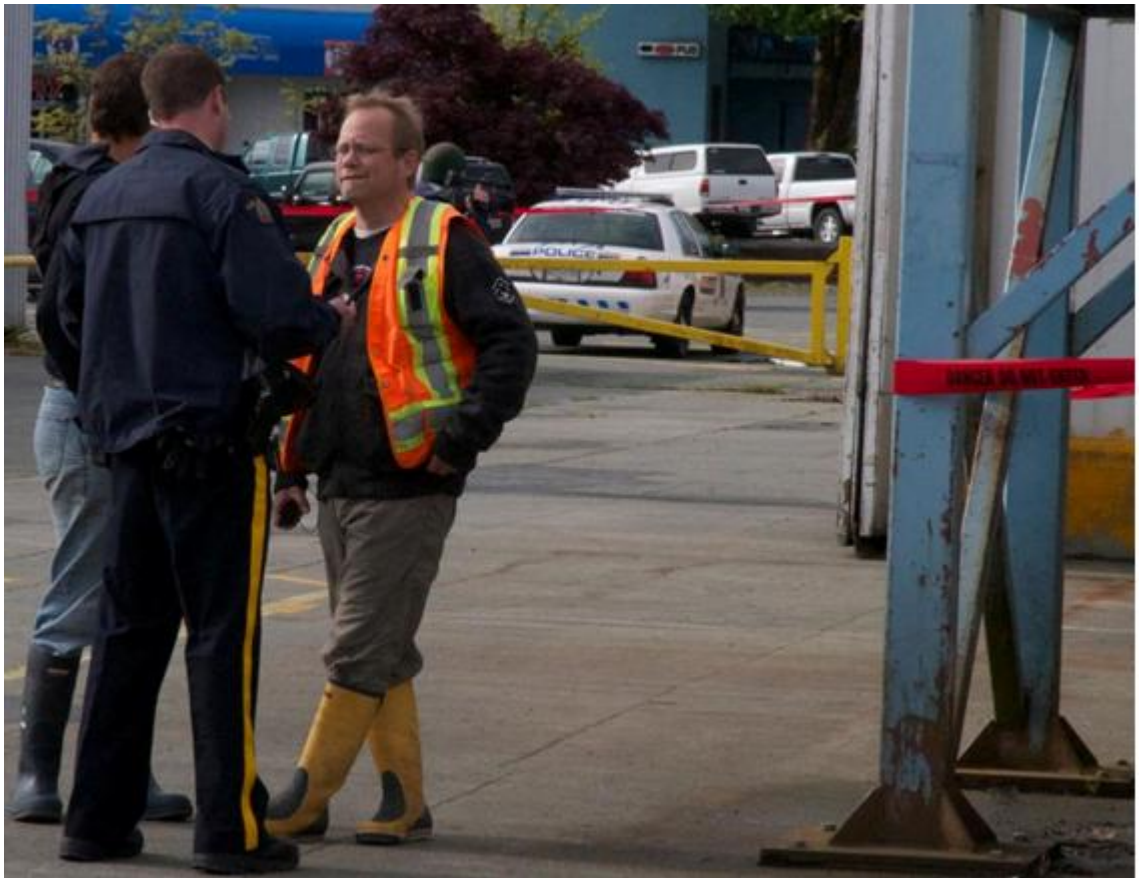

Watch Laurie Jensen denying that ISA is in BC - online here

In view of such deceit, it is not surprising to see Cermaq pictured as a liar.

Read more via ‘Lies, Damned Lies & Salmon

**5) Breach of bio-security relating to Infectious Haematopoietic Necrosis**

The latest news from British Columbia does not inspire confidence in Cermaq’s bio-security procedures. Indeed, Cermaq could well be in deep water with the authorities for failing to properly inform the public, First Nations and the relevant authorities.



The Ha-Shilth-Sa newspaper reported yesterday (23 May) that “local First Nations were not notified of the plan, according to Tseshaht Councillor Les Sam.” Apparently there is an offloading plan that sanitizes the boats after they are done. The fish are put into pumper trucks and taken to a composting facility,” Sam said.

“But I’m still not satisfied. We weren’t informed or consulted, and we don’t like the fact that is being brought to Port Alberni. We thought it was a bad place to unload, and it shouldn’t be here.

Mainstream spokeswoman Laurie Jensen admitted her company failed to contact the full range of stakeholders in its haste to deal with what threatened to become a crisis situation.

“We erred. We were so focused so much on biosecurity, on safety, and on making sure the site was de-populated in a proper manner–and trying to keep people from breaking the quarantine,” Jensen said, adding that activists endangered the process at both the off-load and the composting site.

“Unfortunately, our focus got changed, and we missed a whole group of stakeholders. Not just Tseshaht First Nation, we missed others. We missed the mayor [John Douglas], other First Nations–we even missed some of our colleagues,” Jensen said. “I apologize to the First Nations. We had put our [media] releases out, but there were gaps.”

On Tuesday, Tseshaht fisheries manager Andy Olsen said Mainstream Canada could have eased First Nations’ fears by making samples of the fish available for independent scientific testing.

“We had some discussions with Mainstream Canada, through Mike Peterson, the local rep,” Olsen said. “I asked him for a fish to sample and he said ‘Absolutely not–no way could we get a fish to sample.’”

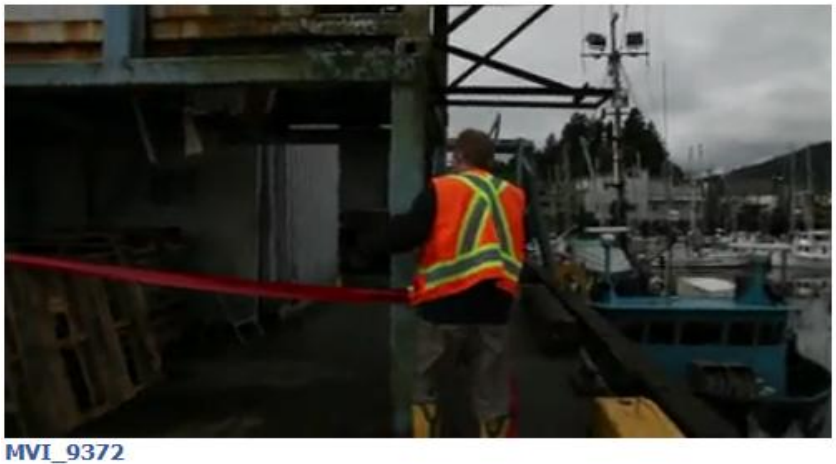
Sam said his concern was the possibility that the vessels may have leaked a blood trail all the way up Alberni Inlet. “When we’re fishing in the river and we rinse out our totes, you can see the [salmon] fry feeding on the blood. It attracts all kids of sea life,” he said. Any contaminated blood would move directly into the food chain, and that would endanger wild salmon stocks, Sam said.

Read more via ‘Mainstream apologizes for failing to inform local First Nations about fish disposal’

Watch a video of Mainstream Canada’s Dave Pedersen man-handling a videographer and putting up bio-security tape **after** IHN-infected farmed salmon had started to be transferred from the boat to the disposal truck at a public dock in Port Alberni – online here

**Anissa Reed** ▶ **Salmon Are Sacred**

Mainstream says we were harassing them.. Dave Pedersen called the police saying that. This video shows the truth. He was harassing with physical force. There were no signs up. I was at a government dock. This story with a quote from Laurie Jensen saying we violated biosecurity ran on CTV. There is so much more evidence to show they violated their own biosecurity:



**MVI_9372**

Mainstream says we were harassing them.. Dave Pedersen called the police saying that. This video shows the truth. He was harassing with physical force. There were no signs up. I was at a government dock. This story with a quote from Laurie Jensen saying we violated biosecurity ran on CTV. There is so much more evidence to show they violated their own biosecurity: Photos to follow with details.
Length: 6:51

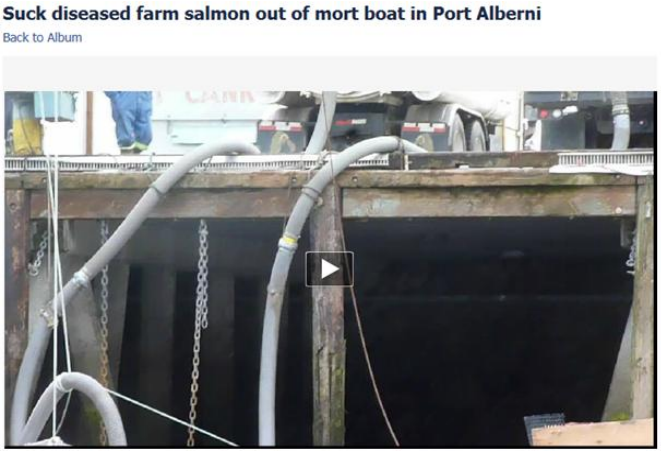
Reporting from the scene, Anissa Reed of Salmon Are Sacred posted on Facebook:


A photo posted on Facebook shows Mainstream Canada's Dave Pedersen behaving badly.

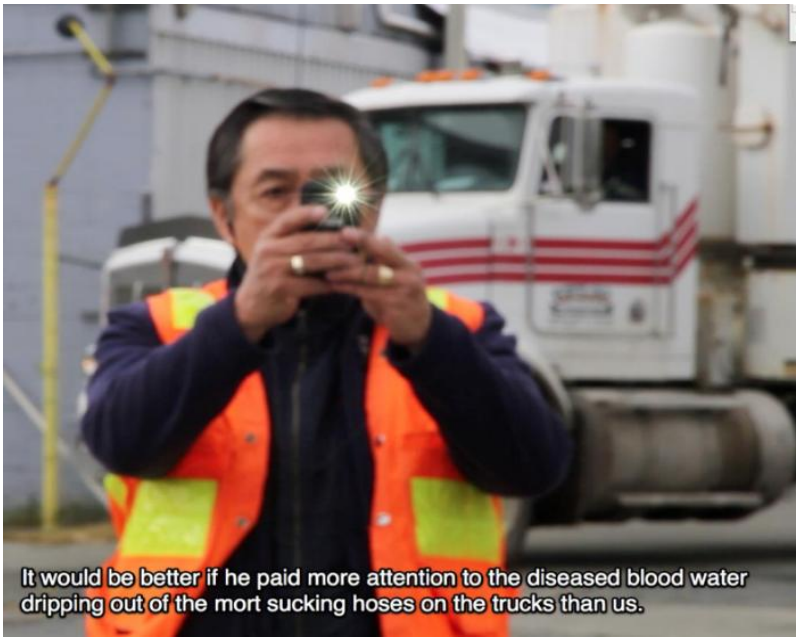

Watch the video online here

"At 8 am trucks started coming alongside the boat, pumping out the dead Atlantic salmon infected with a disease the company is saying is IHN," said Alexandra Morton reporting from the scene via her blog. "There was no containment around the boat, so if a pipe connection fails all the young salmon coming out of the rivers right now will be bathed in the virus."

Watch video footage – online here



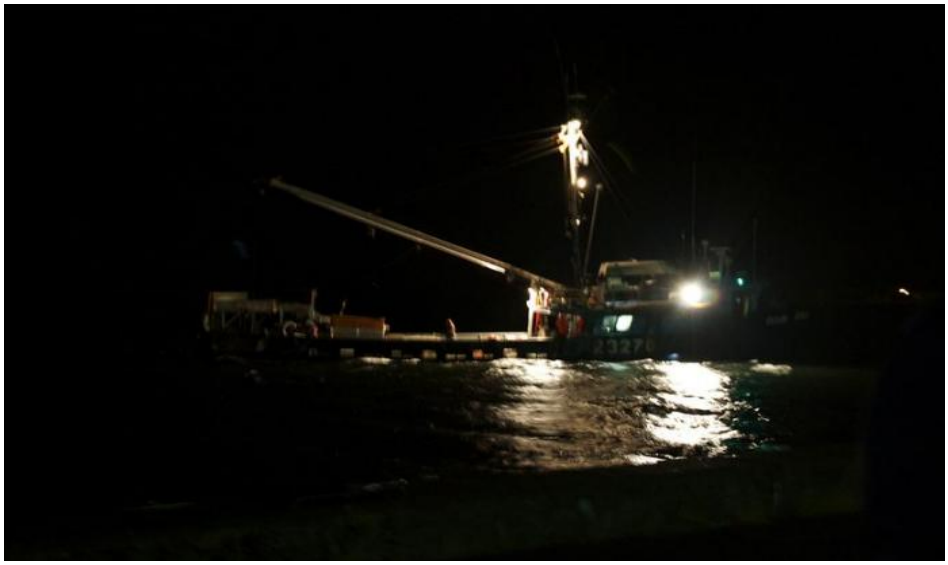

“The Mainstream crew were hostile,” continued Morton. “However, after I told them several times that blood water was dripping from the hoses as the trucks pulled away, they used the caps and sealed them.”




“We followed the trucks and found they were dumping them nearby at the Earth, Land and Sea "organic" composting plant. Perhaps there is containment that is not visible in this picture to prevent it from flowing into the inlet, or being carried by the birds.”

View photo online here

“We alerted the local First Nation fishery biologist,” continued Morton. “Les Sam, the ex-chief and a councilman requested some of these fish for testing, to find out exactly what virus is in these fish and thus have the capability to track it in their fish. They had not been notified that their territory was being used to dump diseased Atlantic salmon. The mayor also showed up, apparently he had not been contacted by Mainstream either.”



“We are headed for Dark Ages of pestilence and war lords. If this corporate dream legislation passes you won't be hearing from me anymore. Mainstream, Marine Harvest and Grieg, the three Norwegian operators in BC will have won. They can have massive epidemics of mutating viruses and you won't be allowed to know that you are consuming a side order of viruses in every bite. I am in shock. We could try using democracy to stop this, but far far more people would have to engage than is typical. As I write this the Ocean King Mort Packer is on her way for another helping of diseased farm salmon. Are we dammed to hell?”

Watch video online here


MVI_9398

Alexandra Morton talks about the Ocean King and the diseased/dead farmed salmon being sucked into mort trucks at the Port Alberni government dock.

Read more online via ‘IHN infected farm salmon transported through Alberni Inlet - one of the last farm-free migration routes left’

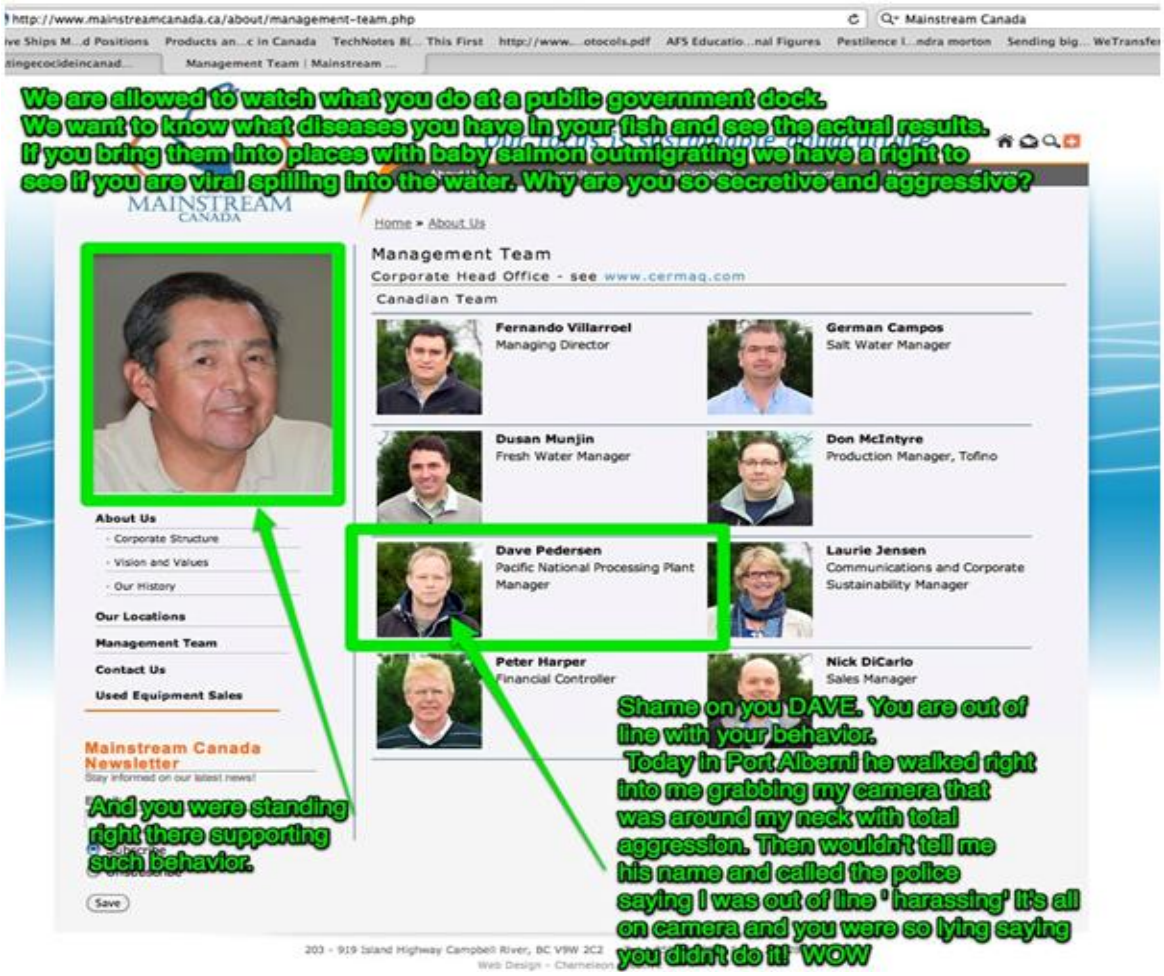
Does Cermaq management endorse Mainstream Canada’s actions?

Both Anissa Reed and Alexandra Morton were accused by Mainstream Canada of having “harassed” employees and for choosing “to ignore bio-security protocols.” CTV News

reported (22 May) accused activists of violating quarantine rules and "spreading the disease themselves."


Watch CTV News report online here

Yet it appears clear that it was Mainstream which was guilty of breaching bio-security and failing to notify the public, First Nations or the police. As Anissa Reed wrote on Facebook:



Mainstream Canada also accused (18 May) a videographer of "violating bio-security" when he filmed at the IHN-infected site in Clayoquot Sound. However, as was pointed out on Facebook:

**Will Soltau** 5:36am May 24

Now, let me get this right. Videographer in water taxi is accused of possible spread of virus to nearby town for getting too close to quarantined salmon farm for how long? Minutes? Salmon farm boat ties up to same quarantined farm numerous times and pumps quarantined fish into its hold taking likely hours each time, then travels to distant town to discharge said quarantined fish. Applying the same logic used to claim videographer and water taxi are engaging in risky behaviour, it would seem logical to me that the salmon farm boat exhibited much riskier behaviour.

The suggestion that Cermaq is guilty of failing to follow proper bio-security procedures was backed up by another posting on Facebook:

**Dewain Emrich** 11:02pm May 23

Alexandra Morton, In the video you and Anissa took, I didn't see any of the precautions required for the transfer of IHNV diseased fish in place as required by http://www.agf.gov.bc.ca/ahc/fish_health/IHNV_Isolation_Control_Procedures.pdf. I took the document from the BC government web site http://www.agf.gov.bc.ca/ahc/fish_health/IHNV.htm. Perhaps this failure to follow government proscribed procedures would be newsworthy.

The relevant Government documents are available online here and here.

CTV News last night (23 May) broadcast another report on Cermaq's breach of bio-security. "Reed says there were no signs indicating there was a quarantine at the government dock where the salmon were being offloaded," reported CTV News. "What's happening to this virus?" asked Anissa Reed. "The public deserves transparency here."

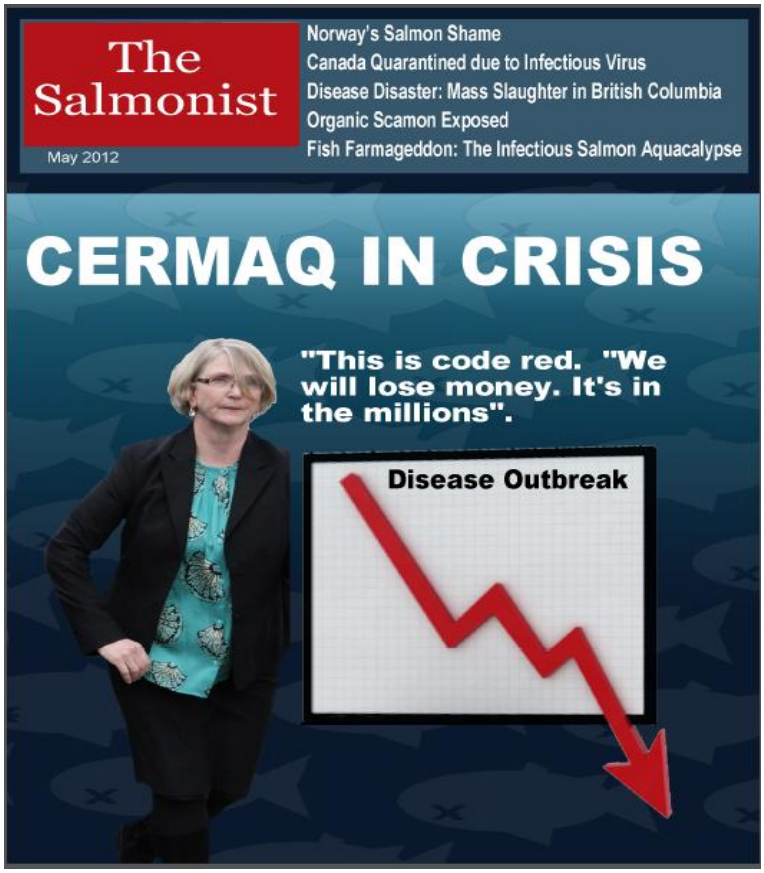
Watch CTV News online here

Suffice to say that Cermaq will be hearing much more about IHN in the future. Cermaq may be wise to consult with former EWOS veterinarian Dr. Sonja Saksida (who is now in control of the BC salmon farming industry's disease reporting). Writing about the last IHN epidemic in 2001-2003 (which also struck in Cermaq's operations in the Clayoquot Sound UNESCO Biosphere Reserve) she pointed out:

"Evidence presented herein appears to show that farming practices themselves contributed significantly to the spread between farms both within and between areas."

Read more via 'Infectious haematopoietic necrosis epidemic (2001 to 2003) in farmed Atlantic salmon *Salmo salar* in British Columbia'

If Cermaq is found guilty of breaching bio-security during this latest IHN outbreak the financial fall-out alone could be significant (even more so if ISA and/or other infectious diseases are officially reported at Cermaq's Canadian operations). Hence the need to be more transparent in disease reporting to investors, shareholders, First Nations, the public and the Oslo Stock Exchange.




Read more details via 'The Salmonist'