

Lethal Atlantic Virus found in Pacific Salmon

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The highly contagious marine influenza virus, Infectious Salmon Anaemia (ISA) has for the first time been officially reported after being found in the Pacific on B.C.'s central coast.

Now it threatens both wild [salmon](#) and herring, say biologist Alexandra Morton and Simon Fraser University professor Rick Routledge, whose laboratory led to the discovery of ISA in B.C. salmon smolts.

Morton is calling for removal of Atlantic salmon from B.C. [salmon farms](#). “Loosing a [virus](#) as lethal and contagious as ISA into the North Pacific is a cataclysmic biological threat to life,” said Morton. “The European strain of ISA virus can only have come from the Atlantic salmon farms. European strain ISA infected Chile via Atlantic salmon eggs in 2007.”

Morton says ISA was first found in Norway in 1984. “Since then, there have been lethal outbreaks in every important salmon-farming region around the globe, with the exception – or so we thought – of B.C. Now we know for sure that it has hit B.C.

“The Cohen Inquiry revealed ISA symptoms have been reported in farm salmon in B.C. since 2006. The Fisheries Ministers have written me repeatedly that B.C. is safe from ISA. Clearly they are not in control of the situation.

“If there is any hope, we have to turn off the source: Atlantic salmon

have to be immediately removed.”

The virus was found in two of 48 sockeye smolts collected as part of a long-term study, led by Routledge, on the collapse of Rivers Inlet sockeye populations.

Dr. Fred Kibenge of the ISA reference laboratory at the Atlantic Veterinary College in P.E.I. made the diagnosis and notified the Canadian Food Inspection Agency (CFIA) of the positive results for the European strain of ISA virus.

Says Routledge: “ISA is a deadly exotic disease which could have devastating impacts on wild salmon and the many species that depend on them throughout much of British Columbia and beyond.

“The combined impacts of this influenza-like virus and the recently identified parvovirus that can suppress the immune system could be particularly deadly.”

Morton adds: “The New York Times reported from Chile that the Chilean aquaculture industry suffered more than \$2 billion in losses, saw its production of Atlantic salmon fall by half, and jobs were lost.”

“A scientific study concluded that salmon eggs shipped from Norway to Chile are the ‘likely reason’ for the outbreak of the virus in Chile in 2007. And nearly 40 million Atlantic salmon eggs have been imported into B.C. since 1986.”

“This is devastating news and something I worked hard to prevent. This has international implications throughout the North Pacific.”

Routledge concurs that the only plausible source for the European strain of ISA virus that he found on B.C.’s Central Coast is the Atlantic salmon

farms.

Rivers Inlet is on the B.C. Central Coast in the heart of the Great Bear Rainforest – 100km north of a cluster of Norwegian-owned Atlantic salmon feedlots off Port Hardy and 140km south of Marine Harvest’s feedlots near Klemtu.

“The potential impact of ISA cannot be taken lightly,” said Routledge. “There must be an immediate response to assess the extent of the outbreak, determine its source, and to eliminate all controllable sources of the virus – even though no country has ever eradicated it once it has arrived.”

Routledge is a fish-population statistician who was a founding member of the Pacific Fisheries Resource Conservation Council. Morton received an honorary degree from SFU for her work linking sea lice infestation in wild salmon to fish farming in the Broughton Archipelago, which has sparked international attention.

The two researchers said that the federal Cohen Commission on the decline of sockeye salmon runs in the Fraser River was told that more than 1,000 cases of ISA-type lesions have been reported on B.C. salmon farms since 2006 – yet no suspect cases or diagnoses of ISA were reported to the Canadian Food Inspection Agency, or to the World Organization for Animal Health (known as OIE, from its former name of Office International des Epizooties).

Morton, who long ago urged the federal government to close the border to Atlantic salmon eggs as the virus spread in fish farms around the world, says the fact that ISA was found in smolts suggests it has been loose in the Pacific for several years.

“Government and industry are clearly not testing effectively. There

needs to be an international volunteer epidemiological team formed right now. No one party can own the data. We have to use everything we know to try and contain this.”

The researchers say if there is any hope of controlling this disease it must be addressed at the source. The virus is also prone to mutating into increasingly virulent forms.

ISAV and B.C. salmon farms

- ISA has only appeared where salmon are raised in aquaculture and has spread worldwide since first being reported in Norway in 1984.
- ISA can infect herring, as well as, salmon. ISA was first reported in Eastern Canada in 1996 and continues to cause problems there.
- In 2007, ISA began in a non-lethal form in Chile and became a virulent epidemic killing 70 per cent of the farm salmon. Chile does not have wild salmon.
- In January 2009, a group of Canadian scientists, including David Suzuki, signed a letter warning the Canadian Fisheries Minister of the risks of introducing ISA into B.C.

Ex-minister Gale Shea refused to acknowledge that ISA reached Chile in eggs, although Cermaq, a state-controlled Norwegian aquaculture company that has become one of the principal exporters of salmon from Chile, endorsed a scientific study concluding that salmon eggs shipped from Norway to Chile were the ‘likely reason’ for the outbreak of the virus in Chile in 2007.

- ISA is known to exist in a non-lethal state, causing low mortalities on salmon farms and then mutate into highly virulent strains when

contained in salmon farms.

- Forty million Atlantic salmon eggs have been introduced into BC since 1986 www.pac.dfo-mpo.gc.ca/aquacult...rts/egg-oeuf-eng.htm. The Fish Health Certificate that must be signed by the foreign hatcheries does not specifically request ISAV reporting (Manual of Compliance, Ottawa 2004, page 51).

Fisheries and Oceans did not require reporting of ISA virus on salmon farms, but the Canadian Food Inspection Agency intervened in January 2011 and made ISAV a reportable disease www.gazette.gc.ca/rp-pr/p2/201...ors296-eng.html#REFa See “Regulatory Impact Statement” 2/3 down the site.

- As a participant of the Cohen Inquiry, Alexandra Morton read the B.C. Ministry of Agriculture and Lands disease reports and found over 1,100 reports of “classic” ISAV lesions in farm salmon.

Justice Cohen was petitioned by her lawyer, Greg McDade, to allow her to report these to the Canadian Food Inspection Agency, but the CFIA appear to have merely called the fish farmers and asked if they had ISAV; no testing was done.

- In 2004, Dr. Laura Richards, Director General of DFO Science, Pacific Region, successfully petitioned on behalf of the fish farm industry to waive the Canadian Fish Health Protection Regulations to allow Atlantic salmon eggs from a hatchery that does not meet Canadian regulations (CohenCommission.ca Exhibit #1683).

Since then all Atlantic salmon eggs have come from this hatchery. In 2005 an entire shipment was destroyed due to viral concerns (CohenCommission.ca Exhibit #1684). There is no record of testing the eggs that arrived in B.C. from the same hatchery the previous month

(CohenCommision.ca Exhibit #1683).

More information: Report on ISA to World from Dr. Fred Kibenge, University of Prince Edward Island: www.oie.int/eng/A_aquatic/Docs...ions/1.11Kibenge.ppt

Provided by Simon Fraser University

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