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Commentary by ALEXANDRA MORTON

Reading between the Lines at the Cohen Commission

I have engaged in every government process designed to protect wild salmon from salmon farms since 1988 and every one of them has said the same thing—separate the wild and farm salmon. But the salmon farmers won't do this because their share price has to grow. The laws that protect shareholders are more powerful than the laws that protect our homes, the natural resources of British Columbia and our future.

At its root the Cohen Commission is seeking why the Fraser sockeye have been in decline for 18 years. Whatever is killing these sockeye affects only the sockeye that migrate north out of the Fraser River past Campbell River. The sockeye that go south have been increasing over the same time period.

The cause of the decline must have started in 1992, when the decline began, and it would have to explain the strange behaviour plaguing the Fraser sockeye since the mid-1990s: entering the river too soon and dying just before spawning. And it must have turned off from 2008-2010 to allow survival of the huge run last year.

I approached this as a murder mystery and viewed the over 500,000 documents provided to the Commission as clues; including DFO emails, reports, briefings, provincial farm disease data and maps all available in a confidential electronic database. After years of having to wonder what DFO was thinking, I was able to read their own words. I assembled all the information on this into a report but the Commission would not accept it.

In 1992, Chinook salmon farms were placed in the narrowest channels of the Fraser sockeye migration route off Campbell River. These farms were plagued with a mysterious illness that weakened the farm fish to the point they died of many things. The director of DFO's Pacific Biological Station, Dr Mike Kent, named it Plasmacytoid Leukemia caused by the Salmon Leukemia Virus. Brain tumours were associated with the disease. It caused fish farm companies to go bankrupt. The industry switched to Atlantic salmon. Studies reported farmed Chinook salmon

could infect sockeye salmon. DFO did nothing to protect the Fraser sockeye or wild Chinook populations.

One sockeye generation after the arrival of this disease in the narrowest channels of their marine migration route, the Fraser sockeye began entering the river too early, dying before spawning and declining, and they did not bounce back until the Chinook salmon farms were quietly removed from their migration route in June 2007.

As reported at The Cohen Commission, the first Fraser sockeye smolts that did not pass by Chinook salmon farms since 1992 began the reversal of the decline and by 2010 returned in historic numbers. This pattern is so remarkable that application of the Precautionary Principle to remove salmon farms from the Fraser sockeye migration route should be obvious.

But back in 2006, so many sockeye were dying in the river, DFO had to factor this in before they could open a fishery. Pre-spawn mortality had to receive an allocation. DFO tasked their own scientist, Dr Kristi Miller, to read the biological switches that turn on and off in all living cells in response to starvation, algae blooms, disease, food, etc. It is called genomic profiling. Miller was expected to find the Fraser sockeye were starving, but the pattern she saw showed virus and/or cancer; she called it the mortality related genomic signature.

While I believe she deserves the Order of Canada, this finding was bad for her career. There was only one virus that fit the physical condition of the fish, their strange behaviour and the cellular response: Salmon Leukemia Virus.

Miller found what appeared to be tumours in the Fraser sockeye brains. She found herself in a minefield. Woe to the DFO scientist who finds evidence salmon farms are killing wild salmon—because policy says they don't. This is how we lost the North Atlantic cod; DFO ignoring their own scientists. In that case the DFO scientist quit but Dr Miller is staying and fighting to identify and track the virus killing the Fraser sockeye.

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DFO decided Miller could not attend the closed scientific meetings on the 2009 sockeye collapse. They told her not to speak about the timing, or to say that salmon farm disease and the onset of the sockeye collapse coincided. They also refused to give her \$18,000 to test the genomic profile of the farm salmon.

At the Cohen hearings, salmon farmers said they would *begin talking to Miller about testing their fish after the Cohen hearings*. One of the most chilling discoveries I made is that the provincial autopsies on dead farm salmon are reporting the diagnostic lesions of Salmon Leukemia regularly, but the supervising vet does not believe in the disease and so the official diagnosis will never be Salmon Leukemia—if you don't diagnosis it, it doesn't exist.

The Cohen Commission's government lawyers received my report, and never asked a single question about it. The lawyer for Canada called it 'hearsay'. They attacked my education, and that I travel freely over the ocean in a speedboat, suggesting I am a biohazard for going near the salmon farms. When the lawyer for BC asked about my

lack of respect for some senior government scientists, he talked over me as I tried to answer. The transcripts will be on the CohenCommission.ca website at some point.

I never got the chance to tell Justice Cohen that the Province of BC is also diagnosing the clinical signs of all the lethal and emerging pathogens in Norway: pancreatic disease, heart and skeletal muscle inflammation, and Infectious Salmon Anemia, a jaundice condition of farm salmon in Chile. I cannot explain why I am the only person who seems concerned that a test for the exotic Salmon Alphavirus is being developed by the province.

At this point I don't think we are going to keep our wild salmon. As a resident of tiny Echo Bay, I see this as an invasion; the local people have no rights. Biological truths have no weight in the courts, or in government. The wild salmon can only live or die, they have already been compromised to death. If we want wild salmon it is up to us. The power of one is all we have, but we all have it.

Find out more about Alexandra Morton's work at: www.salmonaresacred.org, alexandramorton.typepad.com. 