RAINCOAST RESEARCH

Potential virus killing Fraser sockeye

What is it and where did it come from?

(Sointula, BC, January 14, 2011) A study published in the prestigious journal, SCIENCE, by lead author Dr. Kristina Miller of Fisheries and Oceans Canada reports on genetic evidence that a virus maybe killing up to 95% of some Fraser sockeye stocks just before spawning.

"*Our hypothesis is that the genomic signal associated with elevated mortality is in response to a virus infecting fish before river entry and that persists to the spawning areas*."

Dr. Alexandra Morton of Raincoast Research says, "it is evident from this paper that DFO has known about this potential virus since 2006, but after four years they are still not certain what it is. The evolution of new viral strains is often associated with abnormal concentrations of animals or birds, like avian flu. We need to know if this is indeed a virus, if it is related to the farm salmon disease, salmon leukemia and if there is something we can do about it."

DFO studies in the 1990s documented salmon leukemia in Chinook salmon farms and found it could infect Atlantic and sockeye salmon. At the same time the number of Fraser sockeye dying just before spawning began increasing, called "prespawn mortality". In 2006, Dr. Miller, found the genomic signature of these dying sockeye had a distinctive "unhealthy" profile that may be a form of leukemia. Salmon Leukemia is a retrovirus. Retroviruses are known to exhibit a high *mutation* rate.

"Did this virus start in the wild, become amplified in the farm Chinook and mutate to infect the millions of nearby introduced Atlantic salmon altering it to become unidentifiable?" asks Morton. "DFO has significantly delayed this critical research by keeping this secret."

There is one stock of Fraser sockeye that has not been on the rollercoaster of decline and boom. The Harrison sockeye, which have been steadily increasing over the past 18 years, are not found migrating to sea through the salmon feedlots of eastern Vancouver Island, researchers believe they go to sea via southern Vancouver Island.

In a Vancouver Sun article one of the co-authors, Dr. Scott Hinch of UBC notes there have been insufficient funds to tackle this issue.

In November, the Globe and Mail published a leaked memo to the Minister of Fisheries that suggested disease as a leading possibility for the 2009 Fraser sockeye decline, but DFO did not make this information public. Morton's attempt to cross-examine on that document at the Cohen Commission was refused at the time. "We hope that Commissioner Cohen will now look into what else DFO knows about this situation and the possibility that DFO has been protecting the salmon farming industry, at the expense of the $1 billion Fraser sockeye fishery," says Morton.

"I will also raise questions at the Cohen Commission whether DFO has fully supported Dr. Miller in her pursuit of this critical work and whether Miller has been given full access to the farm salmon populations for testing?" Last month Morton's lawyers asked for the Cohen Commission to hold a special portion of the hearing to look into whether this potential virus is impacting wild sockeye and whether this is a mutated form of salmon leukemia.

Morton has started a petition to urge Minister Shea to allow Dr. Miller to test the salmon feedlots for this disease:
https://spreadsheets.google.com/viewform?formkey=dEtNMExpVGpXZ2U4R3J1dFdhQVJxU3c6MQ

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