

QUESTIONS AND ANSWERS

SCIENCE PAPER - FRASER RIVER SOCKEYE

Q: Are there links between the disease cited in this research and salmon farms?

A: Fisheries and Oceans Canada has not conducted research associated with this particular disease and salmon farms and would not speculate on such a link. However, the signature observed related to mortality in salmon was present in salmon migrating through both Johnstone Strait, where there are salmon farms, and Juan de Fuca Strait, where there are no salmon farms. As well, our unpublished data shows that the signature is present as far north as the Haida Gwaii, where there are no salmon farms.

Q: Could the virus described in the research be Infectious Salmon Anemia Virus or Infectious hematopoietic necrosis virus or infectious pancreatic necrosis virus ?

A: We have used molecular screening for all of the major viruses affecting fish on the coast of British Columbia, none of them are positively associated with this signature. Research is currently focused on sequencing affected tissues to try to identify a pathogen.

Q: What are the potential causes of the disease and conditions observed by the authors of this paper?

A: The paper notes that there are significant linkages of this disease with leukemia-like diseases. However, we have not identified a disease agent at this time.

Q: The Cohen Inquiry is looking at the causes of declining sockeye salmon returns to the Fraser River in 2009. Is this disease a major cause?

A: The Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River (the Cohen Inquiry) was established by the Prime Minister in November 2009. The Commission has held public forums, contracted 12 scientific research papers, is reviewing past studies and papers, and is holding evidentiary hearings with a large number of witnesses in order to conduct a thorough inquiry into all factors which may affect sockeye salmon. This paper could likely be considered during the Inquiry.

Q: It has been reported in the media that brain lesions in fish are one of the three most likely causes of the collapse of sockeye salmon in the Fraser River in 2009. Is this true?

A: There are a number of factors being reviewed. Fisheries and Ocean Canada has examined whether there could be a linkage between brain lesions and the "Viral-type" signature described in the *Science* paper, in sockeye salmon. Experimental work to date shows that the brain lesions and signature are not linked, and that the brain lesions are likely aneurisms of unknown origin, not tumours. Research continues on this issue.

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