

## Infectious Salmon Anemia (ISA) Virus: The bottom line for Oregon salmon

Scientists in British Columbia recently announced the discovery of traces of the ISA virus in wild Pacific salmon. The ISA virus is a highly contagious virus that has caused significant losses among farmed Atlantic salmon.

The initial news release announcing the finding raised alarm and predictions of “devastating impact” and “cataclysmic threat” to wild Pacific salmon populations.

However, ODFW fish health specialists have concluded the ISA virus poses no significant risk to Oregon salmon populations. Here’s what we know about the ISA virus and Pacific salmon:

- ISA is a marine fish virus that primarily affects farmed Atlantic salmon. It has caused catastrophic losses in the net pen industry in Norway, Chile and, recently, on the east coast of the United States.
- While ISA is highly contagious and spreads easily among fish confined in large, commercial net pens, there is no conclusive evidence that it is transmitted in the wild. While some DNA from the virus has been detected in wild fish, virologists have not isolated nor confirmed the whole live virus in wild salmon.
- ISA virus has no effect on human beings.
- If the presence of the ISA virus is confirmed in the Pacific Northwest, it is unlikely to pose a risk to Oregon fisheries for several reasons:
  - Oregon does not have a commercial industry raising Atlantic salmon in large, confined net pens. The absence of large populations of Atlantic salmon and confined net pen culture are two major barriers to the spread of the ISA virus to Oregon stocks.
  - Pacific salmon species are much less likely to be infected by the virus than Atlantic salmon. In laboratory experiments by the US Geologic Survey in Seattle, scientists injected Pacific salmon with the virus and there was little or no mortality.
  - ISA is a marine (ocean) pathogen that is unlikely to infect fish in our rivers and streams.
  - For the virus to become ‘established’ in the Pacific Northwest, it would have to infect a large number of fish or fish species and be continuously passed from host to host.
- Finally, it is very difficult to predict what impact the presence of a disease or parasite can have on fish populations.
  - In the mid-1980s whirling disease was discovered in Montana and Colorado and was predicted to wipe out trout populations in several world-renowned fisheries. Today those fisheries have recovered and are pretty much back to normal.
  - In 1989 viral hemorrhagic septicemia virus was isolated from spawning salmon in two locations in Washington state. At that time, VHSV was an extremely virulent pathogen from Europe and Japan and many predicted it would have dire consequences for Pacific

Northwest salmon populations. As of today, VHSV has been isolated several times in the Pacific Northwest, including three times in Oregon, but its impact on salmon has been negligible. Note: VHSV is a significant viral pathogen that has caused significant losses in herring and anchovy populations, but it has not had an impact on Northwest salmon.

At this time, the ISA virus has not been detected in Oregon waters. The Oregon Department of Fish and Wildlife takes the health of Oregon fish populations very seriously. Each Year we look at more than 15,000 fish for a variety of viruses and pathogens. Samples are taken from ocean and hatchery fish, and from fish in every major river basin. While we do not currently test for the ISA virus, our testing procedures are adequate to pick up the virus should it occur. To learn more about ODFW's Fish Health Management Policy, visit our website at [http://www.dfw.state.or.us/fish/hatchery/docs/fish\\_mgmt\\_policy.pdf](http://www.dfw.state.or.us/fish/hatchery/docs/fish_mgmt_policy.pdf)

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