BC SALMON FARMERS

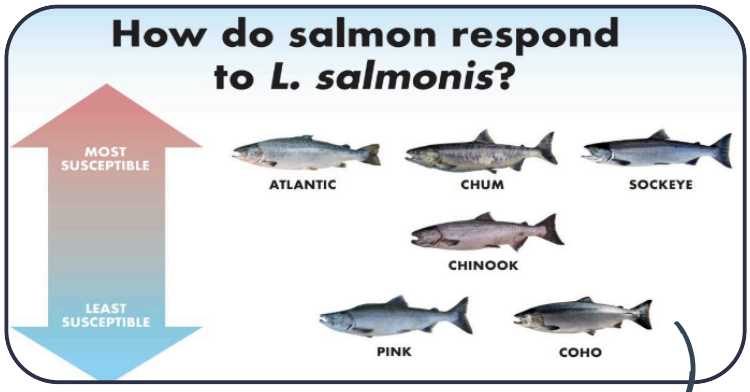
Sea Lice

Q: What are sea lice, and how do they relate to Pacific salmon?

A: Sea lice are small parasites that naturally evolved alongside Pacific salmon and are found on all species of wild Pacific salmon. In BC, there are two main species: the "salmon louse" (*Lepeophtheirus salmonis oncorhynchi*), which mainly affects salmon, and the "herring louse" (*Caligus clemensi*), which infests at least 12 other fish species. The salmon louse is larger and more harmful, making it the focus of regulatory management programs.

Q: Which salmon species are most susceptible to sea lice in BC?

A: Atlantic salmon are the most susceptible to sea lice in BC. Among Pacific salmon, Chum and Sockeye are the most susceptible, followed by Chinook, Pink, and Coho salmon.



Q: How are sea lice managed on salmon farms, and why?

A: Sea lice on salmon farms are managed primarily to protect juvenile wild Pacific salmon. Farm-raised salmon are free of sea lice when first placed in ocean pens, and all farms adhere to strict targets and sea lice thresholds set by both government and First Nations. Regular sea lice counts are performed by farmers and reported to several oversight bodies. See below for some examples of sea lice management methods.

Did you know?

Coho salmon have a unique ability to produce mucus that can engulf and disintegrate sea lice!

Salmon farmers employ various measures to manage sea lice, such as:

Prevention

- Investment in technology that grows salmon smolts on land longer
- Selective breeding programs
- Technology, such as aeration, bubble curtains, physical barriers etc., that prevent sea lice from entering a salmon farm
- Area based management and single year class stocking of farms

Mitigation

- Farmed salmon enter ocean sea lice free
- Year-round sea lice monitoring by DFO and Veterinarians
- If management thresholds are exceeded, then a treatment occurs until sea lice numbers are below threshold again
- Regular sea lice reporting to regulators

Components of IPM

- Integrated Pest Management program
- Veterinarians use this holistic approach that focuses on prevention, continuous monitoring, and proactive treatment
- Third-party laboratory analysis of sea lice sensitivity to treatment method

Treatment

Treatment methods are rotated to ensure sea lice don't build a resistance:

- SLICE
- In vessel treatments
  - Fresh water baths
  - Hydrogen Peroxide baths
- Mechanical delousers

For all treatments, effluent water is filtered to collect the sea lice and dispose of them on land.

FAQ

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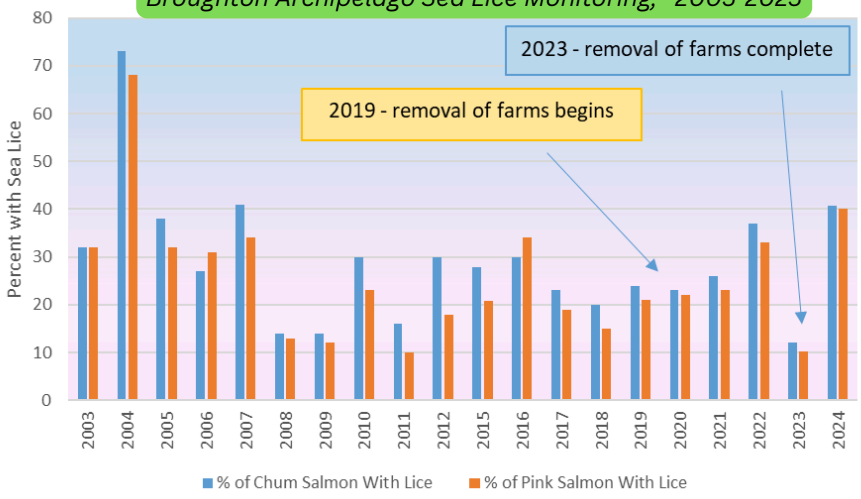
Q: How long has sea lice treatment and regulation been in place for farmed salmon in BC?

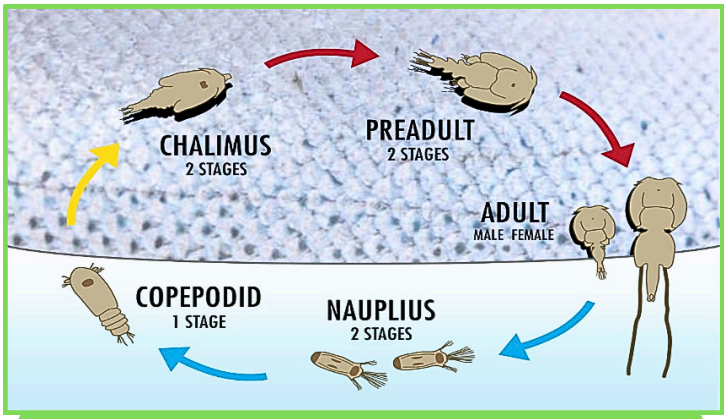
A: Farmers in BC have been treating sea lice infestations on farm-raised Atlantic salmon since at least 1991. In 2003, the BC government introduced a strict precautionary management threshold for sea lice, which was twice as stringent as Norway's at the time. This regulatory threshold has been in place for 20 years.

Q: How is sea lice monitoring conducted for wild salmon in BC?

A: Sea lice levels on juvenile wild salmon are monitored and data is collected by DFO, third-party contractors, and First Nation oversight bodies, in every salmon farming region in BC as a condition of federal licensing for Atlantic salmon farms.

Broughton Archipelago Sea Lice Monitoring, 2003-2023





Life cycle of the salmon louse (Lepeophtheirus salmonis).

Want to learn more?

Scan the QR code to check out
"Modern Salmon Farming: A Review" for info on:

- Indigenous Stewardship in Aquaculture
- Feed Sustainability
- Protecting Biodiversity
- Sea Lice Management

and more!

"Modern Salmon Farming: A Review"
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