Sea lice management at BC salmon farms

WHAT ARE **SEA LICE?**

Sea lice are parasites that have lived in BC's coastal waters for thousands of years. Farmed fish are free of sea lice when they enter the ocean but can pick them up in the marine environment.

The species of sea lice that most affects wild and farmed salmon is called L. salmonis.

Sea lice generally do not harm adult fish. but can harm small iuvenile salmon.

Fisheries and Oceans Canada's (DFO's) requirements ensure that lice numbers are lowest during the outmigration period, when wild juvenile salmon are at greatest risk.

YEAR ROUND

Farm operators must routinely conduct counts of sea lice on their fish and report these numbers monthly to DFO.

MARCH 1 TO JUNE 30

WILD JUVENILE OUTMIGRATION PERIOD

This is when young, wild salmon journey from their freshwater birthplaces to the ocean.

If counts of farmed fish show an average of more than 3 motile L. salmonis per fish, farm operators must take measures to reduce lice levels. "Motiles" are lice at the free-moving stage of their life cycle.

All active farms are monitored for sea lice and DFO audits 50% of farms during the outmigration period.

Most years, more than 90% of sites are below the regulatory thresholds for sea lice during this critical time.

OUTMIGRATION **BEGINS**

Sea lice abundance varies from year to year and is influenced by environmental conditions like ocean salinity and temperature.

JULY TO DECEMBER

OUTMIGRATION

AUG

ENDS

JUL

- In late summer, wild salmon start to return to their spawning grounds. These wild fish naturally carry sea lice, which they can transfer to farmed salmon. This is why lice levels on farms begin to increase in late summer and peak in early winter.
- On the farms, sea lice can proliferate due to the high population density of fish.

SEP

· Farms must increase monitoring and implement a sea lice management plan if levels exceed 3 sea lice motiles per fish; however, treatment is not required at this time (this minimizes the release of chemicals into the environment).

3-MOTILE OUTMIGRATION THRESHOLD

DFO conducts sea lice audits to verify the accuracy of industry reporting.

In 2017 DFO sampled 2,640 Atlantic salmon during 44 sea lice audits.

DEC

This graph represents lice levels at an average farm during an average year.

204



SEA LICE

APPLIED

JAN

TREATMENTS

Sea louse

UNMANAGED

LICE LEVELS

Farms begin taking measures to reduce lice levels, if needed. This can include harvesting or the use of an in-feed or bath treatment approved by Health Canada.

HHB

5

4

MAR



JUN

RESULTS of both industry counts and DFO audits are available at **www.dfo-mpo.gc.ca/aquaculture/protect-protege/parasites-eng.html**