

# Management of Sea Lice in B.C.

(<http://www.dfo-mpo.gc.ca/aquaculture/lice-pou/lice-pou01-eng.htm>)

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British Columbia's aquaculture industry is jointly managed by the provincial and federal governments in that Fisheries and Oceans Canada (DFO) is responsible for the licensing and overall management of sustainable fisheries and aquaculture, where as the province is responsible for issuing and managing the land tenure of the farm area. Sea lice management is of the utmost interest and levels are strictly monitored and managed to ensure the continued health and safety of the coastal ecosystem.

In B.C., Fisheries and Oceans Canada is the lead federal agency for aquaculture and is responsible for ensuring that the aquaculture industry operates in a sustainable manner. Under the B.C. Aquaculture Regulatory Program, the Department manages:

- Mandatory monthly sea lice monitoring and documentation, including individual salmon observations, by both industry and Fisheries and Oceans Canada fish health staff.
- The implementation of a Fish Health Management Plan (FHMP) as a condition of licence for all salmon farming companies.
- Sea lice audits of salmon farms conducted by Fisheries and Oceans Canada and reported quarterly<sup>1</sup>. The number of farms selected for audit is increased during the wild smolt out-migration period (March through June).
- Information collected on sea lice abundance from salmon farms, which is evaluated with environmental information and supports integrated area management of lice populations during wild stock out-migration.

Detailed results of industry sea lice counts are available at: <http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/lice-pou-eng.htm>

Fisheries and Oceans Canada's Science branch also supports sea lice management by conducting aquaculture-specific research, monitoring wild salmon stocks and sea lice outside of cages and enforcing regulations relating to aquatic animal health.

All farmers of Atlantic salmon are required to monitor the abundance of sea lice on their farms at least once a month. At any given time, should the average motile lice per fish reach three, definite and rapid action must be taken. Since recent assessments of Pacific salmon farms indicate that few if any lice are found on farmed Chinook and Coho salmon, the monthly monitoring requirements continue to apply only to Atlantic salmon farms. Sea lice reduction actions may include:

- increased frequency of monitoring;
- harvesting of most affected populations, therefore reducing the numbers of lice at the farm;
- use of therapeutants to treat lice infestation; and/or
- applying other farm husbandry techniques to reduce the abundance of lice.

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<sup>1</sup> Beginning in the second quarter of 2011

## Sea Lice Management in British Columbia and the World

Of the numerous countries that farm Atlantic salmon, British Columbia has some of the most strictly managed sea lice regulations and monitoring programs.

**Comparison of Action Levels in Other Countries** (from the 2009 B.C. Ministry of Agriculture and Land's Annual Fish Health Report)

<i>Country</i>	<i>Time of Year</i>	<i>Trigger Level</i>	<i>Action(s)</i>
<b>Norway</b>	Year round	0.5 adult females 3 motile lice	Various treatments are available
<b>Scotland</b>	Spring time	No official trigger but targets are: 0.5 adult females	Various treatments are available
	Remainder of year	1 adult female	
<b>Ireland</b>	March 1 – April 30	0.3 – 0.5 egg-producing (gravid) females per fish	Various treatments are available
	May 1 – February 28	2 gravid females per fish	
<b>Chile</b>	Year round	6 motile lice per fish	Various treatments are available
<b>B.C. Canada</b>	March 1 – June 30	3 motile lice per fish*	Harvest or treat (1 in-feed drug available)
	July 1 – February 28	3 motile lice per fish	Elevate monitoring, or apply treatment, or harvest

\* An analysis of B.C. Ministry of Agriculture and Lands data (of second quarters 2006 - 2009 during the fry out-migration period) indicates that an abundance of zero to three motile lice per fish includes fewer than 0.3 gravid females per fish in that same season, March to July. This low abundance of gravid females in B.C. remains lower than trigger values assigned in other countries.