



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

Assistant Deputy Minister  
Ecosystems & Oceans  
Science Sector

Sous-ministre adjoint  
Secteur des sciences des  
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SEP - 7 2011

Your File    Votre référence

Our File    Notre référence

Ms. Alexandra Morton  
< [gorbuscha@gmail.com](mailto:gorbuscha@gmail.com) >

Dear Ms. Morton:

This is in response to your correspondence of June 29, 2011, addressed to the Honourable Keith Ashfield, Minister of Fisheries and Oceans, regarding the infectious salmon anemia virus (ISAV). I have been asked to respond on the Minister's behalf.

Regarding your first question, conveying your concern for transmission of ISAV via eggs, as noted in the reply to you from the Honourable Gail Shea, former Minister, on October 18, 2010, Fisheries and Oceans Canada (DFO) is aware that, while there is no scientific evidence for ISAV occurring inside eggs, there is a small possibility that ISAV could be on the surface of the eggs at spawning. In addition to other measures outlined in the attached appendix, surface disinfection of eggs provides further assurance that ISAV will not be transmitted from parent to progeny via the eggs.

As noted in Dr. Laura Richards' December 3, 2010, correspondence to you, prior to being shipped to British Columbia, eggs are screened for all filterable replicating viral agents, which includes ISAV. After import, the eggs and their resulting progeny are health-screened five times prior to release into seawater. This screening is conducted by a third-party laboratory using current diagnostic methods, as outlined in the *Fish Health Protection Regulations* and the World Organisation for Animal Health (OIE) *Manual of Diagnostic Tests for Aquatic Animals*, and includes screening for ISAV.

A condition of the Atlantic egg import agreement into British Columbia is that results of the fish health testing must be reported to a local fish health officer on a monthly basis while fish are in quarantine. To date, no viral pathogens have been identified during these screenings, nor have there been any physical signs that undiagnosed infectious agents were present. No cases of ISAV have been identified in British Columbia.

In addition, using the OIE-recognized diagnostic test for ISAV, DFO has conducted some screening of wild Pacific salmon and trout for ISAV. No salmon in British Columbia have tested positive for this virus, including those salmon from the genomic studies by Dr. Kristi Miller.

In response to your second question regarding there having been no Atlantic egg imports into British Columbia in 2010, the Introductions and Transfers Committee has made no changes to existing import regulations, and I cannot speculate on the commercial reason for the 2010 import level.

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Ottawa, Canada  
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While departmental officials have provided information regarding your third question in the past, I welcome the opportunity to reiterate the measures in place to deal with ISAV. As mentioned above, I have attached an appendix that outlines the measures in place. To summarize, these measures include egg surface disinfection, a quarantine period, health testing, disinfection of all shipping materials before disposal, and a restricted import protocol (i.e., from ISA-free regions only). These measures are highly effective against ISAV and other salmonid pathogens.

Regarding your fourth question, as I noted earlier, the existing measures in place in British Columbia are highly effective against ISAV and other salmonid pathogens, and no salmon in British Columbia have tested positive for ISAV.

Finally, in response to your fifth question, all ISAV cases reported to the Canadian Food Inspection Agency (CFIA), and thereafter by CFIA to OIE since 2005 (confirmed and suspected), are for parts of the east coast of Canada only (New Brunswick and Prince Edward Island).

Monitoring and reporting are a function of all aquaculture licences, and DFO intends to give the public access to as much information as possible concerning the environmental, scientific and operational status of British Columbia's aquaculture operations, consistent with laws around privacy and access to information. The Department's objective is to facilitate a higher level of public awareness and confidence in aquaculture management through an open and transparent approach by making information available in a timely manner.

DFO takes its responsibility to safeguard the health of British Columbia's wild salmon very seriously. In developing the *Pacific Aquaculture Regulations*, the Department has built on the experiences of the past, and has carefully examined regulatory regimes for aquaculture management in other countries to identify best practices and lessons learned that are relevant to the situation in British Columbia.

Thank you for writing with your concerns.

Sincerely,



Siddika Mithani, Ph.D.

Attachment

## **PREVENTING THE SPREAD OF FISH PATHOGENS**

Strict measures are in place to prevent the spread of both identified and unidentified fish pathogens from other countries and other parts of Canada to British Columbia's fish farms.

For aquaculture purposes, British Columbia has a strict importation policy of fertilized eggs only for all salmonid species.

Under Fisheries and Oceans Canada's *Policy for the Importation of Atlantic Salmon into British Columbia*, only surface-disinfected, fertilized Atlantic salmon eggs from sources certified by a local fish health officer (LFHO) are permitted for import into British Columbia. No live Atlantic salmon or unfertilized eggs are eligible for import.

Any facility serving as a source of eggs for import into British Columbia must undergo rigorous health testing under the *Fish Health Protection Regulations* before eggs can be provided to British Columbia culture operations.

This applies to facilities within Canada or abroad. To export to British Columbia, a facility must be compliant with Canadian laws and regulations.

Since the last import of eggs from Washington State in 2001, the only eggs that have been imported into British Columbia have come from a pathogen-free source in Iceland. This source is a dry-land, closed-containment facility.

Imports of fertilized eggs from qualifying facilities are held in strict quarantine and isolation for up to one year, and the resulting progeny undergo rigorous health testing before introduction to ocean farms. A condition of the import agreement is that results of the fish health testing must be reported to the LFHO on a monthly basis, while fish are in quarantine.

As well, the importing company must immediately contact and advise a LFHO if any of the diseases or disease agents of concern are discovered in the eggs or resulting progeny at any time. Fish are only released from quarantine if all reports from screening come back as satisfactory.

Upon completion of the quarantine and isolation period, the Minister of Fisheries and Oceans issues licences for all introduction and transfers of fish pursuant to Section 56 of the *Fishery (General) Regulations* (FGR), and only issues licences to transfer fish in the absence of disease agents of concern that may be harmful to the protection and conservation of fish. Fish may only be transferred to sea cage pens with either a valid Section 56 FGR or Pacific Aquaculture licence.

Site, vessel and visitor-related fish health protocols (including the use of foot baths and disinfection of any equipment used with fish or sediment monitoring) are in place in accordance with the industry-wide Fish Health Management Plans in British Columbia.

**Infectious Salmon Anemia Virus**

Recent international evidence suggests there is a small possibility that ISAV could be transmitted within reproductive fluids (e.g., ovarian fluid), which could mean that the virus could be on the surface of the eggs at spawning. However, surface disinfection of eggs, which is routinely carried out in all commercial and enhancement hatcheries, along with the quarantine period noted above, provides additional assurance that ISAV will not be transmitted from parent to progeny via the egg. There is no scientific evidence for ISAV occurring inside eggs, where disinfectants cannot reach. As always, the Department will continue to assess new information on this disease and others.

In addition to surface disinfection mentioned previously, all shipping materials are disinfected before disposal. The disinfectant and disinfection protocol that is used is highly effective against ISAV and other salmonid pathogens.