



**Ministry of
Agriculture
and Lands**



Fish Health Report 2003 – 2005

Minister Bell Media Briefing

Dec. 6, 2006



Introduction

- Sustainability of the aquaculture industry and the protection of our wild stocks are our top priorities
- On Aug. 3/06, I released the Compliance & Enforcement report, which showed 90 – 100% compliance
- At that time, I committed to releasing the Fish Health Report in a similar manner
- The Fish Health Report will focus on 3 things:
 - Fish Health
 - Sea Lice
 - Required Industry Reporting



Protecting Wild Stocks

- We want to build a sustainable industry that co-exists with wild stocks – this is reflected in our fish health management strategy
- B.C.'s results-based regulations are among the toughest of any jurisdiction in the world
- 100 checks and balances, including one of the world's toughest sea lice monitoring and control programs
- Since this government took office, industry has been required to meet objectives of our fish health management program
- Fish health plans include reporting, monitoring, surveillance, auditing and treatment for disease and sea lice



Fish Health Report

- Most comprehensive farmed-fish health report ever done in North America
- Conducted by highly qualified fish health veterinarians and lab staff
- Ministry lab only one of two in Canada accredited by the American Association of Veterinary Laboratory Diagnosticians

Fish Health Management Plans

To ensure the sustainability of the industry, all operating fish farms **MUST** have a Fish Health Management Plan, which includes:

- Health of fish and facilities
- Identification and Management of Risks
- Reducing Exposure to Disease
- Management of Drugs and Chemicals
- Biosecurity

Enforced as a Condition of Licence





Fish Health Audit Program

- Fish Health and Sea Lice audits are separate
- Fish Health Audit program designed to verify industry reporting
- Audit 120 farms per year; 30 farms per quarter (on average, 60 to 80 farms in operation at any one time)
- Check each active farm minimum twice a year
- During 2003 – 2005:
 - 339 farm visits conducted
 - 1,909 dead fish examined for bacteria, viruses and microscopic tissue changes

A decorative banner at the top of the slide. On the left is the British Columbia flag, and on the right is a close-up of several oysters on a rocky surface.

Fish Health Findings

- Every operating fish farm had, by 2006, the required Fish Health Management Plan
- Our audit confirmed industry reports that less than 2% of mortalities are caused by infectious disease
- No new or exotic disease found on fish farms



Sea Lice

What Are They?

- Naturally occurring parasites commonly found on fish in the marine environment.
- They are present on many different types of fish, including salmon, stickleback and herring.
- Two common species are reported. One that infects mostly salmon and another that infects a broad range of finfish, including salmon.
- Salmon louse has 10 life stages. Once it reaches the free-swimming stage it is able to attach to a host where it grows to the adult stage.



Sea Lice Relationship to Fish Farms

- There are no lice on fish when pens are stocked
- Sea lice numbers on fish returning to spawn are high, which results in more lice being transferred to farms.
- To minimize the potential for lice transfer to out-going smolts, industry increases the frequency of monitoring and if numbers exceed three lice/fish, fish must be treated or harvested
- Wild salmon can transfer sea lice to salmon farms and, if left untreated, farmed salmon can transfer sea lice back to the marine environment.
- Given the large number of potential hosts in fish farms, intensive monitoring and treatment regimes are undertaken.
- Although not derived from the Fish Health Report, in 2006, DFO's sampling shows that sea lice infections on wild salmon in the Broughton Archipelago are the lowest since observations began in 2002.

Sea Lice Strategy

- Since 2003, a sea lice management strategy must be included in the farm's FHMP
- Government actively monitors sea lice occurrence and treatments
- Industry is required by law to conduct monthly inspections and report publicly on sea lice numbers. (Numbers available at: www.al.gov.bc.ca/ahc/fish_health/sealice.htm)
- Harvest and/or treatment triggers set at three lice per fish, one of the most stringent triggers in the world
- Trigger levels set to reduce any potential impact from sea lice on farms to young out-migrating salmon (Scotland and Chile, two of world's largest aquaculture regions, have no treatment triggers)
- Norway does have treatment triggers, but they're considered to be less stringent than B.C.'s
- As a precaution, monitoring doubles during wild salmon out-migration (March – July)
- Early detection is critical in managing lice. To reduce any potential impact of the presence of lice on farms during smolt out-migration industry increases the frequency of monitoring. Should the trigger level be exceeded, company fish-health veterinarians initiate necessary treatment.

Sea Lice Audit

- We audit for sea lice separately
- 96 random farm visits (89 Atlantic, 7 Pacific)
- 5,493 fish inspected
- In 2004/2005, 25% of all active sites were audited from June until March and 50% of all active Atlantic Salmon sites were audited from March to June (out migration).
- Audit verifies that industry is reporting accurately and taking appropriate actions
- Of the 32 sites audited in Q2 in 2004 and 2005 (the period of wild salmon out-migration) sea lice levels were never observed to have been greater than three
- Of the 89 Atlantic farms visited, 13 had greater than three sea lice, and none during Q2





Ministry of Agriculture and Lands



**Sea Lice – Coast Wide Averages
Average Motile by Quarter 2004 & 2005**

2004	Q1	Q2 Out Migration	Q3	Q4
Number of Farms Audited	8	7	11	10
Motile	2.46	0.69	1.08	2.34
2005	Q1	Q2 Out Migration	Q3	Q4
Number of Farms Audited	12	25	9	7
Motile	4.31	0.76	1.06	2.46

**Sea Lice – Broughton Average (Sub Zone 3.3)
Average Motile by Quarter 2004 & 2005**

2004	Q1	Q2 Out Migration	Q3	Q4
Number of Farms Audited	2	2	3	3
Motile	2.67	0.45	1.23	6.11
2005	Q1	Q2 Out Migration	Q3	Q4
Number of Farms Audited	3	8	2	2
Motile	7.08	1.11	2.71	4.05

A composite image showing the Union Jack flag, a field of yellow wheat, and several oysters on a dark surface.

Sea Lice Audit Summary

- B.C. uses an extremely precautionary approach when it comes to measuring occurrence and treating sea lice
- B.C.'s sea lice management strategy is among the most stringent in the world
- Management strategy to reduce the risk of impact on wild stocks
- Not only do we have extremely precautionary trigger levels, the farms are complying with what we have asked them to do (each year)
- Audit confirms industry reporting and management actions are meeting government standards
- Sea lice findings (the Ministry's and the Industry's monthly reports) are public information



Government Commitment

- We are committed to building a sustainable industry that meets the needs of coastal communities and the environment, and protects wild salmon. That's why we have:
- Commissioned a special legislative committee, chaired by the Official Opposition, to examine and make recommendations regarding sustainable aquaculture in B.C.
- Established the Pacific Salmon Forum to improve fisheries and aquaculture management – including sea lice - with independent science-based solutions. The PSF has a mandate until April 1, 2008.
- We are developing a comprehensive Provincial Aquaculture Plan that will set future policy and operational direction for the aquaculture industry. This plan is slated for completion in December 2007.