Scottish Salmon Watch, 28 May 2018

EXPOSED: Early Harvesting at Scottish Salmon Farms Due to Disease & Mortalities

- 25 salmon farms identified as harvesting early due to diseases and mortalities

- Deaths due to disease 'masked' via early harvest claimed Scottish Parliament in March

- Data analysis reveals a shortening of production cycle from 20 to 16 months over the last decade

- Sites operated by Cooke Aquaculture shortened their production cycle by 6.8 months; Loch Duart sites by 6.7 months; Marine Harvest sites by 4.3 months and Scottish Sea Farms sites by 2.3 months

- Reasons for early harvesting included Amoebic Gill Disease, Salmon gill poxvirus, Anaemia, Microsporidia, Salmonid alphavirus, Piscine reovirus, Heart & Skeletal Muscle Inflammation, Proliferative Gill Disease, Pancreas Disease, Epitheliocystis, Paranucleospora theridon, Cardiomyopathy syndrome, Piscine myocarditis virus, Pasturella skyensis, Vibrio, Candidatus Branchiomonas cysticola, Candidatus Syngamydia salmonis, hepatic necrosis, sea lice and mortalities

"Scottish salmon farming is dead in the water," said Don Staniford, Director of Scottish Salmon Watch. "Infectious diseases, viruses, pathogens, lice infestations and mass mortalities are crippling the industry and forcing early harvesting. The data clearly shows that at least twenty-five salmon farms operated by Marine Harvest, The Scottish Salmon Company, Scottish Sea Farms, Cooke Aquaculture, Kames and Loch Duart have shortened production cycles to stem the tide of infection. No wonder salmon farming production in Scotland is forecast to decline by 11% this year. Shoppers should avoid the smorgasbord of salmon viruses, bacteria, pathogens and infectious diseases lurking in farmed salmon like the proverbial plague. Just say no to Scottish salmon."

A Media Backgrounder - "Hard Evidence: Fast-Tracking Disease-Ridden Scottish Salmon" - details early harvesting by at least 25 salmon farms during 2017 including:

Marine Harvest (11): Poll Na Gille (Sound of Jura); Linnhe; North Shore (Loch Erisort); Port Na Cro (Shuna Sound); Loch Alsh; MacLean's Nose (Sound of Mull); Invasion Bay (Loch Sunart); Caolas A Deas (Loch Shell); Soay (West Loch Tarbert); Loch Hourn; Ardintoul (Loch Alsh)

The Scottish Salmon Company (5): Loch Odhairn/Gravir; Loch Tuath; Druimyeon Bay (Sound of Gigha); Inch Kenneth (Loch na Keal); Vuia Beag (Loch Roag)

Scottish Sea Farms (4): Kishorn A (South); Kishorn B (North); Kishorn B (South) and Kishorn West (all Loch Kishorn)

Cooke Aquaculture (3): Stead of Aithness (Aith Voe); Bay of Vady (Rousay Sound); Carness Bay

Kames Fish Farming (1): Shuna SW/Rubh'an Trilleachain (Shuna Sound)

Loch Duart (1): Calva Bay/Calbha Beag (Eddrachillis Bay)

"Harvesting worst affected cages" and "Harvested worse cages, reducing biomass" reported Marine Harvest for Poll Na Gille (Sound of Jura) in November 2017 following problems with "complex gill issues", anaemia, "severe PGD pathology and extensive haemorrhaging". "Harvested worst affected cages first" reported Marine Harvest for Linnhe in June 2017.

"Decision taken quickly to empty site" and "Issues with gills and anaemia have lead to decision to harvest," reported Marine Harvest for Port Na Cro (Shuna Sound) in November 2017

Marine Harvest reported increases in mortality from nine sites in late October 2017 citing "Anaemia issues", "CMS" and "complex gill issue" which "are being managed through harvesting and treatment". "Some fish treated with antibiotics with some positive effect, plan to harvest out ASAP once below MRL [Maximum Residue Limit]," reported Marine Harvest in relation to North Shore (Loch Erisort).

"Site partially harvested to remove worst affected fish - remainder of site due to fallow by end of January 2018"; "Harvesting to reduce biomass" and "Harvesting worst affected cages and accelerated harvest of site" reported the Scottish Salmon Company in relation to Druimyeon Bay (Sound of Gigha) in December 2017.

"Planning to harvest out soon" and "worst effected cages (sic) harvested and reducing biomass" reported the Scottish Salmon Company in relation to Loch Tuath.

"Accelerated harvests"; "Biomass has been lowered but gill issues continuing" and "Site has harvested largest grade cages to lower biomass, gill health issues ongoing" reported the Scottish Salmon Company in relation to Loch Odhairn/Gravir. "Hoping to grade out poor doers to reduce biomass" reported the Scottish Salmon Company in relation to Inch Kenneth (Loch na Keal).

"Plans to move all fish to Eughlam in December," reported The Scottish Salmon Company in October 2017 following "complex disease issues" including Amoebic Gill Disease, Paranucleospora theridon, Salmon gill pox, Microsporidia, Salmonid Alphavirus and Epitheliocystis at Vuia Beag (Loch Roag).

"Harvesting is underway at affected cages to reduce risk"; "Five affected cages to be harvested out, harvesting underway" and "Site being harvested to reduce risk" reported Scottish Sea Farms in relation to Kishorn West in August and October 2017. "Site to begin harvesting early" reported Scottish Sea Farms in relation to Kishorn A (South) and Kishorn North in October 2017.

"Site is harvesting early" reported Scottish Sea Farms in relation to Kishorn B (North), Kishorn West and Kishorn B (South) in October 2017. "Harvesting out site, advised to avoid crowding" wrote Scottish Sea Farms as an action response to increased mortalities at Kishorn A (Loch Kishorn) in October 2017. "Harvesting worst affected cages first and site should be empty in next six weeks" and "Advised to accelerate harvest" reported Scottish Sea Farms in relation to Kishorn B (North) in October 2017.

"Advice from vets to accelerate harvests and not to attempted mechanical delousing in worst affected cages"; "Harvested out worst affected cages and should be empty within six weeks" and "Company may look at using Thermolicer/Hydrolicer to reduce lice levels while harvesting ongoing" reported Scottish Sea Farms in relation to Kishorn West in October 2017.

"Harvest has been accelerated by 1 months (sic) due to increased morts" and "Top sweep is being harvest first (sic) from the worst affected cages" reported Cooke Aquaculture in relation to Stead of Aithness (Aith Voe) in November 2017.

"Reports of increased mortality due to gill issues, site is being harvest out" and "Ongoing monitoring and harvesting of stocks" reported Cooke Aquaculture in relation to Bay of Vady (Rousay Sound) in August 2017 after over 10,000 mortalities in a four-week period.

"Site is being harvested" reported Cooke Aquaculture in relation to Carness Bay in August 2017 after over 20,000 mortalities in a six-week period due to gill issues.

"Biomass has been reduced with worst affected stock having been harvested," reported Kames Fish Farming in relation to Shuna SW (Rubh'an Trilleachain) in November 2017 following "complex gill issues", anaemia, salmon gill poxvirus, epitheliocystis, cardiomyopathy syndrome, piscine myocarditis virus, Paranucleospora theridon and Neoparamoeba perurans (AGD). "Harvest have been both live haul to Mallaig and dead haul."

"Worst affected cages are being harvested out" and "Worst affected will be harvested by next Monday (pens 22, 23, 25, 27, and 28 already harvested out)" reported Loch Duart's for Calva Bay/Calbha Beag (Eddrachillis Bay) in August 2017 following a mortality rate of 45.64% since input in some cages and disease problems including AGD, Candidatus Branchiomonas cysticola, Candidatus Syngnamydia salmonis, Salmon gill poxvirus and Paranucleospora theridon.

Read more via "Hard Evidence: Fast-Tracking Disease-Ridden Scottish Salmon"

Background:

"The overall number of deaths as a result of disease, ill health and stress may be masked by the early harvest of fish with disease or life threatening conditions," stated a report on the environmental impacts of salmon farming by the Scottish Parliament's Environment, Climate Change & Land Reform (ECCLR) Committee in March 2018. "This activity warrants further review." **[1]**

"Yes - there has been early harvesting, but if we had not harvested early, mortality rates could have been higher, so I do not think that it is a bad thing to have taken action to harvest early,"

admitted Grant Cumming, Managing Director of Grieg Seafood Shetland Ltd, in oral evidence on 2 May 2018 to the Rural Economy & Connectivity Committee as part of the Scottish Parliament's salmon farming inquiry **[2]**.

'Scotland's 10 Year Farmed Fish Health Framework' published on 23 May 2018 by the Scottish Government claimed: "The increased ability to grow larger smolts provides the opportunity to reduce the marine grow out phase of farmed salmon, thus reducing the time spent in sea and the length of exposure to marine challenges such as sea lice." **[3]**

BBC News reported (19 May 2018) trouble ahead for Scotland's disease-ridden salmon farming industry. "Last week, we learned the industry expects an 11% drop in output this year, as it struggles to get on top of sea lice and disease," reported BBC News (May 24 2018). "When either is found in a cage, salmon are harvested (or slaughtered, if you prefer) straight away, and much earlier than if they grew to their optimum marketable size."

Earlier this month, Scottish Salmon Watch delivered a 42,000-strong petition to the Scottish Government calling for the testing of salmon farming operations for deadly diseases and viruses.

Read more via:
The National: "42,000 sign petition for tougher Scottish salmon farm testing"
Herald: "Salmon farms are turning Scotland's seas into an open sewer, claim campaigners"
SumOfUs: "Campaigners at Scottish Parliament call for wastewater testing at salmon farming operations to save wild fish"
Letter to Scottish Government re. Infectious Diseases in Salmon Farming Effluents
Risk of waterborne virus spread – review of survival of relevant fish and crustacean viruses in the aquatic environment and implications for control measures

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Notes to Editors:

[1] In March, as part of the Environment, Climate Change & Land Reform (ECCLR) Committee's inquiry into the environmental impacts of salmon farming, the ECCLR Committee published a report on the environmental impacts of salmon farming which included:

Management solutions

85. The Committee heard while mortality rates have gone up the availability of specialised fish veterinary advice has expanded massively. The Committee also heard there are solutions for dealing with the challenge of gill health and the industry is investing in the treatment of fish with fresh water in well boats or other contained units and when gill health deteriorates beyond the point at which the industry considers it is sensible to keep those fish in the sea they are harvested early and then go into the food chain.

View of the Committee

94. The Committee understands with any livestock production there will be health challenges and the aquaculture industry is no different in that regard. However the levels of mortality have been increasing and the Committee is of the view that the figures suggest the industry has a significant problem with fish deaths. The overall number of deaths as result of disease, ill health and stress may be masked by the early harvesting of fish with disease or life threatening conditions. This activity warrants further review.

[2] The Rural Economy & Connectivity Committee's oral evidence on 2 May 2018, as part of the Scottish Parliament's salmon farming inquiry, included a discussion on 'early harvesting':

John Finnie: I will quote from the ECCLR Committee report:

"The overall number of deaths as result of disease, ill health and stress may be masked by the early harvesting of fish with disease or life threatening conditions."

Is that the case and, if so, how widespread is the practice?

Grant Cumming: I will give you a bit of my background. I am quite new to my job of managing director, and prior to that I was in salmon farming. The subject is very close to my heart. Like any farmer, salmon farmers hate it when our stock is not healthy: welfare is our number 1 priority, just as it is in agriculture. If our fish are not healthy, we consider the possibility of harvesting them, which is sometimes a better option than treating them. If we left all the fish in the sea and never harvested them, eventually all the fish would die.

Yes—there has been early harvesting, but if we had not harvested early, mortality rates could have been higher, so I do not think that it is a bad thing to have taken action to harvest early.

Craig Anderson: My company also takes such decisions very seriously, and we take advice from a third-party veterinary group. If fish health has deteriorated a great deal, we will decide to harvest, but it is a serious decision that is not taken lightly.

John Finnie: The telling word in the quote that I read out was "masked". What is your reaction to that? Is it all open and transparent, or is early harvesting avoiding exposure to a wider issue?

Ben Hadfield: I hope that you will forgive me for saying that I think that "masked" was a bad choice of word. We are very knowledgeable about the health status of our fish and the challenges that we face. It is part of our business to be at the top of our game on that.

Also, we are busy people, but I accept that communicating such information in an open and transparent way is something that we have done badly. The information is sometimes complex, but we have to explain it. The SSPO has recently published sea lice data and proposes to publish mortality data, and Marine Harvest has published that data by site since 2016. Those examples are

the direction in which the industry in our nation needs to go in order to get a proper buy-in to a culture of quality growth in the right circumstances. I hope that that is a good answer.

I do not think that the use of the word "masked" in the report was appropriate.

[3] '[Scotland's 10 Year Farmed Fish Health Framework]' published on 23 May 2018 claimed: "The increased ability to grow larger smolts provides the opportunity to reduce the marine grow out phase of farmed salmon, thus reducing the time spent in sea and the length of exposure to marine challenges such as sea lice."

Work Stream 5: Production Cycle and on-Farm Management

Industry and research have improved fish farming cycles to allow for growth to an acceptable harvest weight and include good fish health and husbandry techniques such as fallowing. The increased ability to grow larger smolts provides the opportunity to reduce the marine grow out phase of farmed salmon, thus reducing the time spent in sea and the length of exposure to marine challenges such as sea lice. Reduction in time spent at sea may also in turn reduce treatment requirement, thereby extending the shelf life of sea lice medicines and slow down the build-up of chemical resistance within sea lice. Reduced time spent in the sea also has corresponding benefits in reducing environmental impacts, including those in the water column and sea bed.

Fallowing allows for a break in sea lice and other pathogen biological life cycles and could be done more frequently under shorter farming cycles. Contiguous area fallowing would also provide benefit for rainbow trout fish health and welfare, a concept which is yet to be explored fully.

The activities under this work stream aim to explore the potential mechanisms to optimise farmed salmonid health and welfare. This includes supporting the use appropriate and effective use of Acoustic Deterrent Devices on Scottish fish farms.

Activities

- Review evidence to support the potential environmental and health benefits arising from input of larger smolts (and associated decrease in marine phase) and increased fallow frequency
- Recommend best-practice to maximise smolt survival in the first 30 days at sea and the ability to shorten the marine phase of the production cycle.
- Review rainbow trout production methods (inc. continuous stocking) and identify areas where the industry could support the move to contiguous fallowing if evidentially justified
- Review how the regulatory framework can better encourage deployment of larger smolts, increased fallowing and improved health for salmon and rainbow trout.
- Develop standards for the use of Acoustic Deterrent Devices (ADDs) or alternatives on marine salmon farms.
- Identify where support to fish farming companies is necessary and assist industry to prioritise robust ova selected for disease resistance to maintain and enhance Scotland's good health status.
- Revise the recommendations of the Code of Good Practice with regards to ova selection.