

Response to your request

In responding to your request I shall deal with each of your questions in turn.

1) What steps are salmon farm operators and the Scottish Salmon Producers Organisation taking to ensure that salmon which have died prematurely from diseases, viruses, lice infestation, flaying damage etc are not entering the human food chain?

The information you have requested is not held by the Scottish Government. We can provide information on the processes and procedures in place, relevant to this query, as well as references to some published information which you may find useful, which operators are expected to follow.

Legal provision exists to prevent fallen animals (animals which have died in the process of farming) from entering the human food chain. EC Regulation 1069/2009^[1] specifies, in Section 4, Article 9, that category 2 material (including animals which have died other than being slaughtered or killed for human consumption) are prevented from entering the human food chain and must be stored, transported and disposed of in an approved manner in accordance with those regulations. We are not aware of any salmon within this definition entering the human food chain.

The Code of Good Practice for Scottish Finfish Aquaculture (<http://thecodeofgoodpractice.co.uk/>) identifies practices and procedures which are implemented across fish farm sites and include fish welfare and care, the removal and disposal of dead and moribund fish and activities associated with fish processing.

Instruction and training is provided at the farm fish processing level to remove fish with clinical or gross pathological signs of disease where these are observed so that they do not enter the human food chain.

Scottish Ministers, special advisers and the Permanent Secretary are covered by the terms of the Lobbying (Scotland) Act 2016. See www.lobbying.scot

From a regulatory perspective Food Standards Scotland has a responsibility on food safety issues and the Animal and Plant Health Agency (APHA) have a responsibility with respect to animal by-products. You can find out further information on these organisations from their respective websites.

<https://www.foodstandards.gov.scot/>

<https://www.gov.uk/government/organisations/animal-and-plant-health-agency>

2) In cases where outbreaks occur, what percentage of the harvested fish are analysed for infectious diseases and viruses, before entering the human food chain?

The information you have requested is not held by the Scottish Government, but we can provide information on the processes and procedures in place, relevant to this query, as well as references to some published information which you may find useful.

Aquatic animal health surveillance is undertaken by Marine Scotland's Fish Health Inspectorate (FHI), on behalf of the Scottish Government. This involves a programme of inspections, with sampling where necessary to investigate the presence of diseases and pathogens, undertaken in accordance with the current regulations^[2]. Surveillance is conducted at the site level focused upon live farmed animals in production and does not include sampling from harvested animals. You can find out further information on aquatic animal health surveillance in Scotland and the results and outcomes of the same by visiting the Scottish Government website:

<https://www.gov.scot/policies/fish-health-inspectorate/surveillance-programme/>

<https://www.gov.scot/publications/fish-health-inspectorate-case-information-2019/>

Food Standards Scotland may be best placed to comment further on any requirements or activities regarding sampling associated with human food products, but it is worth bearing in mind that there is no evidence that salmon viruses pose a risk to human health:

https://ec.europa.eu/food/sites/food/files/safety/docs/sci-com_scah_out44_en.pdf

In situations involving outbreaks of listed diseases^[3] statutory responses include the enforcement of official control measures, enhanced sampling and an epidemiological investigation. The purpose is to determine the extent of disease spread to allow suitable control with the aim of disease eradication and regaining and maintaining Scotland's health status with respect to aquatic animal disease.

Some examples of epidemiological investigations are published and can be found on the Scottish Government website, for example investigations in relation to Infectious Salmon Anaemia (ISA) virus in 2009 and in relation to Viral Haemorrhagic Septicaemia (VHS) virus in 2012. The extent of any response in terms of control measures and statutory sampling will be dictated by the specifics of the individual disease outbreak:

<https://www2.gov.scot/Topics/marine/science/Publications/publicationslatest/Science/SMFS/2010Repo>

Scottish Ministers, special advisers and the Permanent Secretary are covered by the terms of the Lobbying (Scotland) Act 2016. See www.lobbying.scot

<https://www.gov.scot/publications/scottish-marine-freshwater-science-volume-4-number-3-epidemiology-control/>

Whilst such reports detail the number of animals tested, as explained above, these do not relate to harvested fish and we do not have a percentage value of fish tested in individual cases.

3) The Scottish Government acknowledge the decline in wild Scottish salmon on the west coast of Scotland where salmon farms are operating. What monitoring methods and precautions are in place by Marine Scotland, salmon farm operators and the Scottish Salmon Producers Organisation to ensure that infectious salmon diseases and viruses are not being transmitted to wild fish?

The Scottish Government acknowledges the decline in wild Scottish salmon stocks on a national basis, including areas absent of aquaculture activity. There are multiple pressures identified which can impact upon wild salmon populations in Scotland:

<https://www.gov.scot/publications/report-salmon-interactions-working-group/pages/2/>

<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/fishreform/licence/status/Pressures>

As part of the aquatic animal disease surveillance programme conducted by the FHI, a passive surveillance regime, which often includes diagnostic investigation, is undertaken with respect to wild salmonids. Marine Scotland engages with wild fishery stakeholders over the condition and health of wild salmonid fisheries, and notifications of moribund fish along with abnormal mortalities may be relayed to the FHI as part of this work. The results of any investigation involving wild salmonids are published as part of the wider publication of information relating to the aquatic animal health surveillance programme (web link provided above).

Historically there is little evidence of significant farmed and wild fish disease transfer and considerable detail of this is presented within the scientific literature (Wallace *et al.* 2017 A historical review of the key bacterial and viral pathogens of Scottish wild fish. *Journal of Fish Diseases* 40, 1741-1756).

There is very little indication of any more than a tiny increase in infection within wild fish and only in the case of clinical outbreaks of disease on nearby farms (Wallace *et al.* 2008 Distribution of infectious pancreatic necrosis virus (IPNV) in wild marine fish from Scottish waters near clinically infected Atlantic salmon farms, *Salmo salar* L. *Journal of Fish Diseases* 31, 177-186).

The only diseased wild fish in relation to farms, was a single case of a fish recovered from within a salmon farm where many of the salmon were dying of bacterial kidney disease (BKD), as described in Wallace *et al.* 2017.

In a recent extensive survey for *Paramoeba perurans* (the causative agent of amoebic gill disease) one positive result was achieved in a single fish, not suffering from clinical disease, out of 2348 sampled, (Stagg *et al.* 2015 *Bulletin of the European Association Fish Pathologists* 35, 217-225).

Wild salmonids can be a host to a range of pathogens which can result in disease under some circumstances. Often such pathogens are ubiquitous within aquatic environments and can have an

Scottish Ministers, special advisers and the Permanent Secretary are covered by the terms of the Lobbying (Scotland) Act 2016. See www.lobbying.scot

impact on farmed and wild fish populations. Their occurrence can be independent of any farmed and wild fish interaction.

The prevalence of key diseases and viruses of farmed salmon within wild fish is very low indicating that they are unlikely to affect wild fish populations because a significant prevalence of sub-clinically infected fish would be required to result in disease that would cause high level mortality.

Industry operational strategies and practices have evolved over time with respect to aquaculture within Scotland. Some of these changes have originated from historical disease outbreaks, others following the introduction of new legislation. For example, following an outbreak of infectious salmon anaemia (ISA) in 1998, measures including strategic fallowing, single year class production areas and sites, and improvements to wellboat operations were introduced. Council Directive 2006/88/EC introduced the requirement for site specific Biosecurity Measures Plans which provide provision for the disease status of introduced stocks. Site specific veterinary health plans cover provisions in relation to the vaccination of stocks against specific pathogens and identifying a specific veterinarian in relation to any individual site and the stocks maintained. Further, the Aquaculture and Fisheries (Scotland) Act 2007 was amended in 2013 and introduced a requirement for area management agreements and statements to help reinforce the standards being imposed across individual farming areas.

Consideration is given to farmed fish health and welfare through the aquaculture planning process^[4] with respect to new site applications and modifications to existing sites. As part of that process the impacts of any proposals to the size or joining of Disease Management Areas (DMAs) are considered. DMAs exist to facilitate with the control of listed diseases, for example ISA, and help to prevent further spread across the industry in situations where they occur. In addition, through the FHI aquatic animal health surveillance programme, site inspections include consideration of the measures in place to help protect fish health, with respect to both legal requirements and best practice.

These measures, implemented through the industry and considered through planning and surveillance, are all aimed at protecting the health of fish farm stocks as opposed to the health of wild fish. By preventing, reducing and controlling pathogen prevalence at the farm level, the risks posed to Scotland's aquatic animal health status, which includes both farmed and wild fish, are naturally reduced. Establishing and maintaining disease freedom helps to prevent the introduction of specific pathogens which can be detrimental to wild and farmed fish – e.g. viral haemorrhagic septicaemia (VHS) type IV virus and the parasite *Gyrodactylus salaris*. Effective biosecurity measures are important tools to help prevent disease introduction and surveillance initiatives facilitate with early detection, optimising containment and eradication strategies in situations where such diseases do occur.

In terms of this response and with respect to industry and SSPO initiatives, we have replied in general terms and you may wish to engage directly with industry operators to learn of any additional specific measures being taken.

Under regulation 6(1)(b) of the EIRs, we do not have to give you information which is already publicly available and easily accessible to you in another format.

Under the terms of the exception at regulation 10(4)(a) of the EIRs (information not held), the Scottish

Scottish Ministers, special advisers and the Permanent Secretary are covered by the terms of the Lobbying (Scotland) Act 2016. See www.lobbying.scot

Government is not required to provide information which it does not have. The Scottish Government does not have recorded information in relation to some of the aspects of the questions you have posed, but we have explained the situation in terms of procedures and practices and provided references to some publicly available material which you may find useful.

This exception is subject to the 'public interest test'. Therefore, taking account of all the circumstances of this case, we have considered if the public interest in disclosing the information outweighs the public interest in applying the exception. We have found that, on balance, the public interest lies in favour of upholding the exception. While we recognise that there may be some public interest in information about the steps in place to prevent fallen animals entering the human food chain and information relating to the testing of harvested fish for disease and pathogen presence, clearly we cannot provide information which we do not hold.

The Scottish Government recognises the significance of the questions you have asked and we have outlined relevant procedural and operational elements as useful information. We have also referenced other regulatory parties with responsibility in these areas and which might hold further, relevant information to your request.

Your right to request a review

If you are unhappy with this response to your EIRs request, you may ask us to carry out an internal review of the response, by writing to

The Director of Marine Scotland,
Area 1B South, Victoria Quay,
The Shore,
Edinburgh,
EH6 6QQ

Or by emailing Directormarinescotland@gov.scot

Your review request should explain why you are dissatisfied with this response, and should be made within 40 working days from the date when you received this letter. We will complete the review and tell you the result, within 20 working days from the date when we receive your review request.

If you are not satisfied with the result of the review, you then have the right to appeal to the Scottish Information Commissioner. More detailed information on your appeal rights is available on the Commissioner's website at:

<http://www.itspublicknowledge.info/YourRights/Unhappywiththeresponse/AppealingtoCommissioner.as>

[1] REGULATION (EC) No 1069/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation) is implemented in Scotland by The Animal By-Products (Enforcement) (Scotland)

Scottish Ministers, special advisers and the Permanent Secretary are covered by the terms of the Lobbying (Scotland) Act 2016. See www.lobbying.scot

Regulations 2013

[2] Council Directive 2008/88/EC implemented in Scotland through The Aquatic Animal Health (Scotland) Regulations 2009

[3] Diseases specified within the legislation for which statutory control measures exist

[4] Marine Scotland Science (part of the Scottish Government's Marine Scotland directorate) is a statutory consultee within the aquaculture planning process

Scottish Ministers, special advisers and the Permanent Secretary are covered by the terms of the Lobbying (Scotland) Act 2016. See www.lobbying.scot

St Andrew's House, Regent Road, Edinburgh EH1 3DG
www.gov.scot



INVESTORS
IN PEOPLE

Accredited
Until 2020

