

## **RURAL ECONOMY AND CONNECTIVITY COMMITTEE**

### **SALMON FARMING IN SCOTLAND**

#### **SUBMISSION FROM SCOTTISH WILDLIFE TRUST**

The Scottish Wildlife Trust welcomes the opportunity to provide written evidence to the Rural Economy and Connectivity Committee towards their inquiry into salmon farming in Scotland. The Trust considers the aquaculture industry in Scotland as an important industry and has previously provided written and oral evidence to inform the Aquaculture and Fisheries (Scotland) Act in 2012, the ECCLR Committee's inquiry into the environmental impacts of salmon farming in Scotland in February 2018, and regularly engages with public consultations on salmon farm proposals.

The Trust believes that current operation and further growth of the finfish aquaculture sector must not be to the detriment of Scotland's environment and, therefore, will campaign for effective regulation, monitoring, enforcement and research to achieve a Scottish fish farming industry sold on the basis of high quality and unrivalled environmental credentials.<sup>1</sup>

#### **1. Do you have any general views on the current state of the farmed salmon industry in Scotland?**

The Scottish Wildlife Trust considers the current state of salmon aquaculture in Scotland as unsustainable and that its impact on the marine environment is unacceptable. The Trust believes radical changes are required in how the industry is regulated, how farms are managed, and the types of methods and technology used to ensure any further growth of the industry does not jeopardise the health of the marine environment.

It is clear from the Scottish Association of Marine Science's report<sup>2</sup> on the environmental impacts of salmon farming in Scotland and the final report from the ECCLR Committee's inquiry into salmon farming that there continues to be a concerning lack of information and understanding of the extent to which salmon farming is impacting Scotland's marine environment. These concerns have been raised by environmental groups for 30 years (see the Scottish Wildlife and Countryside Link's 1990 report 'Marine Salmon Farming in Scotland'<sup>3</sup>), and yet, despite these knowledge gaps, the size of the industry has increased significantly (from 83,000t in 1996 to 162,000t in 2016) and there are further plans to double production over the next 10-15 years.

The Trust considers it essential that the growth targets set by the Scottish Government (210,000t by 2020) and industry (300,000-400,000t by 2030) are subject to an independent environmental assessment and are in line with the environmental capacity of Scotland's marine environment.

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<sup>1</sup>Scottish Wildlife Trust policy on Finfish Aquaculture 2012. [https://scottishwildlifetrust.org.uk/wp-content/uploads/2016/09/002\\_057\\_publications\\_policies\\_Finfish\\_aquaculture\\_policy\\_August\\_2012\\_1345738759.pdf](https://scottishwildlifetrust.org.uk/wp-content/uploads/2016/09/002_057_publications_policies_Finfish_aquaculture_policy_August_2012_1345738759.pdf)

<sup>2</sup>[www.parliament.scot/S5\\_Environment/General%20Documents/20180125\\_SAMS\\_Review\\_of\\_Environmental\\_Impact\\_of\\_Salmon\\_Farming\\_-\\_Report.pdf](http://www.parliament.scot/S5_Environment/General%20Documents/20180125_SAMS_Review_of_Environmental_Impact_of_Salmon_Farming_-_Report.pdf)

<sup>3</sup>[www.scotlink.org/files/publication/LINKReports/MarineSalmonFarmingInScotland.pdf](http://www.scotlink.org/files/publication/LINKReports/MarineSalmonFarmingInScotland.pdf)

**2. There have been several recent reports which suggest how the farmed salmon industry might be developed. Do you have any views on action that might be taken to help the sector grow in the future?**

The Trust believes that until the issues identified in the ECCLR Committee's inquiry report<sup>4</sup> are resolved, there should be no new fish farms that use current 'open-cage' practices, or expansions of existing fish farms (i.e. size or biomass). The Trust considers that exceptions should only be granted in specific circumstances where the relocation of an existing fish farm results in a significant net environmental benefit or for proposals that wish to trial innovative new designs and practices that aim to reduce their environmental impact. It is imperative that a strict criteria for exceptions is established to provide clear direction for the industry and ensure environmental protection.

The Trust believes there should be a significant tightening of regulatory controls and that the principles of the precautionary approach must be at the core of decision making to ensure the concerns raised in the ECCLR Committee report are addressed. The Trust considers a vital step in achieving a precautionary approach for fish farm management is a review of the current environmental quality standards and adjustments made to ensure they are based on robust, scientific evidence.

To ensure environmental standards are being met, the Trust would like to see the immediate implementation of a comprehensive and detailed data collection and monitoring strategy. Transparency in this process is essential and the Trust considers it important that the data collected and the methods used are made publicly available. The Trust considers SEPA should be the body responsible for collecting, analysing and monitoring data and that the industry should be responsible, in part, for funding this work.

In addition to the introduction of tighter regulations and environmental standards, the Trust would also like to see a review of all fish farms currently in operation in Scotland to ensure they are compliant with the revised standards. This is particularly important for fish farms located within Marine Protected Areas (MPAs) with protected features at risk from fish farming activity. Many fish farms began operation prior to the establishment of Scotland's MPA network and, therefore, their impact on the now protected features was not considered. It is likely that many of these fish farms would not be granted permission if the application was made today. This is particularly evident for those farms located above maerl beds, as identified in the ECCLR Committee inquiry.

To complement the tighter regulations, the Trust considers the development of a spatial 'Aquaculture Planning Strategy' is required that identifies marine, coastal and riverine areas that are most at-risk from salmon farming activity, based on the findings of the ECCLR Committee report. Such a strategy would provide clear locational guidance for salmon farm developers, identify appropriate locations for trialling new technology, assist decision makers responsible for planning and licensing applications, and inform the development of Scotland's forthcoming Regional Marine Plans. The Strategy should be informed by a Strategic Environmental Assessment and identify the carrying and assimilative capacity of Scotland's marine environment. With this information, realistic industry growth

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<sup>4</sup>[www.parliament.scot/S5\\_Environment/Inquiries/20180305\\_GD\\_to\\_Rec\\_salmon\\_farming.pdf](http://www.parliament.scot/S5_Environment/Inquiries/20180305_GD_to_Rec_salmon_farming.pdf)

targets that are based on the environmental capacity of Scotland's seas can be determined.

The Trust considers that there should be a stronger drive by the Scottish Government and the salmon farming industry to encourage and support salmon farm operators to trial and implement new technology and methods that aim to relieve, and ultimately negate, environmental impacts. If the Government and industry growth targets are to be met sustainably, and without exacerbating current environmental impacts, technological advancement and implementation must be made a priority. Therefore, the Trust would like to see the immediate introduction of an incentives scheme that can provide economic and/or logistical support for the trialling of new technology.

### **3. The farmed salmon industry is currently managing a range of fish health and environmental challenges. Do you have any views on how these might be addressed?**

The Trust considers the high mortality rate of farmed salmon as wholly unacceptable and believes it is indicative of an industry that is failing to control disease (including sea lice) within their farms.

The Trust believes that there is a lack of data available on the environmental conditions leading up to and during a disease outbreak. Understanding further the environmental conditions that induce disease and pest outbreaks will assist with predicting when an outbreak could occur, identifying which salmon farms are most at risk from disease outbreaks, and identifying appropriate locations where the physical environment restricts or prevents an outbreak from occurring (e.g. fast flowing current). A detailed and holistic environmental monitoring strategy, which includes physical data (e.g. temperature and salinity) and biological data (e.g. phytoplankton composition), could provide valuable insights into how and why disease outbreaks occur.

The Trust believes that the high density at which farmed fish are kept allows for disease outbreaks to happen quickly and also places a large number of fish at risk when an outbreak occurs. To reduce the risk of a disease outbreak and also reduce the number of mortalities when an outbreak occurs, the Trust believes that farmed fish should be kept at densities lower than currently being practiced.

Farmed salmon are most at risk from disease and parasites during the final two years of their life when they are kept in open-cage farms in coastal waters and are exposed to the natural environment. Therefore, to reduce the risk of disease and parasites, the Trust believes the length of the final marine stage should be minimised – possibly to a one-year rather than two-year period.

The Trust considers new technology (e.g. semi-closed and closed systems) have the potential to help reduce the risk of parasites, particularly sea lice outbreaks. Innovative designs, such as the 'snorkel' design, have been found to reduce sea lice numbers on farmed fish by up to 80%.<sup>5</sup> It is essential that the industry in Scotland increases investment in the development and implementation of new technologies.

The Trust has concerns over the increasing use of 'cleaner' fish, in particular wild wrasse, as a method for reducing sea lice numbers on farmed salmon. To date, the

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<sup>5</sup>[www.fishfarmingexpert.com/article/snorkel-cage-cuts-lice-numbers-by-80-in-trials/](http://www.fishfarmingexpert.com/article/snorkel-cage-cuts-lice-numbers-by-80-in-trials/)

unmanaged harvesting of wild wrasse has taken place in Scotland and along the Southeast coast of England, and it is unknown whether the rate of wrasse fishing is sustainable. The Trust believes that a wrasse fisheries management plan is required to ensure that wild wrasse populations are fished sustainably.

To reduce the demand for wild wrasse, the industry is currently developing wrasse (and lumpsucker) hatcheries in Scotland. While hatcheries may reduce the demand for wild fish (although a brood stock will still be required), they do present other environmental challenges. For example, it is important to recognise that the hatcheries will increase the energy demand of the industry, and that the fish kept in the hatcheries (and later in the open cages) will require food, vaccines, and medicines, similar to farmed salmon. At the end of the salmon production cycle all the cleaner fish are killed to avoid spreading disease between farmed salmon. The Trust considers cleaner fish to be an inefficient and resource intensive approach to managing sea lice, and believe the industry should instead invest in new technologies, as previously mentioned.

#### **4. Do you feel that the current national collection of data on salmon operations and fish health and related matters is adequate?**

The Trust does not feel that the current national collection of data on salmon farm operations and fish health and related matters is adequate.

To date, the Trust has been concerned that a lot of valuable information has been kept internally within the industry and not been made available to the public. Although the Trust welcomes the industry's announcement to share sea lice data, the lack of transparency around data collection and analysis has created a lack of trust with the industry. It is important that all data collected, with regard to environmental monitoring, fish health, sea lice numbers, and fish mortality are made available to allow public scrutiny of the industry. This will be important for identifying which specific farms are failing to reach required standards and help raise the standard of the industry as a whole.

The Trust believes there should be an increase in data collection and monitoring on the health of wild salmon and sea trout populations in Scotland and concerted efforts made to identify the extent to which salmon farming is impacting wild fish populations. More attention needs also to be paid to the genetic mixing of farmed and wild salmon and the potential for genetically tracing escaped salmon back to specific farms.

#### **5. Do you have any views on whether the regulatory regime which applies to the farmed salmon industry is sufficiently robust?**

The Trust does not believe that the current regulatory regime is sufficiently robust and that there is a lack of integration and collaboration between the different regulating bodies. This is particularly evident with regard to the protection of wild salmonids, which currently does not fit into the remit of any of the regulators. The Trust considers it necessary that a review of the consenting and subsequent regulatory processes is carried out to ensure all environmental concerns are addressed.

The Trust is concerned that, to date, salmon farm monitoring has been carried out by the industry and the data then supplied to SEPA. The Trust would like to see a SEPA-led monitoring programme to be carried out in a transparent manner (in

particular monitoring technique and frequency) and for farm-specific performance information to be made available to the public. If a fish farm is found breaching environmental standards, the Trust would like to see confirmation that its operation has been suspended until the seafloor has recovered and / or the impact has been mitigated. The publication of fish farm performance data will also assist in assessing the cumulative impact of multiple fish farms within a given area and detect problematic areas.

The Trust considers that frequent and regular monitoring of the salmon farming industry will allow the regulatory regime more flexibility and give regulators the ability to make adaptive management decisions in a timely fashion.

The Trust is concerned that the consenting of a new salmon farm is a one-off process and that site leases are given in perpetuity. The Trust believes that salmon farm leases and planning consents should be subject to regular review to ensure the farm is suitably located and that the biomass of salmon at the site is suitable for the location. This is particularly relevant for farms that are now located within MPAs and pose a risk to protected features.

#### **6. Do you have any comments on how the UK's departure from the European Union might impact on the farmed salmon sector?**

The Trust is concerned that by leaving the EU, the UK will no longer be held accountable by the European Court of Justice and, therefore, the protection provided through the Habitats Directive, of which Atlantic salmon is an Annex 2 species, the Marine Strategy Framework Directive, and the Water Framework Directive will no longer exist.

The UK will also lose its place on the EU Aquaculture Advisory Council and access to the European Maritime and Fisheries Fund, which supports sustainable practice innovation, building relationships between scientists and fishermen, and implementing conservation measures and regional co-operation.

The Trust is aware that the UK is a member of the North Atlantic Salmon Conservation Organisation (NASCO) by proxy of the EU's membership. Therefore, on leaving the EU, the UK, and therefore Scotland, will no longer be a member of NASCO and will no longer be party to the Williamsburg Resolution<sup>6</sup>, which aims to "minimise impacts from aquaculture, introductions and transfers, and transgenics on the wild salmon stocks".

The Trust is also concerned that, on leaving the EU, the UK will begin accessing new markets that may have weaker welfare and environmental standards than within the EU and result in weaker standards being met in the UK.

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April 2018

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<sup>6</sup>[www.nasco.int/pdf/agreements/williamsburg.pdf](http://www.nasco.int/pdf/agreements/williamsburg.pdf)