Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from The Scottish Salmon Company

The Scottish Salmon Company (SSC) is the leading 100% Scotland-based producer of the finest sea loch fresh Scottish Salmon, with sites across the West Coast of Scotland and Hebrides. We employ 500 people across 60 sites in the West Coast of Scotland and Hebrides. We are engaged in all stages of the value chain from smolt production through freshwater and marine farming to harvesting and processing, as well as sales and marketing activity, ensuring total supply chain integrity and full traceability. Exporting to 26 countries around the world, SSC has a growing reputation at home and abroad for producing fresh, premium quality Scottish salmon.

Overview

SSC welcome and broadly agree with the SRSL Report: Review of Environmental Impacts of Salmon Farming in Scotland. This submission agrees with some findings in the report and raises areas of concern with recommendations. We also focus on some of the areas raised by the Committee during the hearing.

The focus of the Review is toon the environmental impacts of aquaculture in Scotland, however throughout the report, evidence was repeatedly used from studies in Norway, Chile, Ireland, or elsewhere. In instances this was because research had not been conducted in Scotland, in other instances research conducted in other countries was used when similar research was available from Scotland but differed in its conclusion. This is important because aquaculture in Scotland, although similar in theory, is distinctly different to other countries. The potential impacts will also be different, due to topography, geography, climate, scale of operations, farming practices as well as regulatory system in Scotland. Therefore, it is important that evidence for impacts in Scotland are considered. Should there be significant areas of potential impact that require research and assessment then these should be highlighted for further investigation and research with a focus on Scotland.

It was very encouraging to note that some potential impacts from aquaculture identified in the report, have been clearly assessed and all the evidence available has been reviewed with the conclusions in the SRSL Report are that the potential impacts are not a concern, will have no significant effect and do not require further consideration. Some of these areas include potential nutrient enrichment, and eutrophication on local, loch and wider ecosystem scale, and the potential for harmful algae blooms. Conclusions supporting the sustainability of feed supplies, the overall efficiency of aquaculture, and much lower global carbon footprint, were also well received.

A concern from the Review is a result of a divergence in the discussion of research and supporting evidence and comments providing a particular view and then the concluding statements appearing to suggest the contrary view. In a number of areas, the potential impacts were covered in great detail, and the majority of evidence showed that although there is a potential and a risk of impact, there is no significant evidence to demonstrate in reality that there is an impact. To be clear,

there is potential and there is risk, but the research evidence does not clearly demonstrate this.

Protected Habitats, Species and Marine Protected Areas

An area addressed in the Review, and commented on by the Committee, was the potential impact of aquaculture in areas with Protected Habitats, Species and Marine Protected Areas. It must be noted that in many areas, these designations are relatively recent and have come about due to the presence, abundance and good health of the protected marine feature. It should be noted that in in many of these areas aquaculture operations have also been long established and were in operation well before the Designation was given. This would clearly suggest that the potential impacts of concern (benthic impact, smothering, chemicals, and disturbance) are clearly not occurring in the area or it would not have been designated as a rich and biodiverse example of the Habitat or Species. The committee is encouraged to take a balanced approach, understanding that Scotland's seas support a biodiverse and productive, multi-user environment and understand that aquaculture has been a sustainable part of the Scottish marine environment for over 30 years, in balance and alongside special areas of interest.

Impacts on Wild and Farmed Stock

An area of potential impact discussed in detail through the Review was the potential impact of wild fish, either through sea lice and disease, or escapes. This is a contentious area and it was disappointing to note that the Review made little or no mention of the positive strides the industry has made pro-actively and collaboratively as well as the investment and technologies adopted in response to the potential impact. In fact, the Review suggested this was an area where there had been a lack of progress by the Industry. There was no mention of area management strategies adopted by the Industry for many years including; synchronised stocking, single year class farms and coordinated treatments. These measures have gone a long way to reduce potential interactions and impacts. More recently, cleaner fish and mechanical treatments have been adopted by the Industry and are growing areas of opportunity to improve and reduce interactions, this again was given very little consideration in the report. The Scottish Industry has developed and adopted a Best Practice Technical Standard which effectively reduces escape potential, this again was not well identified in the Review.

There is a need for a greater understanding of the potential impacts of farmed fish on wild fish as well as further studies on wild fish behaviour, migration routes and naturally occurring lice loadings in Scotland. Although often cited as true, there is no evidence, in Scotland or elsewhere, that makes a clear causal link that behaviours and activities on a salmon farm are clearly impacting wild fish health and welfare. Many of the changes associated with wild fish populations are in fact attributed to wider environmental changes and not farm activity.

Sea Lice

Sea lice were considered in detail in the Review, however one point should be highlighted. Several times it was cited that sea lice resistance to medicinal treatments was evident and increasing and it is very important that it is recognised

that this is NOT an Industry wide issue. Sea lice treatment strategies adopted by some companies continue to be successful and resistance has not been noted.

The potential impact of chemicals was discussed in the Review and noted as an area of concern by the Committee. It is important to acknowledge that sea lice medicine authorisations are strictly and carefully controlled and regulated by SEPA, and additionally assessed by Marine Scotland and others. The amount of any medicine permitted for use has been thoroughly investigated on a site specific basis, and the amount permitted is restricted to ensure potential environmental impacts do not occur. Further, as the Review identifies, all medicines in use must go through a vigorous and thorough testing and approval process before they can be even considered for use in Scotland, let alone on a specific farm.

Sea lice management is an evolving and active process across the industry and learning opportunities are taken throughout production cycles. Sea Lice Action Plans are developed, followed and modified depending on environmental, operational, and technological options. It is critical to realise that sea lice is a naturally occurring parasite, which originates from wild salmonid fish entering a system and infecting farmed fish. Farms cannot stop infection of this naturally occurring parasite, but do have a range of treatment and husbandry options in order to control and limit infection rates and the potential for the spread of sea lice, to other farmed fish, other farms, or indeed back to the wild fish.

There is a proposal in the Review and during the Committee discussions, for real time lice data to be provided, by individual farms. As has been announced by SSPO, the Industry commit to providing site by site sea lice data. However, it must be recognised that the provision of sea lice data from individual farms will not in itself help understand potential impacts on wild fish unless there is a clear and concurrent study of wild fish status. It is the causal link between behaviour and lice loading of farmed and wild fish that must be better understood and this is the area for greater research and information. Although this site by site information could be used to feed into the development of models, as suggested in the report, that data being publically available will not aid immediate, effective or reactive sea lice management. The report suggests that historical and current sea lice levels should be made available to assess long term efficacy and sustainability of management approaches. It is important to recognise that a whole host of other influencing factors, including environmental and farming conditions, such as fish health, stock type, water temperature, rainfall, salinity, will have significantly determined the approach taken, and the relative success, or not.

Current Practices and Regulation

Throughout the Review there appeared to be a lack of understanding, or indeed, at times, any recognition, of current practices on farms, or up to date information regarding medicine use, production strategies and operational behaviour.

Furthermore, there was little credence or consideration given to the current Regulatory regimes in Scotland, which are regarded as far more robust, conservative, and precautionary than other aquaculture countries. Scotland should be proud but also confident in environmental controls are in place across the Aquaculture Industry. Numerous consents are required in order to operate in

Scotland, including Planning Permission from Local Authority, Discharge Authorisation from SEPA, and 3 separate consents (Navigation and Mooring, Well Boat Discharge, Protection of Seals) from Marine Scotland. Almost all developments must go through a full Environmental Impact Assessment and the Environmental Statements produced are publically available and assessed. Consent applications are assessed by a range of statutory and non-statutory bodies, including national bodies such as SNH, and local stakeholders such as Community Councils and the public. Consents are only approved if all potential environmental impacts have been identified, considered, and shown to not cause significant environmental impact. If there are potential risks for impacts, consents will not be granted unless the developer can provide satisfactory, effective, and approved management, mitigation and monitoring solutions.

Closed Containment

Closed Containment was considered within the Review and was also raised during Committee discussions as an area of potential mitigation to avoid some of the potential impacts of open sea farming, such as disease, sea lice and benthic deposition. It is important for the Committee to recognise that at the moment there is no environmentally or economically viable option to replace sea pen farming with closed containment. There is a growing body of evidence from trials that show, not only is production of market size fish not successful in closed systems, but that disease and sea lice can still be an issue. Furthermore, rather than using the naturally recycling capability of the marine environment to breakdown the organic waste released from farms, any waste would need to be processed and disposed of, likely on land. In addition, the energy demands to provide, circulate and cleanse the water for these systems are such that the energy input and carbon footprint of containment aquaculture is massively increased. The Industry is continuing to investigate and optimise the potential for closed containment, but in terms of a successful investment and economic venture, the technologies and operational requirements are simply not viable, yet, not will they be for many years. Closed containment production will probably remain as an additional source of farmed fish, but not a full replacement for the Industry as it stands, let alone one with growth aspirations.