

Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from Cooke Aquaculture Scotland Limited

Cooke Aquaculture Scotland limited farms and processes Atlantic Salmon across the Northern Isles of Scotland along with freshwater production in England, Scotland and the Northern Isles.

While Cooke Aquaculture Scotland has an aspiration to grow in a sustainable manner, it is important to state that the current consenting regime for Scottish aquaculture, including the planning system and other regulatory frameworks relevant to environmental protection, will be the over-riding factor that determines future growth. The Scottish Salmon farming sector has a strong regulatory framework and is highly regulated through numerous legislative instruments which provide a high degree of environmental protection. These come from the EU, UK and Scotland, and are recognised globally. As such Cooke Aquaculture Scotland is committed to farming to the highest environmental standards and strives for continual improvement in environmental management, fish health and predator control striving to achieve minimal impacts.

1. Sea lice & disease impacts on wild and farmed stocks

The potential impacts of sea lice are just one of many factors that may impact wild salmonid populations, the evidence available with regards to Scotland is variable in nature and quality, with significant disparities between regions. Any relationship that may exist between levels of lice on farmed fish and those on wild fish, and the potential impacts on wild fish, are not fully understood and the science is particularly lacking for Scotland.

In recent years sea lice levels have been shown to have reduced across the Scottish Salmon Farming sector with some areas in which Cooke Aquaculture Scotland operate within, having very low if any lice loading. This in conjunction with the regulatory measures implemented by Marine Scotland in 2017, relating to sea lice control, implemented under the Aquaculture and Fisheries Act (2007, need time to be fully understood along with the science relating to the potential interactions.

2. Discharge of waste nutrients and their interaction in the wider marine environment

The discharge of waste nutrients is highly regulated by SEPA through CAR licencing and locational guidelines. The industry along with SEPA has made significant progress in understanding the fate of waste material and its interaction in the wider environment, with Cooke Aquaculture Scotland currently being involved in a project with both SAMS and SEPA in relation to the calibration and validation of the New Depomod model, along with a commitment from the industry to continually improve our understanding of the fate of nutrients in the wider environment.

SEPA's regulatory approach is highly protective of the environment and takes a precautionary approach. Proposed changes to the regulatory regime (i.e. DZR) may

result in a greater level of environmental monitoring and a focus on measuring actual, rather than modelled, outcomes: something Cooke Aquaculture Scotland fully endorse.

3. Effect of the discharge of medicines and chemicals from salmon farming

Medicines are one of a number of ways that salmon farmers ensure the health and welfare of their fish. However, importantly farmers focus health management on preventative approaches, such as the use of single year class production, fallowing and the use of vaccines. All our fish are under the care of a veterinary surgeon, who not only has responsibility for the health of fish, but who also oversees the preparation of company and farm specific veterinary health and biosecurity plans.

All medicines are fully licenced by the Veterinary Medicines Directorate (VMD). A Marketing Authorisation for a medicine requires an appraisal of environmental safety. This provides a strong regulatory framework around the use of medicines. Additionally, the use and discharge of medicines is strictly controlled by SEPA, through CAR licences. This framework incorporates an EQS-based approach to regulation, which is supported through European legislation, and includes high safety margins. As suggested by the SAMS report the use of anti-biotics by Cooke Aquaculture Scotland and the industry as a whole is very low.

4. Escapes from fish farms and potential effects on wild populations

The Cooke Aquaculture supports the position presented in the SAMS report, that the survival of escapes is low, however as a company we strive to achieve zero escape incidents. Furthermore, we also support the view that much of the science surrounding the potential for genetic introgression, and thereafter whether any introgression might have a lasting impact on a population. The Scottish situation is highly complex, and further confused by the fact that in the early 1970s and 1980s mutual agreements between farmers and fisheries proprietors promoted the stocking of farmed salmon into various river systems.

In terms of genetic introgression more concern should be given to the fact that there has been a rise in the number of Pacific Salmon seen during 2017, in river systems such as the Ness, these fish have potential to seriously affect our native population of Atlantic Salmon, either through interbreeding or competition for habitat.

The development of the Scottish Technical Standard, by both the salmon farming industry and regulatory authorities (within the Ministerial Working Group of Aquaculture) is highly relevant and gives additional commitment from the industry in relation to improvements in standards in relation to containment.

5. Sustainability of feed supplies including substitution with plant-derived ingredients

The feed manufacturers in Scotland are confident that feed sourcing will not be a bottleneck for sustainable growth of production, either now or in the future. At present ALL marine raw materials used in Scotland are sourced from either the International Fishmeal or Fish Oil Organisation (IFFO) Responsible Sourcing or MSC certified schemes – we are already ‘best in class’ here. Fish meal can be replaced

with specific plant and vegetable alternatives. Options to substitute fish oil are now becoming a reality, as algal oil is already coming into use in salmon diets in the UK. A substantially higher proportion of fish meal derived from processing trimmings from fish caught for human consumption is now used in diets, thus utilising more of an existing resource. A point of differentiation for Scottish salmon is a higher marine oil content in the diet than our competitors and we would seek to maintain that, as we are the most efficient and beneficial user from a health and nutrition perspective of the available products.

6. **Emerging environmental impacts: Marine mammals and birds**

Along with legal responsibilities to safeguard the health and welfare of our stocks we also have a duty to protect the natural environment. Predators can have a significant impact on farmed salmon stocks; killing, injuring or distressing fish. To minimise interactions between our stock, Cooke Aquaculture have site specific predator management plans, which are updated on a regular basis to take into account both best practise and changes in legislation.

There is a clear and robust legal framework surrounding the protection of marine mammals and birds. Much of this relates to European regulations, but there is also Scottish law relevant to such animals. This legal framework can be implemented through specific planning conditions and can be adaptive in nature with specific conditions being tailored on a site by site basis.

Cooke Aquaculture is committed to reducing predator interactions to the lowest possible level and the industry in general has shown to have made significant progress towards achieving zero levels of predator control, using destructive means under license.

7. **Emerging environmental impacts: Wrasse as cleaner fish**

Cleaner fish are an important part of integrated sea lice management. All the lumpfish used by Cooke Aquaculture have come from a farmed origin.

Since Cooke Aquaculture first started using cleaner fish it has continually developed best farming practice, and has engaged regulatory authorities wherever necessary. In particular, the development of cleaner fish standards by the RSPCA Assured Scheme and CoGP have been a significant driver in developing best **practice**.

8. **Mitigation: Recirculating Aquaculture Systems (RAS)**

The SAMS report presents RAS as a possible solution to several issues relating to the environment. RAS is not a new technology for the Scottish salmon farming sector, and it is a significant part of Cooke Aquacultures freshwater production capacity. However, scaling such technology for use in the marine phase has significant challenges.

RAS uses substantial amounts of energy to pump and chill water so the carbon footprint of RAS is much greater than for current production methods (as detailed in the SAMS report, P63). Furthermore, moving all current marine salmon farming production onto land would involve sizeable land resources with consequential environmental impact. As such at the present time RAS may resolve only some of

the issues present, but will also create other impacts and issues that may not yet be fully understood.

9. Other important points

Mortalities

Mortalities were not covered in detail within the SAMS report but have been raised by the ECCLR committee during the inquiry process, and, therefore, we have included some comments below.

Mortalities form part of all production of animal proteins, as such as an industry we are continually striving to reduce mortality levels to a level that is as low as possible. The collection and disposal of mortalities is in accordance with the Animal By-Products regulations.

Third Party Standards

Cooke Aquaculture conforms to various third party standards, over and above the Code of Good Practice, such as Soil association, RSPCA, Label Rouge and Whole foods with regard to environmental protection. We believe that such standards are a key link between producers, retailers and consumers and as such have a considerable role in supporting and driving forward improvements in many aspects of salmon farming, including environmental performance

Conclusion

In principle Cooke Aquaculture accept the presentation of the written literature in the SAMS report, which has been reviewed as a desk based study. However we would welcome the opportunity to invite representatives to a site based visit to discuss the issues presented at ground level.