

## **RURAL ECONOMY AND CONNECTIVITY COMMITTEE**

### **SALMON FARMING IN SCOTLAND**

#### **SUBMISSION FROM SAINSBURYS SUPERMARKETS LTD**

##### **Background**

Sainsbury's employs over 160,000 colleagues over 1400 stores, 23 depots and 5 store support centres across England, Wales, Scotland and Northern Ireland. Serving over 25 million customers per week, our market share is around 16% making us the second largest grocery retailer in the UK.

Aquaculture accounts for half of Sainsbury's total seafood sales and we expect that all significant growth in our seafood sales in future will be derived from aquaculture. Global aquaculture production now surpasses wild fish capture for human consumption (FAO, 2016) and most wild fisheries which make significant contributions to human consumption are already delivering around maximum sustainable yield so future wild caught volume growth will be limited.

From a health perspective, the UK government advises that individuals consume two portions of fish per week (one of which should be oily) as part of a healthy lifestyle however current consumptions figures indicate that only half of this amount is consumed delivering a resultant shortfall of over 500,000 tonnes within the UK market alone. It is clear that significant increases in sustainable aquaculture production will be required, both at a domestic and global level, in order to deliver improved population health and food security in future.

Sainsbury's sources farmed Atlantic salmon exclusively from independently certified and RSPCA Assured farms in Scotland.

Farmed Scottish salmon is Sainsbury's single largest selling species representing 25% of all seafood sales within our business. We have a significant incentive in maintaining a sustainable supply of farmed salmon which meets both our needs and the needs of our customer.

Sainsbury's welcomes the opportunity to submit evidence to the Rural Economy and Connectivity Committee relevant to the Inquiry into Salmon Farming in Scotland.

##### **Current state of the industry**

We recognise that the salmon farming industry in Scotland is of significant social and economic importance within the UK from an employment, GVA, food provision and consumer health perspective. It is also clear that the industry has challenges in delivering sustainable environmental performance and in developing the capability to deliver sustainable growth in future.

Data from Marine Scotland (as published in SPICe briefing "Salmon Farming in Scotland Review, Feb18) reports average industry mortality levels in excess of 20%

in recent years reflecting significant environmental and health associated challenges for which mitigation measures have not been sufficiently developed or available at a cross industry level, an unsustainable position. The same data set demonstrates that average levels can be achieved of less than 10% (and to below 5% - insight from our supply base) when appropriate and effective prediction and control processes are in place to deal with challenges. The future for the industry is to develop an improved suite of predictive and mitigation measures for current and future challenges designed to deliver effective control and performance.

We accept that mortality (or survival) is not proxy for sustainable environmental performance and is used in this case to demonstrate the ability of the industry to deliver improved performance when armed appropriately.

We have already witnessed significant improvement in performance against a number of shared environmental and fish health related metrics within our supply base as a result of investment in expertise, innovation and technology.

### **Fish health and environmental challenges**

The SPICe commissioned “Review of the Environmental Impacts of Salmon Farming in Scotland” report undertaken by SAMS Research Services Ltd provides an insight into the environmental impacts of salmon farming in Scotland and we are in broad agreement with the outputs.

#### **Wild – farmed fish interaction**

The predominate issue is the potential for interaction between farmed and wild salmonid populations, specifically the potential for negative impact on health of wild salmonids arising from genetic introgression (as a result of farm escapes ) and sea lice.

We believe that effective equipment design and deployment significantly reduces the risk of farm escapes and as such we would advocate the adoption of The Technical Standard for Scottish Finfish Aquaculture as a statutory requirement for all pen based farms.

Further research is required into production of sterile (triploid) farmed salmon which would eradicate the potential for genetic interaction with wild populations in the event of a farm escape.

Despite the absence of conclusive evidence in Scotland in respect to sea lice impacts on wild salmonids, we believe that the most responsible course of action is to target the absence of gravid (egg bearing) adult female sea lice on farmed salmon. The availability of a wider suite of controls must be developed to deliver this vision and funding streams should be made available to support innovation in this area through organisations such as, but not exclusively, SAIC.

We have seen improvements in sea lice performance within our supply base as a result of significant investments in treatment solutions such as cleaner fish (including cleaner fish culture to eliminate wild capture), physical controls and bathing capability however it is clear that further solutions must be developed to ensure availability of multiple control options as part of an integrated pest control strategy. Specific fish health challenges can effectively exclude certain treatment methodologies (especially those which necessitate active interaction with stocks), consequently we believe the development of solutions which require minimal handling of fish should be prioritised.

The developing of improved modelling of potential sea lice distribution based on wild and farmed fish distribution should be developed in order to inform farm siting and orientation to reduce potential burdens and risk and to inform treatment strategies.

#### *Benthic impacts*

We believe that the trend in moving to more dispersive sites coupled with a move to Depositional Zone Modelling should be adequate in mitigating benthic impacts. We see SEPA control in this area as appropriate and robust.

The continued evolution and improvement of modelling tools should be encouraged and appropriately funded.

#### *Sustainable feeds*

Increasing aquaculture production will necessitate increased supply of sustainable raw materials for feed manufacture given that marine ingredients (fish meal and fish oil) are already delivering around maximum sustainable yield and there will be, in all likelihood, increasing demand on vegetable based raw materials for direct human consumption. The emergence of new opportunities such as insect meal production, bioprotein production and algal culture (in provision of LC Omega 3) are encouraging and these should assist in delivery of sustainable aquaculture feeds in future. Further innovations in this area should be encouraged to improve the suite of functional and sustainable raw materials.

#### **Data collection and availability**

Sainsbury's have an open and productive dialogue with our supplier in relation to health, welfare and environmental performance of all supplying farms and support the move for sharing of farm specific sea lice data by both our supplier and SSPO members. We believe reporting of sea lice numbers should be mandatory for all producers as is the case in Norway. This would provide assurance for all stakeholders (including producers in shared management areas) that appropriate management controls are being applied in line with appropriate farm management agreements or statements.

There is public access to farm escape, seal mortality, fish health and environmental data through a variety of website portals. Whilst there seems to be adequate coverage of relevant data we believe that it would be useful to collate all data

sources to a single access point such as the Scotland's Aquaculture website with clear linkages to aquaculture specifics in order to facilitate ease of access to all information for stakeholders.

### **Regulatory regime**

We believe the consenting regime for Scottish aquaculture to be sufficiently robust in terms of assessed content but that the process would benefit from re-assessment and development of an aquaculture specific process to deliver an efficient, streamlined and robust outcome.

We defer to the findings of the Independent Review of Scottish Aquaculture Consenting (2016) report in this respect.

In 2017, Marine Scotland introduced a revised sea lice policy which incorporated reporting and intervention limits for adult female sea lice on salmon farms. It is acknowledged that these limits are not based on science and we believe that it is important that this be the case in future. Research should be undertaken between government, industry and appropriate representative bodies representing wild fisheries interests in order to understand tolerable sea lice burden within individual farm areas based on hydrological characteristics and the potential for wild fish impacts. Modelling across the aquaculture estate could then be achieved in order to devise tailored farm management plans and enforceable, scientifically robust, reporting and intervention limits.

### **Future development**

Innovation to deliver technological improvement in current processes is critical in tackling the existing challenges within the industry and we believe that sustainable production at the current level can be delivered with appropriate investment. Accordingly, mechanisms to provide adequate funding of innovation should be developed as a matter of priority.

Industry growth in the short to medium term is likely to be limited by current technology and compatible site availability. Expansion into offshore areas will require development of appropriate technology and infrastructure. Installations will have to be of significant scale to justify investment and deliver cost effectiveness.

There has been much dialogue in respect to the development of land based recirculation technology for ongrowing purposes. Whilst this technology has been successful in the rearing of smolts, this production occurs at significantly lower stocking densities and biomass capacity than would be required to deliver economic performance when growing fish to market size. Consideration of the wider environmental footprint of such operations would be required in the overarching assessment of the sustainability of such operations. The impact of increased stocking densities (required to deliver economic sustainability) on animal welfare and performance and resulting consumer perception require further understanding. We are mindful that despite the rhetoric and much publicised future investments, there is

no example of a scalable recirculation system which has delivered multiple successful production cycles.

We believe that there is significant potential to develop semi-closed contained production systems for utilisation in inshore sheltered locations which are currently deemed unsuitable, from an environmental perspective, for farming using current open pen technology. Inputs and outputs could be managed on a cost effective basis (given shorter pumping and infrastructure development costs) delivering effective biosecurity (incoming pathogen and parasite control) and mitigation of environmental impact (zero waste output through effluent capture and treatment). Waste outputs could also be utilised to produce valuable by products (e.g. algal biomass or oils).

There are examples of prototype technology being developed in Norway however we are aware that these are, as yet, unproven.

Sainsbury's Supermarkets Ltd  
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