

## **RURAL ECONOMY AND CONNECTIVITY COMMITTEE**

### **INQUIRY INTO SALMON FARMING IN SCOTLAND**

#### **SUBMISSION FROM PROFESSOR PHILLIP THOMAS**

##### **Introduction**

This is a personal submission to the Rural Economy and Connectivity Committee's Inquiry. It is unconnected with any views expressed by any organisations with which I have or have had professional associations. It reflects a long-standing interest and scientific involvement in Scottish food production (including livestock farming and fish farming), as well as related interests in environmental management and rural development. The submission addresses the Inquiry's questions and provides some related observations which I hope may help to inform the Committee's deliberations.

##### **General views on the current state of the farmed salmon industry in Scotland**

The recent history of salmon farming in Scotland is widely misunderstood. Commercial farming of salmon began in 1980 and increased over a 23-year period to reach a peak of production of 170,000 tonnes in 2003. There followed a major contraction in production reflecting a need to adjust to altered market conditions. This resulted in a trough in production of 128,000 tonnes in 2005, which has been followed by a slow but progressive increase to reach 163,000 tonnes in 2016. Thus, the very substantial commercial success of Scottish salmon farming over the past decade has not been due to a growth in total farm production compared with the 2003 peak. It is attributable to major farm and company restructuring and the introduction of advanced technical developments to increase the efficiency of production and to produce an assured food product of exceptionally high-quality. Scottish farmed salmon has thus become a market leader in its product sector not only in the UK but in every overseas market where it is available.

On this basis, the 'current state' of the Scottish farmed salmon industry is 'very good'. And, this has allowed the industry to make a unique contribution to the Scottish rural economy not only in North West-coastal and island where salmon farming is based but in areas such as the North-east where the continuity of supply of farmed salmon underpins an otherwise unsustainable fish processing sector.

Additionally, the scale and rate of introduction of new technology in salmon farming over the last 15 years has made it the leading sector of the Scottish food economy, with a professionalism and technological expertise that is second to none.

##### **How can the sector grow in future?**

Salmon farming is capital intensive and its rate of growth is determined by: (a) the speed of planning and regulatory approval; and (b) the availability of investment in new farms and new technology. Based on the evidence of the past 15 years, the rate of development in the sector's productive capacity will almost always be constrained by the planning and regulatory systems. The availability of investment will rarely be constraining other than in the short-term. If faster industry growth is accepted as a

national objective the only solution is to address the shortcomings of the planning and regulatory systems. However, progress in those areas is difficult to achieve because of a widespread lack of understanding of aquaculture and related environmental management amongst politicians and governmental decision makers. The bureaucratic inertia to making changes is profound, and despite several genuine and well-intentioned political initiatives to improve the situation very little of practical benefit to increasing the rate of expansion of the industry has been achieved over the past 15 years.

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

All types of animal production (livestock, birds and fish) face inherent issues of health management. Animal health management must therefore be regarded as an ongoing animal husbandry consideration in every sector; endemic diseases constitute an ever-present risk, and new diseases or more virulent forms of known diseases will inevitably appear from time to time. Animal production industries are thus constantly seeking to maintain high standards of animal health against a background of a natural biological challenge.

Likewise, all forms of animal production raise some environmental challenges, and these must be managed to reduce their impact and persistence. It is self-evident that fish-farming involves physiologically distinctive cold-blooded species and takes place in an aquatic environment. However, the principle of having to manage the environmental impact of the production process is common to all forms of animal production and the underlying principles have a good deal of commonality across species.

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

The collection of data on fish farms is much greater than the collection of data in other forms of animal production, and there are few, if any, areas of salmon farming on which data is not collected. The data collection about salmon farms is fully adequate for all practical and regulatory purposes. However, in comparison to some other livestock sectors, I think the sharing of data within the fish-farming industry could be improved. Some very good progress on this has been made through the SSPO Fish Health Database, and there are examples of exemplary sharing of data between companies where new disease problems emerge (e.g. in the treatment of Amoebic Gill Disease). However, the scale of routine data collection by farming companies could provide the industry with a very powerful research tool, if the data were better harnessed for industry-wide benefit. For the avoidance of doubt, this is not a matter for the regulators or for further legislation, it is a matter for the industry itself. At present this development is in part inhibited by the wholly unhelpful public policy of seeking to place all data on fish farming in the public domain. There is little or no incentive to farmers in collecting additional data to support improvements in their farming if that data is published and freely available to commercial competitors. Scottish salmon farming is an internationally competitive commercial business and it needs to protect its competitive advantages.

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

Scotland through its regulatory and quality assurance provisions operates the most robust regulatory regime for salmon farming in the world. Indeed, it has been regarded as an exemplar by other countries. Moreover, Scotland has pioneered adaptive management systems, for example in Area Management and in the introduction of new management approaches and technologies. This has supported an impressive rate of technological progress in the industry, in advance of that in almost any other food sector. Much of what has been achieved has been pioneered by the industry itself. Sadly, there are cases where that achievement has been significantly damaged by clumsy attempts to incorporate best practice into legislation. Consequently, Scottish legislators have in some cases created barriers to industry development rather than dismantling them.

A constant regulatory difficulty arises from the lack of salmon farming expertise in all the major regulatory agencies. This means the agencies are constantly struggling to deal with an industry and a rapidly changing set of technologies which it doesn't really understand. Additionally, there is a widespread agency failure to develop an adequate expertise in risk assessment and risk management, which is fundamental to their work. This creates inertia in their decision-making and often leads to policies that are not viable or sustainable in practice.

**How might the UK's departure from the EU impact on the farmed salmon sector?**

Unless there is some negotiated agreement to the contrary, the UK's departure from the EU will presumably 'de-list' the UK's PGI (Protected Geographical Indication) for '*Scottish Farmed Salmon*' (although the Label Rouge quality standard will not be affected). However, '*Scottish Farmed Salmon*' as a generic branding is now so firmly established in the market place that it is difficult to assess whether removal of the PGI mark will seriously impact on the brand.

More generally, salmon sales will be subject to whatever trading arrangements for foodstuffs are agreed between the UK and the EU, and these could disadvantage UK sales into the EU. However, Scottish Farmed Salmon is a global food product and any contraction in EU market access would release product to be sold on the wider international market.

**Additional Points**

In the context of the Rural Economy and Connectivity Committee's Inquiry it is difficult to avoid making some mention of the recent Environment, Climate Change and Land Reform (ECCLR) Committee's report on *The Environmental Impacts of Salmon Farming*. Space does not allow a detailed critique of the document. But there are a few key points that I wish to note, as follows.

The ECCLR Committee's approach to their investigation was based on and shaped by an initial high-level review of the literature (*Review of the Environmental Impacts of Salmon Farming in Scotland*) undertaken by a consortium led by SAMS Research

Services Ltd. This extensive, but by no means exhaustive, document essentially mirrored the high-level approach adopted in a previous report, *Review and Synthesis of the Environmental Impacts of Aquaculture* undertaken by SAMS and Napier University and published by the Scottish Executive Central Research Unit in 2002.

Importantly, in terms of a scientific risk management approach, both reports could be best described as 'hazard reviews' – essentially part of the process of identifying 'hazards' that could potentially have consequences in terms of assessing an actual risk. Neither report significantly evaluated the likelihood that a potential hazard will have a quantified significant 'risk' or estimated the consequences that follow from that in practice. Likewise, neither report made any serious consideration of managing the quantifiable 'risk' and reducing it to an acceptable level.

These points are of crucial importance in practice because they highlight the limitations in the ECLRR report and they explain many of the comments and statements which the report presents. The report constantly expresses 'concerns' about 'potential' environmental impacts. However, in practice these concerns are impossible to sustain unless they are based on a proper and robust assessment of the risk.

Likewise, a good deal of attention has been given to the ECLRR Committee's comment 'that the same set of concerns exist that existed in 2002' (a reference to the earlier report). However, since both reports were based on a hazard analysis rather than risk assessment the situation could hardly have been different.

The ECLRR Committee advises a 'precautionary approach' which in developmental terms means 'proceeding with caution' (rather than do nothing, as is sometimes assumed). The reality is that in terms of its volume development Scottish Salmon farming has not made any overall production increase in 15 years. Moreover, despite the concerns about hazards that were expressed in 2002 and now repeated in the ECLRR report, the potential impact of the industry and the sources of risks in its operations have reduced as technology has continuously improved.

Like all industries, and most human activities, salmon farming is not without risk to the environment, but the view that these risks are large or that they are not controlled and minimised is wholly unfounded.

All the evidence indicates that salmon farming in Scotland has substantial scope for continued and progressive expansion, undertaken carefully and with a proper recognition of the need to control and minimize environmental risks. However, the latter consideration equally applies to other sectors of industry and to farming and fishing activities.

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