

## **Environment, Climate Change and Land Reform Committee**

### **Environmental impacts of salmon farming**

#### **Written submission from Fidra**

##### **Who we are**

[Fidra](#) is a charity based in East Lothian, Scotland. We seek to find ways to engage local concerns over current and emerging environmental issues, and use this to contribute to wider dialogue at national and international levels. We use scientific evidence and best practice to establish how best to influence positive environmental change. Our current Best Fishes project is looking at traceability of Scottish salmon and certification standards used by the aquaculture industry. We welcome the opportunity to provide written evidence to the inquiry.

##### **The SAMS Research Services Ltd report**

The above report is extensive and thoroughly researched, and emphasises that there are significant knowledge gaps in many aspects of the environmental impacts of the industry. In particular, reference is often made to research conducted in Norway where such work is lacking in Scotland. There is an urgent need to correct this and bring research into Scotland's salmon aquaculture at least to a similar standard to that being carried out in Norway.

The lack of Scottish research means that much of the report refers to Norwegian data, however it is highly risky to base decisions on this information as the environments of the two countries vary from each other quite markedly. For example, the physical differences between lochs and fjords allow far greater flexibility in Norway when adopting measures for the control of lice, meaning that Scotland, in order to adequately control an apparently and widely documented growing problem, must rely far more heavily on physical measures and the use of chemicals for control. Although there is a clear negative public and expert association with these practices, especially in relation to the human food chain and chemicals, it is unclear if this is real, or indeed if there is any long-term ecosystem effect that is a cause for concern.

What is clear, is that there is a far greater resource available to Norway to conduct and respond to research on the impact of aquaculture and also on the development of situationally relevant best practice. In effect therefore, Norway is undergoing a continuous critical and peer review of best practice. This arguably research-based economy in Norway is valuable, and a significant step for Scotland would be to place all available data in the public domain so that it is open to transparent scrutiny. This will allow the identification of gaps in knowledge specific to Scotland, and promotes the use and inclusion of a significant and globally recognised Scottish research expertise in working toward solving its own problems.

A precautionary approach is needed in the meantime, in particular in the planning and licensing of further aquaculture developments. As the industry expands, the issues faced continue to receive little or no expert scrutiny at a level or consistency

that allows protection measures to be either implemented in time or rigorously assessed for efficacy.

### **Legislation and enforcement**

Although an account of the legal framework for regulation of the environment effects of salmon farming was outwith the scope of the review, current regulation and its effectiveness are both highly relevant and merit detailed examination. In particular, Scottish law reserves the right to compensate aquaculture operators<sup>1</sup> for biomass loss through, for example, lice infestation. This can be viewed as a subsidy and in a sense does nothing to promote research or the implementation of best practice.

In relation to regulation we make the following recommendations:

- i. That an ecosystems approach to assessment is adopted by Scotland and that all data is made available to researchers with the twin aims of better defining assessment parameters and informing the development of a modelling approach to prediction, specifically refining the NEWDEPOMOD system;
- ii. That the right to provide 'compensation' be removed from Scottish law;
- iii. That the entire practice of sea-based aquaculture of salmon in Scotland be the subject of wholesale legislative review in line with the last major work on the subject which is now some 15 years old;
- iv. That all available data, including but not limited to those that describe escapes, lice infestation, chemical treatment and ecosystem baseline measures be released into the public domain to enable systematic peer review;
- v. That Scotland looks to find solutions to identified problems that are shown to be of concern by a scientific process of review, within its own legislature. Specifically, that comparison with superficially analogous situations does not remain the focus of examination, but rather a bottom up approach that is specific to Scotland be adopted.

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<sup>1</sup> Aquaculture Industry and Governance in Norway and Scotland – Standing Senate Committee on Fisheries and Oceans, July 2015