

Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from Ian Dobb

1. My interest in open net fish farming

A year ago, I was ignorant about open net salmon farming. The farms were a bit of an eyesore but I thought nothing more of it. Then, a new firm started to woo the locals and subsequently applied for planning permission for two salmon farms along our coast. This prompted me to find out more and the more I found out, the more I was appalled. A consequence of this has led me to write my submission to your review and I offer the following comments and observations.

2. The cumulative environmental effect and the precautionary principle

What is clear is that each fish farm degrades the natural environment, yet it is the cumulative effect that really concerns me and the planned significant growth only makes matters much worse. Scotland is rightly proud of its rich, natural heritage and it pains me that it is being eroded without much resistance. It is in Scotland's long term interest to address these issues sooner rather than later, as later may be too late to reverse some of the damage.

The SAMS report identifies the individual issues, covering out-of-control sea lice, widespread ADD usage, significant faeces deposition, chemical pollution etc. However, its approach to only use scientific papers and reports from 'reliable' sources, openly admitting that these are often lacking, or outdated (e.g. 2001 studies quoted yet the industry has grown very significantly since), and relevant predictive modelling is simplistic and so flawed. Overall, there is a lack of hard, up-to-date evidence.

Also, there is at times the aquaculture industry 'marking its own homework' for example on seal kills, and the use of chemicals. In the absence of effective regulation and independent assessment, how can their own reports be deemed reliable?

However, it is clear that there is a growing body of indirect and direct evidence, both locally and globally, regarding the detrimental effect open net aquaculture is having on the natural environment. Here in the Hebrides, the lower numbers of cetacean sightings, the reduction in wild salmon (and sea trout) and their weakening, sea bed footage of the barren areas under fish farms are directly related to aquaculture. The SAMS report openly admits many unknowns, e.g. a 'lack of knowledge regarding diffuse, far field effects of bath treatment chemicals on benthic and pelagic ecosystems.' Yet the aquaculture industry in Scotland is flooding the local authorities with planning applications for larger or new fish farms, some even in

areas where protected species (e.g. harbour porpoises¹) and plants (e.g. Northern Sea Fan) occur.

Impacts are now being recognised across large bodies of water such as The Minch. The frequent use of ADDs on an ever increasing number of farms can each affect areas up to 1,000 square kilometres of sea. They form a network of sound wave deterrents for protected cetaceans², sound sensitive creatures that are surely disturbed yet these devices are permitted. The situation is in danger of becoming obvious all too late for safeguarding action and adherence to legal, international commitments.

I conclude that the precautionary principle³ (*taking preventive action in the face of uncertainty; shifting the burden of proof to the proponents of an activity; exploring a wide range of alternatives to possibly harmful actions; and increasing public participation in decision making.*), one of the fundamental principles of the European Union governing policies related to the environment, is not being adequately applied to aquaculture in Scotland.

With the planned increase in aquaculture, and so more and larger fish farms, means that more acreage of barren sea beds is inevitable. We are in danger of losing precious natural features and creatures before we even know they exist, as with last year's Loch Carron flame shell reef disaster - and the positive discovery by Marine Scotland in 2012⁴.

An alternative method of production has been identified - closed containment or Recirculating Aquaculture Systems (RAS), preferably on land in a combination with hydroponics. The Adaptive Management approach simply will not change matters far or fast enough.

Thus, my recommendations are to:

- recognise that significant pollution is occurring and forever increasing;
- recognise that the industry is out of control and regulatory bodies are ineffective;
- accept Scotland is not adhering to its legal obligations and this needs to be rapidly addressed by consistently applying the precautionary principle to all aquaculture activities from hereon;
- replace the passive, weak regulation with pro-active, stronger and independent-from-government regulation who conduct unannounced, surprise audits. Ensure pollution penalties promote the right operational behaviours and safeguards;

¹ **The European Union (EU) Habitats and Species Directive** recognises **harbour porpoises** as both a 'species of community interest whose conservation requires the designation of special areas of conservation' (SACs), and as a 'species of community interest in need of strict protection'. All EU Member States have a duty to designate SACs for harbour porpoises (to help ensure that they survive and thrive in the future)

² Cetaceans are protected under the **Conservation (Natural Habitats, &c.) Regulations 1994** (as amended)

³ **Rio Declaration on Environment and Development (1992) Principle 15**, subsequently one of the fundamental principles of the European Union governing policies related to the environment.

⁴ <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-20838775>

- initiate research so that the Government can act from a position of more knowledge for future decisions and legislation;
- halt the planned expansion of aquaculture in Scotland until the industry sufficiently cleans up its act, as proven by the now newly-effective regulator;
- establish the business case for RAS, taking into account operational economies from less food waste, reduced harvesting and distribution costs etc. which may offset the initial, higher capital cost. Apparently, with open net farming, half the cost of salmon production is its food, and a significant amount of this simply sinks to the sea bed. Scotland has the space, water and green energy potential for such enterprise.

The ECCLR Committee's inquiry into the environmental impact of salmon farming in Scotland has an opportunity to 'grasp the nettle' and to stand up for what is in Scotland's best long-term interests. I urge you to stop this race-to-the-bottom, lowest cost, most polluting, weakest legislation and regulation country in the developed world and follow Norway, Canada et al in recognising the environmental impact and recommending legislation to the Rural Economy and Connectivity (REC) Committee's forthcoming inquiry on aquaculture.