

Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from Marine Harvest (Scotland)

Marine Harvest would like to submit the following comments on the document: *Review of the Environmental Impacts of Salmon Farming in Scotland, executive summary and main report*. Overall, the report is a well-researched and written review of Scottish aquaculture, its practises and impacts. Our comments are consequently limited in number and scope. Bulleted comments are given below against the noted Review sections.

Chapter 2. Sea Lice & Disease Impacts on Wild and Farmed Stocks

The overall content seems correct. However, there is a slight bias towards the idea that farmed salmon pose a risk for wild populations. We do not disagree with this, and accept that there is an element of risk. The authors seem to reiterate too much on this fact, without mentioning that in some occasions wild fish can also pose a risk for farmed stocks. The report perhaps could do with some rewording to place the situation in a more objective manner.

In general, after reading this chapter the impression is that health/mortality data is very poorly recorded and distributed. It almost sounds like the industry are not aware of what is happening in their sites. It is important to let the authors know that our stocks are monitored very closely and all this kind of data is carefully gathered and recorded. We report lice levels and mortality levels to Marine Scotland as stipulated by legislation. All this data is available under freedom of information, therefore is accessible to anybody.

The text covers in great depth how ineffective medicinal treatments against sea lice are, and it talks about measure such as cleaner fish and mechanical treatments as a thing of the future. It is important to highlight that these alternative options are currently being used widely and that great improvements in efficiency and fish welfare have been achieved.

Chapter 4: Effects of the discharge of Medicines and Chemicals from Salmon Farming

It should be noted that there are only two antibiotics currently marketed for use in Salmon in the UK (florfenicol and oxytetracycline). This work mentions several of them, some of which could potentially be used under the cascade, but not on a regular basis.

We would recommend updating section 4.2.2 *Injections* with newer vaccines (i.e. Alphaject micro 6, Aquavac PD3, Winvil 3 Micro) as the ones they mention are older products.

When it comes to mitigation, the authors must see cleaner fish and mechanical treatments as already a reality, not as the future.

Section 3.1 Solid Wastes

Reference to work carried out by SAMS at a farm site in Loch Creran. The work showed that the benthic footprint of the farm covered 'about half a square kilometre' of seabed. This highlights that the change of regulation by SEPA to move to the new DZR approach may be flawed. Under the DZR proposals there will be a maximum footprint size allowed of 0.5 km². Farms cannot exceed this or face sanctions, ultimately leading to closure. This will limit the ability of the industry to grow as per the Scottish Govt. and industry targets. The Loch Creran farm site is licensed for 1500t; new sites coming through the modelling process will be for >2500t, and it is recognised by many in the industry that 0.5 km² is too small to allow sites expansions >2500t.

Section 3.1.4 Regulation

The reference to cage-edge standards is pertinent in that SEPA requires a number of enrichment polychaetes to assimilate the sediment. If there are too few then the cage-edge fails the quality standard. It is worth noting that these enrichment polychaetes would not be present in higher numbers if the farm was not present. As sites move to more dispersive areas and the seabed is not perturbed by organic wastes to any significant degree then there may be no presence of high numbers of enrichment polychaetes. This indicates a minimal impact upon the sediments but under the present SEPA cage-edge quality standards the site would be classed as Unsatisfactory. The present cage edge quality standard is not for purpose at dispersive sites. Discussions have been had with SEPA on this topic but nothing has been resolved as yet.

The last sentence of this section: '*... a patch of 0.5km² within which the ITI value may fall below 30, so long as this does not exceed 5% of the water-body area.*' This is incorrect. The new seabed standards for DZR will be given as IQI, not ITI.

Section 6. Sustainability of feed supplies

There a few minor errors in this section, none of which are worthy of making changes. There are also some misunderstandings or show that the data used is a bit behind the curve.

Marine Harvest would like to see a more robust push for the GM sources of LC PUFA e.g. production using Camelina. The authors may be too willing to accept that it's the public choice not to grow GM crops in Scotland and that there is nothing to be done about that.

Chapter 7.2 The Use of wrasse as Cleaner Fish in The Salmon Farming Industry

The development of cleaner fish use by the industry, especially with the major players in Scotland, is fast moving and developments in hatchery production, health and deployment are changing monthly. The Review document is generally out of date with much of its information on this subject. This is an important component of sea lice control so it would be useful if the Review accurately reflected the reality of practice.

We would propose to strengthen the fact that both wrasse and lumpsuckers are being produced in hatcheries. Even if wrasse farming presents some challenges big advances have been made over the past few years.

It is also worthy to highlight that cleaner fish are treated by salmon farmers as another crop. Their welfare and health is taken into account and mitigation measures are in place if problems arise (i.e. feed is now available to cleaner fish because lice are not very nutritious and not always abundant enough, cleaner fish get treated if they get diseases, they are vaccinated, shelter is provided in the pens...).

Section 7.2.3, Wrasse fishery. This covers the species used by the industry and cites Norwegian data. Note that in Scotland, Marine Harvest uses all species and the industry as a whole uses mainly Ballan Wrasse.

Under the title *Lumpsucker* the Review reports that in 2016 some 262,000 lumpsucker were reared. Note that in that year Marine Harvest reared close to 800,000 lumpsucker.

Section 7.2.7 Prognosis and Mitigation. A number of issues are raised in this section that '*need to be addressed*'. Under some of the issues raised comments are as follows:

- *Accurate recoding and reporting of wrasse catches.* A meeting is being held with Marine Scotland to address any shortfalls in reporting,
- *Accurate recording of all wrasse discard rates.* This is an ongoing move to improve this situation for all suppliers to Marine Harvest, and
- *Developing a unified approach for recording traceability of cleaner fish.* Note that all Marine Harvest fish have a known origin.