

Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from Scottish Natural Heritage

SNH and Aquaculture

Scottish Natural Heritage (SNH) is a non-departmental public body funded by the Scottish Government through Grant-in-Aid. We are the Scottish Government's advisers on issues relating to nature and landscape. Our statutory purpose is to:

- secure the conservation and enhancement of nature and landscapes;
- foster understanding and facilitate their enjoyment of them; and,
- advise on their sustainable use and management.

SNH supports the sustainable growth of Scotland's aquaculture industry. We are one of four bodies¹ with a statutory role in advising planning authorities on aquaculture development. As part of this, we engage with developers and planners at the pre-application stage to help identify and address potential environmental impacts. We also provide input to strategic plans to help guide developments towards the most appropriate locations, and we undertake research and prepare guidance to support the industry's sustainable development.

SAMS report

SNH welcomes the SAMS report as a timely updated summary of the available scientific literature on this important topic. It is notable and welcome that, since the last such report in 2002, there has been a significant increase in the evidence base on issues like escapes and sea lice. Our specialist advisers have reviewed the relevant sections of the report and are in broad agreement with its findings. We wish to highlight the following key points and can provide more detailed comments to the Committee if these would be useful.

1. We would like to have seen this review into the environmental impacts of salmon farming include **landscape and visual impacts**, which are an important part of the Environmental Impact Assessment process. We recognise that this was not part of the brief for the SAMS report, but consider this to be a significant omission that the Committee may wish to consider further in their Inquiry.
2. We have some concerns about the report's **criteria for assessing environmental effects** (section 1.6). The report suggests that the significance of an effect should be related to effects on ecosystem services or on legally protected habitats and species. In the latter case, this definition would seem to exclude Priority Marine Features, which receive policy protection through the National Marine Plan. In addition, there is some inconsistency in the explanation of legal obligations for protected habitats and species within the report (including

¹ SNH, SEPA, MSS and DSFBs

Special Areas of Conservation (SACs), Special Protection Areas and Marine Protected Areas). We think that this section should also have highlighted that a particular impact may not be significant in its own right it could become significant on a cumulative or in-combination basis.

3. We found section 2 on **sea lice** to be a useful summary of the recent literature on this topic, although felt that the emphasis on wild salmon should have been broadened to equally consider impacts on wild sea trout. We note the report's conclusion that alongside other pressures on wild salmonid populations, elevated sea lice levels can increase risks to the status of vulnerable populations. We welcome the recent moves in the aquaculture industry towards greater transparency on reporting of sea lice levels, including a commitment to reporting at an individual farm level, and we would encourage release of historical records to assist in understanding trends.
4. The sea lice chapter was one where there was limited mention of **legal obligations in relation to protected features**. Scotland's west coast has 3 designated SACs for Atlantic salmon and 10 for freshwater pearl mussel (the latter with a dependence on wild salmonids to maintain healthy populations). It is important to be able to demonstrate that the potential impacts of elevated sea lice burdens on wild salmonids are effectively managed through the aquaculture consenting process, particularly in relation to European sites. In our recent casework advice to Local Authorities, we have been seeking to address these issues through the use of Environmental Management Plans, linked to conditions on effective monitoring and management. However, there are concerns that the planning system is not the appropriate place to regulate for sea lice and wild salmonid issues. Further exploration of whether these issues could be better regulated through marine licensing (with Fish Health Inspectorate able to provide technical input on sea lice control) would be useful.
5. In general, we would support the section 3 conclusion (on **waste discharge**) that fishfarms make a significant but not overwhelming contribution to organic matter. The lack of data on the potential recovery of benthic features is highlighted, but the link to the consequences of this in terms of protected habitats and species is not made, where these may be impacted by waste deposition. There are some concerns about the conclusion in relation to hard substrate impacts; one of the key conclusions drawn by the review was the lack of evidence in this area. In addition the evidence in 3.3.4 highlights that some impacts do occur even in areas of high dispersion.
6. The protected features section 3.3 is not as thorough in its review as section 4 (**chemical impacts**), and we would expect the focus to be on designated site features and PMFs rather than UKBAP habitats. In addition, only a subset of habitats is discussed - presumably based on availability of evidence - rather than the full range of habitats that might be impacted. Whilst the footprint of AZE may be avoided during the planning stage, there are still issues of lack of information of potential impacts on protected species and habitats outside the AZE. Deposition (of nutrient and chemical inputs) will still occur in these areas but at a lesser degree (current monitoring does not capture this), and this raises cumulative impact issues which are difficult to assess.

7. We are in broad agreement with the conclusions of section 5 on **genetics and escapes**, finding that the peer-reviewed literature is recent, the messages are relatively high level and they are supported by evidence. A key concern is that, whilst we now much better understand genetic introgression, we are not clear about how widespread this issue is in Scotland, so are unable to determine the level of impacts on native populations. We greatly welcome the 2015 (industry-led) introduction of the Scottish Technical Standard to reduce the risk of escapes, but there is a lack of information on the uptake of the Standard to allow the success of these measures to be assessed.
8. Section 7 reflects concerns that SNH has raised on the potential impacts of **ADD use on marine wildlife** (especially for European Protected Species), including disturbance / displacement; auditory injury and long-term impacts such as increased stress levels. There is evidence of an increase in the extent of marine acoustic pollution in areas of Scottish waters that are important to cetaceans, and we have also raised concerns about the lack of a consistent approach to the monitoring and management of ADD usage. We welcome the industry's willingness to engage with SNH in discussions on voluntary good practice guidance but suggest that a more formal ADD registration system would provide data required to better understand this issue and manage it effectively.
9. In relation to **birds**, we are concerned that section 7 does not mention the risks associated with aquaculture-related disturbance which may lead to displacement of birds (especially those species that are sensitive to boat traffic) from regular feeding or resting areas. This would be expected to increase adverse impacts on the birds through negative energy budgets, but it is an area where data is lacking so requires further investigation, particularly within relevant SPAs. We greatly welcome the recent industry improvements to net tensioning and strengthening which have significantly reduced entanglement risks to birds and other wildlife.
10. Generally, section 7 provides a reasonable overview of the use of wrasse (and lumpsucker) as **cleaner fish** and the issues facing the fishery that has developed to supply them. However, it is deficient in addressing the wider natural heritage issues – in terms of scope and also formal process/ obligations (e.g. Habitat Regulations Assessment).
11. It is clear that the development of capacity for reared cleaner fish is unlikely to meet the demand in the industry for some time. Therefore, the fishery is likely to exist for the foreseeable future and SNH is strongly in favour of **formal management measures** being introduced to ensure the fishery is sustainable (including mitigating the potential impact on Natura features, the MPA network and relevant PMFs). In order to progress this, spatial information on the location and intensity of fishing is required – at a scale that is relevant to the MPA network.

12. We felt that section 8 could have drawn out some useful overarching conclusions from the preceding chapters. We support the recommendation for further application of **adaptive management**, and consider that there are existing examples of this approach in Scotland, such as the use of Environmental Management Plans as a response to issues with sea lice / wild salmonid interactions; and ADDs and cetaceans. Crucially, these approaches require a clear link from monitoring results through to management measures, backed up by robust sanctions if action is not demonstrated to be effective.

Conclusion

In conclusion, we welcome the opportunity to provide comments on the report and to the Inquiry. Aquaculture is an important industry to Scotland and our rural coastal communities, and it is critical to ensure that its future expansion can be achieved in a way that is in harmony with the environment. Ensuring that our seas remain healthy is crucial for the quality and reputation of Scottish seafood and generates a wealth of wider benefits for Scotland's people. We welcome the current discussion and look forward to playing a continued role in implementing any recommendations that emerge from the Inquiry.