

RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SALMON FARMING IN SCOTLAND

SUBMISSION FROM FAUNA & FLORA INTERNATIONAL (FFI)

[Fauna & Flora International](#) (FFI) is an environmental NGO active across 40 countries. Since our establishment in 1903 our primary focus has been biodiversity conservation, believing that healthy and diverse ecosystems underpin the health and livelihoods of people across the planet. We currently operate over 100 projects worldwide, and have been actively working in Scotland since 2011. Here we have been hosting a project since 2014 which is focused on offering support to [local coastal communities](#) to engage in dialogue around inshore marine management and protection.

1. Do you have any general views on the current state of the farmed salmon industry in Scotland?

Scotland's nearshore waters are a critical resource for many industries, including fishing and tourism. They also sustain an economically important salmon industry, which represents a key export for Scotland.

However, Scotland has reached a critical juncture in its aquaculture developments – expansion of the industry, as it is currently planned, is not sustainable. As the ECCLR report details, if the current issues are not addressed, expansion may cause irrecoverable damage to the environment. Systemic issues such as poor regulations and neglect of any ecosystem-based approach point to the real need for a new framework for management to be produced.

FFI supports calls made to bring in a moratorium on any new sites, and on any expansion or increases to biomass production within existing sites, until this framework has been created. Any further development of the industry should then be undertaken on the basis of a precautionary approach.

We are most particularly concerned about the location of salmon farms within Marine Protected Areas and/or Priority Marine Features. Recent evidence to the ECCLR from Marine Scotland confirmed that we have 288 farms directly on or in a PMF area of which 103 are currently registered active, with no buffers applied. These areas have been designated because they host species and habitats of importance to Scotland and within a wider regional context. We strongly question the viability of protection to these complex and sensitive species and habitats if salmon farms are sited directly within the same area.

Issues as related to sea lice movement from farms to wild populations, the discharge of chemical treatments of sea lice and the spread of disease from farmed to wild

populations are well documented and detailed in the recent ECCLR report, with particular concerns being highlighted on the impact to critical Scottish habitat such as eelgrass (*Zostera marina*) and its sensitivity to salmon farm waste. There is a strong likelihood that other sensitive habitats such as flameshell beds and maerl beds are also being negatively impacted from chemical accumulation.

It seems incongruous to invest a high level of public resources into establishing management measures to protect PMF's present within MPAs and subsequently subject these sites to considerable environmental degradation. With a limited amount of scientific research, the assessment of the impacts of fish farms fragile species and habitats such as these is extremely challenging. A precautionary approach should therefore be taken so as to ensure that, at the very least, Priority Marine Features are adequately protected. Given the importance of many PMFs as a the basis for a healthy and marine ecosystem, the lack of such protection from the impacts of salmon farming seems highly counterproductive.

Furthermore, the ECCLR committee report expressed serious concern over the industry-wide gaps in knowledge, data, monitoring and research - especially related to the risks posed by the sector to ecosystem function and services. We encourage an approach based on sound science, and question how continued expansion of the industry can be taken forward without a full understanding of the issues. The regulatory framework should enforce stronger monitoring at both site-specific and national scales, and ensure data is independently verified and openly shared.

Concern over environmental degradation is of course not limited to PMFs, and serious concerns arise from the impacts of salmon farming on shellfish habitats and their high sensitivity to toxic discharge; cetaceans and the use of Acoustic Deterrent Devices; poor regulation around seal shooting; the unregulated wrasse fishery which is developing in response to lice control; and the general lack of data across all of these impacts. As well as impacting our environment, expansion of the industry in its current form potentially risks other valuable Scottish industries like shellfisheries, angling and tourism.

2. There have been several recent reports¹ which suggest how the farmed salmon industry might be developed. Do you have any views on action that might be taken to help the sector grow in the future?

FFI supports the growth of Scottish industries which work in harmony with the marine environment, such as innovative and sustainable aquaculture. We do not object to salmon farming on principle, only to inappropriate location and/or management of such important facilities. In order to preserve and protect fragile inshore habitats and species, it would be more appropriate to either site farms further offshore to areas of lower conservation value or to consider the applicability of various innovative closed containment systems.

Given the potential for salmon farms to impact inshore marine life, and to pose a risk to important and sensitive habitats, the use of spatial planning and management and the full use of modelling for site selection should be incorporated into any development of the industry. Furthermore, given the range of potential long-term impacts to other marine user groups and to local communities, all site applications should be subject to full and open consultation with the local community and all other stakeholders, and a place for local communities in the decision-making process ensured. Management measures for Marine Protected Areas should exclude new developments where significant risks will be posed to the marine features for which the site is designated, or to the ecosystem itself.

3. The farmed salmon industry is currently managing a range of fish health and environmental challenges. Do you have any views on how these might be addressed?

The recent ECCLR report stated that “there are significant gaps in knowledge, data, monitoring and research around the adverse risk the sector poses to ecosystem functions, their resilience and the supply of ecosystem services. Further information is necessary in order to set realistic targets for the industry that fall within environmental limits. Scotland needs an ecosystems-based approach to planning the industry’s growth and development in both the marine and freshwater environment, identifying where salmon farming can take place and what the carrying capacity of that environment is.”

We support the application of sound science to inform the regulation and growth of the industry, and furthermore that these gaps must be addressed at this current time, before any further development of the sector. Site selection, encompassing strong spatial planning and management, is an important factor and must be fully utilised as a tool to mitigate the environmental risks posed by the industry. Scotland’s priority marine features should continue to be given the significance required by law, and there should be a full understanding of the risks posed to them by any proposed site development.

Some simple solutions already exist and can be adopted to help mitigate specific issues affecting marine wildlife, such as: double-netting cages with outer nets designed not to trap wildlife, making it unnecessary to shoot seals or use Acoustic Deterrent Devices (ADDs). All cetaceans have full legal protection under the Habitats Directive, and the Nature Conservation (Scotland) Act makes it an offence to deliberately or recklessly disturb or harass any cetaceans. New technologies (including potentially closed-containment equipment (Recirculating Aquaculture Systems)) could reduce the issues faced by the industry in terms of environmental impacts and should be fully explored.

4. Do you feel that the current national collection of data on salmon operations and fish health and related matters is adequate?

It is evident from the SAMS report that the science is seriously lacking. For example, the only publicly available data at present for sea lice on farms in Scotland, are those which are published in an aggregated format in the Scottish Salmon Producers Organisation health reports. There are no publically available data on the use of hydrogen peroxide, other disinfectants, antibiotics or antifouling paints in salmon farming in Scotland. Further to this, the datasets that are made available by Marine Scotland (2017) for the number of seals shot under licence, are based upon self-reporting by license holders, and are not presently verified independently, potentially risking under-reporting or improper conduct.

There are many more examples of poor data collection, monitoring and analysis within the SAMS report, and this was duly set out as a top priority concern by the ECCLR committee. Citing a continual lack of data when attempting to analyse the risks posed by the industry is not a sufficient outcome for a research study. FFI supports the importance of sound science in this process, and the ECCLR committee call for the requirement to be set on the industry to fund independently verified research.

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

There are clearly significant issues with regards to adequate regulation – with the salmon farming industry itself being allowed to self-regulate, an unregulated wrasse fishery which is only on the increase, and the permission of sites closely located to MPAs and PMFs.

Local residents and communities have had to invest significant input, resources and time into case-by-case mitigation, there is clearly a systemic problem and the burden should not fall onto under-resourced community groups.

6. Do you have any comments on how the UK's departure from the European Union might impact on the farmed salmon sector?

As Brexit approaches we urge the Scottish government to take the opportunity to put in place even tighter regulations to ensure the long-term protection of Scotland's inshore waters, and balance the needs of different economic interests in this space. Ensuring increased empowerment of communities in decisions such as salmon farm developments, which directly affect the waters on which they depend, should be central to any further regulatory framework.