

Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from Argyll and Bute Council

1. General comments

Argyll and Bute Council welcome the opportunity to give evidence to the Environment, Climate Change and Land Reform Committee in relation to the published SAMS report. Our initial response focusses on the key environmental issues considered by planning authorities in determining planning applications for fish farm development. Overall the report provides a useful review of available scientific literature on the potential environmental impacts of salmon farming and summary of the key environmental issues and their mitigation. As with any type of marine and terrestrial development, National policy for marine aquaculture development and the regulatory processes which implement this policy are not about preventing any level of environmental impact but about preventing significant environmental impact either individually or cumulatively. It is important that this is understood by all parties.

The Committee will be aware of the ongoing review of the current aquaculture consenting regime in Scotland and it is felt that the SAMS report could be useful in informing changes to the regulatory framework which can maximise sustainable growth of the aquaculture industry through more effective assessment and management of environment impacts.

2. Comments on specific sections of the report

Section 1.6 – Criteria for Assessing Environmental Effects

The Council supports the approach defined in section 1.6 which seeks to assess whether environmental effects are likely to be caused by salmon farming and then to determine whether these effect are significant.

Section 2 – Sea lice & disease impacts on wild and farmed stocks

This section of the report is generally considered fair in its assessment of potential impacts of sea lice from farmed fish and uncertainties surrounding this complex area, particularly that where impacts on wild fish are considered likely they will be one of many factors contributing to wild salmonid mortality. While the Fish Health Inspectorate regulate sea lice control in relation to the welfare of farmed fish, the interaction between farmed and wild salmonids is not covered by this ongoing regulatory process. For new fish farm development the consideration of potential impacts on wild salmonids is a material consideration in the determination of planning applications for new sites or expansions. This issue only sits with planning because no other regulatory process currently manages it. The interaction between farmed and wild fish is considered by planning authorities based on national policy (National Marine Plan), local planning policy, information provided by the applicant and in particular, advice from statutory consultees Marine Scotland and the local District Salmon Fisheries Board. SNH will provide specific advice where a proposal may interact with a protected area for salmon. Because of the significant uncertainties and complexities surrounding the impact of sea lice and interaction between farmed and wild fish this issue is largely considered by assessing the level of risk to wild salmonids from any new development. Where an increase in the tonnage of fish is proposed this is considered

as a likely increase in the risk to wild fish. The applicants proposed measures for sea lice management and control are assessed in light of the sensitivity of location and where relevant the previous performance of sea lice management in order to consider whether the risk to wild salmonids can be mitigated by proposed measures and be considered as a low risk to wild salmonids.

Environmental Management Plans (EMP) have been considered and developed in some instances where a significant risk to wild salmonids is considered likely. These identify proposed mitigation, process for monitoring, reporting and review to allow changes in management where proposed measures are not successful. An EMP tied to a planning consent can only relate to specific measures on that farm site and therefore has significant drawbacks in that it cannot influence the management of other sites in the same farm management area i.e. a Farm Management Area could have ten active farms with just a single farm being managed via an EMP. This farm could be following the EMP but sea lice levels are high because the farm is affected by the management of other farms which are not managed via an EMP.

It is clear that some measures to control sea lice are becoming less effective but what appears to be more important than finding one particular measure which is very effective, is for a fish farm operator to have a suite of different measure which can be employed at different times or in different situations throughout a production cycle. This allows the industry to adapt management as appropriate and prevent reliance on specific measures which may in turn promote further resistance.

Aggregated sea lice figures published quarterly by SSPO are not considered to be useful in helping to determine the level of risk of a fish farm proposal to wild salmonids and where appropriate the past performance on a specific farm or management area. Some companies are starting to publish site specific data and it is considered that in some cases access to this data would help regulators and statutory consultees assess the acceptability of individual applications for new development.

Section 2.1.4 identifies some significant knowledge gaps but fails to mention gaps in knowledge about wild fish populations, including the likely migration routes of salmon to and from marine feeding grounds to their native river; and the number of smolts leaving individual rivers. If we don't know enough about wild fish behaviour and other sources of mortality then it is difficult to assess the risk from salmon farming.

The report specifically mentions the new Fish Health Inspectorate regime with respect to the control of sea lice, as key mitigation. While the effective control of sea lice will minimise the risk to wild salmonids the focus of the FHI regime is the health and welfare of the farmed fish only and therefore is not considered to adequately mitigate the risk to wild salmonids from sea lice on salmon farms.

Section 3.2 - Nutrients & Eutrophication

The last paragraph of page 51 states that the salmon farming is sited mainly in waters that otherwise receive only small amounts of anthropogenic nutrients. It is not clear whether this statement is talking about marine inputs or whether it is looking at both marine and land-based inputs. If it is the latter, there are many areas on the West coast of Scotland where there are low populations but diffuse pollution from agriculture within large fresh water catchments can contribute significant nutrient input to coastal waters.

Section 3.3 - Effects of Waste Organics and Nutrients on Protected Features and Basin Waters

We agree that in principle, existing regulatory procedures should avoid farm-scale effects on sensitive protected features. Through the SEPA CAR licence process, SNH advise on the requirement for seabed survey work to determine the presence of protected features close to the farm and prevent any overlap with the farms depositional footprint.

The report makes reference to the future importance of marine planning and the identification of suitable zones for expansion of aquaculture. Whilst it is agreed that spatial planning is important, the Council's experience in this area leads us to conclude that it is very difficult to identify suitable zones for new development which are based on all of the relevant environmental, social and economic criteria considered when determining regulatory consents. This is because the process falls down when trying to combine spatial information on a number of different constraints (criteria) where the level of spatial detail varies considerably and many assumptions have to be made on the effects of aquaculture development. The Council is cautious about the practicality and usefulness of identifying zones of suitable and unsuitable areas for aquaculture in this way which is considered likely to result in an overly restrictive policy approach with little flexibility to account for changes and innovation in industry production methods. In our view, spatial information provides the best guidance when a single layer of information for a single criteria or very small group of associated criteria is used to provide a spatial output to guide aquaculture development. This can often be in the form of sensitivity mapping which is particularly useful at the pre-application stage, and can be usefully informed and developed through the use of models as referred to in the report.

Section 4 - Effects of the discharge of medicines and chemicals from salmon farming

Section 4.9 makes reference to BAP habitats and species but the key focus of marine conservation outside designated sites should be Priority Marine Features. What is most important is a focus on the specific habitats and species which are sensitive to the environmental pressures from aquaculture development, rather than the presence of any protected habitat or species.

It is agreed that a reduction in the use of chemical treatments will be important in mitigating environmental impacts. In our experience, applications for new farms over the last few years have seen an increased focus on new non-chemical treatment options and the use of well boats for bath treatments which reduce reliance on use of chemical treatments.

Section 5 - Escapees from fish farms and potential effects on wild populations

It is accepted that there is a lack of knowledge as to the survivability of escaped fish and the levels of introgression in wild populations and that more research and monitoring is needed. With respect to considering interactions between farmed and wild fish as part of the determination of planning applications for salmon farm development, it is accepted that while operators will seek to meet the best equipment standards and operational measures, the risk of escapes cannot be removed completely. The use of sterile or triploid fish if feasible would be a more attractive solution than seeking to move to onshore closed containment. If the industry moved in this direction it is likely that onshore farms would be located closer to their market rather than on the West coast of Scotland, with an associated loss of wider economic benefits to coastal communities.

Section 7 - Emerging environment impacts

In relation to the control of predators at fish farms the report suggests better tensioned anti-predator netting as appropriate mitigation and as a preference to the use of Acoustic Deterrent Devices (ADDs). The report goes on to state that the effectiveness of ADDs and their impact on marine mammals is uncertain, which is supported. However there is also considerable uncertainty over the effectiveness of anti-predator nets and whether they increase the risk of entanglement of wildlife.

ADD use is considered by planning authorities when determining a planning application for a new or expanded farm. ADDs are normally proposed as part of a number of anti-predator control measures and used only if other measures such as tensioned netting are not effective. The acceptability of ADD use is assessed based on the sensitivity of the location, the type and frequency of the ADD and how it will be operated. SNH provide advice as a statutory consultee and normally if planning permission is approved for a development, it is subject to a planning condition that ensures that ADD use cannot take place unless the details of ADD use have been agreed by the Planning Authority in consultation with SNH and thereafter the development maintained as such unless any variation is agreed in advance by the Planning Authority. While ADD use is considered in individual applications there is currently no formal monitoring requirement directly linked to existing regulatory consents.

Section 7.2.7 – It is agreed that if demand for wild wrasse as cleanerfish continues to increase and is not met largely by cultivation of farmed wrasse then sustainable management of the wild caught wrasse populations in the UK will be required, including stock assessment. Argyll and Bute Council has recently granted planning permission for a hatchery near Machrihanish which will have the capacity to produce up to 1 million farmed wrasse each year for use as cleanerfish at Scottish salmon farms.

Section 8 – Discussion and Conclusions

An increased use of adaptive management to further mitigate potential environmental impacts is supported and considered necessary to allow the practice of salmon farming to adapt to environmental changes and for the regulatory system to adapt to innovation and new farming practices. As stated in the report, Adaptive Management already takes place through the regulatory processes that manage some of the interactions between fish farming and the marine environment. This includes seabed impact as part of the CAR licence process, the welfare and control of sea lice on farmed fish as part of the FHI regime, and the shooting of seals through the Seal Licence process. Other environmental issues which may benefit from being managed more effectively through an adaptive management process include potential impacts on wild salmonids and the use of ADDs. These are both complex issues which require to be managed at wider scale than individual sites and would benefit from greater monitoring and review. In this respect the Council supports the Aquaculture Consenting Review recommendation to explore removing the consideration of potential wild salmonid impacts from planning to be considered in a separate more appropriate regulatory process. It is our view that the Consenting Review offers opportunities to change the way some environmental impacts are regulated by considering the best process which can most effectively assess the level of risk to the environment, but also monitor impacts, review, change management and where appropriate take enforcement action throughout the operational lifetime of the development.

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