Environment, Climate Change and Land Reform Committee

Environmental impacts of salmon farming

Written submission from the Royal Society for the Prevention of Cruelty to Animals (RSPCA)

Introduction

The RSPCA is grateful for the opportunity to provide comments into the above review. In the late 1990s, the Society was approached by a Scottish fish farming company and invited to produce a set of welfare standards for farmed Atlantic salmon, in the same way that we had produced welfare standards for a number of terrestrial species. With the help of colleagues from the salmon industry, it took three years to develop these standards, and they were launched in 2002. The standards were initially implemented through the Freedom Food Farm Assurance Scheme, which has latterly been renamed RSPCA Assured. Throughout this time, the scheme has enjoyed a fluctuating majority of the industry being certified to its standards, and has personnel visiting fish farming establishments and communicating with the industry on a daily basis. It is largely through these experiences that our comments are based upon.

One of the keys to being able to develop the welfare standards has been the willingness of a young industry to participate in a process of continuous improvement, and we believe that some very positive working relationships have been developed over the years which have enabled this to happen. As a result of this, we have seen tangible improvements in many areas of salmon husbandry such as larval rearing, fish handling, fish transport and fish slaughter. The RSPCA standards also pioneered the concept of health planning and also introduced the first guidelines for cleaner fish in 2010.

The RSPCA standards are primarily devoted to the welfare of the fish, but they do pay heed to the importance of good environmental stewardship, and each site is required to have an Environmental Impact Plan. However, we would always defer to the existing regulatory system and the expertise of the statutory environmental bodies such as Scottish Natural Heritage (SNH) and the Scottish Environmental Protection Agency (SEPA), as well as the Code of Good Practice for Scottish Finfish Aquaculture (CoGP), in order to address any environmental issues which may arise.

Tensions can exist between fish welfare and the management practices that may affect the environment in which they live. Our view is that fish welfare and the environment are not mutually exclusive goals, because at the very heart of any sustainable livestock system is both the health and welfare of the animals within that system, as well as the health of the environment in which they live. In our experience, good levels of health and welfare in the fish can result in fewer impacts on the environment. Indeed, good welfare is good business in our view.

Due to the constraints on time and the length of the consultation document, we will confine our brief comments to those areas which, in our view, are most closely aligned to fish welfare.

The review

It could be argued that there can be limitations associated with conducting a review which is based upon time sensitive literature, rather than primary source material. This makes concrete recommendations difficult to make, which is acknowledged on page 126 of the review document, where it states that, *'an overall diagnosis of the impact of salmon farming has not been attempted within this review.'* One of the reasons for being unable to draw overall conclusions is that by the time much of the research is published, it can already be out of date due to the fast paced innovation of the industry. However, the review is useful in that it attempts to offer generic approaches to mitigating any perceived negative environmental impacts relating to the issues being raised. Many of these are already being implemented.

One of the central tenets of the review, is that the industry is going to expand by 2020, and then again by 2030, according to the well publicised predictions of a high level industry leadership group, and therefore there is the assumption in the narrative of the review is that any perceived negative environmental impacts will, by definition, get worse as a result. However, there seems to be a significant number of people in the industry who question whether such a course of action is appropriate at the present time, particularly when many of the issues relating to the health and welfare of the fish appear to be a daily and unpredictable struggle in terms of being able to deal with them. The review document encapsulates the above scenario well, when on page 17 it states that, *'new diseases continue to be described without easily ascertainable causes.'*

As dispassionate observers, the RSPCA can see the merits of both sides of the argument relating to a dynamic industry which is looking to move forward in order to ensure its long term viability and sustainability. However, instead of thinking about immediate expansion, would a period of consolidation be a more prudent move in the short term, so that the issues affecting the fish today are brought under better control? If this does not happen, it runs the risk of simply exposing more fish to the same health problems, which is questionable on health, welfare and economic grounds. A similar train of thought is highlighted on page 6 of the review document, where it states that, *'Mitigation of the effects of salmon farming requires the reduction of the pressures generated by the industry.'*

This period of consolidation may, to an extent, be a short term reality due to some companies already predicting that their production tonnages will actually go down next year.

Expansion is always going to be important as a way of moving forward, but we must not forget the fish during the expansion process. The term 'acceptable losses' is starting to appear in the aquaculture lexicon, which in our view risks undoing all of the good work for fish health and welfare which has occurred over the last 16 years. Using such terms may be seen by some as turning the fish into commodities, rather than treating them as sentient beings. Success may not necessarily be defined simply by producing more numbers, but may need to be looked at in terms of making more of what we already have, a pursuit that in itself will result in more numbers (through improved survival rates) being produced..

A second tenet of the review is that the Scottish salmon industry will be compared to the industry in Norway. One could question whether this is a valid comparison to make? Some of the differences in the industry are significant, for example, the overall scale of the industry as well as specifics such stocking densities and lice thresholds, which could significantly influence any impacts on the environment. Similarly, the disparity in research budgets is emblematic of the differences between the two. The Scottish industry does benefit from this Norwegian research, in that it tends to adopt new technologies which may have been developed in Norway, for example, non-medicinal sea lice removal technology.

Comments on specific sections

Sea lice and disease impacts on wild and farmed stocks

As mentioned above, the concept of health planning is a central part of the standards development process for the RSPCA. An integral part of the health plan is the review process which should take place at regular intervals to help address any health issues which have occurred. Scenarios can occur where our collective knowledge and literature about an issue has been rather scant or non-existent. Under such circumstances one has to make decisions based on how such a course of action will affect the fish, and in turn the environment, and be prepared to make the necessary changes if outcomes are negative.

In terms of sea lice, they are an extremely serious problem, and everybody is focused on combating them, using all available medicinal and non-medicinal treatments. However, the impression that the review presents is that sea lice are ubiquitous, but in our experience there are some areas/sites where sea lice are not a problem, and hence there have been no environmental impacts in this respect as a result of the use of chemical treatments. Similarly, some sites have not treated with chemicals for some years due to the use of cleaner fish.

It is often argued that farmed fish are the progenitors of disease spread to wild fish, but on page 18 of the review it states that there is, *'a lack of conclusive evidence that farmed salmon give disease to wild fish'* and on page 12 of the review, it states that, *'there is no systematic evidence published, demonstrating wild salmon lice levels being associated with farmed salmon.'* Without robust evidence, supposition will often prevail and this is unhelpful.

Escapees from fish farms and the potential effects on wild populations

Unless the whole industry moves onshore, there may always be a background level of escapes from both fresh and seawater sites, however hard we try to eliminate them. The causes of escapes are varied, and range from human error to equipment failure. However, moving marine sites onshore may not be possible for the foreseeable future due to the costs involved, and the review predicts that marine sea cages are here for the next decade at least. Similarly, any information about the welfare of the fish in these onshore marine systems is extremely sparse.

In terms of freshwater loch sites, the general welfare of the fish in these systems is often considered to be very good, and the RSPCA would like to see these systems prevail. Hopefully, the Technical Standard for Scottish Finfish Aquaculture and advances in genetics will go some way to mitigating the problems associated with escapes.

Sustainability of feed supplies including substitution with plant derived ingredients

The dialogue surrounding this issue is well known, and the RSPCA would expect that all diets are able to maintain fish in full health and vigour. Decreasing the level of fishmeal and oil in the diet to the extent that it satisfies environmental concerns but creates chronic enteritis and subsequent negative welfare states in the fish will create a dilemma. Urgent dialogue is needed to discuss such a scenario. This is a good example of one of the existing tensions between fish welfare and the environment.

Emerging Environmental Impacts

The RSPCA standards for farmed Atlantic salmon are designed to minimise the welfare impacts on marine mammals, birds and wild caught cleaner fish, and in doing so, minimise any adverse impacts on the environment. The standards are written to try to ensure that lethal predator control is only enacted as a last resort. They are also written in a way that

records the number of fish which are injured or killed in predator attacks, to help gauge the fish welfare impact of predatory attacks, which unfortunately never seems to be quoted in the press.

In writing the first set of guidelines used by the industry for wild cleaner fish in 2010, we have tried to ensure that the welfare of these wild fish was given full consideration when they were caught. The RSPCA believes that the most sustainable way forward with cleaner fish is to be reliant wholly on hatchery reared fish, and we are writing new lumpfish standards with this in mind. It is also encouraging to see a number of new hatcheries appearing to try and fulfil this requirement. A new set of standards relating to the welfare of cleaner fish will be published in February 2018.

Conclusions

Having read the review and listened to some of the oral evidence being given to the committee, it would appear that one of the main issues since the last *Review and Synthesis of the Environmental Impacts of Aquaculture* in 2002, is the lack of current data in the literature relating to the subject.

The RSPCA is keen to encourage the objective measuring of animal welfare indicators for all species, which will enable the articulation of the welfare state of both individual as well as groups of animals. This will produce up to date information, and therefore negate the need for reliance on often outdated literature or subjective opinion, which in a fast moving industry is very important. This up to date information may also allow an evaluation of how issues such as climate change may be affecting the environment in which the fish are produced, and enable any necessary action(s) to be taken in order to mitigate potentially negative scenarios. Such a methodology will also be useful in assessing fish welfare when testing new offshore sites or fully enclosed systems of marine production.

The improvement of salmon welfare over the last sixteen years has been brought into sharp focus by a number of recent, often unpredictable biological challenges which need to be addressed and brought under control. This should be done before embarking upon a significant expansion programme in our view, in order to avoid exacerbating any pre-existing impacts associated with these biological challenges. The RSPCA believes that the key to a sustainable future for Scottish farmed Atlantic salmon, will largely be dictated by the health and welfare of the fish, which in turn will determine the type of environmental impacts which may or may not occur.

The Scottish farmed Atlantic salmon industry has to deal with a range of issues that can affect both the health and welfare of the fish and the environment in which they live. It is in dealing with these issues where the collective will and dynamism of industry stakeholders to seek solutions becomes evident. As well as having witnessed such efforts, the RSPCA has also tried to contribute to these solutions through the development and implementation of its welfare standards.

It seems very puzzling therefore, that stakeholders working together to try and find solutions to often unexpected problems, appear to attract a disproportionate level of negative scrutiny, misleading headlines and vilification in the press, compared to other farming sectors.

RSPCA Farm Animals Department