

PE1715/D:

Scottish Salmon Producers' Organisation submission of 20 August 2019

Summary:

The background information provided with this petition makes a series of claims, allegations and assertions about salmon farming in Scotland which are, at best, misleading and inaccurate and, at worst, completely wrong.

This response will deal with those claims first before going on to examine and comment on the substance of the petition, which is based on those allegations. The petition also makes a series of unfounded claims about the apparent benefits of closed containment systems: this SSPO response will go on to deal with each one of these in turn.

Claims made in the background information provided in the petition:Petition claim:

The Scottish salmon sector does a disproportionate amount of environmental harm with impunity.

SSPO response:

This is not correct.

The legislative framework in Scotland ensures that nutrient wastes from fish farms are regulated so that there is no long-term harm to the seabed or surrounding wildlife.

Medicine release is also strongly regulated, ensuring medicines used by farmers cause no environmental harm. The environmental impact assessment is a major feature of medicine licensing regime through the Veterinary Medicines Directorate (VMD) and all releases from farms are regulated by the Scottish Environmental Protection Agency (SEPA).

Overall, medicine use is going down. It has gone down by 47 per cent in the last three years (2015-16 to 2017-18, SSPO published figures).

Sea lice levels are also down, to their lowest levels in six years, according to figures published monthly by the sector.

Petition claim:

The salmon farming sector is subject to self-regulation in an environment where that isn't working. Independent scrutiny is non-existent and is ineffective.

SSPO response:

This is not correct.

Scotland is one of the most heavily regulated aquaculture production industries, in the world. The consenting process for applications requires consent from a series of external bodies: Marine Scotland, The Fish Health Inspectorate, MS -LOT (Licensing Operations Team at Marine Scotland), the Crown Estate, SEPA and local planning authorities. Environmental protection features, in some way, in most - if not all - of these bodies when considering applications.

Once in operation, farms have a statutory duty to report to all those bodies. There are also regular announced and unannounced farm visits from these organisations to all farms throughout their operational lifespans.

As far as product standards are concerned, the sector has embraced a number of certification schemes which include environmental components: the Code of Good Practice, the RSPCA Assured scheme, Global Gap, Best Aquaculture Practice, Label Rouge, Organic, and retailer standards. They monitor and assess the farms signed up to their schemes.

Petition claim:

Salmon companies make profits using a cheap method of production .

SSPO response:

This is misleading.

It is the interests of the salmon companies to produce strong, healthy salmon so production methods have evolved based on what is best for the salmon and what is best for the environment.

Open net pen production is currently the most suitable method for producing healthy salmon because the fish are grown in as near to natural conditions as possible.

Petition claim:

Again, on the claims of 'cheap production' methods, the petitioner alleges that Salmon companies use a bullet to shoot seals rather than use non-lethal measures.

SSPO response:

This is both inaccurate and misleading.

Seals are shot as a last resort only after a range of other, non-lethal, methods have been tried. Also, the farmed salmon sector has reduced the number of seals shot by 39 per cent in the last five years and the number shot in 2018 was 54.

The sector has a clear commitment to reduce that figure to zero by 2022.

The companies are achieving this by investing huge amounts of money in non-lethal measures to deter seals, particularly buying new generation, anti-predator Seal-pro nets and hi-tech acoustic deterrent devices.

Petition claim:

Salmon farming has collapsed in many countries.

SSPO response:

This is just factually incorrect. Salmon farming has not collapsed in any countries, let alone in many countries.

Main issues addressed in the petition which calls on the Scottish government to legislate for closed containment systems to be adopted in Scottish salmon farms.

Closed containment:

There is significant investment and research underway. Some seawater closed containment systems are now in operation around the world but none have proven their commercial viability yet. Indeed, this remains unproven technology for growing salmon in the sea.

Also, there is a lack of evidence about the effects that closed containment could have on fish health and welfare, which could be detrimental.

Closed containment is already used for the freshwater stage of salmon development but this is for juvenile fish for specific biological needs.

The innovative Scottish salmon farming sector is open to new developments and strives to develop and adopt the most appropriate farming methods. The sector will watch the developments of contained and land-based options with interest.

However, despite this there are currently major issues involved when trying to scale this up to adult fish.

These include:

Economics: the economics do not work. Indeed, for the economics of closed containment to stack up it would be necessary to increase stocking densities and intensity of production, with resultant pressures of fish health and welfare

Product quality: we know that the best quality fish come from environments where water quality is high and fish experience good water flow (exercise). The impacts of closed systems on product quality are unknown.

The environment: pumping water uses huge amounts of energy, be it pumping water to land or pumping water into a pen at sea.

Closed systems need increased mechanisation for 'life support systems' (pumping and aeration). The increased mechanisation, alongside fish being held in closed systems, results in increased operational risk.

Thus, there has to be significant investment in back-up solutions to ensure fish welfare is never compromised and this comes with extra energy and carbon costs.

There is also the bigger carbon footprint attached to building the closed containment system and all the mechanisation (pumps etc) that are needed.

Benefits of the current method, open-net farming:

Open net pens provide an excellent environment for growing salmon with high water quality (needed by salmon), high flushing and water currents. These are the conditions a salmon is used to and what it needs for a healthy life.

Open pen salmon farming has an excellent environmental record. It has a smaller carbon footprint than other major forms of protein (chicken, pork and beef), it uses less fresh water than these other major forms of protein, uses less feed per tonne of meat and produces more edible meat and less waste than other major livestock protein sources.

Closed membrane containment:

Both the Rural Economy and Connectivity Committee and the Environment, Climate Change and Land Reform Committee recommended that the salmon farming sector start to develop more oceanic, deep water sites in more challenging areas.

The principle advocated by this petition – a closed membrane containment system – would be much less likely to work in bigger, open-water sites than anywhere else.

This is because this system would involve adding a membrane or a tarpaulin to existing infrastructure, with waste capture and water pumping then added in.

This would add significant pressure to the existing infrastructure and the moorings on all sites but the impact on high-energy sites would be extreme.

Flexible membranes will not hold their shape in the currents and tides in open-water sites and will be unfeasible to manage. Indeed, there would be a serious risk of the farm being pulled apart by currents because of the added membrane.

Closed containment at sea:

There are other closed containment systems being experimented with for marine salmon farming, most use rigid structuring like concrete, steel or fibreglass.

These bring with them a considerably bigger carbon footprint and they have a much greater visual impact than existing farm structures.

RAS and closed containment on land:

This option was not addressed by the petitioner but it was included in the brief by the Scottish Parliament Information Centre so it is being addressed here.

All attempts to experiment with closed containment on land have found considerable extra energy use is involved, primarily because of the need to pump water.

There is also a significant spatial planning issue – moving marine farms on land would require much more space than is currently used at sea (some nets are 20m deep, which would need very tall warehousing to accommodate).

These are unlikely to be consented on the scale needed.

RAS systems are currently used for freshwater production. Adopting this for marine salmon growth (ignoring all the other problems) would require the creation of more than 200 land-based recirculation system plants on land.

If there was any possibility of these systems working commercially in the future, however, this would almost certainly lead to salmon farms being sited closest to markets and transport hubs, taking the sector away from Scotland and turning it into a factory-based farming process near to motorways, airports and population centres.

Energy use:

The report commissioned by the ECCLR committee quotes CO₂ eq /Tonne production being 2,073 for net pens, but 28,200 for full RAS (page 63, table 3.8).

That report also refers to the high energy costs of pumping and treating water.

Claims made by the petition on the benefits of closed containment.

Claim:

Sector could grow without placing an additional burden on the Scottish environment.

SSPO response:

This is not correct.

Land-based systems would require a considerable amount of space and have a major environmental impact.

There would be build costs and the carbon footprint from energy use.

Even at sea, all options would have much higher energy costs and there would be the visual impact too.

Growth would also be challenging if pressures were put on fish health and welfare.

Scotland could also lose its extremely valuable Scottish branding – based on natural growth in pristine Scottish seas - which makes it the most sought-after salmon in the world.

Petition claim:

Moving to closed containment would eliminate the shooting of seals.

SSPO response:

The sector already has a commitment to the zero shooting of seals by 2022 so this would be irrelevant.

Petition claim:

Closed containment would end harm caused to cetaceans from acoustic deterrents.

SSPO response:

The science surrounding this issue is not clear. Species and habitat assessments are required by SNH and are incorporated within the consenting process for fish farms. This ensures there are already safeguards in place to protect cetaceans.

Also, there are many sources of acoustic noise including boat propellers. Salmon farmers want to work with other users of the marine environment to consider how the overall impact of all this noise is reduced.

Petition claim:

There would be a dramatic reduction in sea lice issues.

SSPO response:

The Scottish salmon sector is already at a six-year low in terms of sea lice levels and farmers are confident that the non-medicinal methods being pursued will drive these down further.

Petition claim:

Mass infections of wild salmonids from farms and escape of farmed fish will be reduced or eliminated. In turn, this will vastly reduce potential gene pollution

SSPO response:

There is no evidence at all of mass infections from farms. Indeed, the RECC report into salmon farming last year found “a lack of definitive scientific evidence” of any impact from farmed fish on wild stocks.

There is also no evidence to suggest that escapes (which are already at a historically low level) would be reduced. There is actually a danger that closed containment structures at sea may be more rigid and brittle than the open-net cages used at present and these could be more susceptible to being broken in high seas, causing more escapes than now.

There is no conclusive evidence that fish are interbreeding and that any introgression of genes is lasting or has been harmful.

Petition claim:

There will be less medicine use.

SSPO response:

Medicine use has already declined by 47 per cent in the last three years. This trend will continue without closed containment.

Petition claim:

Waste products from fish will be recycled, not expelled into the environment.

SSPO response.

Any waste from fish farms which is collected still need to be assimilated by an environment, most likely on land by spreading.

It is difficult to see how that would be any better than letting fish waste disperse naturally on tides and currents at sea, as happens at present.

Conclusion:

This petition is based on a series of erroneous assumptions, misleading claims and factual errors.

It uses these claims to argue for a change from the current open-net system used in Scottish salmon farming to closed containment systems, asking the Scottish government to legislate to enforce that change.

The petitioner fails to take account of the many problems that closed containment would bring, from increased energy use to the likelihood of damage and breakages caused the weight and the rigidity of the structures.

But the petitioner also ignores the clear economic evidence: that there is not a single example of these systems being used in a commercially viable way.

For all these reasons – and the current advantages the current system brings to Scottish salmon farming – the SSPO asks the Petitions Committee to reject the petition.