Dear Members of the Rural Affairs and Islands Committee,

I am writing to contribute to your forthcoming review of salmon aquaculture in Scotland. As someone who has spent decades observing the health of our wild salmon and sea trout populations, I am deeply concerned about the escalating ecological, welfare, and regulatory failures associated with open-net salmon farming. The evidence now available is extensive, consistent, and troubling. I hope the Committee will consider the following points that I raise.

1. Sea-Lice Impacts on Wild Salmon and Sea Trout Smolts
You will be aware that multiple independent studies, including Marine Scotland's own modelling, show that sea-lice originating from salmon farms can increase mortality in outward-migrating smolts by **20–40%**, with some systems experiencing even higher losses. The Norwegian Institute of Marine Research estimates that 20–50% of wild smolts in farm-dense regions die due to lice. The West Coast Tracking Project has repeatedly demonstrated elevated mortality in smolts passing aquaculture zones compared with east-coast control rivers. These are population-level impacts, not marginal effects.

2. Lack of Effective Lice Control and No New Medicinal Treatments
There is currently no effective, sustainable, or scalable method for controlling sea-lice in open-net farms.
Chemical options have been exhausted:

- **Emamectin benzoate (Slice)** is now largely ineffective due to resistance.
- **Hydrogen peroxide** treatments are losing efficacy and cause high mortality.
- **Azamethiphos and deltamethrin** face both resistance and environmental restrictions.
- **No new medicinal treatments** are in development or expected in the foreseeable future (other than Ectosan Vet (Imidacloprid), in Norway which bombed on pricing issues relating to removal of the pesticide from post-treatment water).

Mechanical treatments such as thermolicers and fresh water baths cause significant stress and mortality, sometimes exceeding **10–20% per treatment**. They basically are not suitable or appropriate.

Closed-containment systems remain at **pilot stage** in Scotland and are not yet deployed at commercial scale.

3. Excessive and Rising Mortality in Salmon Farms
Industry mortality has risen from 6–8% in the early 2000s to over 25% in 2022–23, with more than 17 million farmed salmon dying prematurely in 2023 alone. Do you find this acceptable?
Rising sea temperatures are driving increases in Amoebic Gill Disease, complex gill disorders, bacterial infections, and harmful algal blooms. These conditions are now chronic rather than exceptional. This situation is only going to get wors as our seas continue to warm.
In any other livestock sector, mortality on this scale would trigger an immediate national inquiry. If a quarter of Scotland's sheep or cattle were dying in the fields every year, it would rightly be considered a moral and regulatory scandal. The fact that these animals are fish should not diminish our ethical responsibilities. Why do you find this tolerable, like really ask yourselves?

These mortality levels are not merely unacceptable; they are ethically indefensible, environmentally damaging, and economically wasteful. They demonstrate that the present open-net farming model is no longer viable under warming seas. Are you really so blind?

4. Environmental Impact of Farmed Fish Escapes
The recent escape of approximately **70,000 farmed salmon** in Loch Linnhe is not an isolated incident. Scotland has averaged **two to three major escapes per year** over the last decade.
International evidence, particularly from Norway, shows that repeated escapes lead to genetic introgression, reduced fitness of consequent hybrids, and long-term harm to wild populations.

5. Harmful Effects of Ectoparasitic Pesticides on Marine Life
Ectoparasitic pesticides used in salmon farming — including emamectin benzoate, azamethiphos, and deltamethrin — are highly toxic to non-target crustaceans. They are non-selective.
SEPA's own monitoring has found emamectin benzoate in sediments at levels exceeding environmental thresholds at the majority of sites tested. These chemicals persist in the environment, accumulate in sediments, and harm lobster, crab, prawn, and other benthic species essential to Scotland's inshore fisheries.
Even though emamectin benzoate use has declined due to resistance, legacy contamination remains, and other pesticides continue to pose significant ecological risks. Are you aware of this or to you simply pretend it is not a problem?

Professional Context
For context, I previously worked within the aquaculture sector in product development for 25 years, contributing to the development and registration of licensed sea-lice treatments I stepped away from this work because the scientific and welfare concerns outlined above,

Conclusion
The issues outlined above are not isolated or temporary. They reflect systemic weaknesses in the current open-net salmon farming model. I urge the Committee to consider stronger regulatory measures, a transition away from open-net systems, and a precautionary approach that prioritises the protection of Scotland's wild fish, coastal ecosystems, and rural communities. Failure to act with urgency will see the loss of one of our most treasured animals.

Thank you for your attention to this matter and for the opportunity to contribute to this important review.

Best Wishes
John Boyle