

Salmon farming in Scotland

Letter from John Boyle, 5 June 2024

Dear Finlay,

I am writing in relation to the enquiry into salmon farming in Scotland. I have read the report produced by Professor Griggs and the report of the committee meeting 10 May 2024 (with associated correspondence). As background I work as an independent consulting chemist, primarily assisting companies globally in the technical matters of the development of new veterinary medicinal products. In the recent past I have worked on several products for the treatment of farmed Atlantic salmon. I wrote the pharmaceutical expert reports for Aqui-S (isoeugenol), teflubenzuron, Salmosan Vet and Ectosan Vet (Norway). I was responsible for the formulation of Excis and Betamax (Cypermethrin), Ectosan Vet (imidacloprid) and am named on the patent for Cleatreat, the purification system used to remove residual imidacloprid from the environment post treatment. I was elected as a Fellow of the Royal Society of Chemistry

With my wife, I enjoy regular holidays to the north west coast of Scotland where we kayak, swim and snorkel. We usually stay in a rental accommodation and buy all our food locally; as such we are contributors to the local economy a few weeks every year.

One of the areas to be covered by the enquiry is the environmental impact of the industry. I noted the 'myth busting' section of the letter from Mr Tavish Scott. He states that (referring to medicinal treatment of salmon) ... *'Once the treatment is complete the seawater containing medicine residues is released. The residues break down rapidly and disperse in the immediate vicinity of the farm'*. Whilst this is true for hydrogen peroxide and to a lesser degree azamethiphos, it is completely incorrect with the cypermethrin and deltamethrin treatments. These pyrethroids will bind to particulate matter and persist in the marine sediment for weeks. Furthermore, there should be grave concern regarding the persistence and accumulation of the in-feed compound emamectin benzoate. You had a consultation on the EQS in 2023 and there were several anomalies in the reporting. Most specifically, the data produced by SEPA where sites were found to contain levels of 1000x higher than the proposed EQS. It is clear that much more detailed research is required into this and this is not happening.

Second area of concern is mortalities. There were several pertinent questions raised by both Christine Grahame and Ed Mountain and Mairi Guegeon, consistently failed to give adequate responses (a recurring and consistent theme). The industry is clearly self-reporting mortalities and call me cynical but I believe they will be under reported. However, setting that aside, under any level of morality can any form of animal husbandry tolerate 25% mortality? This is cruel, it is wrong and it is unacceptable. The fact that, perhaps because of warming seas, it is getting worse year on year raises all sorts of red flags. The failure of Ms Guegeon and your chief Vet, Sheila Voas to recognise this horrific state of affairs is appalling. What is in effect a national scandal

is being swept under the carpet with the obsessive - at any price – pursuit of this industry.

Next is interaction with wild salmonids (sea trout and salmon). This has probably been adequately addressed by the communication from AST. We all know the damage inflicted on downstream migrating juvenile smolts and there is much published work verifying this.

Less well understood is the impact of genetic introgression through escapes of often large numbers of fish. The salmon genome is ancient and unique; it evolved to allow the species to adapt to a multitude of challenges giving the greatest opportunity to survive. Now through hybridisation this is being compromised with offspring from spawning of an escaped salmon with a wild salmon having less than a 10% survival rate of naturally bred salmon. This aspect requires much greater understanding through further research but it does represent a very major risk to an endangered species. Whatever happened to the precautionary principle? It strikes me that this has been entirely abandoned by the Scottish Government in their reckless promotion of a fundamentally harmful and dangerous industry.

One of the things that struck me having read the committee report and having watched a previous session was a fundamental lack of technical understanding of those MPs making the decisions (and credit here to Jim Fairley who freely admits he knows very little about the detail). Combined with a low level of knowledge and understanding appears to be a tendency to prevaricate with Ms Gougeon being a prime culprit. I don't wish to be rude or personal but I do not have any great faith in the minister and the majority of committee to make correct technical decisions around this; I simply think they don't have the competence. Three final points if I may:

1. Aesthetically fish farms are ugly, spoil the beauty of many of our wild places and already put off people wanting to visit Scotland. They devalue something that was once beautiful; a point that appears to be rarely considered
2. Norway requires the most recently approved lice treatment, Ectosan Vet, to be used in conjunction with a purification system to remove pesticide residues from entering the environment. This is a very positive step in and these systems are commercially available, then why are they not mandated in Scotland?
3. I make these comments as a deeply concerned individual with no association with any organisation. I am neither an extremist or an activist.