

RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SALMON FARMING IN SCOTLAND

SUBMISSION FROM THE WILD TROUT TRUST

The Wild Trout Trust is a charity working across Britain and Ireland, focusing on the conservation of our native brown trout, *Salmo trutta* (in all its forms), primarily through the practical involvement of people in the improvement of habitat. Our team of expert staff and advisors ensures that our work is underpinned by the latest science and thinking on threats to, and conservation of, wild trout.

1. Do you have any general views on the current state of the farmed salmon industry in Scotland?

We acknowledge the reported importance of the salmon aquaculture industry to the Scottish economy, even though the bulk of production is through foreign-owned businesses. The industry appears to have expanded with little effective regulation and despite repeated warnings over many years from scientists (including those in Scotland's own government science service) and environmental groups about its impact on especially marine ecology, including wild fish resources (salmon and sea trout) that should be precious to Scotland. Salmon aquaculture has contributed to the loss of economic activity in rural communities from diminished wild fisheries, tourism and threat to shellfish production; this continues. Wild sea trout and salmon form not only a resource for local communities but are a significant contributor to local biodiversity and food for a range of other iconic and protected wildlife such as otters.

The unsustainability of the current model of production is highlighted in farm

- location: sites are chosen for operational reasons rather than likely impacts on the environment, even where Environmental Management Plans form part of planning conditions;
- operation, where production biomass makes no consideration for escapes, disease or lice, louse control methods include environmentally harmful chemicals or wild-caught cleaner fish whose population robustness for such harvest is unknown and the sustainability of the wild-caught fish in the fish meal component of farm diets is questionable;
- regulation, exemplified by the Scottish Parliament's own ECCLR Committee, whose view is that *'the sector is not being regulated sufficiently, or regulated sufficiently effectively'*.

2. There have been several recent reports which suggest how the farmed salmon industry might be developed. Do you have any views on action that might be taken to help the sector grow in the future?

Scottish Government should disconnect from the industry's own growth targets, developed without reference to Scotland's wild fish and the widely scientifically-reported impact on them from aquaculture. We believe that an independent, expert assessment should be made of salmon aquaculture carrying capacity that is environmentally sustainable; this may conclude that no growth is possible with current production practice, or, indeed, that sustainable capacity has already been exceeded. We believe that closed containment production, at the very least for the first year of sea rearing, is the only viable way to protect Scotland's treasured coastal environment, including the wild salmon and sea trout that inhabit, or migrate through, these waters.

3. The farmed salmon industry is currently managing a range of fish health and environmental challenges. Do you have any views on how these might be addressed?

Whether the industry is managing its fish health and environmental challenges is questioned by many, including environmental groups, a very strong scientific lobby and by some governments in countries with significant salmon aquaculture industries. Note the response of government in the world's largest Atlantic salmon producer, Norway, and its planned control of open-cage farm sites.

The focus of the industry is on the health of its farm stock, with no consideration for its impacts on wild fish. The potential for harm to wild fish from sea lice has been studied and quantified, with the majority of studies by scientists in Ireland, Scotland and Norway suggesting significant mortality of wild salmon and sea trout through sea lice infestations originating from salmon aquaculture. It is as yet unknown if other significant fish health challenges in aquaculture (e.g. Amoebic Gill Disease, Pancreas Disease) may affect wild fish.

The use of organophosphate chemotherapeutants such as emamectin benzoate ("Slice") or azamethiphos ("Salmosan") in on-farm lice treatment is very likely to produce impacts in the marine environment, including on highly sensitive crustaceans which have intrinsic conservational value but may too be vital food for sea trout or other commercial fishery resources (e.g. brown crabs, lobsters).

Farm-escape salmon can seriously harm wild populations through inter-breeding and consequent genetic interference and through competition. The FASMOP study commissioned by RAFTS and MSS reported significant proportions of 'Norwegian farmed genes' in wild salmon from some rivers of the west of Scotland, indicating genetic introgression from farm escapes into wild populations. There is a large body of scientific literature suggesting that such introgression is highly damaging to the sustainability of affected wild populations.

The scale of reported escapes from fish farms is highly variable but sometimes massive. For example, over 40 tonnes of salmon escaped into Loch Snizort on Skye

in February 2018. If the industry looks to move to possibly less ecologically sensitive but precarious, off-shore sites, escapes and their consequent environmental effect will likely become a greater issue. In freshwater, smolt production should be only in closed, on-shore systems, not loch cages, though here too there are risks of pollution to recipient waters.

It is not known if wild wrasse and lumpsucker populations, used as cleaner fish in lice treatment, can support current levels of harvest. At present, wrasse are being taken from Special Areas of Conservation in England and Scotland, quite possibly in contravention of the EU Habitats Directive.

There appears to be a strong correlation between Scottish salmon rivers least likely to achieve their conservation limit and proximity to the aquaculture zone, along the west coast. At a time when salmon and many sea trout populations are so widely imperilled, it is iniquitous to allow salmon aquaculture to continue its current practice. The conservation imperative should be to protect populations of wild sea trout and salmon, not knowingly to allow their demise for the sake of the salmon aquaculture industry.

Fish health and environmental impacts should be priority challenges for the salmon aquaculture industry. We believe that the only likely solution to these challenges is closed containment production, accepting current technological deficiencies and a need to support its research and development; as noted above, the very minimum should be closed containment for the first year of sea growth.

4. Do you feel that the current national collection of data on salmon operations and fish health and related matters is adequate?

No. We believe that individual farm sites should, by law, be required to publish weekly data in real time, according to prescribed standards of data collection. The voluntary scheme currently in place has been shown to have failed.

5. Do you have any views on whether the regulatory regime which applies to the farmed salmon industry is sufficiently robust?

It is now widely acknowledged, including by the Scottish Parliament's own ECCLR Committee, that the current regulatory regime is at best inadequate. Aquaculture Stewardship Council certification as an industry standard could produce a fitting framework, with adequate and effective regulation by government agencies. Wild salmon and sea trout are known to be negatively affected by salmon farming; the conservation of wild fish populations must, therefore, be the primary consideration of any regulatory framework.

The Wild Trout Trust
April 2018