

**Environment, Climate Change and Land Reform Committee****Environmental impacts of salmon farming****Written submission from Aileen Robertson****Member of Salmon Aquaculture Reform Network Scotland (SARNS)**

I have lived in Waternish, in NW Skye for 30 years, and watched the community and many businesses struggle with the consequences of the salmon aquaculture business. Throughout my time on Skye I have been a partner in a diving tourism business and wildlife watching business where I have also worked as a commercial diver, skipper and WiSE accredited wildlife guide.

While I understand that this review is concerned specifically with environmental impact, it must be acknowledged, that negative environmental impact directly equates to negative economic impact in small rural communities.

I would normally cross reference my submission statements with policy references, scientific documents, letters and applications but the limitation of this inquiry to allow 4 x A4 sides prevents me from doing that. I therefore request that you cross reference this submission, with those scientific submissions already submitted to you and lodged online which provide much of the evidence to which I may seem to assume and accept without justification here.

Local businesses in indigenous island communities are often forced to coexist with multinational salmon aquaculture developments, despite concerns they may raise in the application process, even when conflicting environmental standards are identified, and during which government policies and European laws and directives are often ignored. These small businesses often find themselves unable to survive the pollution impact of unsustainable salmon farming practice, in whatever form, visual, noise or toxic chemical, and the resulting environmental damage can have devastating consequences which can become economically fatal for those small local businesses. Nobody is held accountable for those losses, and nowhere are those losses recorded.

The unforgivable irony is, that those businesses that suffer livelihood loss, a livelihood in which they may have invested for a generation or more, often operate businesses which leave no environmental footprint or damage. Because, as for generations before, we are the custodians of the environment in which our children and grandchildren will live and upon whose future, a clean environment is essential. The wildlife tour operator, the local creel fisherman, the scallop diver, the eco tour company; in recent decades they have all suffered considerable environmental and economic loss on a scale that is reprehensible.

Our businesses operate at a scale which does not overwhelm the local ecosystems, because we would be unable to manage in the long term with the consequences of our malpractice. We cannot up sticks and move if we damage our environment so badly that it is incapable of supporting us in the future. Regrettably there appears to be no consequences for the salmon aquaculture industry who have been allowed to pollute with impunity, destroying ecosystems

and wildlife habitats in the process. Having created damaged environments in which they can no longer operate, they simply relocate and proceed do the same again on an even grander scale. It is astoundingly short sighted.

Sadly, through no fault of their own, the generation that follows us, our children and grandchildren, may not inherit the privilege of an unpolluted environment with healthy ecosystems on which to base their families economic future.

We are allowing our coastal communities to be treated like a developing country, by turning a blind eye to the abuse of our coastal environment which is used as a toxic chemical dump to facilitate production of farmed salmon, as if we know no better. The situation is no different to the toxic textile trade of India which pours pollution into its choked and lifeless rivers, which we piously condemn, while doing the same to our own shores.

Just like those developing countries, the voice of the local community is increasingly overlooked while the aquaculture industry plays the political game and noisily beats the drum of 'creating much needed local jobs' in validation of all the environmental damage that goes with them. But what of the jobs lost? No-one seems to take any real measured account of the loss of jobs that pre-exist within the community, at the expense of fish farm jobs gained! What is the net balance? What happens to that local family whose business failed due to environmental damage? Unlike the multinational who has power and financial resource to just move on, the local family has to live with the consequences, and when one local business closes, it weakens the collaborative product, nibbling away at the viability of others; and in so doing destabilises the business community.

So, if this all sounds a wee bit melodramatic, then let us for a moment acknowledge that fish farm pollution is caused, it has been well evidenced by other submissions received to this enquiry, and consider how to quantify the net balance of fish farm jobs created, against local jobs lost, directly due to fish farm pollution. For this purpose we will use the community of Loch Bay, Waternish in the Isle of Skye, where a fish farm was licensed in 1987 and established in 1992/3.

### **Shellfish farming – 6 local scallop fam sites failed**

Between the mid 1980's to mid 1990's in Lochbay, Waternish, on the Isle of Skye there were no fewer than 6 locally owned, independent shellfish (scallop) farms in existence. Scallop spat was also collected in Loch Bay by another fisherman from Loch Dunvegan, so effectively 7 scallop farms.

The seabed lease for the Scallop farm site at Lochbay Pinnacle, pre-existed the directly adjacent fish farm site that was latter granted a seabed lease, within the 2 mile siting recommendation for salmon farms adjacent to scallop farms, in fact it was only 500m away.

To very simplistically explain the scallop farm process it works as follows. A scallop farm functions on the basis of capturing naturally occurring scallop spat in a net bag hung in the water column. After a short period of on-growing, the tiny new scallop shells are graded and suspended in hanging nets for further on-growing and so on, until they reach harvesting size. 3 or 4 years later they are harvested and a premium, high value, product goes to market, locally in restaurants and in

wider distribution throughout Europe. It's that simple, and clean!

However, when the salmon farm was installed in the loch, problems of reduced spat fall were encountered by the scallop farmers. Reduced spat fall inevitably means reduced scallop farm viability. *1<sup>st</sup> Incidence of environmental damage with conomic consequence.*

At the time of establishment of the 6 shellfish farms in Lochbay, it had a Grade A water classification. However Lochbay is a deep basined loch with a tidal bar at its outer edge separating it from the deep tidal waters of Loch Dunvegan and the Minch beyond, and as a result it has a low tidal exchange time of 9 days. It was always going to be susceptible to the impact of environmental damage due to toxic chemical discharge and accumulation. So, with the inevitable accumulation of fish farm effluent, a rise in eutrophication of the water column and significantly increased occurrences of toxic algal blooms (PSP - Paralytic Shellfish Poisoning) it wasn't long before its water quality classification was downgraded with immediate consequences for the sale of the scallops, and samples had to be sent for testing prior to sale. During these incidences of toxic algal blooms in the summer months, the peak market to local restaurants, there were increasing spells when sale of the scallops was prohibited for reason of public health. After taking 3 - 5 years to achieve market size these delays in going to market were disastrous. *2<sup>nd</sup> Incidence of environmental damage with economic consequence.*

Likewise dived scallops could not be harvested in the loch during incidences of those algal blooms, therefore 2 local scallop divers had to travel further afield to work. They have retired but no-one has filled that gap. *3<sup>rd</sup> Incidence of environmental damage with economic consequence.* 2 of the scallop farm sites, tried to continue by diversifying into mussel farming. Mussels take 12-18 months to reach marketable size, and so the time investment, was much shorter. However it soon transpired that the accumulated bacteria and toxins in the mussel flesh meant that the mussels required UV treatment and flushing to eradicate bacteria before being fit for human consumption. That was onerous enough but the mussel farmer then found themselves having to pay for discharge of that treated water, per litre, back into the sea cleaner than when it was taken out. That was cost prohibitive. *4<sup>th</sup> Incidence of environmental damage with economic consequence.*

There are no shellfish farms in Lochbay, 7 business failed with at least 7-9 jobs lost. Had the salmon farm sites seabed application, properly assessed and understood the competing needs of the pre-existing local shellfish aquaculture businesses, this salmon farm site would have been refused! Ironically the salmon farm company could not staff the salmon farm site locally, the jobs were not needed or wanted, and the fish farm company had to bring staff from elsewhere on the island to operate it. The site was never viable and failed after experiencing endemic disease and lice problems, poor production cycles and eventual admission that the site was not viable, even for a lower stocking density brood site. Regrettably during these disastrous attempts they caused significant and irreversible damage to the marine ecosystem with serious pollution incidences there is not space to detail here. **There is now no fin fish site in Lochbay – 3 jobs created – 3 jobs lost = 0 jobs**

### **Creel fishing – ‘ a fair trade fishery’**

Creel fishing, for shellfish, a much sought after quality product, with a high value, is another local industry that is currently suffering greatly from the impact of salmon farming. With the increased use of chemicals like Emamectin benzoate and Teflubenzuron, which are intended to kill lice, it is widely acknowledged that in treating to kill the sea lice that they are also killing shellfish larvae with the resulting depletion of prawn, crab and lobster stocks. The unregulated and unsustainable harvesting of cleaner wrasse is compounding this problem as the absence of wrasse which feed on and regulates octopus eggs means octopus are thriving. Octopus eat shellfish and obviously if you adjust the balance of one creature in the ecosystem you will disrupt that balance. So, the creel fishermen are currently experiencing a double damage strike from the fish farm industry. These local jobs are becoming unsustainable for local boys. In the mid 1980's, 8 small local creel boats fished out of Stein, Lochbay. There is now only 1. It would be naive and misleading to suggest that all of the loss of the other 7 boats was directly due to the impact of fish farming, but let us for the purpose of this argument attribute 2 job losses to our hypothesis. **Creel Fishing – 2 jobs lost**

### **Wildlife Tourism Operators**

These operators feel the imminent and real threat of economic impact from the loss of biodiversity and disruption to wildlife habitat. A seabed lease was recently granted adjacent to summer feeding grounds of cetacean and basking shark. That permission allows the use of ADDs which will undoubtedly disrupt habitat, in addition to the risk the species will face due to entanglement in nets and mooring lines. The development not only poses a serious risk to both species, but demonstrates a blatant disregard for the European Laws and habitats directives that protect them. Any loss of these species constitutes a threat to the continuation of wildlife operators business. With the Aquaculture Growth 2030 proposal and the Scottish Aquaculture Innovation plan on the horizon, very serious consequences may be experienced by the wildlife tourism sector in the not too distant future. We have our fingers crossed! Potential Job Losses, Significant, Dependent on future permissions granted to the Salmon Aquaculture industry

### **Marine Coastal Tourism**

Visitors come to the west coast of Scotland for its wilderness, its outdoor environment, wildlife and adventure, for sailing, kayaking, wild swimming, snorkelling, diving, wildlife watching, walking and photography. There is an expectation that the landscape and environment will be pristine, the wildlife uninhibited and thriving, increasingly, sadly it is not. Loss of amenity for marine coastal tourism businesses due to fish farm impact from noise pollution, light pollution, chemical pollution, habitat destruction, and visual impact, all on an industrial scale out of context to the landscape, is an existing threat that already worries many local businesses. With the proposed massive upscaling of the fish farm industry there is a feeling of impending doom. If the business of the activity provider and wildlife operator is damaged, so is the wider community of accommodation providers, shops, restaurants, art and craft producers, studios,

visitor experiences etc. It is felt locally that the Salmon Aquaculture Industry brings negligible spending to the local community.

**Potential Job Losses, Significant, Dependent on future permissions granted to the Salmon Aquaculture industry**  
**Local Dive Centre**

Here I refer to the threats described in the submission by Dive & Sea the Hebrides, a company that has at times felt under siege over the last 3 decades, when it has been in regular conflict with salmon farms. No-one sees the damage to the environment more than divers and damage has been profound. Through benthic damage, ecosystem loss, habitat disruption, water column degeneration, and loss of amenity by physical exclusion from sites, there has been a continual need to adapt daily operations, travel further afield with significant time and cost implications, due to upscaling of vessels, extra fuel costs, extra daily work time. They have tried to adapt, be flexible, live and let live but it is clearly challenging. Very recently this has been further compounded by the granting of permission for a salmon farm directly adjacent to 2 key dive sites. This continual loss of popular and quality dive site is making the future of this company very uncertain. The threat of upscaling and future location of insensitive new fish farm sites makes it likely that after 30 years this company may be forced to cease to trade, with the loss of a future for this families business, which is otherwise viable. What message does this send to the local community and its younger population? It is no wonder that they leave. Unless they want to feed fish, there is no prospect for them at sea here.

**Potential for 4 jobs lost**

**Summary of the balance of job creation against those lost as follows:**

<b>Industry in Lochbay 1986 - 2018</b>	<b>Jobs created or lost</b>	<b>Net Balance Jobs</b>
Fishfarm in Lochbay (now closed)	created 3 jobs, lost 3 jobs	0
Independent local shellfish farms	Lost 7 – 9 jobs	-9
Creel Fisherman	Lost 2 jobs	-11
Wildlife Tourism Operators	Current threat, dependent on future decisions	≥ -11 ?
Marine Coastal Tourism	Current threat, dependent on future decisions	≥ -11 ?
Local Scuba Dive Centre	Real imminent threat to 2-4 jobs	≥ -11 ?

**Net balance: 11 jobs lost**, directly attributable to environmental damage from fish farms. That total **may reach 15** dependent on implementation of current proposals.

The future lack of local business investment is highly likely at this time. **This does not represent community empowerment!**

**If expansion is permitted as currently proposed, Salmon Aquaculture has the potential to become the new sheep of a 21<sup>st</sup> century Island Clearance. Please do not let that happen and use this 'Local Hero' moment to pause and change our attitude towards the management of our marine environment.**

**I believe there should be a moratorium on the establishment of any new salmon farm sites and on expansion of existing sites, until sea lice, disease, pollution and environmental damage are independently monitored. Operators must be held accountable for the damage they cause and sites must be operated to acceptable environmental standards. Further damage to ecosystems, wildlife habitats and the marine environments is unacceptable and must be avoided to protect the environment for biodiversity, wildlife and those people and communities whose livelihood depends on them. Existing laws must be enforced and the objectives of the Scotland's National Marine Plan must be upheld.**

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