

RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SALMON FARMING IN SCOTLAND

SUBMISSION FROM CORIN SMITH

I am on the owner/operator of a small travel agency based in the highlands of Scotland. It is a specialist fly fishing travel business. It has one FTE and outsources work equivalent two FTE. Previously I worked around the globe in the technology industry from 1999 to 2014. I held a variety of senior management roles with one of the UK's most successful start-ups and latterly ran my own consultancy leading analytical projects for NASDAQ and FTSE listed companies. Prior to working in technology, I was born, raised and worked on a tenanted hill sheep farm of 2000 ewes on Atholl Estate, Perthshire.

My pathway to submitting this contribution began with the decision to launch a fly fishing business in Scotland. I looked at the economic potential of wild fisheries on the west coast of Scotland, those in the aquaculture zone, and became aware of commentary suggesting that salmon farming was having a detrimental effect. Cognisant of my almost complete ignorance of how the industry operates I began research in 2012 to better understand the environmental impacts on wild fish and ultimately potential constraints on my business. This led me on to examine the economics and regulation of the industry, and most recently to consider the value of salmon farming to Scotland Plc.

Clearly a limit of four pages reduces the points that can be reasonably considered as well as information that can be offered in support. I note a publication referred to by the committee "The Value of Aquaculture To Scotland" extends to over 120 pages, and yet it only considers the "Gross Economic" impacts, let alone a full analysis of environmental impacts of the industry's operations and supply chain. Hence, in terms of this submission I have restricted myself to a handful of the most obvious issues and raised these as points for discussion. Albeit informed and led by well considered analysis and with some supporting data. But for clarity I'm not attempting to offer a complete submission in breadth or depth. I had wanted to submit thoughts on the benefits to industry of strong regulation, but removed this section owing to lack of space. As far as possible, given the constraints of working and family life, I have followed the evidence and data where it has led me and examined it objectively. In forming my views I have considered quantitative data from various sources including: SSPO Publications, data sets publicly available from aquaculture.scotland.gov, data.marine.gov.scot and Marine Harvest Annual and Quarterly reports. I have also spent a lot of time travelling throughout, and taking part in discussions, in local communities throughout the mainland aquaculture zone.

ENVIRONMENTAL IMPACTS

All things considered it is my view that there are considerable environmental impacts associated with open-cage salmon farming sites in Scotland. These have been well documented and accurately represented by others during the enquiry.

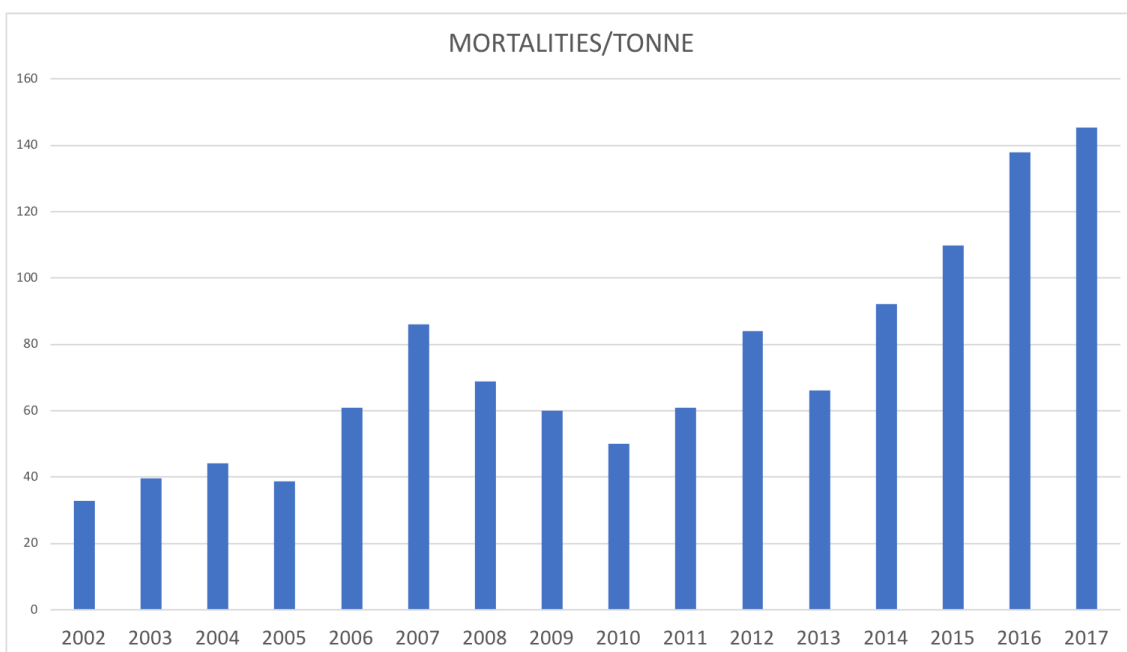
I don't have anything to add beyond what has already been said by others except to make the point that salmon farming has a large and complex supply chain covered in detail in "The Value of Aquaculture in Scotland."

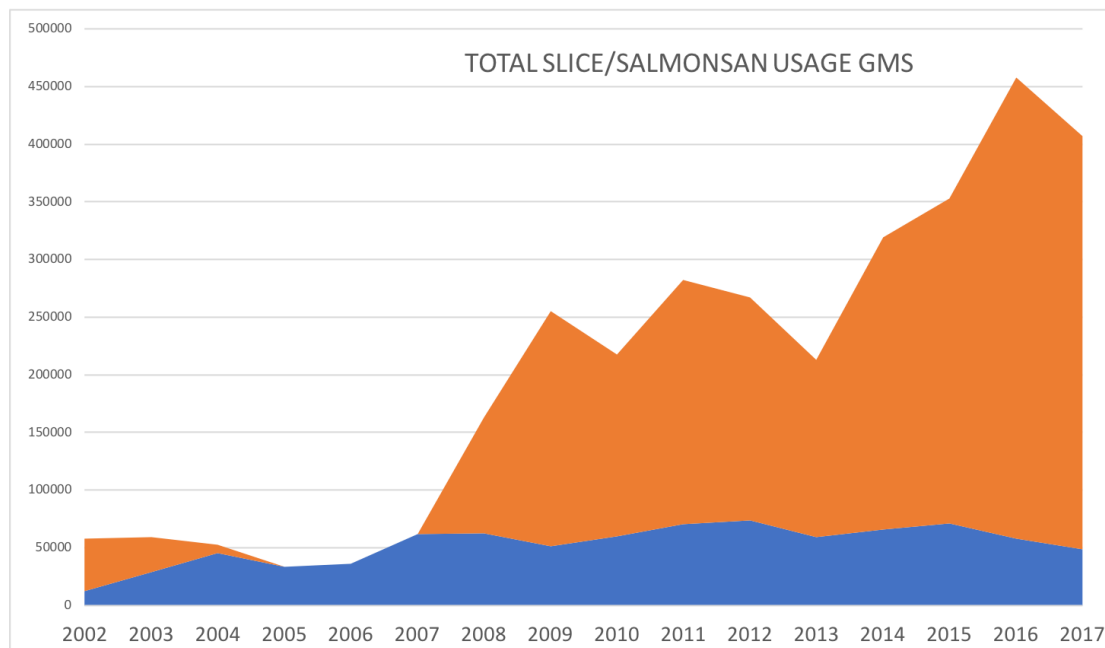
In addition to the operations directly associated with seawater sites activity other activities include the rearing of juvenile fish on land and in freshwater lochs, sourcing, processing

and delivery of feed from international fish stocks, heavy good transportation of live, harvested and deceased fish through remote communities on single track roads and throughout Scotland, construction and deployment of infrastructure, operation of processing plants, use of feed production plants, operations of vessels etc.

There are undoubtedly environmental impacts associated with all of these activities. Therefore the impacts of open-cage salmon farming in Scotland are experienced locally, nationally and internationally. Open-cage salmon farming is an intensive farming method and a heavy industry, operating in rural communities and relatively wild ecosystems. The environmental impact of the industry needs to be considered holistically in order to arrive at a full and proper assessment and analysis of its impacts, not just what happens in and around the cages.

Clearly the most publicly discussed issues associated with open-cage salmon farming are that of sea-lice and mortalities. The graphs I have produced below for me tell an inescapable truth about salmon farming in Scotland today. That is, as production grows, the result of increased productivity/intensity, more fish die for every extra tonne produced than the one before. More chemical treatments are needed for every extra tonne than the one before. In short, the industry as a whole is getting worse at reducing environmental and welfare impacts, not better. In complex terms, a linear relationship between production and impacts seems like it might, worryingly, be on the verge of becoming an exponential one.





The current strategy of symptomatic relief of these issues can never remove the inherent outcomes and risks associated with open-cage technology. Without a step-change in this technology continued expansion of the industry through surface area expansion will very likely see linear trends continue, expansion through increased intensity would in my view result in exponential increases in impacts appearing.

It seems difficult therefore to see how Ministers and regulators could in good conscience, and with what limited regulatory obligations they have, sanction the continued expansion of an industry where probabilities of serious welfare issues and increased environmental impacts are very high, 90%+. That would be an act of gross negligence.

DATA

Detailed assessment of environmental impacts is hampered by a lack of available data in Scotland. Albeit there is a considerable amount of relevant international data which can be used. Scotland lacks both scientific studies, long term environmental indicators and good quality, reliable operational data. However, it would appear that there are significant data assets being held by both government and operators, but that public access to this is limited.

Marine Harvest makes reference in its 2017 Annual report to Seatrout telemetry studies its has conducted, sea-lice counts by farm being done every two weeks, sea-lice distribution models. It also mentions the extent, and detail, of information sharing between operators. None of this is available to the public, save for when, understandably, it is of benefit for Marine Harvest to publish it.

What data that is available is often aggregated, presented in formats that are difficult to interrogate, held in multiple locations and published with a lead time of months. Much of the data is collected and presented by operators and is unaudited or independently verified.

There are little or no statutory requirements regarding the frequency, quality and nature of data that must be recored. So raising the risks around the voracity of data.

There has been resistance from government to release data, requiring FOI requests and ultimately in some cases input from the information ombudsman to force the release of relevant data.

There is an almost complete absence of any meaningful government commissioned empirical scientific data on wild fish and environmental impacts, be it in terms of monitoring or seeking to establish knowledge of baseline impacts. Wild fish are the canaries in the coal mine for entire ecosystems.

While empirical and operational data cannot be expected to provide incontrovertible evidence of environmental impacts, nor be expected to provide strategic leadership about economic development, it is an essential component of the decision making mix.

Methodologies are inherently poor, with no opportunities for control sites in the aquaculture zone. The industry blankets the entire west coast, with a farm on average every 10 miles. There are no marine reserves with aquaculture free zones that would allow relative comparisons and studies to take place.

Wild fish restoration programmes are being artificially stimulated with hatchery projects, which ultimately hide the ability or otherwise of wild stocks to recover naturally.

Industry and government has used a lack of data, perversely, as rationale for expansion.

Data has been withheld from consumers on the basis of commercial sensitivity. It is a surprising argument that secrets must be kept from consumers for fear of commercial impacts. Specifically sea-lice and mortality numbers on individual farms.

Clearly data will form a foundation of future regulation. It seems to me that significant culture change is required concerning a genuine desire to conduct investigative enquiry/research into the impacts of salmon farming, as well as ensuring transparency and voracity of data concerning its operations.

As general principle, it seems to me that the Scottish government should be monitoring a balanced scorecard of quant/qual environmental indicators throughout the north west as standard practice. This would prove useful for establishing baselines in order to assess the impacts of industry on our natural assets in the future.

ECONOMIC REALITY

While a comprehensive understanding of environmental impacts is important, it cannot be considered in absolute terms. An industry cannot be denied development opportunities based on just having impacts alone. Economic development is essential and impacts therefore should be assessed against this need. As wild as Scotland appears at times, it is almost impossible to escape the affects of people. It seems logical to me that industry should to be considered in terms of its relative "net benefit" to the nation.

It appears that the true economics benefits of salmon farming to Scotland are unclear. The paper "The Value of Aquaculture to Scotland" goes some way to understanding these benefits, but more accurately this paper should be titled "Gross Value". While this paper does a good job outlining the structure and networks of the industry in Scotland, as well as outlining production figures, sales figures and employment, it does not address, in any

significant way, the costs of salmon farming to Scotland. Be these tangible or intangible. Nor does it seek to establish the beneficiaries of the industry or their relative share.

Deductibles at the national level regarding the operation of salmon farming in Scotland include, but are not limited to, direct costs of appropriate regulation and enforcement, grant funding and subsidies, maintenance of degraded infrastructure such as roads, intangible environmental impacts associated with visual pollution, opportunity costs of industries that cannot exist alongside salmon farming.

Further confusing things is the fact that the beneficial owners of salmon farming in Scotland are overwhelmingly offshore. It is unclear where the balance of financial benefits lie. Local communities, Scottish exchequer, private interests, onshore or offshore?

It is only with a clear understanding of the economics of the industry and precisely where the benefits are accrued can one make a value based judgement about its environmental impacts.

Currently Scotland receives no direct tax benefit from the profits made by salmon farming companies in Scotland. HMRC collects corporation tax and how this is returned to Scotland is as yet unclear to me.

Further, considerable grant aid funding and subsidy appears to be given to the salmon farming industry from various schemes, be it direct funding from Scottish government, local authorities and through the European Maritime and Fisheries Fund.

I highlight information from Loch Duart's accounts only because they are easier to access.

LOCH DUART LTD

	2015	2016	2017
TAX PAID	327,000	-71,000	309,000
GRANTS	519,000	640,000	750,000
FARM JOBS	93	84	89

The vast, overwhelming, majority of Scottish salmon farming production (>75%), is ultimately owned and operated by offshore interests.

For example, Marine Harvest has only 15% British based ownership, accounts for around 30% of production and has only one senior manager from Scotland.

These are profit making businesses and we should be clear that profit and shareholder value are, rightly, the primary purpose for these multinational businesses operating in Scotland. The ultimate primary beneficiaries of the industry are not located in the UK let alone Scotland.

The complex nature of multinational accounting means is difficult to do any detailed analysis of accounts to understand the precise distribution of financial benefits. For example, feed costs are a very large proportion of operating costs of salmon farms, if this

is supplied by an offshore subsidiary business, a re-charge can be applied to local sales revenues, with value leaving Scotland.

In simple terms, how much of the widely reported £600m in sales in 2017 was retained in Scotland? How were the benefits shared between local communities living with the farms, and the rest of Scotland? What is the “net economic” benefit to Scotland of salmon farming?

While other industries such as recreational tourism, agriculture and artisanal fishing may generate much smaller top line revenue figures, the relative amount of benefits being retained as a result of local and national ownership may result in a higher absolute “net benefit”. This dynamic should be considered when assessing the the relative environmental impacts of industries.

For example: £100 of sales generated with only 5% margin remaining in Scotland may not be as beneficial as a £10 of sales generated with 80% being retained locally and nationally.

Do we need to know a lot more about the economics of salmon farming in Scotland before we can make any value based judgement about the environmental impacts?

Much is made by the salmon farming industry of the importance of aquaculture to “remote rural” communities in Scotland. To the extent that its possible to believe there would be some mass emigration and economic collapse in these areas if aquaculture ceased to exist or was impinged in any way. This has conflicted with my experiences. Spend time in the coastal village communities around Wester Ross, Sutherland, Skye and the Outer Hebrides and you realise that salmon farm employment barely moves the needle in these areas. Employment from tourism, agriculture and sporting estates dwarfs salmon farming by an order of perhaps 100:1. In each village you might find a handful of guys working on farms, and you see the odd vehicle, but that would seem to be it. I talk to people in village shops, pubs, gift shops, hotels and so on. The reality is that people are barely aware of salmon farming. The industry is not some pillar of the community supporting a desperate and marginal existence as much often PR would lead you to believe.

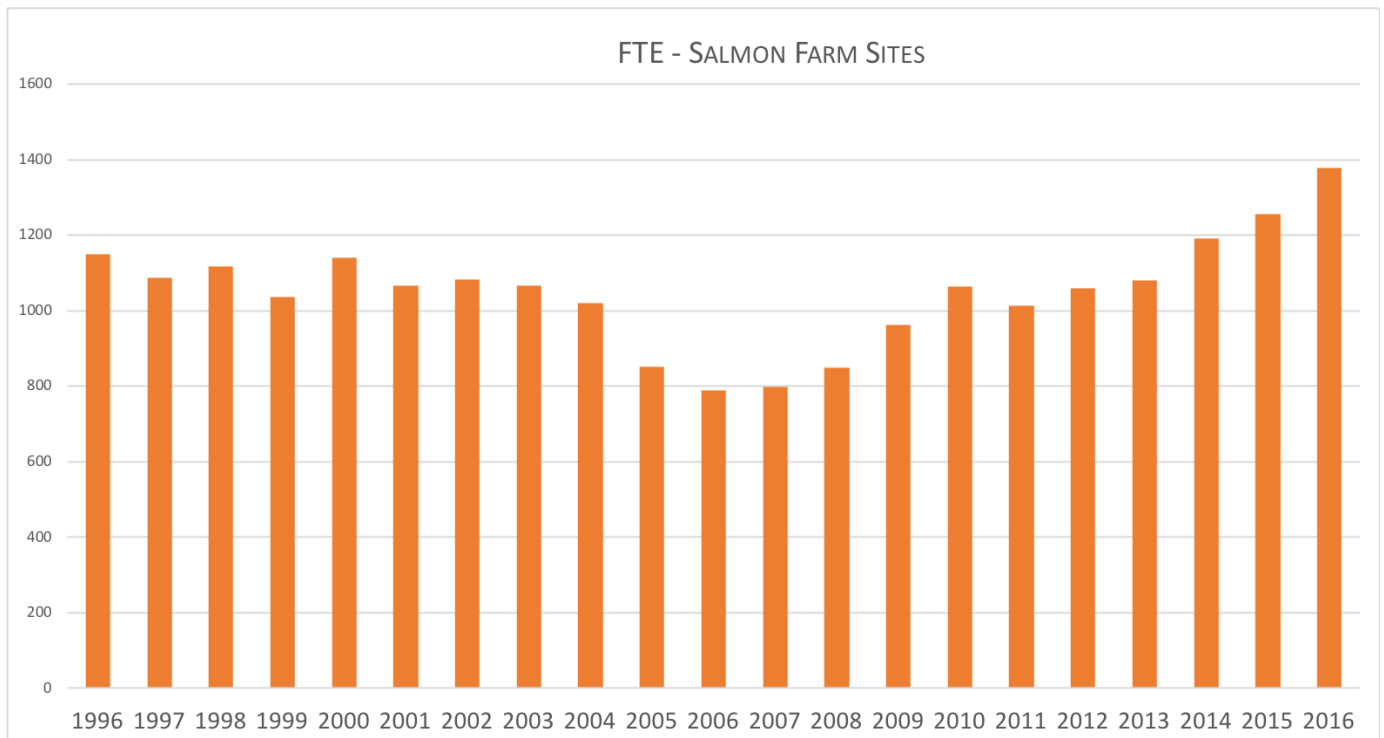
Rural communities local to salmon farming sites in Scotland are absolutely essential to the industry, both in terms of labour as well as consent to operate via planning applications.

It seems to me communities of the North West of Scotland are not reliant on salmon farming. The salmon farming industry is reliant on them.

Over the last 20 years production and productivity has soared, to an estimated 177,000 tonnes of salmon being produced in Scotland. Using today’s farm gate salmon values, that equates to something in the order of £10bn of sales during that time.

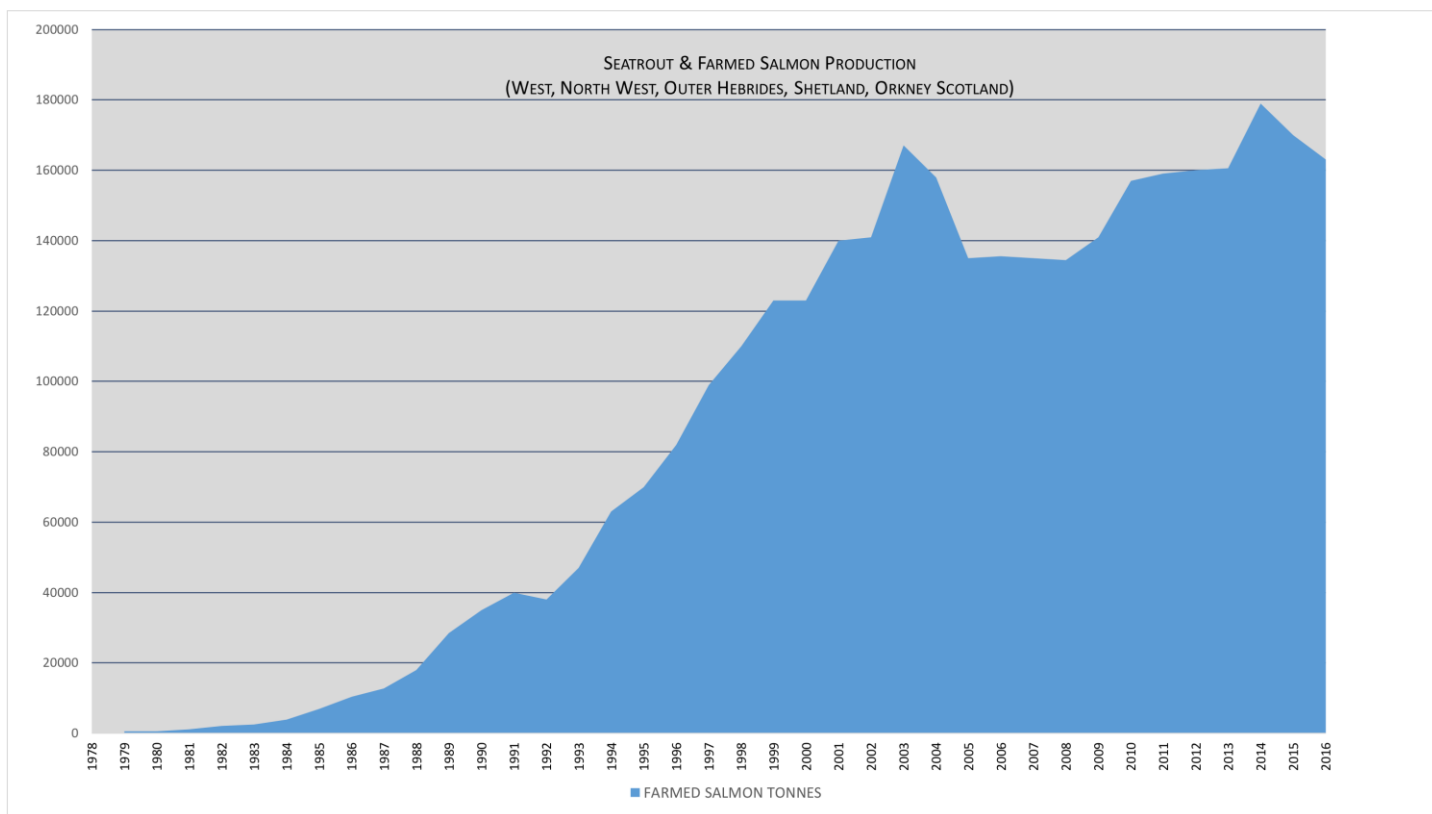
I have driven probably just about every mile of road between Fort William and Tongue, and I’ve never seen any signs at all of a salmon farming “boom”, despite the widely reported success of the industry. There are no obvious economic indicators. No house price boom for example. There’s no outward indication of the rural communities in the aquaculture zone having shared in the wealth created by salmon farming.

I've always wondered about that. The answer seems relatively simple. While production and sales have increased massively, direct employment on sea farm sites since 1996, people employed inside the aquaculture zone, has increased by only approx 200 jobs.



Upstream suppliers of the salmon farming industry: Wellboats, feed and infrastructure are all located a long way away from the rural communities where farms are sited, often outside Scotland. Downstream processing, sales/marketing and management are located away from these rural communities in the central belt. There is no local stake in these businesses or operations.

Because these coastal communities have had no relative share in the growth of the industry, they have not shared equally in the financial benefits associated with its growth.



I estimate that a local community retains a maximum of 5% of the financial benefits generated by a salmon farm.

As one local described it to me “We’re given scraps from the table and left with all the pollution.”

A fundamental part of the development of Wind and Hydro in Scotland, enjoying broad public consent, has been the establishment of community funds. No such schemes existing in salmon farming as far as I am aware. It is true that most salmon farming companies make some donations to local projects. But in relative terms these are small and of course entirely discretionary and reliant on the benevolence of operators. In the case of Marine Harvest in 2017, €200,000 was given to projects, that in comparison to their €153m EBIT.

The industry makes large contributions (dwarfing charitable donations) in the forms of levies to schemes such as RSPCA Assured and various voluntary industry regulatory bodies. It seems extraordinary in today’s climate that there are no statutory community or regional wealth funds associated with salmon farming. It is even more extraordinary that none of the political representatives of these constituents have ever led or advocated on this issue.

It is difficult, all things considered, to escape the notion, even as a committed capitalist, that salmon farming is simply the latest manifestation of a long established economic status quo in coastal highland communities. Borne of socio-economic changes in the late 1800’s and following in the footsteps of industries such as “Kelping.” Local labour working ostensibly “for their own good,” but in reality only enabling the enrichment of other distant private interests.

In closing, salmon farming undoubtedly generates economic benefits in Scotland. The SSPO stated,

“The industry is one of Scotland’s most important rural sectors, worth over £600m in export value to Scotland in 2017....”

But what does that actually mean? Of the £600m how much is actually retained in Scotland? When considered in terms of Scotland Plc, surely it is only the net benefit to Scotland that is relevant, not gross sales figures.

Salmon farming undoubtedly has significant environmental impacts.

Only once the economic position is understood, can we make a value based judgement about our acceptance, or otherwise, of the environmental impacts associated with salmon farming.

Corin Smith
April 2018