

**First Minister  
Cabinet Secretary for Culture, Tourism & External Affairs**

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Cabinet Secretary for Communities & Local Government

Minister for Rural Affairs & the Natural Environment

Minister for Local Government, Housing & Planning

**Aquaculture Sector Learning Visit to Norway**

As agreed, I visited Norway from 24 to 27 November, leading a senior level, industry/Scottish Government delegation to learn more about the Norwegian aquaculture consenting regime.

The visit focussed on the opportunities to enable further sustainable growth in, and derive income from, the Scottish aquaculture sector through the incorporation of elements of the Norwegian 'single window' consenting regime. This included looking at their front-loading of regulatory permissions prior to developer application, and the potential to replicate their auction of development space with all necessary licences, broadly along the lines of our marine renewables or oil and gas consenting systems. In so doing, continuing to ensure all appropriate environmental sustainability criteria are met but within a process which is both more efficient and achieves greater income generation.

The key components of the visit were as follows:

Day 1 – meetings with:

- Norwegian Minister of Fisheries, Harald T. Nesvik and senior officials
- Senior officials in the Ministry of Trade, Industry and Fisheries
- Norwegian Food Safety Authority to meet the Chief Veterinary Officer and Norwegian Veterinary Institute

Day 2 – meetings with:

- Henrik Hareide COO Knowledge Services, STIM
- David Morrice, MD UK & Europe, Cargill Aqua Nutrition
- Stig Nilsen, Leroy Seafood
- Bjorgolfur Havardsson, R&D Manager, NCE Seafood Cluster
- Ivan Vindheim, CEO Mowi ASA and members of the Mowi Global Board

Scotland has strong aquaculture ties with Norway not least that our main salmon farmers here are Norwegian-owned. Norway's production, currently amounting to 1.25 million Tonnes per annum (approximately 6x Scotland's total) is conducted in 13 zones around the Norwegian coast, with the 1,000 farms employing 10,000 people direct with a further 40,000 jobs across the supply chain.

Aquaculture exports amounted to 71 billion Kroner (circa £6.5 billion) in 2017/18. Contextually, capture fisheries in Norway now achieve 2/3 of fish farming's volume but only 1/3 of its value. Norway thinks of seafood, and particularly fish farming, as its new oil and has aspirations to grow production to 5 billion Tonnes by 2050. This government focus on aquaculture growth as a pivotal element of the Norwegian economy provides an important strategic context within which the consenting regime operates.

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### **Consenting Regime**

Taken across the 2 days, we gained a strong insight into the Norwegian aquaculture sector, its governing regulation including the consenting and auction regime and industry's perspective on future opportunities for growth at home and in Scotland.

A key point of learning was that fish farms need both a location approval and to buy a permit for growth in biomass. The location approval is delivered through a "single window" approach where the various regulatory bodies deal with an application within a co-ordinated process. This sets a maximum scale of production and then permits for additional biomass are sold through a process that combines both fixed price and auction elements.

Fish farms in Norway are generally larger than in Scotland. Until recently, farms in Scotland were capped at 2500 tonnes, whereas the typical size is 3000-4000 tonnes in Norway with some sites approved for circa 8000 tonnes.

### **Location Consent**

The location consent process incorporates a number of related components within a co-ordinated system. There are still individual decision-makers for a number of these components. The timeframe for processing applications under this system is 26 weeks for straightforward applications. Cooperation between industry, science input and the regulatory authorities is seen as essential.

We learned that the Norwegian approach to regulating the environmental impacts of the sector focuses on escapes, effluent, disease and parasites. Sea lice remains the most important issue and is consequently the most prominent aspect of the regulatory regime at present given its level of impact, not dissimilar to the issues which exist in Scotland. Farmed fish escapes are also a significant issue (more than in Scotland) and the industry have to pay into a fund that organises capture of escaped fish.

Norway has statutory protection for certain areas of its coastline and has 29 dedicated river-based areas where no aquaculture is allowed (similar to our 'presumption against' open sea pen salmon farming off the North and East coasts). These encompass the drainage areas for salmon rivers that cover 80-90% of wild

salmon stocks.

Norway has divided the coastline into different fish farm production areas and each has a traffic light assessment applied to it, based on a scientific assessment of the sea lice risk, based on measuring wild fish mortality. Green areas have <10% mortality and are allowed to grow at 6% per annum, amber areas with 10-30% mortality have no growth and red areas with >30% mortality are required to reduce the biomass of fish being produced. Some of the production areas have a number of different farms and operators within them, and experience to date has been that this is starting to drive a level of cooperation to address problem areas. One area where it was clear Scotland is more rigorous than Norway is that the Norwegians currently have no environmental standard for sea lice treatment products though controls do now exist for the disposal of certain discharges.

It was clear that deposition of waste is less of a limiting factor in terms of allowable biomass at specific sites in Norway. There is no predicting deposition modelling requirement within the Norwegian regime, and the benthic impact of waste is controlled by a standard set by the national technical standards institute. There was some discussion of whether a more precautionary approach to benthic impact is being taken in Scotland.

The Norwegian Fisheries Minister felt Norway's consenting regime was working well. He was confident that the 'traffic light system' would enable sustainable growth in the right areas along the Norwegian coast. He stressed that the full range of biomass management options for this production cycle would be deployed with opportunities for growth dependent on sea lice management performance and with options to cut biomass if an area is red rated. To date the Norwegians have hesitated to apply fully the traffic light regime but the latest 'colouring the map' was expected before the end of the year, with a move to full enforcement imminent. The Norwegian government officials described the traffic light system as a 'tool' for decision-making rather than a mechanism which takes decisions in and of itself. This reflects the emphasis in the Norwegian approach placed on Ministerial discretion.

### **Revenue raising**

Norwegian officials advised those areas in 'green' where 6 % uplift was allowed saw 2% offered by fixed price and the remaining 4% by auction. The money raised in the last round, estimated at 4 billion kroner (circa £350m), was shared on a ratio of 70% to local communities, 10% to municipalities and 20% kept centrally.

In addition, the Norwegian authorities raise a levy equating to 0.35% on all seafood exports (both farmed and wild caught.) This goes into a fund of around £30m annually, some of which promotes marketing of Norwegian exports and some which goes into a research pot which, among other things, has helped to

develop vaccines to respond to fish diseases in the aquaculture sector, an something which parts of the Scottish industry has pressed for in Scotland.

The Norwegian government had also put forward a plan for a tax to raise revenue from the circa 80% of aquaculture capacity that was already in place before the capacity auction system was introduced. At the present time this proposal is on hold because of an ongoing public and political debate about its merits. However, this does highlight a key point about how revenue raising would be applied to existing and new sites. It is being debated in a context of already very high taxes for other major industries – we were told that the oil industry is taxed at 78% of profits while the hydro industry is taxed at over 60%.

Unlike Scotland, Norway does not impose annual rents (currently raising circa £5m per annum here with the potential to rise significantly under the auspices of a fundamental Crown Estate Scotland rental review).

The value of any Scottish auction would reflect these standing rentals and be unlikely to raise new funds on a Norwegian scale. Nevertheless, our income from aquaculture does seem relatively low compared with Norway, even when overall scale is considered, and the opportunity to derive further income from the sector does appear to exist, particularly if we can deliver a more enabling environment for sustainable new developments.

Norwegian industry was also at pains to point out that a number of steps would be necessary in Scotland before an auction-style regime could be successful. Farms would have to be recognised assets which are both mortgagable and assignable. The general framework within which aquaculture operates would benefit from good regulation, potentially including an equivalent to Norway's 'single window' consent. Farming opportunities would also need to be of sufficient scale and in developable locations if they were to be attractive to the market -recent spatial planning research here suggests that should be possible, with sustainable growth sufficient to meet the sector's aspirations to double value by 2030 thereby contributing fully to Food & Drink's 2030 target of £30 billion turnover by 2030 and future export aspirations.

## **Investment**

Conditions to encourage appropriate development in Scotland are improving. Marine Scotland and SEPA have improved the regulatory framework, recognising the criticisms made by the 2 Parliamentary Inquiries on salmon farming carried out in recent years. On-farm management of sea lice, the major issue affecting production, is getting better with trends showing a relative decline in average numbers. Innovative technology means less reliance on medicines than previously and increasing the size of smolts going to sea is allowing farmers to move to larger, higher energy sites benefitting from a shorter marine grow-out phase which improves dispersal of waste as well as limiting exposure risk to

disease and sea lice (with knock-on benefits for wild salmon).

Mowi's new global CEO was at pains to stress that if the right regulatory framework and relationship existed with certainty, including the opportunity for larger scale farms in the right environmental locations, then further investment in Scotland was very possible. This would build on their recent farm expansion here accompanied by significant investment in supporting infrastructure in recent years such as the new fish feed plant at Kyleakin (circa £120m), recirculation hatcheries at Lochailort and Invermoriston (around £50m each) and expansion of the processing plant at Rosyth.

That potential for increased investment across the Scottish fish farming community was further underlined by commercially sensitive, emerging plans from Scottish Sea Farms to expand their recently opened £55m recirculation hatchery near Oban with a further phase of development worth a further £35m.

Innovation also continues to play a major role in the sector. Some approaches, such as keeping fish longer in onshore hatcheries before putting them in sea cages, and use of wrasse cleaner fish, are already embedded in Scotland. However, there is a further wave of innovation encouraged by the Norwegian Government's green licences (granted at no cost if the innovation is deemed worthwhile by government), based largely on semi-closed and closed marine containment systems being developed. None have really made it to market yet but that point will be reached soon. R&D in these systems, particularly growing to harvest in large-scale closed facilities, is constrained in Scotland given the scale of R&D investment required and the tendency for the larger Norwegian-owned companies to trial new systems in Norway. We were, though, assured, that once 'proof of concept' is achieved, Scottish farmers will invest to keep pace given the value that will be derived.

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Of interest was the fact that there is a separate scientific body which advises the various regulatory functions in Norway, as distinct from the regime in Scotland, where each regulatory body houses its own scientific functions.

In part this difference may be related to the lack of environmental quality standards for medicines to enforce in Norway but there was also, as noted above, some debate about whether Scotland is applying a stricter interpretation of the precautionary principle.

## **Conclusion**

The Norwegian single window regime is not a panacea nor is it a single consent covering all requirements. Rather, it is a co-ordinating mechanism to give all necessary location permissions, including for environmental discharges (equivalent to SEPA's Controlled Activities Regulations but determined by regional authorities), at a point coterminous with licence award. Nevertheless, it does appear to deliver more certainty of outcome, and perhaps quicker decisions in straightforward cases. Alongside this process the separate but complementary auctioning of production capacity derives significant income.

In considering the impacts of environmental discharge from medicinal treatments there is a clear focus on the benefits to fish health and welfare of administering such treatments.

Some of the key outcomes from the visit were:

- A key ask from industry representatives for good regulation going forward to enable investment.
- An interest in developing bigger farms in the right places in Scotland.
- And a willingness from developers to pay more if those conditions exist and developments can be brought on-stream quicker and with more certainty whilst maintaining appropriate environmental safeguards.

This was a very helpful and informative visit covering a range of topics and views of the Norwegian aquaculture industry in the face of many common challenges. I recommend there was enough evidence to suggest further work should be undertaken to look in more detail at what options exist to improve Scotland's regulatory framework, learning from the Norwegian experience, and how they might be implemented to include options to derive further income.

In particular, I would recommend that we give serious consideration to adapting for Scotland both the Norwegian auction system as well as Norway's approach to coordinating permissions from the various regulatory agencies through a single consenting window. This might be done by asking Crown Estate Scotland, who already have a role in leasing aquaculture sites, to provide the on-line 'front-end' to such an arrangement.

I would be happy to provide further information on any aspect of the visit.

**Fergus Ewing**