RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SALMON FARMING IN SCOTLAND

SUBMISSION FROM CROWN ESTATE SCOTLAND

Background

Crown Estate Scotland is tasked with managing assets that stretch and length and breadth of Scotland. Through working with tenants and partners, we aim to innovate with land and property to create prosperity for Scotland and its communities.

All our revenue profit goes to Scottish Government. Our 2017-20 corporate plan and 2017-18 business plan details our priorities and objectives, and our Framework Document sets out our functions, duties and powers.

Crown Estate Scotland is responsible for managing:

- Leasing of virtually all seabed out to 12 nautical miles covering some 750 fish farming sites and agreements with cables & pipeline operators in Scottish waters;
- The rights to offshore renewable energy and gas and carbon storage out to 200 nautical miles;
- 37,000 hectares of rural land with agricultural tenancies, residential and commercial properties and forestry on four rural estates;
- Rights to fish wild salmon and tea trout in rivers and coastal areas, as well as rights to naturally-occurring gold and silver across most of Scotland;
- Around half the foreshore around Scotland including 5,800 moorings and some ports and harbours; and
- Retail and office units in Edinburgh.

Our role

As manager of the seabed to 12 nautical miles, Crown Estate Scotland grants development rights for marine salmon farms.

The marine environment is a shared space which we want to ensure is safe for other users to enjoy – we do this by making sure fish farms are only sited once the necessary statutory consents have been obtained and our own criteria for tenancy met (see Guidance Notes for Aquaculture Lease Applications on our website for more on our criteria). We currently lease around 750 sites to fish farm operators to grow finfish and shellfish.

What development may be permitted / where it is located, is a matter for the planning authorities, SEPA and Marine Scotland's Marine Licensing Operations Team ('MS-LOT') under their respective legislative remits.

We have a duty to conserve biodiversity and we work with the regulator and other agencies to ensure the obligation is discharged through the securing of all 'necessary consents' before a lease can be granted.

We support research and development to help enable industry to progress. To date this has mainly been focussed on interactions management, primarily with wild fish but also with neighbouring farmed stocks, marine users and other natural heritage and community interests.

Regulation

The Review of the Environmental Impacts of Salmon Farming in Scotland report commissioned by SPICe and undertaken by SAMS Research Services Ltd provides comprehensive insight into the environmental impacts of salmon farming in Scotland, the scale of the impacts and the approaches to mitigating associated impacts.

As stated above, our role is to grant development rights for marine salmon farms where all necessary statutory consents have been obtained and our own criteria for tenancy met.

This is the point at which all elements of the regulatory framework converge for development to proceed, and as such we have a good understanding of the issues included in the SAMS report and the way the consenting regime can address them. Many of the issues raised in the report were similar to those that led The Crown Estate and Marine Scotland to jointly commission the Independent Review of the Consenting Regime for Scottish Aquaculture, completed in 2016. The issues raised in that review continue to resonate in this inquiry.

Aquaculture, and salmon farming in particular, is of great socio-economic and environmental importance to Scotland. While we hope that innovation and improvements in technology can continue to address some of the more technical aspects of health and environmental impacts, we believe that the regulatory regime for consenting development must change if it is to enable and encourage improved industry performance, and offer associated confidence for its stakeholders and the wider public. This is critical to the future growth of this sector in Scotland.

The marine environment is dynamic and ever-changing, and therefore the Town & Country (Scotland) legislation, with permanent planning permission predicated on terrestrial developments, is in our view unsuited to regulating the future development of this sector. Rather than adapting the current process, we would recommend a fuller revision of consent for development taking an approach tailored to aquaculture. This is evidenced in large part already by the Consenting Review of 2016.

We consider a (marine) licensed management plan based system, not unlike that employed for Fishery Orders for example, better suited to the nature of salmon farming, and aquaculture generally. This plan would include robust periodic review lending itself to reportable accountability for any undertakings made and any

necessary revisions over time. By offering the necessary stakeholder assurance over the duration of a development's operation, this approach can address better the uncertainties and associated precaution that the existing planning regime struggles with. It will not remove the prospect of consent in perpetuity, but make it a more clearly exercised condition of compliance with agreed terms of acceptable operation.

Such a regime should, through an adaptive management framework that includes transparent accountability measures, promote the concept of environmental stewardship through collaboration and continuous improvements in interactions management. It should encourage producers to aim for performance standards beyond mere compliance with prescriptive and possibly outdated statutory limits.

We believe that SEPA's regulation of discharges to the benthos and water column through Controlled Activities Regulations should remain as an appropriate operational consent, and we support the proposed Depositional Zone Monitoring revisions which further encourage efficiencies in minimising discharges. This already incorporates a robust programme of monitoring and review suited to the nature of the activity and the environment it seeks to protect.

However, the (currently duplicated) development consent element to address many of the interactions issues, not least that between wild and farmed fish, would benefit by its removal from the planning system and instead being subject to a revised Marine Licencing regime referred to above. It would also align marine salmon farming (and wider aquaculture) with other marine sectors such as marine renewable energy, and provide the necessary flexibility to cope with future development such as offshore, split-cycle, and other production models.

Wild / Farmed Fish Interactions

Wild and farmed fish interactions is the predominant issue facing marine salmon farming, evidenced by past initiatives aimed at resolving or at least mitigating its potential impacts. It also serves to illustrate the limitations, seen by industry, of the current planning system based regulation.

There are two main risk aspects to consider. The first is that of genetic introgression through the interbreeding of escaped farmed fish with wild counterparts. Equipment integrity and proper maintenance and inspection of that equipment, along with sound operational practices that can confidently prevent any release of farmed fish into the surrounding environment is essential to controlling this issue. We believe the Technical Standard for Scottish Finfish Aquaculture, which aims to address this issue, should be adopted as a statutory requirement for producers, subject to periodic review and necessary update.

The second and more prominent risk is that of disease and parasite transfers between wild and farmed stocks, dominated overwhelmingly by the issue of sea-lice originating from farmed stocks impacting on wild fish in the locality. Depending on that locality, this sea-lice risk might apply chiefly to seatrout that remain within

coastal waters in the vicinity of salmon farms, or migratory salmon post-smolt, or both. The features of the interaction however are common to all, namely:

- that it occurs in a complex marine environment subject to both short and longer term variations many of which remain largely unpredictable,
- it takes place between an obligate marine salmonid parasite and wild fish subject to ecological and population influences associated with both their immediate and wider environment (including freshwater) as well as others, often of anthropogenic origin, most of which are also unpredictable or at least not easily discernible, and
  farmed stocks also subject to variable environmental influences as well as farming practices and business models that can serve to mitigate or sometimes exacerbate the effects of these environmental influences. This variability is added to where wild fish may interact with multiple farmed stocks within an area that are subject to differing husbandry and business practices.

In early 2015, The Crown Estate in Scotland (our predecessor organisation) commissioned work from Dr Kyle Young of Aberystwyth University, a freshwater fisheries ecologist who had worked with wild fisheries interests and had experience of measures to address interactions of this nature elsewhere.

This was done as part of an attempt to pilot interactions management in several areas in Scotland under the auspices of the Interactions Working Group, one of those reporting to the Ministerial Working Group on Sustainable Aquaculture. His analysis and proposals offer both clarity and direction in this matter, as follows;

1. Uncertainty is inherent to this issue, and will continue to be so considering the features described above, which in turn necessitates an approach that accommodates the need for continuous learning to inform required management. Measures must therefore be captured within a (now increasingly cited) adaptive management framework that incorporates robust and focussed monitoring with frequent review.
2. Sea-lice on farmed fish are already closely monitored. The additional (and complementary) focus of monitoring must be on whether the sea-lice burden on wild fish in the vicinity of salmon farms is significantly increased by the presence of those farms. This is something for which the salmon farmers can clearly be held accountable and be expected to take steps to mitigate where confirmed by monitoring and analysis. The questions of the survival to maturity of wild fish in the same areas as salmon farms and/or the status of their populations in adjacent rivers are subject to various spatial and temporal variables most of which unrelated to the salmon farm presence and so unreliable as consistent indicators of interactions management efficacy. Salmon farmers should be undertaking this monitoring (collaboratively) as a matter of routine to address what is essentially a marine wildlife interaction, irrespective of the performance and status of populations of salmon and

seatrout in local rivers, and employ requisite management to mitigate it where necessary.

3. The practical monitoring of wild fish, especially migratory post-smolts, will be difficult and possibly costly but nevertheless represents an essential element of any programme to manage sea-lice related interactions between wild fish and those farmed in open cages. Any firm conclusions on appropriate management practices are only likely to emerge over time, but these may provide for measures both more cost-effective as well as biologically effective in the longer term. For example, the costs of the current threshold-based treatment strategy may be mitigated in favour of a more periodic sustained pressure approach where this appears better suited to the strategic control infestation pressures.

   It is also clear that such monitoring would be most productively achieved by close collaborative working with those interests who manage wild salmonid fisheries since information on the dynamics of wild fish populations and sea-lice infestations will be critical to both this monitoring and its interpretation in gaining oversight on how the various fish populations within a discrete biological area might interact.

The key message from Dr Young's research is that management of interaction must be by measures that embrace its uncertainties, incorporating associated accountability and reporting of outcomes for necessary stakeholder assurance. Environmental Management Plans as currently used are a starting point but arguably are lacking detail for required accountability and suitable on-going management.

Key points

- We believe an adaptive management framework that requires reviewable management plans should be included in legislative controls.
- The need to produce such plans and the associated accountability cannot be left as corporate business decisions or parts of non-statutory codes of conduct, etc. if improvements are to be consistent across industry.
- The geographic and business specific elements that will determine the detail of the measures to be incorporated in these plans clearly must originate from the developers themselves, following effective consultation with those representing the interests involved alongside an Environmental Impact Assessment process.
- This means greater collaborative working, than is perhaps currently the norm, between authorities, stakeholder interests and industry in providing effective regulation that confers the confidence sought by all parties.

Crown Estate Scotland
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