

RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SALMON FARMING IN SCOTLAND

SUBMISSION FROM DR CONOR RYAN

Evidence and thoughts from a marine zoologist, kayaker and free-diver living in the Hebrides

I am a self-employed zoologist living on the Isle of Mull. I have a BSc (hons) in zoology and a PhD on the ecology of baleen whales in the eastern North Atlantic and am the membership secretary of the European Cetacean Society. More importantly though, I am a resident of Tobermory on the Isle of Mull where the sea is source of both my employment and my enjoyment. I do open water swimming, free-diving and sea-kayaking here. In light of plans to expand the finfish aquaculture industry in Scotland I would like to raise the following concerns about predator control. Unless these issues are addressed, I am confident that current and future pressures from the salmon industry will greatly impact tourism and the amenity value of the seas around Scotland, for which this area is globally revered.

1. The “predator problem”. The manner in which most salmon farms approach mitigating against pen-raiding by seals is both flawed and vastly out of touch with societal values. Shooting seals, a protected species, without any evidence of its effectiveness at alleviating a problem is a remarkable situation. People pay to see seals in Scotland, indicating that we value them and their wellbeing. I argue that whether or not the numbers being shot is sustainable is irrelevant. The welfare of seals is a valid consideration when it comes to evaluating what is appropriate in terms of human-animal interactions. That the US Marine Mammal Act is banning Scottish farmed salmon imports due to detrimental effects on seals is evidence that my view is shared and even enshrined in law by other progressive societies.
2. Acoustic Deterrent Devices. To deter seals from raiding pens, the industry adopts a pseudo-scientific approach that would not be tolerated in comparable terrestrial industries. Devices emitting loud sounds (a form of pollution) are used throughout Scotland, despite a lack of clear and impartial evidence that they are effective. A consequence of ADD use is that other protected and non-target species are excluded from their habitats, e.g. harbour porpoises¹. We recently demonstrated that a commonly used ADD is very effective at deterring minke whales². In 2015 I estimated that 51,200 people went on whale-watching boats in the west of Scotland, mostly to see minke whales³. The whale-watching industry is worth £6 million per annum.

Dr Conor Ryan
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1. Northridge, S.P., Gordon, J.G., Booth, C., Calderan, S., Cargill, A., Coram, A., Gillespie, D., Lonergan, M. and Webb, A. 2010. Assessment of the impacts and utility of acoustic deterrent devices. Final

- Report to the Scottish Aquaculture Research Forum, Project Code SARF044. 34pp.
2. <https://www.carbontrust.com/news/2017/12/use-of-acoustic-deterrent-devices-to-safeguard-marine-mammals/>
 3. Ryan, C., Bolin, V., Shirra, L., Garrard, P., Putsey, J., Vines, J., & Hartny-Mills, L. 2017. The development and value of whale-watch tourism in the west of Scotland. *Tourism in Marine Environments*, 12(3-4), 3-4.