

## **RURAL ECONOMY AND CONNECTIVITY COMMITTEE**

### **SALMON FARMING IN SCOTLAND**

#### **SUBMISSION FROM WHALE AND DOLPHIN CONSERVATION (WDC)**

**Please note that WDC has submitted a response for questions 1 and 2 with Scottish Environment Link Marine Group/Aquaculture Sub-Group.**

**Given our area of interest, we have only focused on the sections relevant to marine mammals.**

#### **3. The farmed salmon industry is currently managing a range of fish health and environmental challenges. Do you have any views on how these might be addressed?**

The main environmental challenges marine mammals face from the farmed salmon industry are:

- 1) the use of Acoustic Deterrent Devices (ADDs)
- 2) seal shootings, and
- 3) chemical pollution

#### **ADDs:**

Around half of fish farms in Scotland are thought to use ADDs and usage is largely unregulated, including no monitoring of the effectiveness of the devices or the impact on other species (Coram *et al.*, 2016). Acoustic signals from ADDs can be detected at more than 14km from the sound source (Northridge *et al.*, 2010). ADDs have been shown to cause disturbance and habitat exclusion for a range of cetacean species that can be found in proximity to aquaculture facilities in Scotland (*e.g.*, Morton and Symonds, 2002; Olesiuk *et al.*, 2002; Booth, 2010; Northridge *et al.*, 2010, 2013; Brandt *et al.*, 2012, Lepper *et al.*, 2014; McGarry *et al.*, 2017).

Modelling of the exposure time to exceed injury criteria for seals and porpoises at given ranges from active ADDs suggest that there is a credible risk of exceeding injury criteria for both seals and porpoises (Lepper *et al.*, 2014). Furthermore, the majority of salmon farms on the west coast of Scotland are located within the candidate Inner Hebrides and Minches harbour porpoise Special Area of Conservation (cSAC), a species known to be particularly vulnerable to ADD disturbance.

#### **The impact of ADDs could be addressed by:**

- Mandatory use of passive anti-predator devices, such as tensioned nets and seal blinds. Tension nets and seal blinds would reduce seal predation whilst not having an acoustic displacement impact on harbour porpoise and other wildlife (or causing a 'dinner bell' effect for some seals).

- Any ADD use should be regulated, including the urgent production of clear, transparent and precautionary guidance around the use of existing and future ADDs, including in circumstances where ADDs could be used / not used, and if used, what conditions are needed.
- Monitoring effectiveness and impact should be a condition for use of ADDs. Clarity on the use of mitigation measures and licensing conditions is essential, to ensure consistent case by case assessment of facilities. Ensure there is no impact on the integrity of the harbour porpoise SAC.
- An Appropriate Assessment would be required for each site within the cSAC. The Appropriate Assessment(s) must include full details of the devices specifics, details of use (length of time, frequency, number of devices, *etc.*).
- Potential impacts from ADDs need to be considered cumulatively (including potential impacts from vessels associated with the fish farms and other developments) and in-combination *e.g.*, with ADDs at other sites and other marine spatial planning within the management unit of each species.
- There is the potential for disturbance to European Protected Species (EPS) so there should be EPS licensing of ADDs at fish farms.
- Siting aquaculture facilities away from important sites for seals and harbour porpoises would reduce local impacts and associated requirement for other management measures.

### **Seal shootings**

There is not an enforceable requirement for licensed marksmen to recover every carcass, meaning that the cases submitted to the Scottish Marine Animal Stranding Scheme for examination are not representative of the total number of seals shot under management licences (Brownlow and Davison, 2013). Therefore, licencing requirements, such as reporting to the SMASS and Marine Scotland are often not fulfilled.

Lethal shooting of seals (grey and harbour) is a welfare issue. It is also a conservation concern where harbour seal populations are declining or where cumulative impacts are not considered (such as bycatch (*i.e.* ICES, 2017)). Necropsied seals have shown evidence of not dying instantly after being shot, not being shot as required by the Scottish Seal Management Code of Practice Code and dead seals include pregnant and lactating females, which increases the number of deaths and raises welfare concerns for dependant seal pups (Nunny *et al.*, 2016).

The US NOAA Fisheries issued a final rule implementing import provisions of the Marine Mammal Protection Act in August 2016. The rule prohibits the intentional killing or injury of marine mammals.

### **The impact of shooting seals could be addressed by:**

- Stop the shooting of seals

- Making it a requirement for licensed marksmen to recover, tag or uniquely identify every carcass (Brownlow and Davison, 2013)
- Recovered carcasses are necropsied in order to properly assess the welfare implications of current seal shooting practice (Nunny *et al.*, 2016).

### **Chemical pollution**

WDC has concerns about the range of chemicals are used in salmon fish farming due to the treatment of sea lice and other pathogens, as well as chemicals in the equipment. Levels of some chemical pollution in marine mammals are a serious concern for example, polychlorinated biphenyls (PCBs) (previously used in antifouling compounds) burden has been linked to reproductive failure in harbour porpoise (Murphy *et al.*, 2015). Any impacts on cetaceans due to chemical pollution from salmon farming would be contrary to the ‘strict protection’ provided by the Habitats Directive.

#### **The impact of chemical pollution could be addressed by:**

- Strictly regulating the use of all chemicals until the impact(s) are fully understood.
- Undertaking monitoring to ensure there are no negative impacts on the environment.

#### **4. Do you feel that the current national collection of data on salmon operations and fish health and related matters is adequate?**

No. See WDC’s response to question 3 regarding the use of ADDs and seal shootings.

#### **5. Do you have any views on whether the regulatory regime which applies to the farmed salmon industry is sufficiently robust?**

WDC does not consider the regulatory regime to be sufficient in terms of impacts to marine mammals, as discussed in Question 3.

#### **6. Do you have any comments on how the UK’s departure from the European Union might impact on the farmed salmon sector?**

The UK’s departure for the European Union means that most of the current legislation relevant to marine mammals, which is implemented at an EU level, may be weakened (*e.g.*, Lee, 2018), which is of significant concern to WDC. In relation to salmon farms this includes the Habitats Directive, including for implementation of the strict requirements of the Special Areas of Conservation. Many salmon farms are within the cSAC on the west coast of Scotland and disturbance and displacement of cetaceans are due to ADDs.

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