

Case ref: 202100147333

12 March 2021

Dear [Redacted]

REQUEST UNDER THE ENVIRONMENTAL INFORMATION (SCOTLAND) REGULATIONS 2004 (EIRs)

Thank you for your request made by email and letter dated 18 January 2021.

Your request

You asked:

“Please find an open letter attached. It raises concerns about the methodology proposed to determine whether fish farm ADD use can pass the 3 EPS licence tests.”

Response to your request

As your request includes requests for environmental information within the terms of the Environmental Information (Scotland) Regulations 2004 (EIRs), we have considered your request under those Regulations.

We have compiled a response to your questions in Annex A. We are responding to questions 3 and 4 of your request under the Environmental Information (Scotland) Regulations 2004. Please note that questions 1, 2 and 5 to 12 are not valid requests under the Environmental Information (Scotland) Regulations 2004. Nevertheless, we are responding to all twelve of your questions within Annex A, in order to provide you with a complete response in one document.

Further information on the full range of scientific information available can be found in the Parliamentary Report delivered on the 1st March 2021 available here: [Aquaculture - Acoustic Deterrent Device \(ADD\) Use - Parliamentary Report](#)

Your right to request a review

If you are unhappy with this response to your request under the EIRs, you may ask us to carry out an internal review of the response, by writing to The Director of Marine Scotland, Area 1B South, Victoria Quay, The Shore, Edinburgh, EH6 6QQ or by emailing: Directormarinescotland@gov.scot

Your review request should explain why you are dissatisfied with this response, and should be made within 40 working days from the date when you received this letter.



We will complete the review and tell you the result, within 20 working days from the date when we receive your review request.

If you are not satisfied with the result of the review, you then have the right to appeal to the Scottish Information Commissioner. More detailed information on your appeal rights is available on the Commissioner's website at:

<http://www.itspublicknowledge.info/YourRights/Unhappywiththeresponse/AppealingtoCommissioner.aspx>

Yours sincerely

Business and Operational Delivery Section
Marine Scotland Licensing Operations Team



ANNEX A

Responses raised to question in letter from [Redacted]
January 2021

dated 18

Q1. The Akester ruling determined that Public bodies should follow the advice of Government conservation advisors. However, MS did not act on the 2017 advice from the Head of Policy and Advice at SNH that “there is sufficient evidence, both empirical and modelled, to show that ADDs can cause disturbance and displacement of cetaceans” and “there is sound, scientific evidence to expect that hearing damage, stress and masking may also occur”

“in summary, ADDs used in aquaculture are of the frequency range and level that has been shown to disturb and displace cetaceans in various scientific studies. SNH advises that the potential for these impacts are real and that the requirements for protection on these species through the Habitats Regulations need to be considered.” MS now accept that ADDs cause disturbance and can cause hearing injury, why did they not act on the SNH advice in 2017?

A1. NatureScot (previously known as Scottish Natural Heritage (SNH)) has a statutory role to provide advice to Scottish Ministers on natural heritage matters. Due consideration is given to any advice received from NatureScot before Scottish Ministers decide on the most appropriate course of action. In this specific case, NatureScot provided advice on the potential impacts of ADD use on cetaceans in July 2017. Following consideration of the advice, Scottish Government commissioned research to improve understanding of the use, impact and efficacy of ADDs in the aquaculture sector which is considered within the Scottish Government (2021) Parliamentary Report - Acoustic Deterrent Device (ADD) Use in the Aquaculture Sector available here: [Aquaculture - Acoustic Deterrent Device \(ADD\) Use - Parliamentary Report](#)

Q2. MS have extended the deadline for fish farm applications to 15th January. Will MS agree to publish the applications on your website now? If you will not, please supply a full and detailed explanation of your reasons for withholding the information from the public.

A2. This point has been addressed in response to your complaint (letter from Director of Marine Scotland, dated 23 February 2021).

Q3. Are there peer-reviewed studies which conclude that farmed salmon are susceptible to disease because they are stressed by seals close to the cages? Please provide any information you hold by email.

A3. While our aim is to provide information whenever possible, in this instance the Scottish Government does not hold the information you have requested. Therefore

we are refusing your request under the exception at regulation 10(4)(a) of the EIRs. The reason why that exception applies is explained in Annex B.

Marine Scotland is not actively involved in research relating to disease susceptibility with respect to stress triggered by predator interaction. Conducting an appropriate literature search will give a sound understanding in relation to published studies and research undertaken within this field. In addition, the following reports may be of interest to you:

<https://synergy.st-andrews.ac.uk/smru/files/2015/10/1758.pdf>

<https://cordis.europa.eu/project/id/226885/reporting>

Q4. Please provide studies commissioned by MS or SNH into the efficacy of double nets or stronger single nets as compared with ADDs and single nets?

A4. Under regulation 6(1)(b) of the EIRs, we you are not required to provide information which is already publicly available and easily accessible to you in another form or format.

In terms of studies commissioned by Marine Scotland/Scottish Government, published information is available on the Scottish Government website. Please refer to the following web link: <https://www.gov.scot/publications/>. Searching for text within the keyword search facility, for example specifying “acoustic deterrent devices”, reveals all publications made with respect to that search criteria. There are seven publications under acoustic deterrent devices and these include responses to freedom of information requests as well as work undertaken in relation to research and analysis.

Q5. MS officers are ‘accountable to the public for their decisions and actions and must submit themselves to the scrutiny necessary to ensure this’. If MS intend to grant a EPS license(s) for the use of any ADD or ASD because MS believe the device(s) will pass all three EPS licensing tests, will MS provide a full and detailed explanation of their reasons and delay decisions on those applications to allow sufficient time for public consultation and consideration of input from the public?

A5. Marine Scotland currently has no applications for EPS licences for use of ADDs at fish farms.

With regard to the question of adding a process of public consultation for each individual application, we have already written to you in our response to your complaint (letter from Director of Marine Scotland, dated 23 February 2021) on that.

Q6. MS officers have a duty to take decisions impartially, fairly and on merit using the best evidence and without discrimination or bias. Will MS henceforth base their calculations estimating the number of each species of cetaceans disturbed or injured, not on the percentage of each SCANS III assessment block where disturbance or injury occurs (as currently proposed in Annex 1 of the MS Info & FAQs) , but on the percentage of the area of each SCANS III assessment block which is important habitat for that species? Please provide full and detailed reasons for your response if it is negative.

A6. SCANS-III outputs represent the most recent synoptic estimates of cetacean absolute densities for UK waters (Hammond et al., 2017). We understand that predicted density surfaces within each SCANS block are to be published soon, which will provide absolute densities at finer spatial scales. We will keep this under review and should data or outputs become available that would provide contemporary absolute densities at finer resolution than the SCANS-III blocks we will carefully consider whether it is more appropriate to use these.

Q7. The need to apply the precautionary principle is now embedded in Scottish law. Will MS revise their calculations to reflect the 990 km² area of disturbance from Brandt's field measurements instead of the 109.17km² area predicted by the calculation? If MS will not do so please provide full and detailed reasons.

A7. The type of ADD used in the Brandt et al. (2012) study (Lofitech) is not used by Scottish fish farms (Scottish Government 2021). Therefore we do not believe it is appropriate for the area of disturbance from the Brandt field measurement to be used for assessment of ADDs at Scottish farms.

Q8. In deciding whether cetacean species will be maintained at or restored to FCS how does MS intend to allow for each of the 9 factors listed in this document under the heading Favourable Conservation Status EPS licence test? Please explain fully and in detail what allowance will be made for each factor.

a) The model underestimates the disturbance and injury areas when compared to field studies.

As noted in our response to question 7, the field studies referred to in your correspondence (dated 18 January 2021) use an ADD type that is not in use at Scottish fish farms. The disturbance and injury zones provided in the [Marine Scotland Information Note and Frequently Asked Questions for the Operators of Finfish Farms on the use of Acoustic Deterrent Devices and the Requirement for a European Protected Species Licence](#) are not based on this device and are not comparable with the studies referenced in your correspondence.

b) *It incorrectly assumes that cetaceans are evenly distributed over the whole area of each block, this is demonstrably not the case and is discussed in more depth below.*

Please see our response to question 6.

c) *No account is taken of ADDs affecting access to sea lochs, migration routes and nursery areas. There is clear evidence from Findlay et al (2018) that widespread and increasing ADD noise pollution is affecting important migration routes including the Sounds of Mull, Sleat and Raasay.*

Findlay et al. (2018) do not present any evidence regarding the effect of ADD use on migration, or on exclusion of animals from sea lochs. The study provides an overview of the location of ADD usage on the west coast of Scotland over an 11 year period. Marine Scotland is not aware of any published evidence establishing that the use of ADDs is impacting on the migration routes of marine mammals in the UK.

d) *An ADD within a narrow sound may well block a large area of sealoach to cetaceans, disproportionate to the area of sea ensonified. Our sightings records indicate that the ADDs at BDNC exclude cetaceans from a large area of sea loch, formerly an important nursery area, and bottle nose dolphins (BND) now infrequently use Cuan Sound, in comparison to sightings prior to ADD use.*

We do not agree with the assertion that there is evidence that ADDs have excluded bottlenose dolphins from areas of the west coast of Scotland. The population of bottlenose dolphins using the west coast of Scotland is very small (ca. 45 individuals; Cheney et al., 2012), with only approximately 25 individuals thought to be using the Inner Hebrides and western mainland areas (Thompson et al., 2011). This population is highly mobile, therefore small scale shifts in range are not unlikely with such a wide ranging population (Thompson et al., 2011). There may a number of reasons these animals choose to use other areas of the west coast within their known range, unrelated to the use of ADDs.

We refer to an email from Marine Scotland on 5 March 2020 offering to organise a meeting between Mr and Mrs Ainsley, Marine Scotland Science and the Marine Scotland Licensing Operations Team to discuss issues raised. We would be pleased to discuss the sighting data you have collected and how this can be utilised at such a meeting.

e) Maintenance of, or restoration to FCS depends on all the negative impacts on cetaceans. The model does not allow for the cumulative effect of chemical pollution, loss of food supply due to overfishing and climate change, entanglement, shipping noise and sewage pathogens (Cetaceans are susceptible to human disease).

Marine Scotland receives advice from NatureScot on the favourable conservation status (FCS) of the species concerned. In providing this advice, NatureScot may also consider additional impact pathways as part of the baseline. We suggest that you contact NatureScot for further information in relation to this.

f) The model uses 120dB as a threshold for disturbance, whereas 2 recent studies by Kok and Mikkleson recorded disturbance at 100dB and Brandt found 96% of porpoises to be displaced at 113dB. Although some dB values may not be directly comparable, these field measurements indicate that 120dB is not precautionary and there is a need to determine the precise level at which cetaceans are not disturbed. The 120 dB level is for non-impulsive noise, this is discussed later.

The threshold of 120 dB re 1 μ Pa (rms) is a precautionary level to set for the onset of disturbance for non-impulsive sounds, based upon guidance from the National Oceanic and Atmospheric Administration (NOAA West Coast Region) for level B harassment, while the injury criteria used (NMFS, 2018) are based on the best available science and are used as standard worldwide. Given that we consider the disturbance threshold to be precautionary, we do not agree that there is a need to determine a precise level at which cetaceans are not disturbed.

g) The model does not consider Temporary Threshold Shift (TTS) hearing injury, which has a threshold of 142 dB would be counted as injury by German authorities, and leads to PTS if repeated. The study does not account for the effect on life expectancy of hearing loss due to medium to long term exposure to ADD noise.

There is no evidence of the effects of permanent threshold shift (PTS) on life history parameters. Marine Scotland does not consider temporary changes to hearing thresholds to be injury.

h) It does not consider whether cetacean species are at FCS by comparison to historic levels, for example west coast orca will soon be extinct. The methodology does not consider what special provisions should be made to restore all cetacean species to FCS.

Marine Scotland receives advice from NatureScot on the FCS of the species concerned. In providing this advice NatureScot may consider historic

information on populations and provisions for restoring populations to FCS. We suggest that you contact NatureScot for further information on this.

- i) *The model does not take into account that most farms use multiple ADDs and that the potential for hearing injury increases pro rata with the number of ADDs used*

As the number of ADDs increases, the areas in which impacts may be expected will increase. However, if multiple ADDs are located within a particular area, their impact zones are likely to overlap. The [Marine Scotland Information Note and Frequently Asked Questions for the Operators of Finfish Farms on the use of Acoustic Deterrent Devices and the Requirement for a European Protected Species Licence](#) details that a cumulative impact assessment, which considers multiple ADDs, must be submitted in support of any EPS licence application.

Q9. For farms within the Inner Hebrides and Minches SAC appropriate assessments will need to be carried out to meet the requirements of Article 6(3) of the Habitats Directive. It will need to be proven beyond reasonable scientific doubt that the use of ADDs does not negatively affect the integrity of the SAC. The Sweetman case determined that damage to a small part of a site would have a negative impact on site integrity. Does MS agree that ADD(s) which acoustically restrict a sound used for migration would negatively impact the integrity of the SAC? Please give a full and detailed explanation of your reasons if the answer is that the ADD(s) would not negatively impact the SAC.

A9. As part of the processing of all EPS licence applications, Marine Scotland completes appropriate assessments if it is determined that there will be a likely significant effect upon a SAC, and this would be considered in relation to any such applications relating to the Inner Hebrides and Minches SAC. As part of the EPS decision-making process, appropriate assessments are completed in consultation with NatureScot. If and when an EPS licence application is received, appropriate assessments will be carried out.

Q10. Given recent evidence in studies by Kok, Mikklesen and Brandt that porpoise are disturbed at around 100dB and displaced at 113dB, and the need under Scottish legislation to apply the precautionary principle, do MS agree that 120dB is not sufficiently precautionary, and based on field studies, at what received level of sound measured in dB re 1µPa (RMS) would you consider no porpoise would be disturbed? Please give a full and detailed explanation of your reasons.

A10. Marine Scotland does not consider that the studies referred to demonstrate that 120 dB re1 µPa (rms) is insufficiently precautionary to determine a threshold for disturbance. In order to meet the tests for EPS licensing, an activity must not impact on the favourable conservation status of the species concerned.

Q11. In Germany, but not in the UK, Temporary Threshold Shift (TTS) is considered an injury (BMU 2014). A simulated ADD caused a TTS in porpoise with onset at 142 dB. Do MS agree that repeated TTS can lead to PTS and that a reliance on PTS alone will underestimate the number of cetaceans injured?

A11. Please see our response to point 8g. The Southall et al. (2007) review defines injury as PTS, and this has been adopted by JNCC in the UK (JNCC 2010).

There is no standard to assess whether, or how many animals may experience PTS as a result of TTS and limited evidence to support this occurring for marine mammals. Indeed, from a physiological perspective, the two types of threshold shift are mechanistically different (Nordmann et al., 2000).

Q12. Will MS update their Info & FAQs to make it clear that any ADD with a source level of greater than 176 dB re 1 μ Pa m (measured over the frequency band 10 Hz to 10 kHz) should be included in the MNR, regardless of whether it can strictly be defined as an impulsive source? If the answer is negative, please supply a full and detailed explanation of your reasons.

A12. The Marine Noise Registry (MNR) is the means by which impulsive noise is monitored under the Marine Strategy Framework Directive (MSFD). The legislation requiring this monitoring refers specifically to impulsive noise, and so it would not be appropriate to include non-impulsive noise sources in the registry. Under the MSFD, continuous noise is monitored through noise monitoring and mapping (see [D11 Energy and Noise \(europa.eu\)](#)). There are currently ongoing discussion on MNR and inclusion of ADDs on the system, and Marine Scotland will update the relevant advice as appropriate should changes be agreed.

References

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ANNEX B**REASON FOR NOT PROVIDING INFORMATION**The Scottish Government does not hold the information requested

Under the terms of the exception in regulation 10(4)(a) of the EIRs (information not held), the Scottish Government is not required to provide information which it does not have. The Scottish Government does not have the information you have requested regarding peer-reviewed studies.

This exception is subject to the 'public interest test'. Therefore, taking account of all the circumstances of this case, we have considered if the public interest in disclosing the information outweighs the public interest in applying the exception. We have found that, on balance, the public interest lies in favour of upholding the exception. While we recognise that there may be some public interest in peer-reviewed studies of this type, we cannot provide information which we do not hold.