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*(Please note, this line is not
active during COVID-19)*

E:

ms.marinelicensing@gov.scot

Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)

Application for a licence to disturb or injure marine European protected species (EPS) for one of the following purposes

- For preserving public health or public safety
- For an imperative reason of overriding public interest (including those of a social or economic nature and beneficial consequences of primary importance for the environment)
- For preventing the spread of disease
- For preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property, or to fisheries.

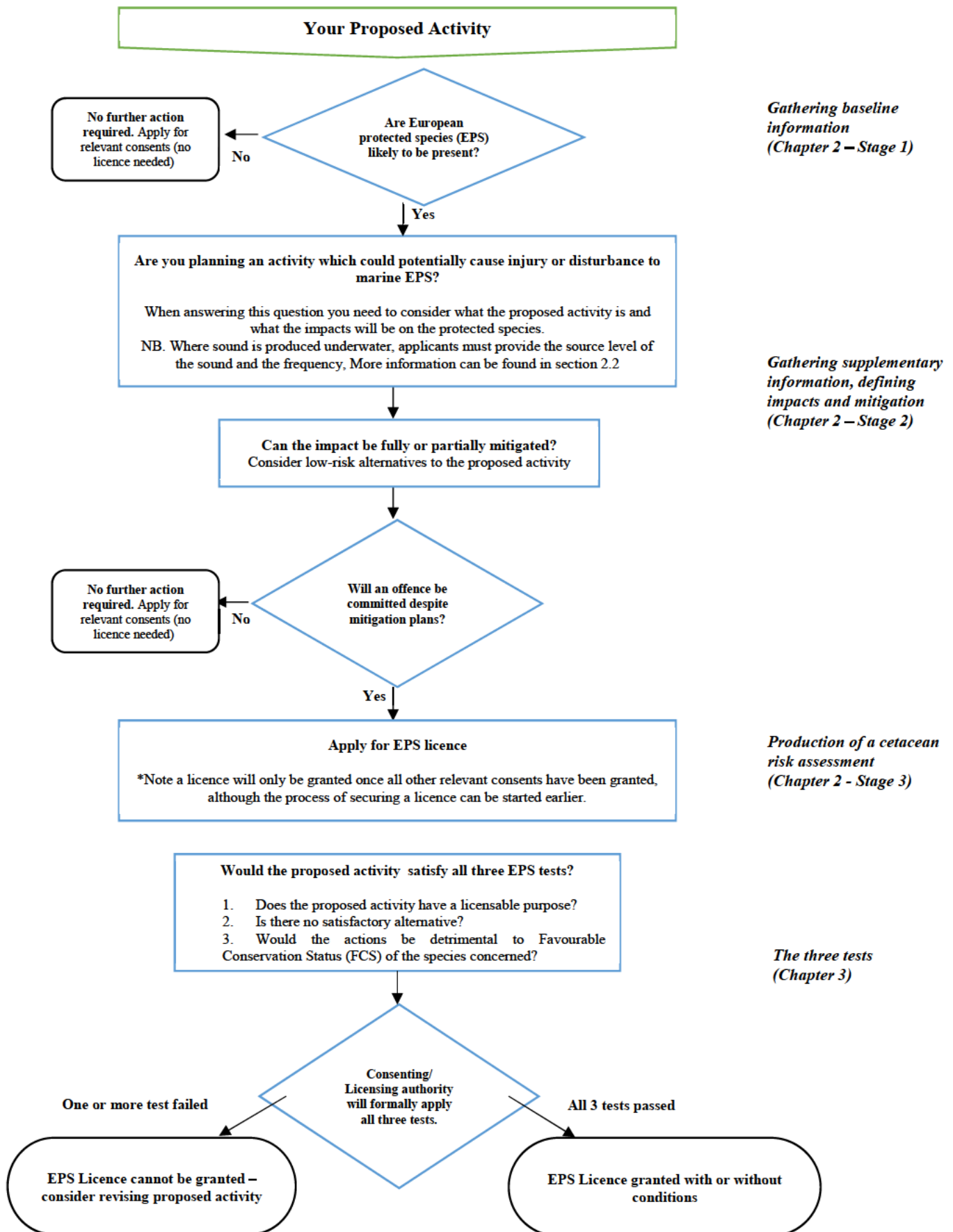
Please use this application form if you wish to undertake works/activities that would affect European protected species in the Scottish inshore marine area (0 – 12nm).

IMPORTANT: Before completing this form, please read these notes carefully

Applicants are advised to read these notes in conjunction with [The Protection of Marine European Protected Species from injury and disturbance: Guidance for Scottish Inshore Waters](#). If further clarification is needed please contact Marine Scotland Licensing Operations Team (MS-LOT) via email: ms.marinelicensing@gov.scot

Flowchart showing the decision-making process

Please refer to the relevant chapter of the guidance



Please complete all relevant sections of the form.

Please ensure that you answer questions fully in order to avoid delays.

The completed application should be sent to Marine Scotland Licensing Operations Team (MS-LOT) at the address below or emailed to ms.marinelicensing@gov.scot.

We will not process unsigned application forms.

Please ensure that you provide appropriate information to support your application. Applicants can provide this supporting information in the form of an EPS Risk Assessment. Guidance can be found in [The Protection of Marine European Protected Species from injury and disturbance: Guidance for Scottish Inshore Waters](#). Please contact MS-LOT if you wish to discuss the level of supporting documentation required for your application. Failure to provide sufficient supporting information may delay the consultation and licensing process.

MS-LOT will aim to determine whether a licence should be issued **within 6 to 8 weeks of acceptance of a completed application**. However, please note that for large scale or complex projects, the determination period may be longer.

If you experience any problems filling in this form, please contact MS-LOT.

Please use this application form if you wish to undertake works/activities that would affect European protected species in the Scottish marine area (0 – 12nm).

Please note that European protected species are also protected in the offshore marine environment (between 12 and 200 nautical miles). Species in this area are protected under The Conservation of Offshore Marine Habitats and Species Regulations 2017.

Do not use this form if your application relates to scientific, research, conservation or educational purposes. Please contact NatureScot (NatureScot Licensing, Great Glen House, Leachkin Road, Inverness IV3 8NW, Telephone 01463 725000, email licensing@nature.scot or visit [their website](#)) for a licence application for these purposes. NatureScot also issues licences for the purposes of marking animals or plants in relation to conservation or introducing them to particular areas for conserving natural habitats, and for protecting zoological or botanical collections.

Before a licence can be granted, it is essential that other relevant licences or consents have been secured for the proposed activity (eg Marine licence).

It is the responsibility of the applicant to obtain any other consents or authorisations that may be required.

Part A

Section 1 Personal details

Please provide details of the individual, company or partnership you wish to be named on the licence. The licensee is responsible for ensuring compliance with the licence and its conditions. Under the Conservation (Natural Habitats) Regulations 1994 (as amended) it is an offence to fail to comply with the terms and conditions of a licence.

Section 2 Previous applications

Please provide details of any previous relevant licences.

Part B
Section 3

Species

Please provide details of the species that will be affected by the work, the number likely to be affected and a description of how this number was determined. This information can be described in detail in your supporting information. You will need to provide detailed proposals (to be included in the 'Supporting information') of all the mitigation work that you plan to carry out which will affect European protected species.

Location

Describe the location of the proposed works. Include a list of the latitude and longitude co-ordinates (WGS84) of the boundary points of the proposed project. WGS84 is the World Geodetic System 1984 and the reference co-ordinate system used for marine licence applications. Co-ordinates taken from GPS equipment should be set to WGS84. Coordinates taken from recent admiralty charts will be on a WGS84 compatible datum. Ordnance survey maps do not use WGS84. In a few cases, (e.g. laying of cables or pipelines) it may only be practicable to supply co-ordinates for the start and end points.

Example: For positions read from charts the format should be as in the example: 55°55.555'N 002°22.222'W (WGS84). The decimal point specifies that decimals of minutes are used and the datum is stated explicitly. If seconds are used then the format should be as in the example: 55°55'44"N 2°22'11"W (WGS84).

It is important that the correct positions, in the correct format, are included with this application, as any errors will result in the application being refused or delayed.

Section 4 Consideration of designated sites

Please provide details of any designated sites affected by your proposals. You are advised to consult NatureScot, or other appropriate regulator, if the work you propose to do affects a Natura site, an MPA or a Site of Special Scientific Interest.

Section 5 Activities to be licensed

Please indicate the activities you intend to undertake that would otherwise be unlawful. Provide details of the proposed commencement and completion dates of the activities. **The licence start date will not be backdated, since to commence a project for which a licence has not been obtained may constitute an offence resulting in appropriate legal action.**

It is the licensee's responsibility to apply for any further licences or an extension prior to the expiry of the initial licence.

Section 6 Purpose of the licence application

Please indicate the purpose of the licence application, the first of the legal tests.

Please complete the relevant Annex to provide justification for the licensing purpose. This is the [legal basis of the application](#).

Section 7 Satisfactory alternatives

Please provide your consideration of why there is no satisfactory alternative. This must include all other options that have been evaluated, the alternative sites that were considered by you and why they were rejected (if no other sites were considered, you must provide the reasons why), as well as all alternative methods of carrying out the work and alternatives dates / timings.

In relation to each alternative considered, please provide an explanation of why you consider it to be satisfactory or unsatisfactory. In respect of any alternative sites please provide the location(s) and details of the alternative site(s), or your views on how the activity/proposal might have been achieved differently, and any other helpful information; e.g., pros and cons of alternative sites, or whether there is likely to be demand for all suitable sites to be used to meet an identified need. Please explain how this conclusion was reached.

Section 8 Summary of the planning / licensing position

Detail all consents and licences required for the proposed project and indicate those that you have applied for or received.

Section 9 Noise Monitoring

Under the Marine Strategy Regulations (2010), there is now a requirement to monitor loud, low to mid frequency (10Hz to 10kHz) impulsive noise. This includes use of seismic airguns, other geophysical surveys (<10kHz), pile driving, explosives and certain acoustic deterrent devices. This monitoring requires completion of a form at the application stage (giving details of the proposed work) as well as completion of a 'close-out' form (giving details of the actual dates and locations where the activities occurred). The close-out form should be returned within 12 weeks of completing the 'noisy' activity or, in the case of prolonged activities such as piling for harbour construction or wind farms, at quarterly intervals or after each phase of foundation installation.

These forms are available at: <https://mnr.jncc.gov.uk/>

Part D

Section 10 Declaration and warning

It is important to read the Declaration and Warning sections before signing the application form.

Site visits and compliance checks

It is possible that the licensing authority may undertake a site visit prior to the issue of a licence. The majority of site visits will be arranged several days in advance and will be conducted in the presence of the licensee (or applicant) however there may be occasions when a site visit will be made at short notice.

Licensees should be aware that they may receive a request for a site visit by the licensing authority, or a person authorised by the licensing authority, to assess site conditions against the conditions of the licence. It is essential that if any of the agreed mitigation measures contained in the application and supporting information are changed for any reason, the licensing authority is informed as soon as possible.

The Licensing authority will monitor compliance with licences issued based on the information included in licence reports.

Where to seek further information

Further information can be obtained from Licensing Operations Team at the address below.

If your proposal relates to one of the purposes for which NatureScot is the licensing authority, please contact your local office of NatureScot.

Licensing Operations Team
Marine Scotland
375 Victoria Road
Aberdeen
AB11 9DB

Email: MS.marinelicensing@gov.scot

Disclaimer

While every effort has been made to ensure the information contained in this document is accurate, nothing in this document should be taken to replace the current legislation in force at this time. You are advised to obtain qualified legal advice in relation to your rights and responsibilities under the 1994 Regulations and other legislation.

Part A. The Applicant: Personal details

These questions relate to the person who will be the **named licensee**. The licence can be issued to an individual or a company or a partnership and the licensee will be responsible for ensuring compliance with the licence and the conditions of the licence. Under the Conservation (Natural Habitats) Regulations 1994 (as amended) it is an offence to fail to comply with any condition imposed by a licence.

1. Name of applicant

Title: Forename(s): Surname:

Company Name:

Business Title (if Appropriate):

Address:

Tel no. (inc. dialling code):

Email address:

2. The Applicant: Previous applications:

Have you previously held a wildlife licence issued in the UK? (please tick as appropriate)

Yes ☒ No ☐ (If yes, please complete below, if no, please go to Part B)

Who issued the licence?

Licence number (most recent licence)

Year in which the licence was issued.

What species were covered by the licence?

What activity was covered by the licence e.g. disturb, injure?

Part B. The Application

3. Species

(a) Please indicate which species is / are affected by the proposed works.

Common name(s): Harbour porpoise
Minke whale

Scientific name(s) Phocoena phocoena
Baleanoptera acutorostrata

(b) How many individual animals will be affected by licensed work?

Up to 2.6 individual Harbour porpoise may potentially be disturbed by the proposed activity. This equates to 0.046% of the estimated population present in the region, based on SCANS III density estimates. Less than one individual Minke whale may be potentially be disturbed.

Please provide a description of how this number was calculated / estimated

The estimated number of individuals that could be affected by the activity has been derived from SCANS III (Hammond et al. 2017) and activity-specific sound assessment for the Clashnessie Bay site. SCANS III has been used to identify species which may be present in the area and has used estimated animal density for SCANS III Block I which the site falls within. Based on Functional Hearing Groups (FHGs) of the species present, disturbance and hearing-injury (PTS) zones have been predicted for the proposed activity using the example approach outlined in the MS guidance note. The estimated number of individuals affected has been assessed using the SCANS III animal density for Block I and the predicted area of impact with respect to disturbance and onset of cumulative PTS. Full details are provided in the accompanying Risk Assessment.

(c) Location of proposed licensed action

Latitude and Longitude co-ordinates (WGS84) defining the extent of the project. Please continue on a separate sheet if necessary.

LATITUDE										LONGITUDE										
5	8	°	1	5	.	0	2	0	'N	0	0	5	°	1	5	.	9	4	1	'W
5	8	°	1	4	.	9	7	0	'N	0	0	5	°	1	5	.	9	1	0	'W
5	8	°	1	4	.	9	0	2	'N	0	0	5	°	1	6	.	2	9	8	'W
5	8	°	1	4	.	9	5	3	'N	0	0	5	°	1	6	.	3	2	9	'W
		°			.				'N				°			.				'W
		°			.				'N				°			.				'W
		°			.				'N				°			.				'W
		°			.				'N				°			.				'W

- (d) Provide a brief description of the proposed activity and the methods to be used.
Detailed information should be included in your Supporting Information
Please provide details of the source levels and frequencies of underwater noise if relevant

A form of 'Acoustic Deterrent Device' (ADD), Ace Aquatec's Acoustic Startle Response (ASR) devices US3 and RT1 Flex, are proposed to be available for use during stocked periods at the Clashnessie Bay marine farm (Authorisation Number FS0933). These devices function to deter seal predation and interaction with the farm and its livestock via sound-producing units deployed sub-surface immediately at the farm site (fixed to the farm infrastructure). Details of source levels and frequencies are provided in Annex E accompanying this application.

- (e) Briefly state how you will minimise the impact of your proposed work on European protected species.
Detailed information should be included in your Supporting Information.

ADDs are to be used only during periods when livestock are present on the farm, and use level will be adapted to the minimum level possible to achieve protection of the farm from seal interactions. To assist in achieving this other best practice methods are used including: regular removal of any fallen/moribund stock to deter seal interest (target is daily removal), low stocking densities (reducing ease of access to livestock), tensioning of high-quality HDPE pen-net materials as a physical barrier between livestock and predators, and 'above water' nets (top-nets) secured to each pen unit. These measures are employed from the very start of the farming cycle to minimise seal interest in the farm, therefore minimising the level of ADD use.

When in use the proposed ADD systems operate with negligible risk of injury to marine mammals due to the extremely low duty cycles used (maximum 5%) and sound characteristics of the proposed ASR systems; this utilises brief bursts of sounds, with long periods of silence, to elicit a startle response in seals approaching the farm, encouraging them to move away. Further detailed information is provided in Annex E and supporting information accompanying this application.

Additionally, devices will be deactivated in the following circumstances:

Site fallow

No seal interaction evident i.e. no cues such as seals swimming around the farm, changes in fish behaviour or evidence of actual attack

Emergency situation where a cetacean is present in the immediate area of the farm

Evidence that devices have reduced efficacy in preventing seal interaction with the farm i.e. interactions are increasing over a period of time despite ADD use

4. Consideration of designated sites

Designated Areas: National Nature Reserves (NNR), Sites of Specific Scientific Interest (SSSI), Special Protection Area (SPA), Special Areas of Conservation (SAC), Ramsar sites, Marine Protected Areas (MPA). Information on designated sites is available on NatureScot website <https://sitelink.nature.scot/home> or from your local NatureScot office.

- (a) Will any part of the proposed activity fall within /or adjacent to an area covered by a designated site eg SSSI, SAC, MPA? Yes ☐ No ☒
- (b) Please give the name of the designated site(s) and either the outcome of your consultations or the reason why you have not consulted (see note 4). Please enclose any relevant correspondence.

Site FS0933 is not located within a designated area for EPS, and as such no consultation has been undertaken.

Sound modeling for the proposed setups shows the largest impact radius to be under 2.5km, outwith the nearest designated area of the Inner Hebrides & The Minches SAC, designated for Harbour porpoise, which lies some 7.2km to the west (measured as direct over-land distance from the westernmost extremity of the farms' mooring grid to the nearest point of the SAC).

5. Activities to be Licenced

Proposed Methods

(a) Please complete all relevant columns in the table below to indicate the methods you propose to use, the activity involved and the time period in which you propose to use each method. This information will be used when preparing the licence to cover activities that would otherwise be unlawful, and failure to give full details may result in an inappropriate licence being issued.

Activity to be licensed (please tick)					Time period	
Capture	Kill (exceptional circumstances only)	Injure	Transport	Disturb/ Harass	Method to be used, (e.g. piling)	From To
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use of Acoustic Deterrent Devices	22 month farming cycle + (duration of cycle) +
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

6. Purposes of the licence application (tick one box only)

A licence can only be issued if 3 specific legal tests are met. The section below relates to the first of these tests. The options shown are taken from the **Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)**.

Please indicate which purpose relates to the proposed works

(a) Preserving public health or public safety (we will require evidence that there is a risk to public health or public safety e.g. an imminent risk of flooding) Regulation 44(2)(e) ☐

Complete Annex A

(b) Imperative reasons of overriding public interest (including those of a social or economic nature and beneficial consequences of primary importance for the environment) Regulation 44(2)(e) ☐

Complete Annex B

(c) Preventing the spread of disease Regulation 44(2)(f) ☐

Complete Annex C

(d) Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property, or to fisheries Regulation 44(2)(g). ☒

Complete Annex D

(e) If you wish to use acoustic deterrent devices to protect fish farm sites in Scottish waters, you must also complete Annex E. ☒

Complete Annex E

7. Satisfactory alternatives

This relates to the second of the legal tests which must be satisfied. Please explain why there is no satisfactory alternative to carrying out the proposed work affecting the species. You must describe all possible alternatives which were considered and why they were considered unsuitable. You must also consider the option of not undertaking the work. **It is not acceptable to state that 'there is no alternative'.** Please continue on a separate sheet if necessary.

Alternative siting of activity:

The location this application relates to is an existing marine farm facility, located outwith areas designated for cetacean conservation. Development of farm facilities takes into account many factors including hydrographic suitability, fish health management, environmental interactions and other marine users. The site is suggested to be suitable in these respects, having operated for many years. To relocate activity to an alternative site would not be preferable on many counts (including fish health management and benthic impacts) and within the operational area would displace activity. As such, alternative sites for the activity have not been considered further.

Alternative methods for carrying out the work:

The purpose of ADD use at the farm is to deter seal interaction with livestock. As per 3(e) proposed ADD use is part of a suite of predation-mitigation measures which include regular removal of fallen/moribund stock, low stocking densities, tensioned HDPE pen-nets and top-nets to reduce seal interest in the farm from the very start of the production cycle. These additional methods do not however provide a satisfactory alternative to ADDs, rather they are complementary measures which help minimise the level of ADD use. As an audible deterrent to seals ADDs have a different mode of action to physical barriers and reduction of attractants (e.g. stocking density and removal of fallen/moribund stock), and function to help keep seals away from pen nets. This is a critical function, which as well as preventing direct predation events and reducing the likelihood of seals establishing a pattern of interaction with a farm, also mitigates the sub-lethal effects on livestock from seals. These sub-lethal effects are due to stress and flight behaviour caused by seal presence around a farm - even if direct predation does not occur - and have significant negative impacts on farm productivity (e.g. reduced feeding, growth and survival), fish health (e.g. physical damage, disease and parasite risk increased), fish welfare and ultimately sustainability through reduced productivity and challenging fish health management. As such the use of underwater sound-producing devices to deter seal interaction with farm livestock is an important tool within the suite of predation-mitigation measures, and with a unique mode of action, no satisfactory alternative is available.

Alternative dates/timings:

To function effectively in deterring seal interaction ADDs need to be available for use whenever livestock are present on a farm. Details of the proposed dates, coinciding with the stocking plan for the site, are provided in Annex E. Within stocked periods the overall suite of predation-mitigation measures, as outlined above, will allow for ADD use to be minimised. Further details are provided in Annex E.

8. Other Licences / Consents

Please detail below all licences / consents you have applied for or received. **Before a licence can be granted, it is essential that other relevant licences or consents have been secured for the proposed activity (eg Marine licence).**

Type of Licence / Consent (e.g. Marine Licence, Local Planning Authority, Local Works Licence)	Date Applied for	Reference no.	Date of issue of licence / consent
Marine License Planning Permission CAR License	Latest variation 24/07/20 Latest variation 9/6/20 Latest variation 31/12/19	MS-00008937 20/02128/FUL CAR/L/1015768	01/12/20 14/08/20 11/08/20

9. Noise Monitoring

Please indicate if any of the following noise generating activities will be taking place during the operations:

- | | |
|---|-------------------------------------|
| Use of explosives | <input type="checkbox"/> |
| Piling | <input type="checkbox"/> |
| Use of Acoustic Deterrent Devices | <input checked="" type="checkbox"/> |
| Survey equipment operating in the range 10 Hz – 10kHz | <input type="checkbox"/> |

If you have ticked any of the above boxes please complete a Proposed Activity form in the Marine Noise Registry at: <https://mnr.incc.gov.uk/>.

Please note the form must only be completed once for each activity. If you have already completed a form for this activity (eg through the marine licensing process) please give details.

Loch Duart Ltd

EPS licence applications will not be accepted until this form has been completed and submitted

Have you remembered to enclose Supporting Information with your application, as described in the accompanying guidance? Please check

- | | |
|--|-------------------------------------|
| Completed Application form | <input checked="" type="checkbox"/> |
| Completed Annex | <input checked="" type="checkbox"/> |
| Map / Chart | <input checked="" type="checkbox"/> |
| Correct co-ordinates | <input checked="" type="checkbox"/> |
| Additional information / EPS risk assessment | <input checked="" type="checkbox"/> |

Part C. Declarations

10. I have read and understand the guidance provided in this application form. I declare that the particulars given are correct to the best of my knowledge and belief, and I apply for a licence in accordance with these particulars.

I authorise employees or representatives of the Scottish Ministers to enter the site which is subject to this application for the purpose of monitoring and inspecting the permitted works.

Warning

Under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) it is an offence to fail to comply with the conditions imposed by a licence. The licensee is responsible for ensuring compliance with the licence.

The Scottish Ministers can modify or revoke a licence at any time, provided there are good reasons. Any licence that may be issued is likely to be revoked immediately if it is discovered that false information was provided and resulted in the issue of a licence.

Under the Conservation (Natural Habitats, &c.) Regulations 1994, any person who in order to obtain a licence knowingly or recklessly makes a statement or representation, or furnishes a document or information which is false in a material particular, shall be guilty of an offence and may be liable to criminal prosecution. Any person found guilty of such offences is liable on summary conviction to imprisonment for a term not exceeding six months or to a fine not exceeding level 5 on the standard scale, or to both imprisonment and a fine.

Note: Previous convictions for wildlife offences will be taken into account and in some cases may mean that the Scottish Ministers do not consider it appropriate to grant a licence.

Signature of the
Applicant

[Redacted Signature]

Date 03/10/2022

(The person named at part 1)

Name in BLOCK
LETTERS

[Redacted Name] ON BEHALF OF LOCH DUART LTD

Note – If signing on behalf of a company, please append your signature with “on behalf of *Company Name*”.

The completed application should be signed and sent to Marine Scotland Licensing Operations Team (MS-LOT) at the address below or emailed to MS.Marinelicensing@gov.scot

Please remember to include all supporting information.

Licensing Operations Team
Marine Scotland
EPS Division
375 Victoria Road
Aberdeen
AB11 9DB

Disclaimer

While every effort has been made to ensure the information contained in this document is accurate, nothing in this document should be taken to replace the current legislation in force at this time. You are advised to obtain qualified legal advice in relation to your rights and responsibilities under the 1994 Regulations and other legislation.

Marine Laboratory, 375 Victoria Road,
Aberdeen AB11 9DB
Version 3.0 October 2020



Annex A

Only to be completed if you selected *for Preserving public health or public safety* in Question 6 of the application form

Please complete all questions

Give details of the risk to public health or safety

How has the risk been identified. Please give details of any expert advice received.

How will the proposed activity address the identified risk

Annex B

Only to be completed if you selected for *Imperative reasons of overriding public interest (including those of a social or economic nature and beneficial consequences of primary importance for the environment)* in Question 6 of the application form

Please complete all questions

What benefits will be provided by the proposed activity? Give details and indicate if they are social, economic or environmental. Please indicate if the benefits are short or long term.

What public interest will be served? Who will benefit from the proposed activity? Does the proposed activity address a need?

Why is it imperative the proposed activity goes ahead?

Does the proposed activity support any local regional or national policies? Please give details. Are you fulfilling a statutory role?

Annex C

Only to be completed if you selected for *Preventing the spread of disease* in Question 6 of the application form

Please complete all questions

What disease(s) is / are at risk of being spread if the proposed activity does not go ahead? Please give details of any expert advice received.

How will the proposed activity prevent the spread of disease? Please give details of any expert advice received.

Annex D

Only to be completed if you selected for *Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property, or to fisheries* in Question 6 of the application form.

Please complete all questions

What serious damage has occurred or will occur if the proposed activity does not go ahead. Please give details of any expert advice received.

The purpose of ADD use is to deter seal interaction with livestock, which is a known occurrence at site FS00933. Damage at the site has taken the form of direct injury to fish leading to death or subsequent need to cull injured livestock. A single seal attack event can cause several hundred fish mortalities in a 24hr period. Additionally, there are sub-lethal effects on livestock due to stress and flight behaviour caused by seal presence around a farm. This has significant negative impacts on farm productivity (e.g. reduced feeding, growth and survival), fish health (e.g. physical damage, disease and parasite risk increased), fish welfare and ultimately sustainability through reduced productivity and challenging fish health management. Both lethal and sub-lethal impacts are currently being experienced at the site, with onset being earlier than the previous two cycles (5 months post smolt-input); ADD use helps deter this early seal interest in the farm, reducing the likelihood of escalation throughout the cycle. Farm equipment (e.g. pen nets) may also be damaged, which is both a commercial and environmental issue should containment be compromised.

Expert advice is received in the form of a designated third-party Veterinary surgeon for all farm sites. Seal interaction has been known to affect health management such as sea lice treatments, with in-feed treatment courses stopped under veterinary direction due to seal impacts on fish behaviour. Monitoring and prevention of seal interaction is included in the farm's live Veterinary Health & Welfare Plan which is reviewed on a regular basis to ensure suitable predator deterrent measures are in place to mitigate impacts on fish health and welfare, and signed off annually by the designated veterinarian. Furthermore, implementation of effective predator deterrents is included in the RSPCA's Welfare Standards for Farmed Atlantic Salmon, which site FS0933 is inspected and assessed under.

How will the proposed activity prevent serious damage? Please give details of any expert advice received.

Use of the proposed ADDs will reduce the risk of seal interaction with the farm by acting as an audible deterrent. The devices proposed are ASRs (Acoustic Startle Response), which provoke a startle response in seals to deter interest in the farm infrastructure and livestock. Without seals approaching the farm and establishing a pattern of interaction, direct injury to fish or damage to nets will be avoided and sub-lethal impacts due to stress reaction in the farm livestock from seal harassment will also be mitigated.

In terms of specification of the proposed ADD setups expert advice has been received from the device developers, Ace Aquatec, to determine a layout that will provide appropriate coverage at site FS0933. Verification of device efficacy in deterring seal predation is also available - an in-field study of ADD efficacy at marine farms (Whyte MSc Thesis, 2015) concluded that Ace Aquatec ASR devices resulted in an average 70% reduction in direct fish mortalities from seal interaction at the sites studied.

Annex E

Only to be completed if you intend to operate ADDs at marine fish farm sites in Scotland

Please complete a copy of this annex for each individual site included on your application

Please complete all questions

Site name and ID (FS number)

Clashnessie Bay FS0933

Device Type 1

Device Details

Device name (and version if relevant)

Ace Aquatec US3 acoustic startle response (ASR) mid-frequency device.

Ace Aquatec ASR systems have been developed with Scottish SMART support to reduce impacts on non-target species while maximising the startle response on seals. This technology utilises brief bursts of sounds, with long periods of silence, which elicits a startle response in seals.

Number of devices proposed

Eight US3 units (location as defined in 3 (c))

Source level of device (rms and SPLpeak)

Average within a transmission: 181dB re1uPa rms @ 1m; SPLpeak 190dB + 3 = 193dB re1uPa @ 1m

Typical frequency content

8 - 11kHz (randomised sound patterns with a frequency spread of 8-11kHz; fundamentals at 9.5kHz)

Please give details of the proposed duty cycle (or available settings) including the system duty cycle

Adjustable duty cycle, 0.7% - 5% or 12 - 144 sounding events per hour (note sounding/silence periods are variable in length).

Automatic Ramp Down function automatically reduces duty cycle over a phased time period (unless overridden) following deployment of the maximum 5% duty cycle:

Phase 1: 3 days at 144 sounding events per hour;

Phase 2: 14 days at 72 sounding events per hour;

Phase 3: 28 days at 12 sounding events per hour after which the device is muted.

Duration of use of device (e.g. hours per 24 hour period)

The system is required to be available for use 24 hours per day during stocked periods. At site FS0933 the planned stocking cycle runs on a 2-year basis from March (year 1) to December (year 2) i.e. a 22 month cycle. When the system is operational i.e. the site is stocked and there is cause for ADD use such as seal attacks on livestock, an automatic ramp down function is in place whereby the duty cycle ranges from 5% to 0.7% prior to being muted after 42 days (note if seal impacts are ongoing the system will be reactivated). The system will be deactivated in the following circumstances: 1) Site fallow; 2) No seal interaction evident i.e. no cues such as seals swimming around the farm, changes in fish behaviour or evidence of actual attack; 3) Emergency situation where a cetacean is present in the immediate area of the farm; 4) Evidence that devices have reduced efficacy in preventing seal interaction with the farm i.e. interactions are increasing over a period of time despite ADD use.

Time of use (e.g. particular time of day or time of year)

The system is required to be available for use 24 hours per day during stocked periods. At site FS0933 the planned stocking cycle runs on a 2-year basis from March (year 1) to December (year 2) i.e. a 22 month cycle. During the fallow periods the device will never be used.

If multiple devices of this type are to be used, please give details of numbers to be deployed and locations in relation to the site.

As above, a total of eight US3 units are proposed at the one active pen group within site FS0933.

Pen group centre at 58° 14.962' N / 005° 16.119' W

US3 units to be spaced evenly around the perimeter of the pen group as defined in 3 (c) and illustrated on the accompanying site plan 'Clashnessie Bay FS0933_US3 Layout'.

Management of ADD Use

Please give details of the cues/triggers and the decision process to activate ADDs. These cues / triggers should be specific and measurable and should relate to predation events by seals rather than presence of seals in the area.

Seal deterrent measures are most effective where predation is prevented from the outset, and as such use of ADDs will be most effective (i.e. duty cycle minimised) if deployed prior to seal predation of the farm becoming established. Once active predation of fish is established, deterrent measures will be less successful as a potential food source will have been identified by seals. The triggers for ADD use relevant to site FS0933 are 1) site is stocked with fish, 2) seal predation (attacks and sub-lethal impacts) is a known occurrence at the site from previous cycles and 3) seal activity is evident at the farm and/or stress-behaviours are seen in the fish. Seal activity at the farm - as distinct from seal presence in the general area - is determined by all-round camera observation of pen units, above and below water. Stress-behaviour in livestock in response to seal activity is readily evident through underwater observation, which is undertaken throughout the day. Seals may also be observed approaching pen nets above or below water.

ADDs will only be used with complementary predation-mitigation measures which ensure ADD duty cycles can be minimised i.e. regular removal of fallen/moribund stock, low stocking densities, tensioned HDPE pen-nets and top-nets to reduce seal interest in the farm.

ADDs have asynchronous controls which prevent multiple units from sounding simultaneously. This reduces the disturbance potential.

Give details of how ADD use is to be reviewed

Seal predation and predation-mitigation measures, including ADDs, are reviewed on a weekly and monthly basis as part of routine Production and Fish Health monitoring and reporting. Any fish mortalities due to direct seal attacks are recorded daily and entered into the farm database, alongside daily feed information, with figures reviewed by site management, Production and Fish Health staff. Seal interaction is also a Key Performance Indicator tracked for the farm.

Daily checks of ADD function are carried out on site to identify any issues (such as a fouled or non-functioning sounding unit) and to review settings to ensure appropriateness e.g. system muted if no seal activity at the farm. Monitoring of the ADD system and support is also effected via an online portal.

Further to the above in-cycle monitoring and review, ADD use is also reviewed as part of the site's specific Wildlife Interaction Plan which is updated at the end of every farming cycle to document predation-mitigation measures used, evaluate their effectiveness and establish any changes proposed for the next cycle.

Give details of criteria for deactivation or removal of ADDs (including if they appear to be ineffective)

ADDs will be deactivated in the following circumstances:

- Site fallow
- No seal interaction evident (application is to have equipment available for use during stocked periods; equipment may not be emitting sound if there are no cues such as seals swimming around farm, changes in fish behaviour or evidence of actual attack)
- Divers operating at site
- Emergency situation where any cetacean is present in the immediate area of the farm
- In the unlikely event of a seal becoming trapped within a pen with fish
- Evidence that they have reduced efficacy in preventing seal interaction with the farm i.e. interactions are increasing over a period of time despite ADD use; note in such circumstances deactivation of ADDs may not be immediate as an alternative ADD type will need to be put in place prior to deactivation and licensing, sourcing and deployment of replacement equipment will have an associated lead time.

Give details of ADD deployment plans and any relevant planning conditions relating to ADD use

ADD deployment plans are documented in the site's specific Wildlife Interaction Plan.
There are no Planning Conditions relating to ADD use within site FS0933 (20/02128/FUL).

Device type 2

Device details

Ace Aquatec RT1 Flex acoustic startle response (ASR) low-frequency device.

Device name (and version if relevant)

Ace Aquatec RT1 Flex acoustic startle response (ASR) low-frequency device.

Number of devices proposed

Six RT1 Flex units (location as defined in 3 (c))

Source level of device (rms and SPLpeak)

Average within a transmission: 182dB re1uPa rms @ 1m; SPLpeak 198dB + 3 = 201dB re1uPa @ 1m (Flex)

Typical frequency content

0.9-1.4kHz (randomised sound pattern with a frequency spread of 0.9-1.4kHz, fundamentals at 1.15kHz)

How is the device triggered (please state if the device operates constantly or if there is no triggering method)

The system does not sound constantly - please see below regarding duty cycle. There is not an automatic triggering method associated with the system, however the following management triggers are applied on the basis that seal deterrent measures are most effective where predation is prevented from the outset; 1) site is stocked with fish, 2) seal predation (attacks and sub-lethal impacts) is a known occurrence at the site and 3) seal activity is evident at the farm and/or stress-behaviours are seen in the fish. Seal activity at the farm - as distinct from seal presence in the general area - is determined by all-round camera observation of pen units, above and below water. Stress-behaviour in livestock in response to seal activity is readily evident through underwater observation, which is undertaken throughout the day. Seals may also be observed approaching pen nets above or below water.

Please give details of the proposed duty cycle (or available settings) including the system duty cycle

Adjustable duty cycle, 0.7% - 5% or 12 - 144 sounding events per hour (note sounding/silence periods are variable in length).

Automatic Ramp Down function automatically reduces duty cycle over a phased time period (unless overridden) following deployment of the maximum 5% duty cycle:

Phase 1: 3 days at 144 sounding events per hour;

Phase 2: 14 days at 72 sounding events per hour;

Phase 3: 28 days at 12 sounding events per hour after which the device is muted.

Duration of use of device (e.g. hours per 24 hour period)

The system is required to be available for use 24 hours per day during stocked periods. At site FS0933 the planned stocking cycle runs on a 2-year basis from March (year 1) to December (year 2) i.e. a 22 month cycle. When the system is operational i.e. the site is stocked and there is cause for ADD use such as seal attacks on livestock, an automatic ramp down function is in place whereby the duty cycle ranges from 5% to 0.7% prior to being muted after 42 days (note if seal impacts are ongoing the system will be reactivated). The system will be deactivated in the following circumstances: 1) Site fallow; 2) No seal interaction evident i.e. no cues such as seals swimming around the farm, changes in fish behaviour or evidence of actual attack; 3) Emergency situation where a cetacean is present in the immediate area of the farm; 4) Evidence that devices have reduced efficacy in preventing seal interaction with the farm i.e. interactions are increasing over a period of time despite ADD use.

Time of use (e.g particular time of day or time of year)

The system is required to be available for use 24 hours per day during stocked periods. At site FS0933 the planned stocking cycle runs on a 2-year basis from March (year 1) to December (year 2) i.e. a 22 month cycle. During the fallow periods the device will never be used.

If multiple devices of this type are to be used, please give details of numbers to be deployed and locations in relation to the site.

As above, a total of six RT1 Flex units deployed at the one active pen group within site FS0933.

Pen group centre at 58° 14.962' N / 005° 16.119' W

RT1 Flex units spaced evenly along the centre of the pen group as defined in 3 (c) and illustrated on the accompanying site plan 'Clashnessie Bay FS0933_RT1 Layout'.

Management of ADD Use

Please give details of the cues/triggers and the decision process to activate ADDs. These cues / triggers should be specific and measurable and should relate to predation events by seals rather than presence of seals in the area.

Seal deterrent measures are most effective where predation is prevented from the outset, and as such use of ADDs will be most effective (i.e. duty cycle minimised) if deployed prior to seal predation of the farm becoming established. Once active predation of fish is established, deterrent measures will be less successful as a potential food source will have been identified by seals. The triggers for ADD use relevant to site FS0933 are 1) site is stocked with fish, 2) seal predation (attacks and sub-lethal impacts) is a known occurrence at the site from previous cycles and 3) seal activity is evident at the farm and/or stress-behaviours are seen in the fish. Seal activity at the farm - as distinct from seal presence in the general area - is determined by all-round camera observation of pen units, above and below water. Stress-behaviour in livestock in response to seal activity is readily evident through underwater observation, which is undertaken throughout the day. Seals may also be observed approaching pen nets above or below water.

ADDs will only be used with complementary predation-mitigation measures which ensure ADD duty cycles can be minimised i.e. regular removal of fallen/moribund stock, low stocking densities, tensioned HDPE pen-nets and top-nets to reduce seal interest in the farm.

ADDs have asynchronous controls which prevent multiple units from sounding simultaneously. This reduces the disturbance potential.

Give details of how ADD use is to be reviewed

Seal predation and predation-mitigation measures, including ADDs, are reviewed on a weekly and monthly basis as part of routine Production and Fish Health monitoring and reporting. Any fish mortalities due to direct seal attacks are recorded daily and entered into the farm database, alongside daily feed information, with figures reviewed by site management, Production and Fish Health staff. Seal interaction is also a Key Performance Indicator tracked for the farm.

Daily checks of ADD function are carried out on site to identify any issues (such as a fouled or non-functioning sounding unit) and to review settings to ensure appropriateness e.g. system muted if no seal activity at the farm. Monitoring of the ADD system and support is also effected via an online portal.

Further to the above in-cycle monitoring and review, ADD use is also reviewed as part of the site's specific Wildlife Interaction Plan which is updated at the end of every farming cycle to document predation-mitigation measures used, evaluate their effectiveness and establish any changes proposed for the next cycle.

Give details of criteria for deactivation or removal of ADDs (including if they appear to be ineffective)

ADDs will be deactivated in the following circumstances:

- Site fallow
- No seal interaction evident (application is to have equipment available for use during stocked periods; equipment may not be emitting sound if there are no cues such as seals swimming around farm, changes in fish behaviour or evidence of actual attack)
- Divers operating at site
- Emergency situation where any cetacean is present in the immediate area of the farm
- In the unlikely event of a seal becoming trapped within a pen with fish
- Evidence that they have reduced efficacy in preventing seal interaction with the farm i.e. interactions are increasing over a period of time despite ADD use; note in such circumstances deactivation of ADDs may not be immediate as an alternative ADD type will need to be put in place prior to deactivation and licensing, sourcing and deployment of replacement equipment will have an associated lead time.

Give details of ADD deployment plans and any relevant planning conditions relating to ADD use

ADD deployment plans are documented in the site's specific Wildlife Interaction Plan.
There are no Planning Conditions relating to ADD use within site FS0933 (20/02128/FUL).

Device type 3

Device Details

Device name (and version if relevant)

No device 3 proposed - note text appearing below is an error in the form, with entries from Device type 2 appearing in this section

Number of devices proposed

Source level of device (rms and SPLpeak)

Typical frequency content

How is the device triggered (please state if the device operates constantly or if there is no triggering method)

Please give details of the proposed duty cycle (or available settings) including the system duty cycle

Duration of use of device (e.g. hours per 24 hour period)

Time of use (e.g particular time of day or time of year)

If multiple devices of this type are to be used, please give details of numbers to be deployed and locations in relation to the site.

Management of ADD Use

Please give details of the cues/triggers and the decision process to activate ADDs. These cues / triggers should be specific and measurable and should relate to predation events by seals rather than presence of seals in the area.

Give details of how ADD use is to be reviewed

Give details of criteria for deactivation or removal of ADDs (including if they appear to be ineffective)

ADDs will be deactivated in the following circumstances:

- Site fallow
- No seal interaction evident (application is to have equipment available for use during stocked periods; equipment may not be emitting sound if there are no cues such as seals swimming around farm, changes in fish behaviour or evidence of actual attack)
- Divers operating at site
- Emergency situation where any cetacean is present in the immediate area of the farm
- In the unlikely event of a seal becoming trapped within a pen with fish
- Evidence that they have reduced efficacy in preventing seal interaction with the farm i.e. interactions are increasing over a period of time despite ADD use; note in such circumstances deactivation of ADDs may not be immediate as an alternative ADD type will need to be put in place prior to deactivation and licensing, sourcing and deployment of replacement equipment will have an associated lead time.

Give details of ADD deployment plans and any relevant planning conditions relating to ADD use

ADD deployment plans are documented in the site's specific Wildlife Interaction Plan.
There are no Planning Conditions relating to ADD use within site FS0933 (20/02128/FUL).

Please use additional sheets for further device types