



ESTABLISHED 1968

The Finest Salmon from
SCOTLAND



Predator Control Plan

North Gravir, East Lewis

Date	January 2025
Revision No.	A1
Author	Michael Hill
Reviewed by	Penny Hawdon
Approved by	David Taylor

Table of Contents

1.	Introduction	3
2.	Wildlife Assessment.....	3
2.1	Wildlife Logbook	3
3.	Net Tensioning and Seal Blinds	4
3.1	Predatory Bird Protection	4
4.	Effective Husbandry.....	4
5.	Acoustic Deterrent Devices	5
6.	Anti-predator Nets.....	5

Glossary of Terms

MD-LOT	Marine Directorate Licensing Operations Team
NS	NatureScot
BFS	Bakkafrost Scotland
GeMS	Geodatabase of Marine features adjacent to Scotland

1.Introduction

Bakkafrost Scotland (BFS) recognises that predation on farmed stock is not only of welfare and financial concern to the company, but can have significant impacts on stock containment, and as such will take all reasonable steps to ensure that interaction with predators is minimised with minimal impact to other local wildlife. As a general policy BFS will not locate any fish farm in the vicinity of grey seal (*Halichoerus grypus*) pupping sites.

The anti-predation techniques and devices described in this document will be reviewed regularly by the Site and Area Manager to assess their effectiveness. If found to be unnecessary or ineffective, the appropriate actions will be taken to modify and improve the site management of this aspect. In the unlikely event that a predator succeeds in damaging nets, resulting in an escape incident, BFS has a site-specific Escapes Contingency Plan in place for the North Gravir site.

The Animals and Wildlife (A&W) (Scotland) Act 2020¹ has recently been passed. The Bill for this Act of the Scottish Parliament was passed by the Parliament on 17th June 2020 and received Royal Assent on 21st July 2020. The Act repeals several sections and passages of the Marine (Scotland) Act 2010², meaning that the Scottish Ministers may no longer authorise a person to enter land in order to kill or take seals for the purpose of preventing them from causing serious damage to a fish farm. BFS adheres to all requirements regarding seal licensing.

2.Wildlife Assessment

The proposed North Gravir site is a new site; therefore, the wildlife assessment has been based on a desktop analysis and wildlife logs of the closest BFS site in this region (Gravir, <5km from North Gravir). All sightings from site wildlife logs are incidental, with no measurement of observation effort.

There are eight seal haul out sites within 50 km of the Development. The closest of these is Aird Dhubh, 21 km southwest of the farm in the mouth of Loch Bhrolluim. Grey seals and harbour seals can travel 50 km from haul outs; therefore, it is possible that seals from this, and other, haul out sites could interact with the Site.

Hague et al (2020)³ describe regional baselines for marine mammals in Scottish waters. The data presented from the SCAN-III surveys suggest that harbour porpoise (*Phocoena phocoena*) and minke whale (*Balaenoptera acutorostrata*) are the most abundant cetaceans in the region. The wildlife logs for the Gravir notes sightings of harbour porpoise, minke whale, bottlenose dolphin, and orca passing the mouth of Loch Odhairn. No incidence of predation by any cetacean has been recorded at any BFS site.

It is thought that both common and grey seal are likely to be the most significant potential predator of the site. For this reason, the site will be equipped with multiple methods of seal deterrent, and the measures will be monitored regularly by site staff to assess their effectiveness. The predator management measures detailed below will be employed at the North Gravir site.

2.1 Wildlife Logbook

The site staff will keep a log of wildlife observed around the fish farm to record the incidence of wildlife sightings and any interactions with the fish farm. This will help to determine the need and effectiveness of site anti-predator measures and will help to inform the Site and Area Managers during the annual predator control reviews, by building an understanding of seasonal and longer term, local wildlife trends.

Any entanglement or entrapment of birds will be recorded in accordance with NatureScot's

¹ Scottish Parliament. (2020). Animals and Wildlife (Penalties, Protections and Powers) (Scotland) Act 2020. [Online] Available at: <https://www.legislation.gov.uk/asp/2020/14/chapter/1/crossheading/conservation-of-seals/enacted> (Accessed 27/08/2020)

² Scottish Parliament. (2010). Marine (Scotland) Act 2010. [Online] Available at: https://www.legislation.gov.uk/asp/2010/5/pdfs/asp_20100005_en.pdf (Accessed 27/08/2020)

³ E L Hague, R R Sinclair and C E Sparling. 2020. Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters. Scottish Marine and Freshwater Science Vol 11 No 12

requirements. From the date of stocking, BFS will:

1. Maintain daily records of wildlife entanglements or entrapment at the development using NatureScot's standardised proforma and shall submit six-monthly returns to the Planning Authority and to NatureScot; and
2. Provide written immediate notification to the Planning Authority and NatureScot of the occurrence of any entrapment or entanglement of any single bird species in the event that in relation to a single bird species:
 - (a) three or more birds become entangled or entrapped on a single day or
 - (b) ten or more birds become entangled or entrapped in any seven-day period or
 - (c) one or more birds become entangled or entrapped on four or more consecutive days.

3. Net Tensioning and Seal Blinds

BFS will install enhanced, rigid netting at North Gravir. These nets are structurally designed using high density polyethylene (HDPE) to provide cut resistance and rigidity, protecting stock from predator damage and reducing escape events. This type of netting has been deployed across all existing BFS sites, and initial indications suggest success in reducing net damage by seals and seal ingress into pens.

Sinker tubes will be used at the site to ensure that nets remain highly tensioned. Net tensioning systems hold the pen net uniformly taut, so that it presents a 'wall' to any underwater predator with no slack areas for entanglement or purchase on the net, through which a seal can grab or bite fish. The use of a net tensioning system minimises the need for predator nets and therefore reduces the risk of entanglement for predators.

The use of net tensioning is recognised as best practice in terms of predator control. Seal Blinds may also be used on site, which are sections of material hanging down from underwater net panels, acting as a curtain to prevent seals from reaching the fish from below the pen. This system is also recognised as best practice.

3.1 Predatory Bird Protection

Various species of bird are attracted to salmon pens as a potential food source. Surface feeding birds including heron (*Ardea cinerea*), northern gannet (*Morus bassanus*), and gull *spp.* take fish, usually smolts, from or near the water surface, some by shallow plunging from the air. Diving birds, including cormorant (*Phalacrocorax carbo*), shag (*Phalacrocorax aristotelis*), auks and divers obtain their food during dives between periods of swimming on the surface of the water.

The site will be fitted with tensioned top nets (100 mm mesh size) in conjunction with bird net supports, in accordance with NatureScot recommendations to reduce risk of any entanglement and/or entrapment to predatory bird species, especially northern gannet. Top nets are inspected and re-tensioned on a daily basis and maintenance conducted as required which further reduces the potential risk of entanglement or entrapment to birds. There is careful control of fish feed, utilising pellet detection systems and designated feed technicians, and feed spreaders are faced downwards and set to spread the feed evenly to ensure that no surplus food is available to birds.

4. Effective Husbandry

The presence of mortalities is known as an attractant to seals and an effective mortality removal procedure can reduce predator attacks. Mortalities are removed by a Lift-Up system although manual removal of mort and moribund fish is also completed as required. This practice will reduce predator attack, particularly from seal, to a minimum. Careful site and waste management procedures will be implemented that prevent net and rope debris entering the marine environment during site servicing, thereby removing any entanglement risks. The site will be kept in a neat and tidy state and any rubbish found on the adjacent shoreline will be collected by local site staff on a regular basis, to minimise impacts to the local environment.

The above will be done as a requirement at all BFS sites. The following predator deterrents have been identified as potentially necessary in circumstances of exceptional welfare concern for stocked fish.

5. Acoustic Deterrent Devices

BFS has committed to not using ADDs as standard practice at the Proposed Development. In circumstances of exceptional welfare concern for stocked fish, BFS will consult with NatureScot, the Local Planning Authority, and the Marine Directorate Licensing Operations Team (MD-LOT) to discuss how best to proceed and to obtain approval for any ADD use. It is likely that a European Protected Species (EPS) licence will be required for all currently available ADDs unless it can be demonstrated that the device proposed for use will not cause disturbance to cetaceans. An EPS licence can be applied for via the MD-LOT who will consult with NatureScot on any applications.

6. Anti-predator Nets

BFS will not use anti-predator nets as a standard measure at the North Gravir site. In circumstances of exceptional welfare concern for stocked fish, BFS will consult with NatureScot and the Local Planning Authority on the feasibility and potential for use of anti-predator nets at the Site.

Flow Chart of Anti Predator Device Assessment

