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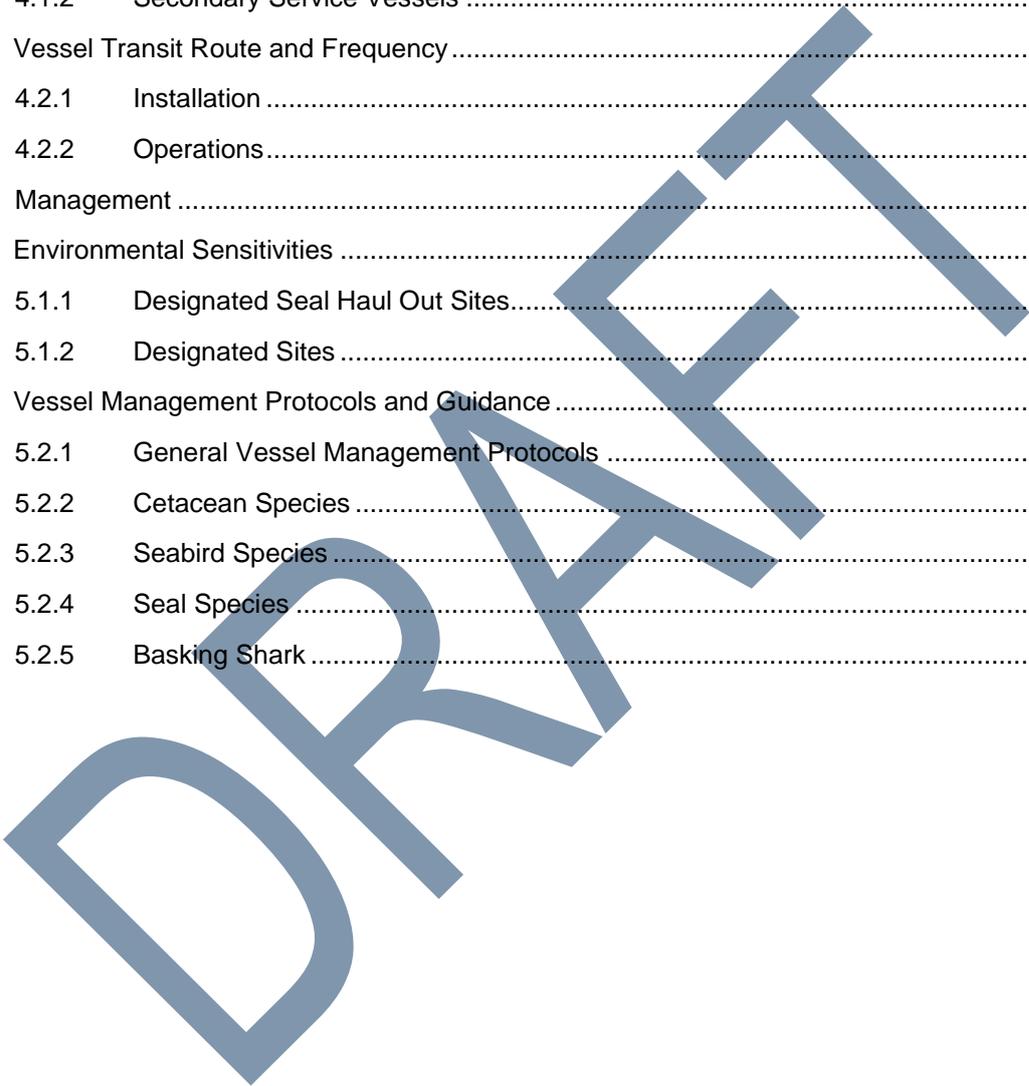
# Vessel Management Plan

Morrison's Rock, Isle of Benbecula

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## Glossary of Abbreviations and Terms

Abbreviation / Term	Definition
AESI	Adverse Effect on Site Integrity
BFS	Bakkafrost Scotland Ltd.
EIA Regulations	The Town and Country (Environmental Impact Assessment) (Scotland) Regulations 2017
LOA	Length Overall
LSE	Likely Significant Effect
NS	NatureScot
Proposed Development	The Morrison's Rock Fish Farm Proposal
RIAA	Report to Inform Appropriate Assessment
SMWWC	Scottish Marine Wildlife Watching Code
VMP	Vessel Management Plan
VTR	Vessel Transit Route

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# 1. Introduction

Bakkafrost Scotland (BFS) are proposing the development of a new marine fish farm, called Morrison's Rock (the Proposed Development), to be located off the northeast coast of the Isle of Benbecula, in the Outer Hebrides. The Proposed Development is due to be serviced from the existing Kallin shorebase, located within the commercial harbour at the settlement of Kallin on the Isle of Grimsay, North Uist.

This Vessel Management Plan (VMP) is designed to help avoid and reduce potential impacts on wildlife, including seabird, marine mammal, and other marine megafauna features that may be present in the waters around the Proposed Development.

# 2. Objectives

The VMP has been specifically designed to meet the following objectives:

- Identification of the proposed vessels and activity levels required for the construction (and decommissioning) and operation of the Proposed Development;
- Identification of an indicative vessel transit route (VTR) that BFS will use to service the Proposed Development;
- Identification of relevant environmental sensitivities; and
- Identification and description of vessel management procedures to reduce disturbance to local wildlife.

# 3. Description of the Proposed Development

The Proposed Development is located off the northeast coast of the Isle of Benbecula. The Proposed Development will consist of eight 160 m circumference circular pens, arranged in a single group (2 x 4). The Proposed Development will be orientated parallel to the adjacent coastline. A feed barge will be permanently moored on the northern end of the pen grid (**Figure 3.1**). Under The Town and Country Planning (Scotland) Act 1997 all equipment will be installed and maintained within the red line boundary (the Development Area) which covers an area of 0.67 km<sup>2</sup>.

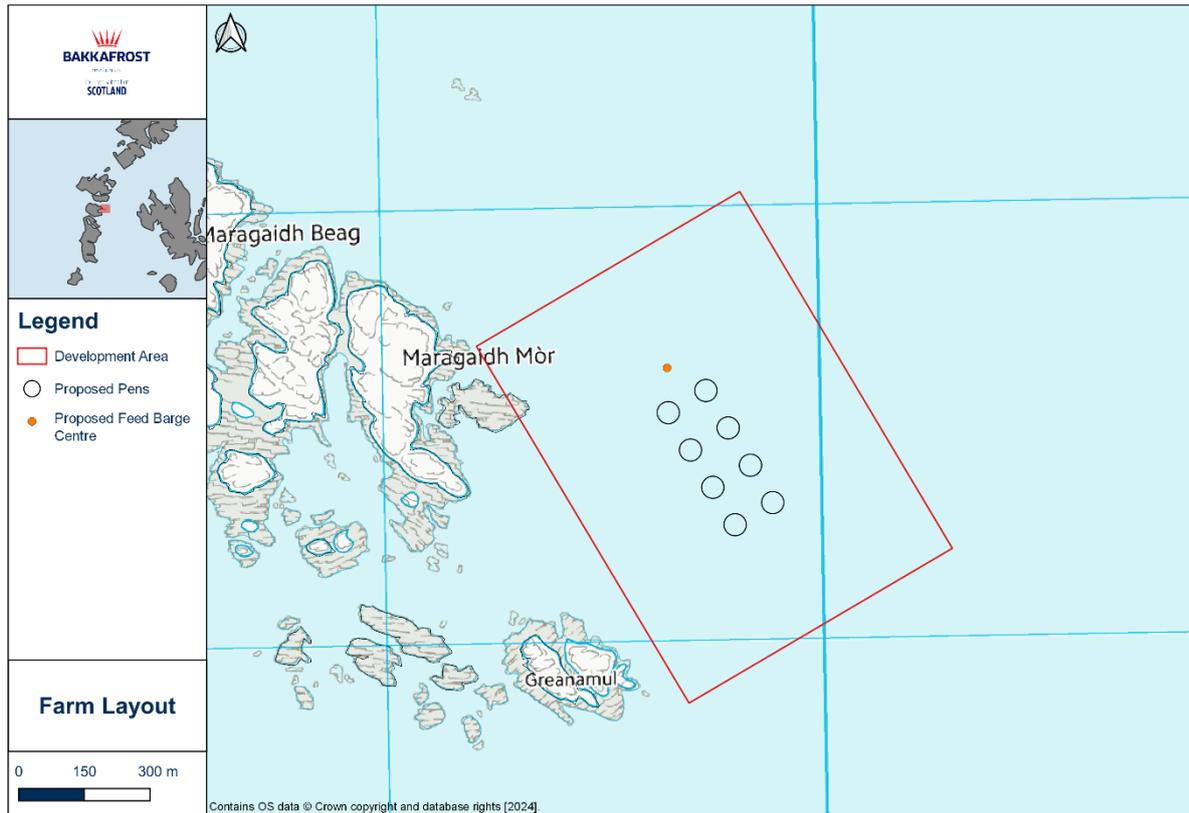


Figure 3.1: Farm Location and Layout.

## 4. Vessel Details and Route

### 4.1 Vessel Details

#### 4.1.1 Primary Service Vessels

The Proposed Development will be serviced primarily via a 9 m polarcirkel, used for daily commuting and small-scale husbandry operations onsite, and a larger landing craft style workboat. There are currently two landing craft workboats operating out of the Kallin shorebase and servicing the existing nearby BFS fish farms. These vessels are 15 m and 16.5 m length overall (LOA). There is also a net washing vessel, which is 14 m LOA. As such, due to the availability of existing landing craft workboats within the BFS Kallin service fleet, it is proposed that the existing landing craft workboats will service the Proposed Development. This avoids the need to add an additional workboat to the BFS Kallin fleet.

There is the potential for any one of these vessels to service the Proposed Development. Under normal circumstances only the polarcirkel and a single landing craft workboat will be onsite at a time. These larger workboats will carry out larger-scale husbandry operations and maintenance work. It is anticipated that, during normal operations, both the polarcirkel and larger workboat will be onsite each day.

#### 4.1.2 Secondary Service Vessels

Stocking of smolts will be carried out via wellboat at the start of each production cycle and stocking operations will take place over a period of one to two months. Over this period three distinct wellboat inputs, based on 250 g smolt, would be needed to fully stock the Proposed Development. Harvesting operations will also be carried out via wellboat; harvesting will typically take place over a six month period. During this harvesting period a total of 30 harvest trips are likely to be needed to fully harvest

out the Proposed Development. During the harvesting period wellboats will make no more than 12 trips per month.

A specifically designed feed delivery vessel will be used to deliver feed to the Proposed Development. The feed delivery vessel will make fortnightly feed deliveries to the Proposed Development, with the volume of feed dependent on the stage of the production cycle.

Wellboats will also be utilised to carry out fish health interventions at the Proposed Development, as directed by the company fish health strategy and company veterinarian.

## 4.2 Vessel Transit Route and Frequency

The Proposed Development will create an additional VTR and therefore an increase in vessel activity around Kallin harbour and the local marine environment is anticipated. At present BFS vessels transit from the Kallin shorebase to the existing Maragay Mor and Maaey farms, further south of the Proposed Development.

### 4.2.1 Installation

The installation of the grid and mooring system will be carried out by an approved contractor using up to three service vessels. The installation of the grid and mooring system, pens and feed barge is anticipated to take up to 30 cumulative days (worst case scenario) to complete, depending on weather and tidal conditions. During this time, vessel activity is likely to be consistent with one return journey per working day. In addition, the majority of the service vessel activity will take place within the identified Development Area of the Proposed Development and therefore represents a small spatial extent.

Pen installation will require up to four return trips (two pens towed at a time) between the manufacturer's construction facility and the Proposed Development. The feed barge will also be towed from an onshore facility to the Proposed Development. During towing operations, the service vessel will not exceed speeds of 4 knots.

### 4.2.2 Operations

Under normal operating conditions staff will make a single return journey from the Kallin shorebase to the Proposed Development per working day. An indicative VTR has been outlined in **Figure 4.1**, which is anticipated to represent the most commonly used transit route for BFS primary marine vessels transiting between the Kallin shorebase and the Proposed Development. However, on occasion, different routes may be taken if operational or environmental parameters necessitate. The VTR is 3.86 km in length, transit times are anticipated to be approximately six minutes for the polarcirkel travelling at 21 knots, and approximately 15 minutes for the landing craft workboat travelling at eight knots.



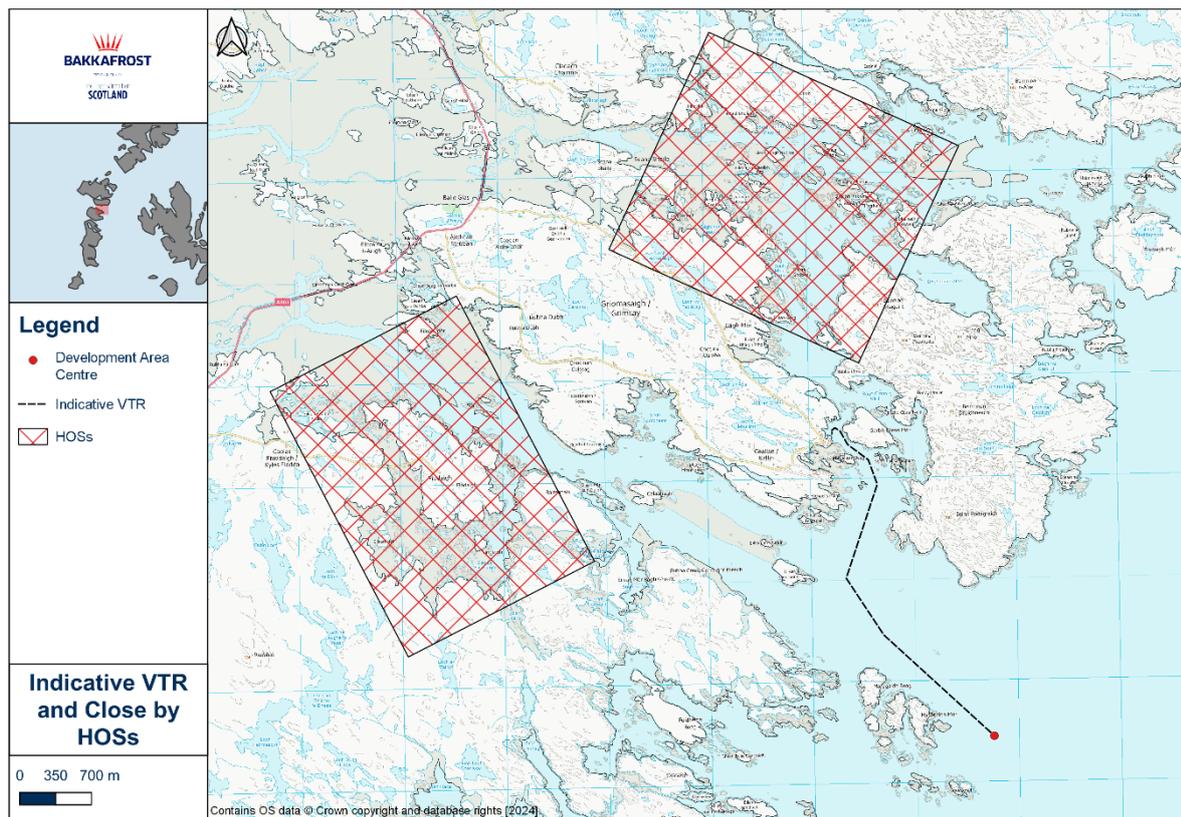


Figure 5.1: HOSs within the vicinity of the Proposed Development and indicative VTR.

### 5.1.2 Designated Sites

Within the vicinity of the Proposed Development and the indicative VTR there are a number of designated sites that may be potentially impacted by marine vessel disturbance. The Sea of the Hebrides Nature Conservation Marine Protected Area (NC MPA) and the Inner Hebrides and the Minches Special Area of Conservation (SAC) are located 0.17 km and 1.43 km to the east of the Proposed Development. Due to both of these designated sites being located to the east of the Proposed Development within the Minch, neither the Development Area nor the indicative VTR overlap with them.

The protocols outlined within **Sub-Section 5.2** are anticipated to help avoid and reduce potential impacts on the qualifying features of the identified designated sites.

## 5.2 Vessel Management Protocols and Guidance

All protocols outlined in **Sub-Sections 5.2.2** and **5.2.3** are based on the best practice recommendations for minimising the potential for disturbance to wildlife, outlined within the following documentation:

- The Scottish Marine Wildlife Watching Code (SMWWC)<sup>1</sup>; and
- A Guide to Best Practice for Watching Marine Wildlife<sup>2</sup>.

### 5.2.1 General Vessel Management Protocols

- All BFS staff that are responsible for piloting BFS marine vessels will be trained to the relevant level of competency through certified external training programmes;

<sup>1</sup> NatureScot: Scottish Marine Wildlife Watching Code (SMWWC). [Online] Available at: <https://www.nature.scot/doc/scottish-marine-wildlife-watching-code-smwwc>

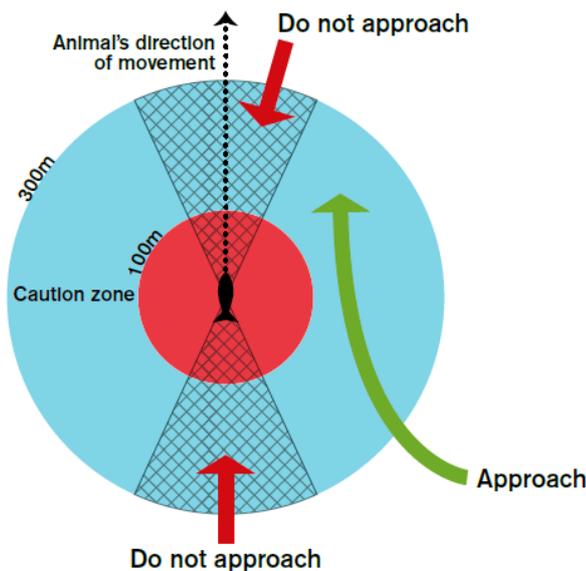
<sup>2</sup> NatureScot: A Guide to Best Practice for Watching Marine Wildlife. [Online] Available at: <https://www.nature.scot/doc/guide-best-practice-watching-marine-wildlife-smwwc>

- All primary vessel activity associated with the Proposed Development will adhere to the indicative VTR, identified in **Figure 4.1** (However, as noted in **Sub-Section 4.2**, on occasion alternative transit routes may be utilised);
- All staff aboard vessels will follow standard maritime procedures (as taught through training) and will maintain a vigilant lookout for local wildlife along the indicative VTR; and
- All vessels will be well maintained and regularly serviced to minimise noise generation and propagation, such as noise generated from propeller cavitation which produces broadband noise ranging from a few hertz (Hz) to 100 kilohertz (kHz)<sup>3</sup>.

## 5.2.2 Cetacean Species

Should any species of cetacean be sighted during transit, the following protocols<sup>1,2</sup> will be implemented to reduce the potential for disturbance and collision:

- On sighting a cetacean, the vessel should slow down and take time to assess what the animal(s) are doing and, if possible, what the group composition is;
- If any cetacean species is sighted, the vessel must slow down to a transit speed of 6 knots, at a maximum, at least 300 m (caution zone) from the animal(s);
- If within the caution zone of the cetacean, ensure that the vessel does not approach from directly ahead or behind, but rather from an oblique angle, as detailed in **Figure 5.2**.



**Figure 5.2: Recommended cetacean approach angle.**

- If the cetacean is transiting in a constant direction, adjust the route of the vessel to transit parallel to the cetacean, thereby maintaining a distance of at least 300 m;
- Ensure that the below minimum approach distances are not breached:
  - 50 m for dolphin and porpoise species;
  - 100 m for whale species; and
  - 200 to 400 m for mothers and calves, or for cetaceans that are clearly actively feeding or transiting (moderate to fast swimming in a specific direction).

<sup>3</sup> Erbe, C., Marley, S.A., Schoeman, R.P., Smith, J.N., Trigg, L.E. and Emling, C.B., 2019. The effects of ship noise on marine mammals—a review. *Frontiers in Marine Science*, p.606. [Online] Available at: [https://www.frontiersin.org/articles/10.3389/fmars.2019.00606/full?utm\\_source=Email\\_to\\_authors&utm\\_medium=Email&utm\\_content=T1\\_11.5e1\\_author&utm\\_campaign=Email\\_publication&field&journalName=Frontiers in Marine Science&id=476898](https://www.frontiersin.org/articles/10.3389/fmars.2019.00606/full?utm_source=Email_to_authors&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field&journalName=Frontiers%20in%20Marine%20Science&id=476898)

- If a cetacean is sighted suddenly within the minimum approach distance, slow down or stop and allow the cetacean to pass. During this time, if safe to do so, put the engine into neutral to ensure there is no danger of propeller injury. Ensure all cetaceans are well clear before setting off;
- If cetacean species approach the vessel to bow ride, maintain a steady course and speed, and remain vigilant;
- Try not to present propellers to approaching cetaceans;
- Never cut across or go through a group of cetaceans, if cetaceans are between the vessel and the destination, either slow down and wait for them to pass or adjust the route to ensure that the approach angle and distance are in line with management protocols, as detailed above;
- Minimise changes in direction, speed, gear or engine noise; and
- Avoid turning the vessel stern-on to cetaceans, as this will cause a sudden increase in propeller noise propagation.

### 5.2.3 Seabird Species

Seabirds often form large groups at sea, known as rafts. Seabirds can congregate in rafts during both summer and winter. In the event that a raft or rafts of birds are sighted during transit, the following protocols<sup>1, 2</sup> should be implemented to reduce the potential for disturbance to seabird species:

- On sighting a raft of seabirds, the vessel shall be slowed to a maximum transit speed of 6 knots on approach;
- Ensure that the vessel maintains a minimum approach distance of at least 50 m from the raft;
- Do not approach a raft of birds head on, adjust the vessel route to ensure the vessel travels parallel to the raft, whilst maintaining an appropriate distance; and
- Do not drive the vessel directly through a raft of birds.

### 5.2.4 Seal Species

Both grey and common seal spend a large proportion of time in the open sea. However, both species come ashore to pup, moult and breed. Common seal produce their pups in early summer (June to July) and spend a lot of time ashore during their annual moult in August. Grey seal produce their pups, in Scotland, in autumn (October to December), with adults and pups dispersing in spring. As a result, there is potential for interaction between marine vessels and seals when seals are both on land and at sea. Therefore, to avoid and reduce the potential for interaction, the following protocols<sup>1, 2</sup> should be implemented on the sighting of seals at sea or hauled out on land:

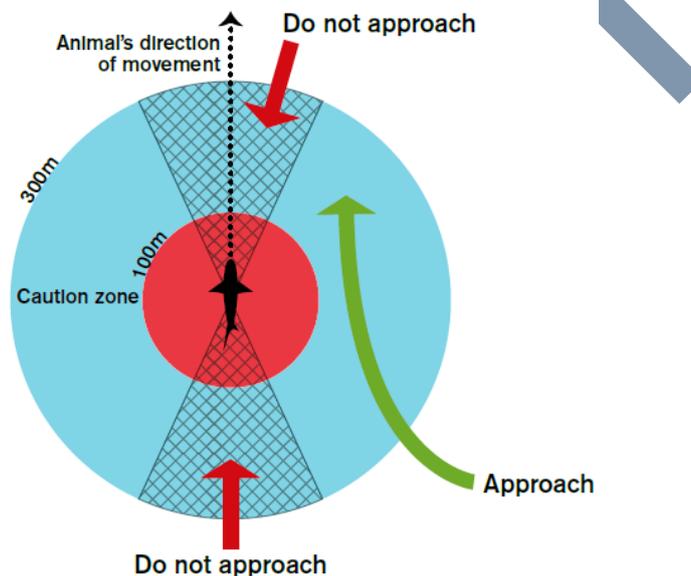
- Do not approach seals directly, whether they are on land or at sea, pass by at an oblique angle and at a reasonable distance. If seals are sighted along the indicative VTR, a reactive directional change should be made to the vessel routing to ensure that the vessel passes the seals at an oblique angle;
- The skipper of the vessel should use their judgement to determine an appropriate buffer distance between the vessel and the seals, the skipper should be responsive to the behaviour of the animals;
- Never cut across the path of a seal(s), if seals are between the vessel and the destination, either slow down and wait for them to pass or adjust the route to ensure that the approach angle and distance are in line with management protocols, as detailed above;
- Minimise changes in direction, speed, gear or engine noise; and
- Avoid turning the vessel stern-on to seals, as this will cause a sudden increase in propeller noise propagation.

## 5.2.5 Basking Shark

Basking shark are seasonal visitors to Scottish waters and are primarily found along the west coast of Scotland during the summer months. Sightings usually peak around August but are variable depending on the location and amount of food.

Basking shark are usually observed moving slowly at or near the surface, they are slow-moving and appear to be relatively unaware of other water users. This makes them particularly vulnerable to marine vessel collision and disturbance. Therefore, to avoid and reduce the potential for interaction the following protocols<sup>1,2</sup> should be implemented on sighting a basking shark:

- On sighting a basking shark, the vessel should slow down and take time to assess what the animal(s) are doing;
- If a basking shark is sighted, the vessel must slow down to a transit speed of 6 knots, at a maximum, at least 300 m (caution zone) from the animal(s);
- If within the caution zone of the basking shark, ensure that the vessel does not approach from directly ahead or behind, but rather from an oblique angle, as detailed in **Figure 5.3**.



**Figure 5.3: Recommended basking shark approach angle.**

- If the basking shark is transiting in a constant direction, adjust the route of the vessel to transit parallel to the basking shark, thereby maintaining a distance of at least 300 m;
- Ensure that the 100 m minimum approach distance is not breached;
- If a basking shark is sighted suddenly within the minimum approach distance, slow down or stop and allow the basking shark to pass. During this time, if safe to do so, put the engine into neutral to ensure there is no danger of propeller injury. Ensure that the basking shark is well clear before setting off;
- Never cut across or go through a group of basking sharks, if basking sharks are between the vessel and the destination, either slow down and wait for them to pass or adjust the route to ensure that the approach angle and distance are in line with management protocols, as detailed above;
- Minimise changes in direction, speed, gear or engine noise; and
- Avoid turning the vessel stern-on to basking sharks, as this will cause a sudden increase in propeller noise propagation.