

European Protected Species and Basking Shark Risk Assessment

Port Askaig Ferry Terminal Enablement Works - EPS and Basking Shark Risk Assessment

Project:	Port Askaig		
Our reference:	105612-MMD-PA-ZZ-RA-O-0003-S2-P01		
Prepared by:	<Redacted>	Date:	14/04/2023
Approved by:	<Redacted>	Checked by:	<Redacted>
Subject:	Port Askaig EPS and Basking Shark Risk Assessment - Licence Supporting Information		

1 Introduction

Mott MacDonald (MML) have prepared this risk assessment in support of a European Protected Species (EPS) disturbance licence application submitted to Marine Scotland Licensing and Operations Team (MS-LOT) to complete proposed works on behalf of Caledonian Maritime Assets Limited (CMAL).

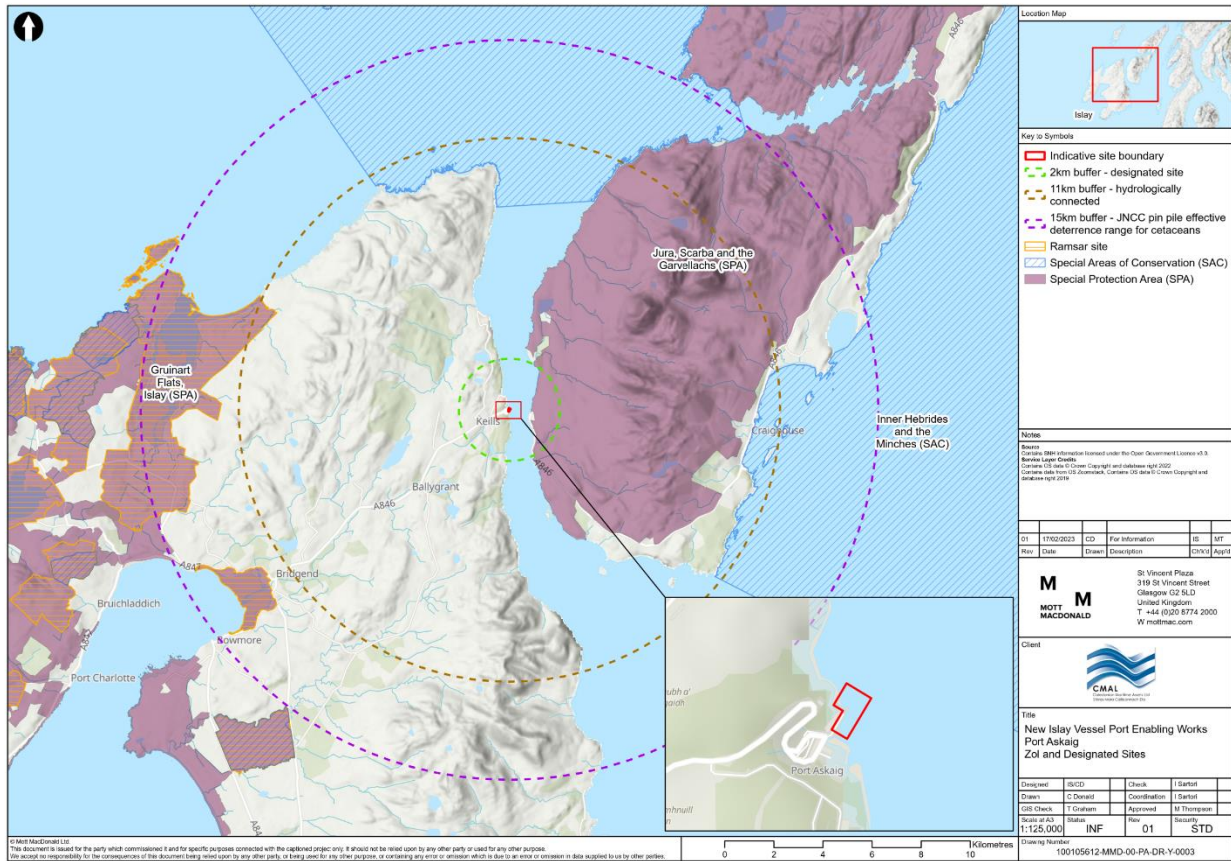
In advance of submitting the EPS license application to MS-LOT, MML completed a review of existing information and sought advice from NatureScot with regards to the potential impacts of the proposed construction works to protected species. As part of this agreement was sought on proposed mitigation measures, which are included in the EPS license application.

2 New Islay Port Enabling Works at Port Askaig Ferry Terminal

The location of the New Islay Vessel Port Enabling Works at the Ferry Terminal are within Port Askaig, a port village on the east coast of the island of Islay, within the Argyll and Bute Council area, centred NGR NR 43174 69263 (See Figure 2.1).

The intended works would upgrade the ferry terminal to facilitate future accommodation of a new vessel with deeper draught and higher displacement. The construction work to achieve this are outlined in Section 3.1 (hereafter referred to as the Proposed Development).

Figure 2.1: Red Line boundaries and Zone of Influences for the Scheme



Source: Mott MacDonald, 2023

3 Construction Works and Method Statement

The works associated with the Proposed Development comprise an upgrade to the existing harbour at Port Askaig Ferry Terminal and are outlined in the following sections.

3.1 Construction Phase

To support new vessels with deeper draught and higher displacement at the ferry terminal, the following modifications and alterations are proposed:

- Replace three fenders on the roundhead;
- Remedial works to the concrete roundhead structure and adjacent concrete deck, to seal gaps, repair cracking, and replace lost grout;
- New gangways;
- Extend the height of the V fenders and concrete spousons;
- Replace fenders along quay;
- Installation of mooring aid; and

- Ancillary works to enable the installation of the mooring aid system, which is likely to include (but may not be limited to):
 - The mobile fuel facility sitting on the finger pier needs to be relocated.
 - A new 40KW power supplying is to be provided.
 - The 20t bollard adjacent to the finger pier has to be removed to enable the relocation of the fuel tank.
 - The lifebuoy post at the rear of the finger pier need potentially relocated.
 - Trending and ducting for low voltage cabling and Moorex equipment may be required.

All works are above the mean high water springs (MHWS) with the exception of upgrading existing fenders and remedial works to concrete structures. Further consideration is given to all activities as they are being conducted either below or adjacent to highest astronomic tide (HAT) and could affect the marine environment.

Materials to be used on site would likely be stored within the hardstanding of a temporary site compound, located at NGR NR 43073 69291 within the existing harbour area currently used as part of the marshalling area. Following award this would be further determined by the Principal Contractor.

No dredging is planned as part of the works. If dredging were to be required then this risk assessment will need to be updated and the potential effects taken into account.

3.2 Construction methods

To upgrade the works at Port Askaig ferry terminal, it is proposed that the following will be carried out:

- Upgrading fenders, replacement of bollards and installation of vessel shore power
To upgrade the fenders and bollards, a crane, construction operatives and any other equipment (e.g. welding machines where required) will be supported on the existing structure (jetty deck) for access to the fenders. Materials will comprise fenders (rubber fenders, UHMW-PE panels and stainless steel fixings) and, where required, steel brackets and beams for connection to the existing structure.
- Installation of mooring aid and foundation
To install the mooring aid, breakout of existing reinforced concrete deck and excavation of fill material will take place. Then a bore piling machine will drill a vertical opening into the ground and extract any soil and rock. Once the hole is dug, a steel reinforcing rebar structure is constructed and lowered into the pit, which is then filled with concrete. The previously excavated concrete deck is filled with concreted in situ. When dry, the mooring aid is craned into position and is bolted onto the concrete foundation.

3.3 Operation and decommissioning

There are no planned changes to the operation of the harbour expected after the construction works or plans to decommission in the future as part of the Proposed Development. No significant changes in traffic are expected.

3.4 Project Programme

The construction works are estimated to commence at some point between August 2023 and March 2024, with completion expected by end of 2024 at the latest. The works are expected to be completed over a course of 16 weeks (exclusive of weather downtime or planned downtime periods) at any point over the time period. The works will be undertaken by a subcontractor (yet to be contracted) on behalf of CMAL.

Normal working hours are anticipated to take place for 24 hours each day, Monday to Sunday. Piling works will be restricted to the hours between 08:00-1800 Monday to Friday and 08:00-12:00 Saturday. No piling works would be undertaken on Sunday. Works do not intend to interfere with existing ferry operations with regard to service.

4 Sensitive receptors

From a review of data in Hague *et al.* (2020) and the use of the Hebridean Whale and Dolphin Trust recent sightings data (HWDT, 2022) the following protected species are expected to be within the region:

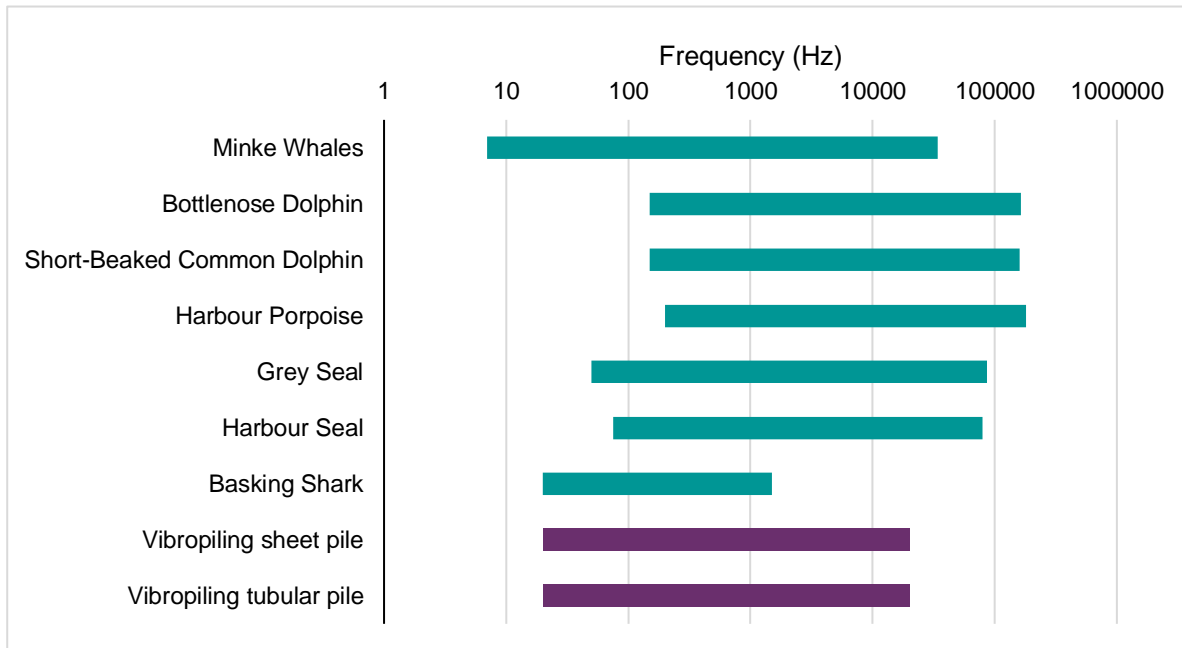
- Bottlenose dolphin *Tursiops truncatus*
- Short-beaked common dolphin *Delphinus delphis*
- Harbour porpoise *Phocoena phocoena*
- Minke whale *Balaenoptera acutorostrata*
- Harbour seal *Phoca vitulina*
- Grey seal *Halichoerus grypus*

Given the variable nature and effort of sightings there may be other marine mammals within the region, though those listed above are deemed most likely to be present during the Proposed Development. These species are shown to have auditory ranges in line with the intended equipment's operating frequencies. In addition, vessel collisions with several of the cetaceans and seals listed are considered to be noticeable at generally scattered occurrences or at local scales relative to their populations, although not the most common cause of mortality¹. As such and with reference to the risk assessment (Section 5 below) these species are at risk from disturbance or harm from the Proposed Development, therefore mitigation is required for the intended works to proceed. This is outlined in Section 6 below.

Additionally Basking Shark (*Cetorhinus maximus*) is known to navigate Scottish waters and is also considered as a potential receptor². Basking sharks prefer headlands, islands and bays with strong tidal flow and have been known to venture into shallow bays², on this basis, there is the potential for them to be present in the vicinity of the works whilst passing through the strait or at the mouth of the strait. They are also known to have auditory ranges in line with the intended equipment's operating frequencies (see Figure 4.1) and also reported to be subject to vessel collision at local scales relative to their populations, although not the most common cause of mortality¹

¹Schoeman, Patterson-Abrolat and Pln, 2020. A global review of vessel collisions with marine animals [Online] Available at: [Frontiers | A Global Review of Vessel Collisions With Marine Animals \(frontiersin.org\)](https://www.frontiersin.org/articles/10.3389/fmars.2020.00001/full)

² NatureScot, 2022 [Online] Available at [Basking sharks | Marine Scotland Information](https://www.nature.scot/nature-scotland-information) and [GeMS - Scottish Priority Marine Features \(PMF\) - Natural Spaces - NatureScot \(snh.gov.uk\)](https://www.nature.scot/nature-scotland-information).

Figure 4.1: Hearing sensitivity of sensitive receptors against equipment operating frequencies

Source: Mott MacDonald, 2023

5 Risk Assessment

A review of the operational activities to emit noise has been undertaken³. This review highlighted that the bore piling activities will take place on land to install the mooring aid foundation (separated by an existing sheet pile within the pier structure). Consequently, the underwater noise arising from the piling will be heavily attenuated as airborne noise and ground-borne vibration travels from one boundary (air and land) to another (water). Further, no other works are being undertaken within marine waters at Port Askaig as part of the Proposed Development. As a result, the underwater noise generated from the works at this location is not anticipated to be significant therefore, no further assessment is considered to be required.

Aside from noise there is potential that there will be increased vessel use in delivery of equipment and machinery, use during construction processes or displacement of existing traffic. Consequently, these changes from the existing baseline activities may disturb sensitive receptors that are nearby. Further there is potential for runoff of surface water or dust to be generated as part of construction activities which may enter the marine environment due to their proximity. This surface runoff and dust may cause suspended sediments within the waters around the proposed works that may disturb sensitive species from foraging as normal.

Consequently, there is a potential risk to receptors that are within close proximity (<1km) of the proposed works. Therefore, an EPS applied for on the precautionary basis.

Though no specific noise modelling has been undertaken for this project advice has been sought from NatureScot⁴. Their advice included consideration of proposed mitigation which they agreed is appropriate

³ Mott MacDonald, 2022. Port Askaig – Preliminary Underwater Noise Assessment. Document reference: 105612-MMD- PA-ZZ-RP-O-1234-S2-P01

⁴ See Email communication with Area Officer – Marine, NatureScot. Subject: “RE: Consenting Advice Enquiry - Mott MacDonald - New Islay Vessel Port Enabling Works Project - Construction Phase”. Dated 21/03/2023 14:36. Document Reference: 105612-MMD-00-ZZ-CM-O-0006-S2-P01

and will mitigate the potential for auditory injury (PTS) to marine mammals and basking sharks. It was noted that the proposed mitigation will not reduce the risk of disturbance and an EPS licence will be required.

Consequently, when only considering areas below mean high water spring⁵ within the 1km buffer around the works, approximately 1.771 km² are estimated to be disturbed by the intended works.

6 Mitigation

In order to prevent injury to any marine mammals or basking sharks, best practice guidelines in the form of the CIRIA Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (C532) and relevant sections of the Scottish Marine Wildlife Watching Code (NatureScot; formally Scottish Natural Heritage, 2017)⁶ shall be followed.

These shall comprise of the following mandatory aspects:

- Toolbox talks for contractors on relevant marine mammals and basking sharks are to take place . Contractors during any vessel movement and prior to commencing work will monitor for marine mammal or basking sharks within the construction area, the wider area, and whilst vessel are transiting to and from site.
- Should marine mammals or basking sharks be spotted whilst vessel are underway they shall avoid driving through them, or cutting across in front or at the back of the animals. Additionally, where practicable and safe to do so the following shall be adopted and/or maintained:
 - Minimum separation distance of 100m from marine mammals or basking sharks;
 - Steady speed below 5 knots without unpredictable changes in speed, direction and engine noise; and
 - Propellers not on the side of the animals.

7 Licence Assessment Justifications

Consistent with the EPS licence assessment process⁷ the following section seek to detail the necessary information to inform the three tests for approving a licence for an activity.

7.1 Licensable Purpose (Test 1)

In order for a license to be issued the project must define how it relates to one of the purposes referred to in Regulation 44 (2) of (The Conservation (Natural Habitats, &c.) Regulations 1994 (As Amended)). The project is intended to:

- Deliver the Scottish government funded enablement project which supports the economic and social development of the region allowing increased carriage capacity of the ferry terminal⁸.
- Allow greener transportation with new more emission efficient vessels enabled by this development⁷.
- Improve connectivity for the community across the Argyll and Bute.

As such it is considered that these intentions meet an imperative reason of overriding public interest from an economic and social nature with some benefit to the environment.

⁵ As defined by Holmes, I., 2022.

⁶ NatureScot, 2016 [Online] Available at: [The Scottish Marine Wildlife Watching Code SMWWC | NatureScot](#)

⁷ EPS Licence Guidelines. Marine Scotland. Available at: [The protection of Marine European Protected Species from injury and disturbance. Marine Scotland.](#)

⁸ See news article on new vessels by Transport Scotland (2021) and CMAL(2022).

7.2 Assessment of Satisfactory Alternatives (Test 2)

As the works occur above MHWS, NatureScot confirmed that any effects from underwater noise are unlikely to be significant. Therefore only consideration of alternatives to the construction are considered.

The works are intended to improve port infrastructure benefitting the island. Consequently, the only available alternatives are to either:

1. Not undertake the works and the island communities would not be able to use the new vessels and Scottish government economic objectives would not be fulfilled. Also as remedial works are proposed this would result in more frequent maintenance works as the port continues to degrade rather than being refurbished.
2. Develop another port on the island to allow access. This would cause significant impacts as there would be additional land take, need for greater terrestrial development and associated marine construction works would likely include highly disturbing piling or dredging in new development area.

7.3 EPS Conservation Status Implications (Test 3)

The estimated density of the anticipated species that are in the estimated area of disturbance (1.771 km²) are detailed in Table 7.1 and is used to inform the third test ensuring that the works will not be “detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Table 7.1: Estimated sightings, densities and disturbance

Species	Density Estimate (individuals km ²)	Peak Sightings	Estimated number disturbed ⁹	Estimated total number disturbed, considering re-entry of individuals
Bottlenose dolphin	0-0.125 ^{abc}	14	0.221 - 14	42
Short-beaked common dolphin	0.000 – 0.099 ^b	2	0.175 - 2	6
Harbour porpoise	0.1-0.4 ^{abc}	14	0.708 - 14	42
Minke whale	0-0.08 ^{abc}	1	0.141 - 1	3
Harbour seal	29.544 ^e	N/A	52.32	156.96
Grey seal	12.055 ^e	N/A	21.35	64.05
Basking Shark	0.100 ^b -0.240 ^c	N/A	0.425	1.28

Source: Density estimate ranges obtained from a) Marine Scotland’s estimates for the nearby W1 site (Hague, Sinclair and Sparling, 2020), b) modelled densities for the region (Waggitt et al., 2020) for June/July/August and c) the SCANSIII results (Hammond et al., 2021) where available, (d) Seal at-sea usage maps (Russell et al., 2017) cited in Hague, Sinclair, and Sparling, 2020, and (e) Datasets from Habitat-based distribution estimates for seals (Carter et al., 2022).

Peak sightings relate to recent sightings by the Hebridean Whale and Dolphin Trust (HWDT, 2022) and should be considered as the potential disturbance number where greater than the per-kilometre density estimate.

⁹ The estimated number disturbed are detailed as a range based upon the publicly available estimated density of species within the region up to the peak sightings reported nearby 10km of the site. It is felt that these are within a range that may fall within the area of disturbance.

8 Conclusion

The improvements from the Proposed Development at Port Askaig will bring social and economic benefits by addressing the need to update the port for more efficient vessels to be able to pass through. The main anticipated species at Port Askaig include Harbour Porpoise, Bottlenose Dolphin, Short-Beaked Common Dolphin, Minke Whale, Grey Seal and Harbour Seal. In order to prevent any injury, mitigation measures have been recommended including monitoring for marine mammals before the survey. It is expected that a small proportion of marine mammal population will be impacted (Table 8.1) in a small area for a short duration. With the proposed mitigation in place there is minimal impact expected. Consequently, in line with the EPS licensing Test 3 (section 6.3) required construction works for the Proposed Development would not be considered as “detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range” though it is appreciated that consideration of other works currently approved with active EPS licences contribute to this test.

Table 8.1: Abundance of protected species and the predicted number impacted

Species	Number Impacted	Abundance
Bottlenose dolphin	42	45 ^{ab}
Short-beaked common dolphin	6	13,607 ^b
Harbour porpoise	42	24,370 ^a - 28,936 ^b
Minke whale	3	10,288 ^b
Harbour seal	157	16,000 ^b
Grey seal	65	115,750 ^c
Basking Shark	2	1815 ^d

Source: Abundance range obtained from a) Marine Scotland’s management unit estimates for West Scotland (Hague, Sinclair and Sparling, 2020), b) JNCC’s Updated abundance estimates for cetacean management units in UK Waters (IAMMWG, 2022), c) Special Committee on Seals (SCOS), 2020 report for all of Scotland (SMRU, 2020) and (d) Distribution and abundance of basking sharks (Webb et al., 2018).

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