

Hunterston Construction Yard Marine Mammal and Fish Baseline



May 2024

CONTROL SHEET

Client: Peel Ports Group
 Project Title: Hunterston Construction Yard
 Report Title: Marine Mammal and Fish Baseline
 Document number: 13770
 Project number: 176482

Issue Record

Issue	Status	Author	Reviewer	Approver	Issue Date
1	Final	JEP	MM	MM	10/05/2024
2					

EnviroCentre Limited Office Locations:

Glasgow

Edinburgh

Inverness

Banchory

Registered Office: Craighall Business Park 8 Eagle Street Glasgow G4 9XA
 Tel 0141 341 5040 info@envirocentre.co.uk www.envirocentre.co.uk

This report has been prepared by EnviroCentre Limited with all reasonable skill and care, within the terms of the Contract with Peel Ports Group (“the Client”). EnviroCentre Limited accepts no responsibility of whatever nature to third parties to whom this report may be made known.

No part of this document may be altered without the prior written approval of EnviroCentre Limited.

EnviroCentre Limited is registered in Scotland under no. SC161777.

VAT no. GB 348 6770 57.



EXECUTIVE SUMMARY

EnviroCentre Ltd was commissioned by Arch Henderson on behalf of Clydeport Operations Ltd., to undertake a marine mammal and fish desk study in relation to the upgrade of the existing Hunterston Construction Yard (HCY) into a harbour facility with a large working platform suitable for renewable industries.

The desk study is required to inform an ecological impact assessment and mitigation requirements.

The site does not lie within any statutory designated sites relating to marine species (Marine Protected Areas (MPA), Special Areas of Conservations (SAC) Sites of Special Scientific Interest (SSSI) or Designated Haul Out Site for seals.

It has been assessed that the most frequently observed species, and therefore the species considered to be of most concern within the zone of influence of the proposed Hunterston development are harbour porpoise, minke whale, killer whale, bottlenose dolphin, grey seal, harbour seal, basking sharks, diadromous fish, European eel, lamprey and some fish PMFs.

Contents

Executive Summary	i
1 Introduction	1
1.1 Terms of Reference	1
1.2 Scope of Study	1
1.3 Project Overview.....	1
1.4 Report Usage	2
2 Marine Mammal and Fish Baseline.....	3
2.1 Desk Study	3
2.2 Cetaceans.....	4
2.3 Seals.....	11
2.4 Fish	15
2.5 Marine Mammals and Fish Species Likely to be Impacted.....	17

Appendices

A Site Location Plan	
----------------------	--

Figures

Figure 2-1: Predicted density surface for harbour porpoise in 2016 using SCANS III survey data. Figure reproduced from Marine Directorates Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters.....	5
Figure 2-2: Predicted density surface for minke whale in 2016 using SCANS III survey data. Figure reproduced from Marine Directorates Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters.....	7
Figure 2-3: Predicted density surface for white-beaked dolphins in 2016 using SCANS III data. Figure reproduced from Marine Directorates Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters.....	10
Figure 2-7: Telemetry tracked harbour seals (2001-2018).....	12
Figure 2-8: Map showing the estimated mean harbour seal density at sea. Image taken from the NMPi. Data from surveys conducted between 1991 and 2016, originated from the Sea Mammal Research Unit.....	13
Figure 2-9: Telemetry tracked grey seals (1988-2018).....	13
Figure 2-10: Map showing the estimated mean grey seal density at sea. Image taken from the National Marine Plan Interactive Map (NMPi). Data from surveys conducted between 1991 and 2016, originated from the Sea Mammal Research Unit.....	14
Figure 2-11: Haul out seal count data (1996-2015).....	14

Tables

Table 2-1: Fish PMFs in Relation to Hunterston Development Site.....	17
Table 2-2: Marine Mammals and Fish Species Likely to be Impacted by Proposed Development	18

1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Ltd was commissioned by Arch Henderson on behalf of Clydeport Operations Ltd., to undertake a marine mammal and fish desk study in relation to the upgrade of the existing Hunterston Construction Yard (HCY) into a harbour facility with a large working platform suitable for renewable industries.

1.2 Scope of Study

The aim of this study is to establish which species are likely to present and could be impacted by the proposed development to aid scoping of features to be taken forward for further assessment within the EIA. The objectives were as follows:

- Collate existing data in relation to designated sites, species records, distribution, population counts, habitat use and any other relevant information, to establish which species are likely to be present within the development site and the wider zone of influence of the development.
- Identify potential impacts to marine mammals and fish which could occur as a result of the proposed development.
- Provide a summary of species which are likely to be present and which may be subject to significant impacts.

1.3 Project Overview

The proposed development is to upgrade HCY into a harbour facility with a large working platform to support the needs of future tenants, with a focus on facilitating the construction and/or integration of offshore wind components.

On the marine side, it will comprise a quay wall for the safe mooring of vessels and the loading / offloading of cargoes and materials (e.g., offshore wind components), and a deepened seabed for the safe navigation and manoeuvring of vessels to and from the quay wall. The quay wall will comprise a piled, tied and filled cofferdam structure topped with a concrete slab deck and finished with mooring bollards, fenders, ladders, utility provisions, and aids to navigation. The deepened seabed will comprise a dredged area where the bathymetry is lowered to approximately 12m below Chart Datum to provide sufficient water depth for navigation and berthing.

The Proposed Development assessed within the Environmental Impact Assessment Report that represents this wider design envelope incorporates the following elements:

- Demolition of existing structures;
- Infilling of the dry dock to form a working platform;
- Formation of 570m quay wall 500mm back from MHWS i.e. in the terrestrial environment;
- Formation of a temporary working platform;
- Removal of the existing rock armour on the western boundary;
- Removal of the existing bund on the western boundary;
- Installation of sub-surface revetments for the new quay wall;

- Installation of fenders and other quay wall infrastructure i.e. drainage outfalls, mooring bollards and safety ladders and navigational aids ;
- Erection of port infrastructure including lighting columns, substations, drainage, security fencing, access gates, access road improvements (including resurfacing) and CCTV; and
- Erection of temporary site offices and staff welfare buildings to accommodate site workforce.
- Capital Dredging to a depth of -12m CD to enable access to the 570m quay wall;
- Disposal of dredging spoil to a licensed marine spoil disposal site;
- Construction of mooring dolphins;
- Installation of a grounding pad;
- Installation of navigational aids.

1.4 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

Whilst the Client has a right to use the information as appropriate, EnviroCentre Limited retains ownership of the copyright and intellectual content of this report. Any distribution of this report should be managed to avoid compromising the validity of the information or legal responsibilities held by both the Client and EnviroCentre Limited (including those of third party copyright). EnviroCentre Limited does not accept liability to any third party for the contents of this report unless written agreement is secured in advance, stating the intended use of the information.

EnviroCentre Limited accepts no liability for use of the report for purposes other than those for which it was originally provided, or where EnviroCentre Limited has confirmed it is appropriate for the new context.

2 MARINE MAMMAL AND FISH BASELINE

2.1 Desk Study

In order to anticipate the potential marine mammal and fish ecological sensitivities at the site, a desk study was conducted. The following sources were checked:

- Marine Directorate Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters¹ and appendices²;
- JNCC Report No 680: Updated abundance estimates for cetacean management units in UK waters³;
- Records from South West Scotland Environmental Information Centre (SWSEIC)⁴;
- NBN Atlas⁵ for commercially available records of marine mammals and fish within 20km from the site;
- Sea Watch Foundation (SWF)^{6 & 7} for sightings of marine mammals;
- Hebridean Whale and Dolphin Trust (HWDT)⁸ for records of marine mammals up to 20km and basking sharks up to 50km from the site;
- The Shark Trust basking shark sightings⁹ for sightings of basking sharks within 20km of the site;
- NatureScot Basking shark satellite tagging project, Commissioned Report¹⁰;
- Scottish Marine Animal Stranding Scheme (SMASS)¹¹ for records of marine strandings up to 20km from the site;
- Marine Directorate Updated Seal Usage Maps: The Estimated at-sea Distribution of Grey and Harbour Seals¹², which includes data obtained from the Sea Mammal Research Unit at St Andrews University¹³; and

¹ Marine Scotland 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, available at:

<https://data.marine.gov.scot/sites/default/files/Scottish%20Marine%20and%20Freshwater%20Science%20%28SMFS%29%20Vol%2011%20No%2012%20Regional%20baselines%20for%20marine%20mammal%20knowledge%20across%20the%20North%20Sea%20and%20Atlantic%20areas%20of%20Scottish%20waters.pdf>

² Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters: Appendix 3 - SCANS surveys Scottish Marine and Freshwater Science Vol 11 No 12, available at:

<https://data.marine.gov.scot/sites/default/files/Scottish%20Marine%20and%20Freshwater%20Science%20%28SMFS%29%20Vol%2011%20No%2012%20Regional%20baselines%20for%20marine%20mammal%20knowledge%20across%20the%20North%20Sea%20and%20Atlantic%20areas%20of%20Scottish%20waters%20-%20Appendix%203%20SCANS%20surveys%20%281%29.pdf>

³ IAMMWG. 2022. Updated abundance estimates for cetacean Management Units in UK waters. JNCC Report No. 680 (Revised March 2022), JNCC Peterborough, ISSN 0963-8091. Available at: <https://data.jncc.gov.uk/data/3a401204-aa46-43c8-85b8-5ae42cdd7ff3/jncc-report-680-revised-202203.pdf> (Accessed 09/05/2024)

⁴ South West Scotland Environmental Information Centre available at: <https://swseic.org.uk/>

⁵ NBN Atlas for records of marine mammals, seals and fish, available at: https://scotland-records.nbnatlas.org/explore/your-area#55.7368|-4.8886|13|ALL_SPECIES last accessed 23/10/2023

⁶ Sea Watch Foundation Cetaceans of Western Scotland available at: <https://seawatchfoundation.org.uk/wp-content/uploads/2012/07/WesternScotland.pdf> last accessed 19/10/2023

⁷ Sea Watch Foundation Recent Sightings South West Scotland and Inner Hebrides available at: <https://www.seawatchfoundation.org.uk/recent-sightings/> last accessed 19/10/2023

⁸ HWDT whale and dolphin sightings map, available at: <https://whaletrack.hwdt.org/sightings-map/> last accessed 31/10/2023

⁹ The Shark Trust basking shark sightings available at: <https://www.sharktrust.org/basking-shark-project> last accessed 19/10/2023

¹⁰ Witt, M.J., Doherty, P.D., Godley, B.J. Graham, R.T. Hawkes, L.A. & Henderson, S.M. 2016. Basking shark satellite tagging project: insights into basking shark (*Cetorhinus maximus*) movement, distribution and behaviour using satellite telemetry. Final Report. Scottish Natural Heritage Commissioned Report No. 908.

¹¹ Species reported within a 10km (sea route) to Scottish Marine Animal Stranding Scheme (SMASS) available at: <https://strandings.org/map/> last accessed 19/10/2023

¹² Updated Seal Usage Maps: The Estimated at-sea Distribution of Grey and Harbour Seals, Scottish Marine and Freshwater Science, Vol 8 No 25, available at: <https://data.marine.gov.scot/sites/default/files/SMFS%200825.pdf>

¹³ St Andrews Sea Mammal Research Unit, available at: <http://www.smru.st-andrews.ac.uk/>

- Marine Directorate National Marine Plan interactive (NMPi) for:
 - Location of marine designated sites;
 - Seal haul out sites;
 - Distribution of Priority Marine Features

2.1.1 Disclaimer

It should be noted that the baseline is limited by the reliability of third party information and the geographical availability of biological and/or ecological records and data. The absence of species from biological records cannot be taken to represent actual absence. Species distribution patterns should be interpreted with caution as they may reflect survey/reporting effort rather than actual distribution. Records may also be submitted by individuals to more than one organisation and so it is possible that there is some duplication in records between sources.

2.2 Cetaceans

All cetaceans present in Scottish waters are European Protected Species (EPS) and are classed as Priority Marine Features (PMFs).

2.2.1 Harbour Porpoise

The harbour porpoise are resident year round in Scotland and are one of the most frequently sighted cetaceans. They are predominantly confined to shelf waters <200m depth. Peak numbers and frequency of harbour porpoise sightings generally occur between July and October, when singles or family groups of 2-3 may form aggregations numbering 10- 100 individuals.

The site is located within the West Scotland Management Unit. The most recent population estimates for this are an abundance of 28,936 individuals.

No live sightings of harbour porpoise have been recorded within the development area. 34 records of harbour porpoise have been submitted to SWF in 2023 from south west Scotland and Inner Hebrides consisting of 66 individuals, the closest of which being approximately 20km north west of the development site, offshore of Rothesay Bay in Argyll and Bute May. HWDT have recorded 458 sightings of harbour porpoise within a 20km radius (shortest distance via water) between 2017-2023, with the nearest recorded 2km north west of the site. SMASS have recorded 99 records of harbour porpoise strandings between 1994-2022, with two records associated with the Hunterston site. SWSEIC have recorded 23 records of harbour porpoise between 2004-2020 within a 2km radius of the site. Figure 2-1 shows predicted density surface for harbour porpoise in 2016 using SCANS III survey data. Predicted density within the vicinity of the Proposed Development is 0.3 – 0.5 animals per km².

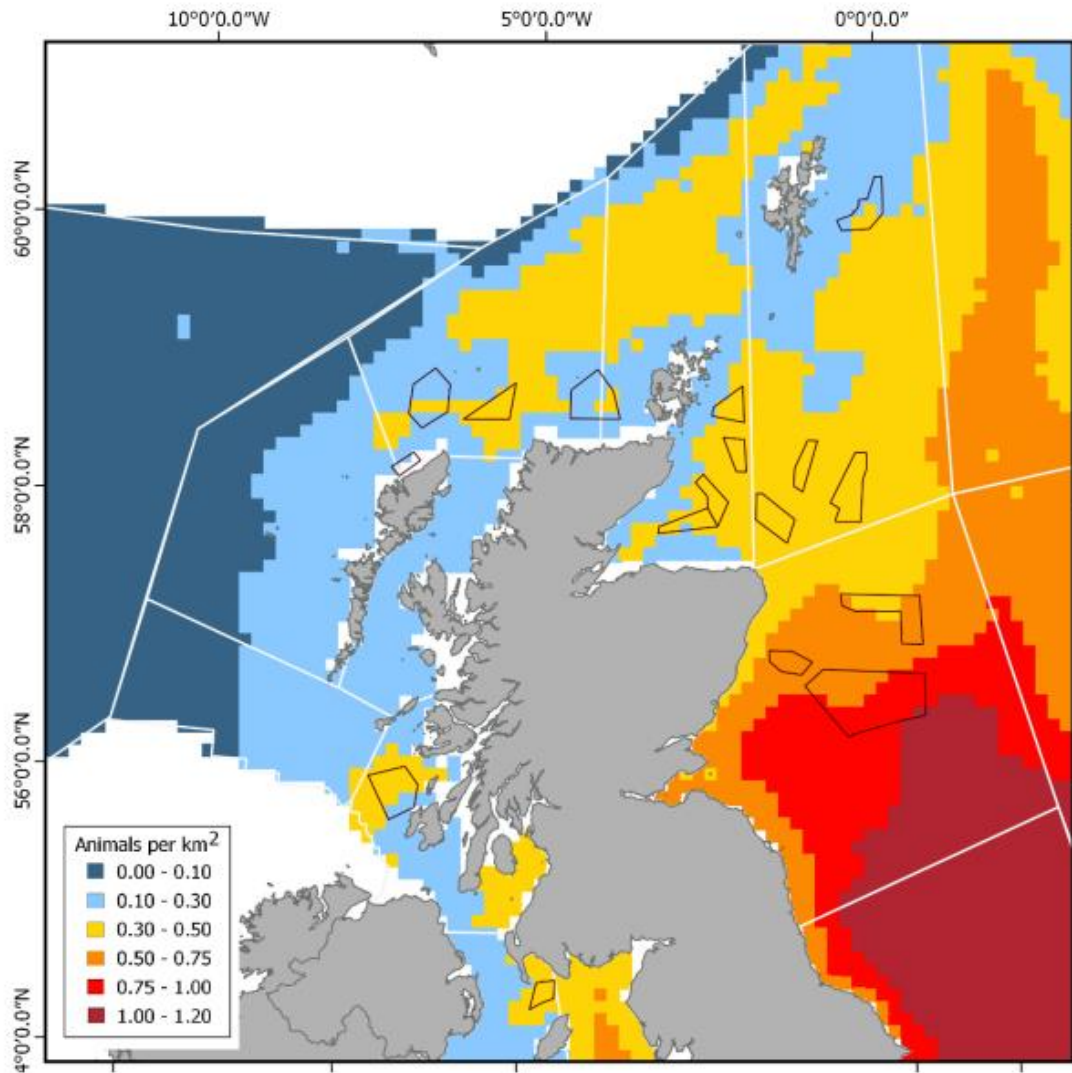


Figure 2-1: Predicted density surface for harbour porpoise in 2016 using SCANS III survey data. Figure reproduced from Marine Directorates Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters.

Available records and distribution data suggest it is likely that harbour porpoise are present within the vicinity of the Proposed Development and could be impacted.

2.2.2 Risso's Dolphin

Risso's dolphin are resident year-round in Scotland but are present in higher densities during the summer months. They are widely distributed mainly in groups of 5-25 (occasionally up to 50) individuals. Risso's dolphins have been recorded mainly over slopes of 50-100 m depth in the UK. Most sightings of Risso's dolphins are from western Scotland (with the Outer Hebrides being the dominant area). Sightings on the west coast of Scotland occur generally between April and September, with numbers peaking in August and September.

Risso's Dolphin is part of the Celtic and Greater Northern Seas (CGNS) Management Unit, with most recent abundance estimates of 12,262.

No sightings of Risso's dolphin have been recorded within the development area. No records of Risso's dolphin have been submitted to SWF in 2023, HWDT between 2017 – 2023 and SMASS, within 20km of the site.

Habitat preferences and data available suggest Risso's dolphin are not present regularly within the vicinity of the Proposed Development and impacts are not considered likely.

2.2.3 Minke Whale

Minke whale are widely distributed in relatively small numbers, usually observed singly or in pairs. They tend to reside mainly on the continental shelf in water depths of 200 m or less, often being observed close to land, however have been recorded at depths of 500m. Although minke whale can occur year-round in parts of Scotland, they are largely considered to be seasonal visitors with sightings increasing during summer months.

No sightings of minke whale have been recorded within the development area. 22 records of minke whale have been submitted to SWF in 2023 from south west Scotland and Inner Hebrides consisting of 20 individuals, the closest of which being approximately 21km south west of the development site, offshore of Brodick bay, Arran. HWDT have recorded 20 sightings of minke whale within a 20km radius (shortest distance via water) between 2017-2023, with the nearest recorded 1.4km north of the site. SMASS have recorded 6 records of minke whale strandings between 1993-2016, with the nearest recorded 6km north west of the Hunterston site. Figure 2-2 shows predicted density surface for minke whales in 2016 using SCANS III data. Predicted densities in the vicinity of the Proposed Development are between 0.02 – 0.03 animals per km².

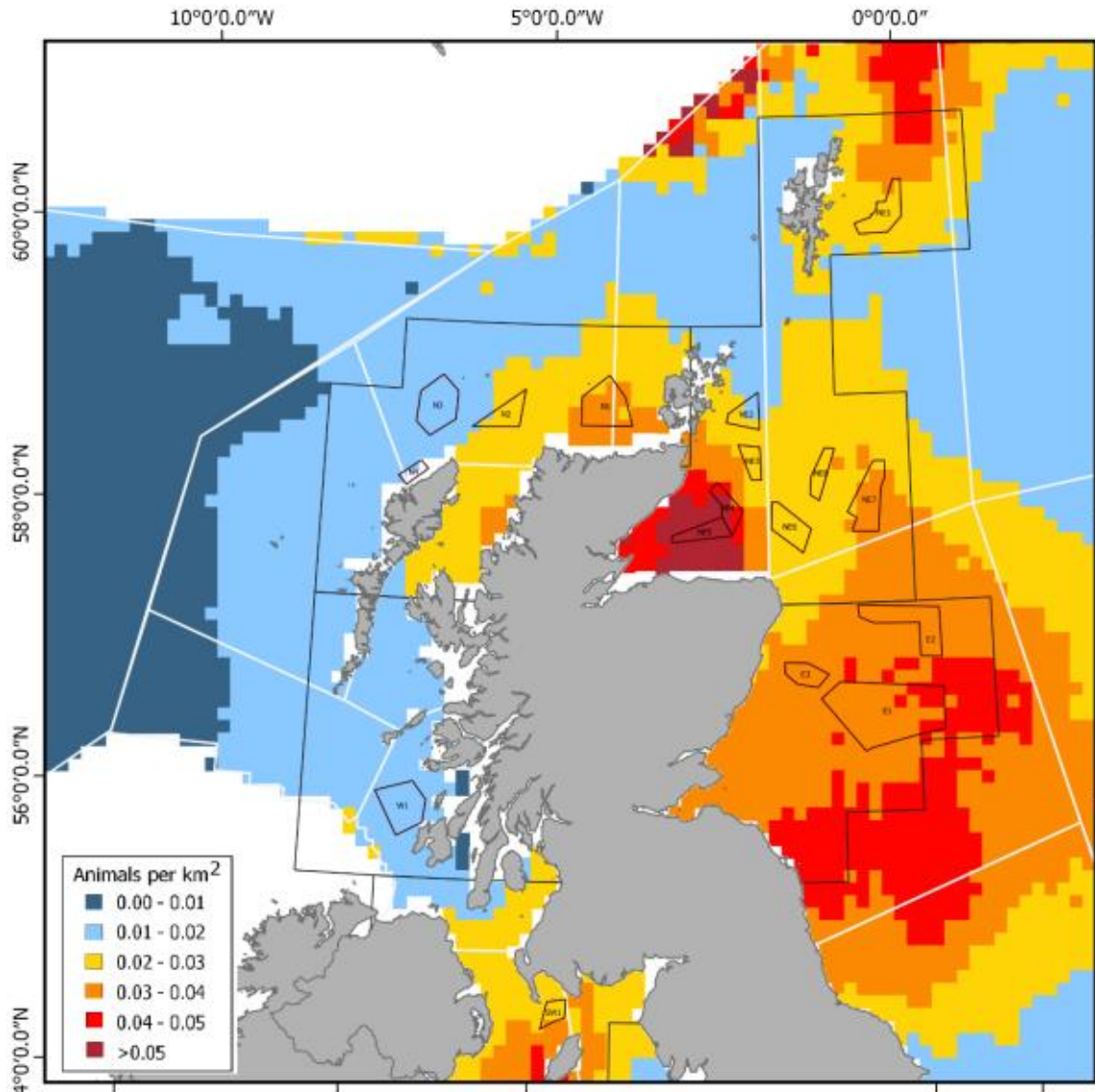


Figure 2-2: Predicted density surface for minke whale in 2016 using SCANS III survey data. Figure reproduced from Marine Directorates Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters.

Available records and distribution data suggest it is likely that minke whale are present regularly within the vicinity of the Proposed Development and could be impacted.

2.2.4 Fin Whale

Fin whale are rare in Scottish waters and have a preference for deeper waters over the continental shelf edge, along or beyond the 500m depth contour. Fin whale can be sighted occasionally off South-west Scotland, predominantly of single individuals or small groups of 2-3 animals, as they are a non-social species. Most sightings associated with the West of Scotland occur May to August.

No sightings of fin whale have been recorded within the development area. Three records of fin whale have been submitted to SWF in 2023 from south west Scotland and Inner Hebrides consisting of four individuals, the closest of which being approximately 240km north west of the development site, offshore of Mull. No records of fin whale were reported to HWDT within a 20km radius (shortest

distance via water) between 2017-2023 and no records of fin whale strandings have been reported to SMASS within a 20km radius of the development site.

Habitat preferences and data available suggest fin whale are not present regularly within the vicinity of the Proposed Development and are unlikely to be impacted.

2.2.5 Long-finned Pilot Whale

Long-finned pilot whale mainly occur in deep waters (200-3,000 m), although have occasionally been observed in shallower coastal waters around northern Scotland, the northern North Sea and the Channel. Sightings of 10-50 individuals are sometimes seen nearshore, where occasional mass strandings have occurred, with larger pods (tens to hundreds) being seen in deeper waters. Sighting in the west of Scotland generally peak between April and September.

No sightings of long-finned pilot whale have been recorded within the development area. No records of long-finned pilot whale have been submitted to SWF in 2023 from south west Scotland and Inner Hebrides or HWDT within a 20km radius (shortest distance via water) between 2017-2023. One long-finned pilot whale stranding was reported to SMASS within a 20km radius of the development site in 2021, located approximately 18km south offshore of Saltcoats.

Habitat preferences and data available suggest long-finned pilot whale are not present regularly within the vicinity of the Proposed Development and are unlikely to be impacted.

2.2.6 Sperm Whale

Sperm whale are predominantly present in off-shore waters west of the continental shelf edge. Male sperm whales occur mainly in waters deeper than 200m, such as beyond the shelf break west of Scotland, but they have also been observed in near-shore waters mainly off the Northern Isles of Scotland. The species can sometimes be seen in nearshore waters where mass strandings have occasionally occurred. Sightings of sperm whale have been recorded mainly between July and December.

No sightings of sperm whale have been recorded within the development area. No records of sperm whale have been submitted to SWF, HWDT or SMASS within a 20km radius (shortest distance via water) of the development site.

Habitat preferences and data available suggest sperm whale are not present regularly within the vicinity of the Proposed Development and are unlikely to be impacted.

2.2.7 Killer Whale

Killer whales are resident year round in Scottish waters but in low densities. Records have mainly been recorded in coastal waters between April and October singly or in groups numbering up to 14 individuals, with peak number of records occurring between June and October. Killer whales sighted in the west of Scotland are thought to belong to a small assemblage that range around Britain and Ireland known as the West Coast Community.

No sightings of killer whale have been recorded within the development area. One record of killer whale has been submitted to SWF in 2023 from south west Scotland and Inner Hebrides consisting of two individuals, being approximately 23km south of the development site, offshore of Irvine. Two records of killer whale were reported to HWDT within a 20km radius (shortest distance via water)

between 2017-2023. No records of killer whale strandings were reported to SMASS within a 20km radius of the development.

Records and available distribution data suggest killer whale may be present within the vicinity of the Proposed Development occasionally and could therefore be impacted.

2.2.8 White-beaked Dolphin

White-beaked dolphin are present in Scotland year round and are widely distributed. They tend to occupy near-offshore waters. Group size varies between 10-100 individuals. Peak numbers are recorded between June and October, with sightings over winter months being rare.

No sightings of white-beaked dolphin have been recorded within the development area. No records of white-beaked dolphin have been submitted to SWF, HWDT or SMASS within a 20km radius (shortest distance via water) of the development site. Figure 2-3 shows predicted density surface for white-beaked dolphins in 2016 using SCANS III data. The predicted densities within the vicinity of the Proposed Development are 0 – 0.05 animals per km².

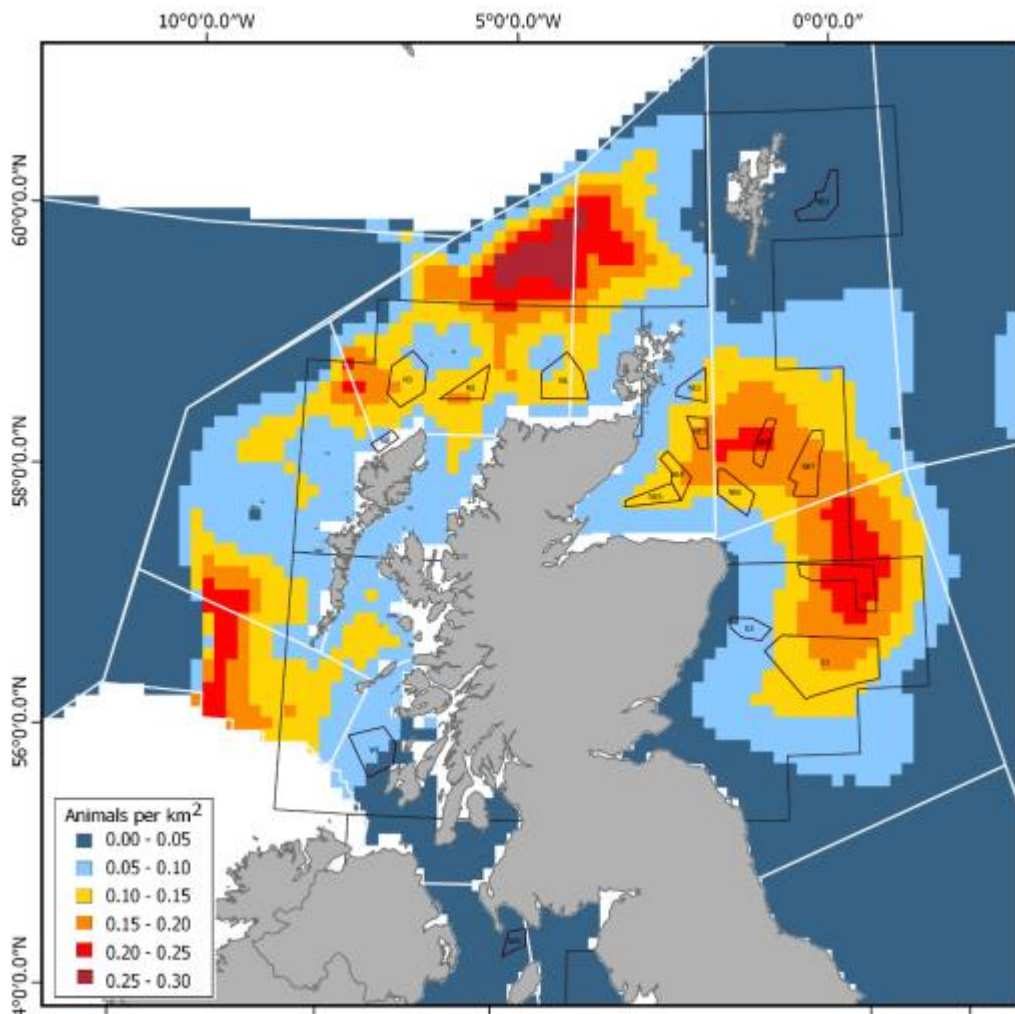


Figure 2-3: Predicted density surface for white-beaked dolphins in 2016 using SCANS III data. Figure reproduced from Marine Directorates Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters.

Overall records and distribution data suggest white-beaked dolphin are unlikely to be present in the vicinity of the Proposed development and are unlikely to be impacted.

2.2.9 Atlantic White-sided Dolphin

Atlantic white-sided dolphin are present in Scottish waters in low numbers with predominantly offshore distributions. Most sightings occur during the summer months.

No sightings of Atlantic white-sided dolphin have been recorded within the development area. Three records of Atlantic white-sided dolphin have been submitted to SWF in 2023 from south west Scotland and Inner Hebrides consisting of 21 individuals, the closest of which being approximately 240km north west of the development site, offshore of Mull. No records of Atlantic white-sided dolphin were reported to HWDT between 2017-2023 or SMASS within a 20km radius (shortest distance via water) of the development.

Overall, habitat preferences, distribution data and records suggest Atlantic white-sided dolphin are not likely to be present within the vicinity of the Proposed Development and therefore won't be impacted.

2.2.10 Short-beaked Common Dolphin

Short-beaked common dolphin are not strongly associated with nearshore waters, instead being considered an offshore species, however, sightings off southwest Scotland north to the Isle of Skye are common year round. Peak number of sightings occur between May and early July, declining sharply from August onwards, with groups of 5-20 individuals usually observed (larger groups of up to 500 individuals have been recorded).

No sightings of short-beaked common dolphin have been recorded within the development area. 22 records of short-beaked common dolphin have been submitted to SWF in 2023 from south west Scotland and Inner Hebrides consisting of 437 individuals, with the nearest record located within in the Firth of Clyde (no exact location provided) which the site extends into. 31 records of short-beaked common dolphin were reported to HWDT within a 20km radius (shortest distance via water) between 2017-2023. Two short-beaked common dolphin strandings were reported to SMASS within a 20km radius of the development site in 2001 and 2013, with the nearest located approximately 16km south offshore of Saltcoats. SWSEIC returned 11 records of short-beaked common dolphin between 2010-2019 within a 2km radius of the site.

Whilst the habitat surrounding the site is sub optimal for this species, records indicate that it may be present occasionally and so there is potential for impacts to occur.

2.2.11 Bottlenose Dolphin

Bottlenose dolphin are resident year round in Scottish waters, with distributions primarily limited to coastal waters. Sightings are predominantly along the east coast of Scotland, associated with the Moray Firth resident population. There is also a concentration of sightings in the north west associated

with a smaller resident population present around Barra. Bottlenose dolphin are observed in the greatest numbers in coastal waters between April and September.

No sightings of bottlenose dolphin have been recorded within the development area. 11 records of bottlenose dolphin have been submitted to SWF in 2023 from southwest Scotland and Inner Hebrides consisting of 74 individuals, with the nearest located approximately 218km northwest offshore of Ardalanish, Isle of Mull. 86 records of bottlenose dolphin were reported to HWDT within a 20km radius (shortest distance via water) between 2017-2023. No bottlenose dolphin strandings were reported to SMASS within a 20km radius of the development site. SWSEIC have recorded two records of bottlenose dolphin between 2011-2022 within a 2km radius of the site.

There is suitable habitat for bottlenose dolphin in the vicinity of the Proposed Development. Distribution data and records suggest they could be present occasionally and so may be impacted.

2.2.12 Other Cetaceans

Other rare cetacean species recorded around the west coast of Scotland since 1980 include blue whale, sei whale, humpback whale, Northern right whale (*Eubalaena glacialis*), Sowerby's beaked whale, Cuvier's beaked whale, Northern bottlenose whale, Beluga, striped dolphin and Fraser's dolphin. In general, the conditions off Hunterston do not tend to suit the requirements of the majority of these species and no recent records of these species within a 20km radius (shortest distance via water) were returned from SWF or HWDC. The nearest record for these rare species was of an individual humpback whale approximately 21km north west offshore of Ardmaleish point in Bute reported to SWF in 2023, with other species recorded at greater distances from the site (>100km).

2.3 Seals

Both harbour seal (*Phoca vitulina*) and grey seal (*Halichoerus grypus*) are PMFs and can be seen all around Scotland, predominantly on many of the offshore islands and along much of the west mainland coast.

The latest estimate of the UK harbour seal population is 43,750 with the Southwest Scotland Seal Management Unit (SMU) being home to approximately 5.4% of that. Whilst the overall trend for harbour seals within the UK is increasing, there has been a dramatic change in distribution. Counts in the Southwest Scotland SMU have been increasing since the 1990s and in all other areas they have remained stable. The West Scotland population is now the largest population in the UK and in 2018 was approximately twice the size it was in the mid-1990s. SWSEIC have recorded 37 harbour seal sightings between 1990-2023 within a 2km radius of the site. SMASS have recorded 49 harbour seal strandings within 20km (shortest route via water) of the site between 1997-2022.

The site and adjacent coastline is considered unsuitable (by report authors) for use as a haul out by harbour seals due to the moderate levels of disturbance associated with the area and human/ commercial/ vehicular activity, with vessels regularly commuting past, as such is not considered that the habitat is suitable for use as a breeding or moulting haul out site.

Grey seals travel large distances, frequently over 100km, to forage and prefer offshore feeding areas as well as exposed coasts and islands to come ashore. Harbour seals routinely travel 40-50km from their haul-out sites to forage and prefer more sheltered waters. SWSEI have recorded 95 grey seal sightings between 1990-2023 within a 2km radius of the site. SMASS have 30 records of stranded grey seal within 20km between 1995-2022.

No designated seal haul out sites are associated with the Hunterston site, with the nearest being Lady Isle, located approximately 27km south of the site (via shortest route in water) designated as a key site for harbour and grey seals. The nearest grey seal breeding site is located 200km (shortest route via water) north west at West Oronsay.

Records of 420 out of 461 tagged harbour seals within UK waters (2001-2018) show a primarily coastal distribution, with some concentrations of tagged seals in the south west, however very limited records near the Hunterston site, as detailed in Figure 2-7. Estimated at sea usage for the area around the site is c.1 <5 individuals per 5km² (Figure 2-8).

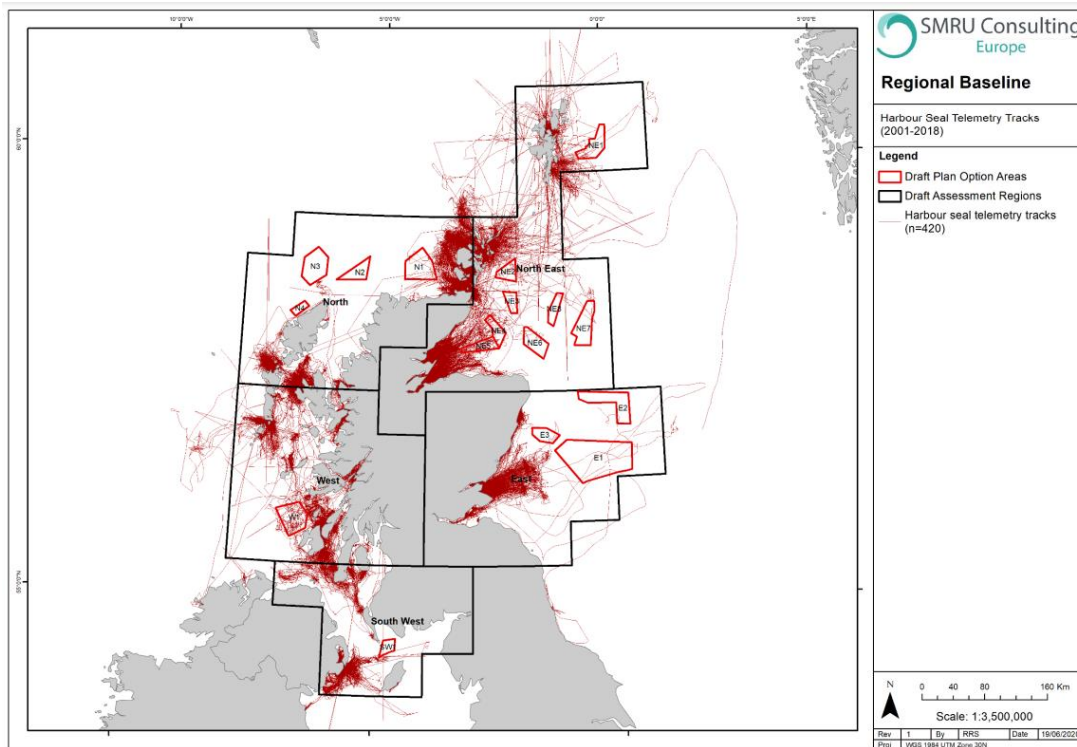


Figure 2-4: Telemetry tracked harbour seals (2001-2018)

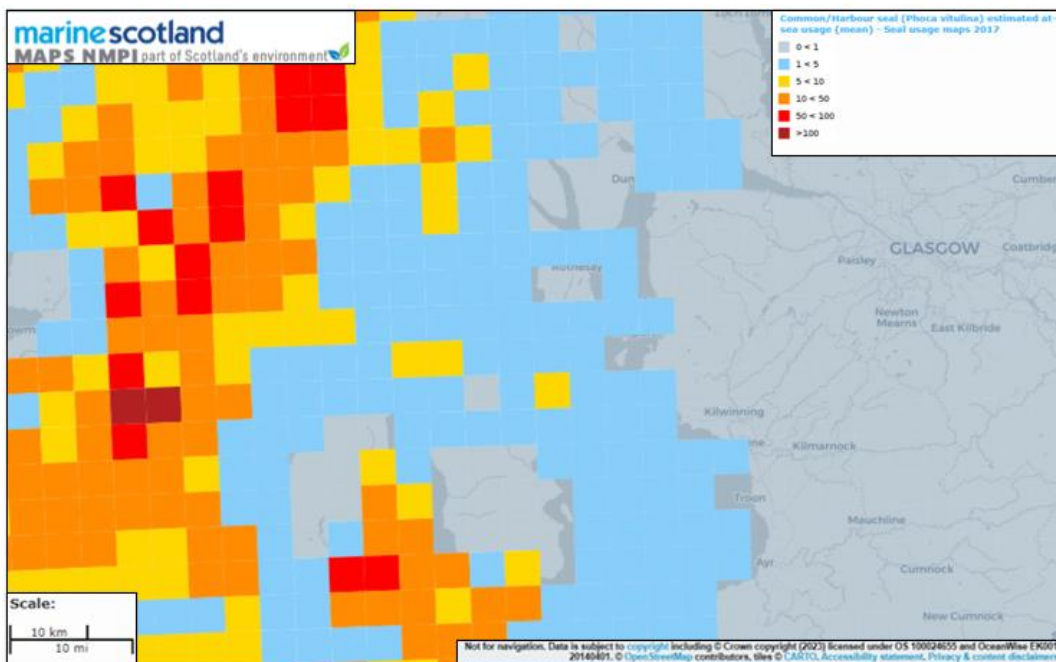


Figure 2-5: Map showing the estimated mean harbour seal density at sea. Image taken from the NMPi. Data from surveys conducted between 1991 and 2016, originated from the Sea Mammal Research Unit.

Records of 285 out of 355 tagged grey seals within UK waters (1988-2018) show a broad-scale distribution, with tagged grey seals utilising both coastal and offshore habitat, with the south west being the least highly used area, as detailed in Figure 2-9. The estimated sea usage for grey seals within the site is c.1 <math>< 5</math> individuals per 5km² as detailed in Figure 2-10.

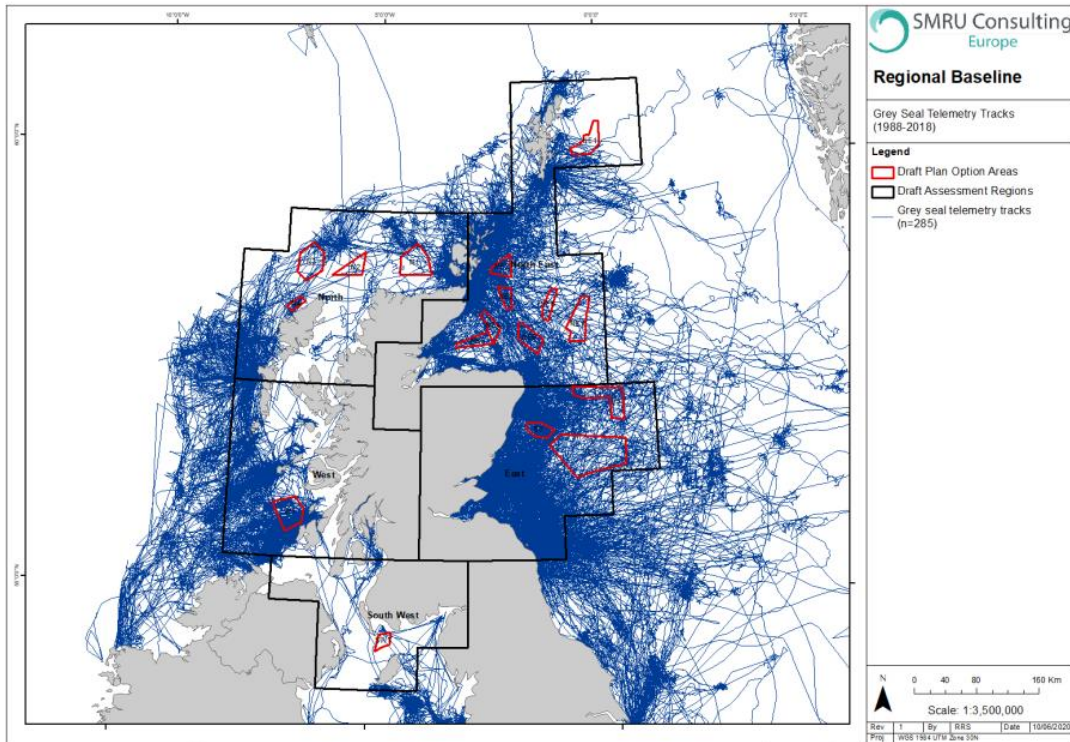


Figure 2-6: Telemetry tracked grey seals (1988-2018)

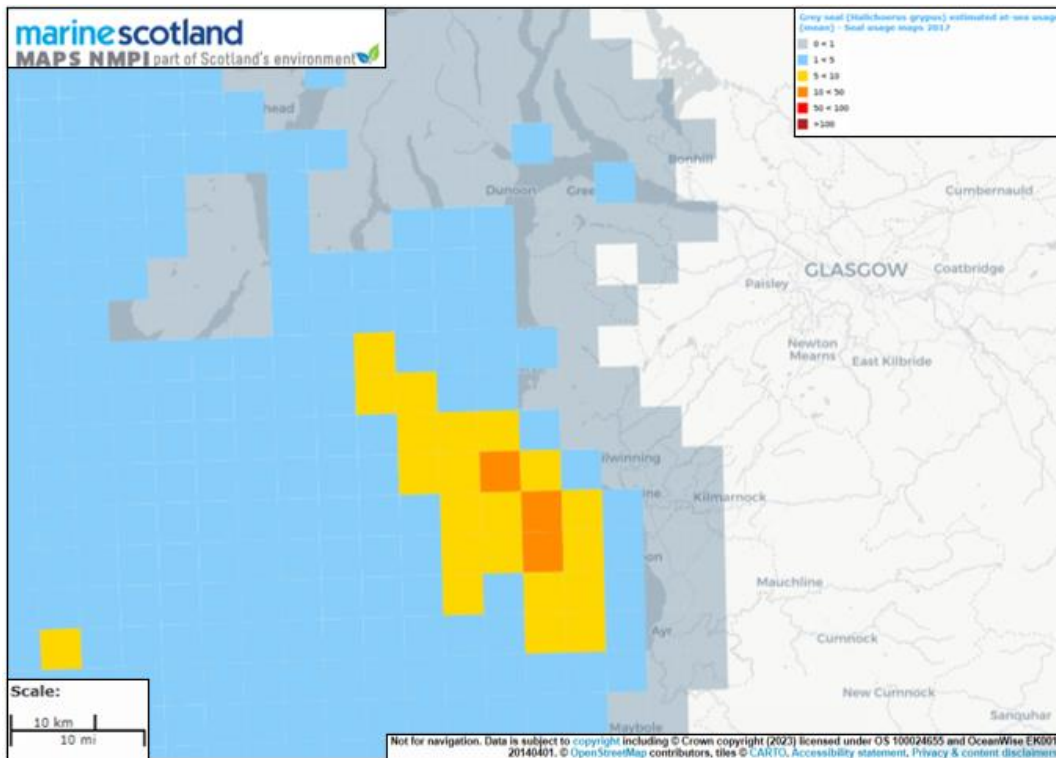


Figure 2-7: Map showing the estimated mean grey seal density at sea. Image taken from the National Marine Plan Interactive Map (NMPi). Data from surveys conducted between 1991 and 2016, originated from the Sea Mammal Research Unit.

Seal haul out data counts for harbour seal and grey seal also show the limited association with south west of Scotland, as detailed in Figure 2-11.

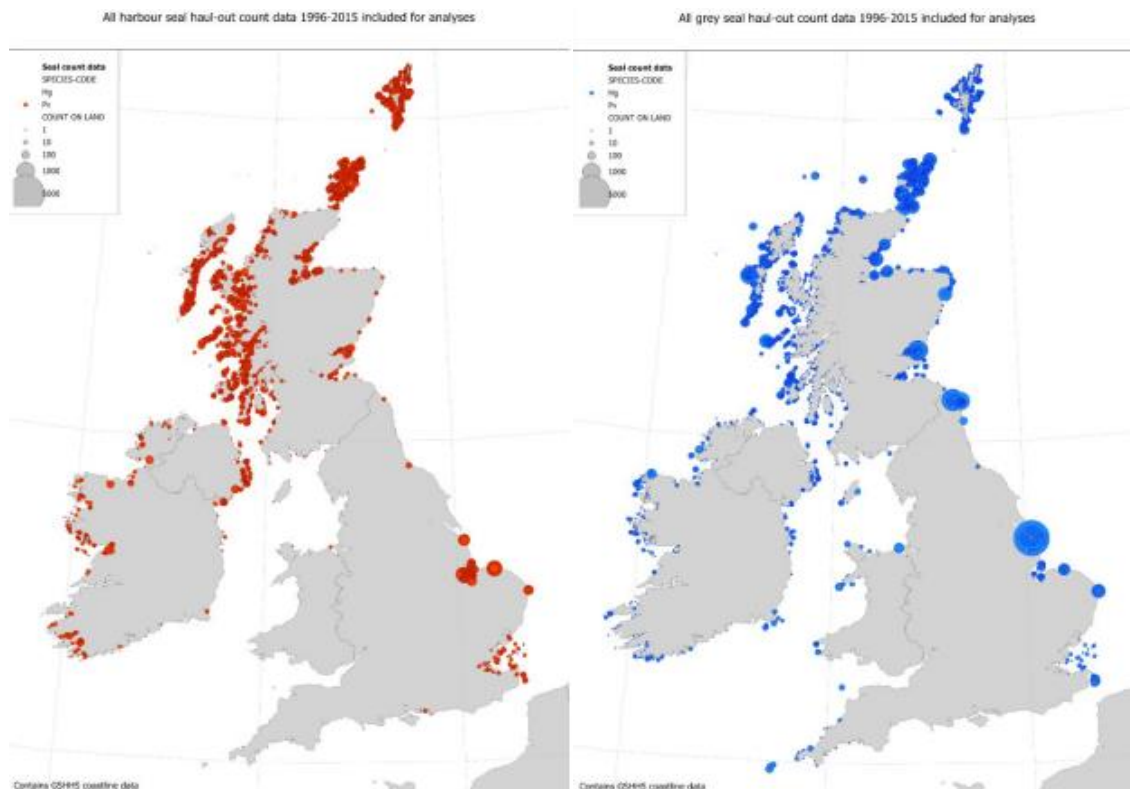


Figure 2-8: Haul out seal count data (1996-2015)

Overall it is considered that there is suitable habitat for foraging and commuting grey and harbour seals within vicinity of the Proposed Development. Records and distribution data show they are present and could be impacted.

2.4 Fish

2.4.1 Basking Shark

Basking sharks are listed as endangered on the International Union for Conservation of Nature and Natural Resources (IUCN) Redlist¹⁴. They are a PMF and are afforded domestic protection under the Wildlife and Countryside Act.

53 individual basking sharks (*Cetorhinus maximus*) have been recorded within a 20km radius of the site (via shortest route) between 2015 and 2022. Basking sharks are mainly coastal dwelling but migrate at depths of 200-1000m. The basking shark season spans May-October, with the west coast being considered a hotspot¹⁵. No records of basking shark strandings have been reported by SMASS near the Hunterston site, with the nearest being located 55km north west near the Forth of Clyde in 2022. Basking shark sightings have been reported to HWDC since 2017, with 15 records (totalling 21 basking sharks) within a 50km radius (via shortest route through water) being recorded, with the nearest being 2.25km north of the site.

Records and distribution data indicate they may be present within the vicinity of the Proposed Development and could be impacted.

2.4.2 Diadromous Fish

Atlantic salmon and sea trout (*Salmo trutta*) are known to migrate into the Clyde estuary and coastal streams and rivers. On returning to spawn, salmonids follow the coast. Based on catch data, the Clyde and Ayr Salmon Fishery Statistical District (District 45 and 9 respectively) are not highly significant in national terms¹⁶.

The Burn Gill which is present within the access route of the site, is not considered an Atlantic salmon or sea trout river by Marine Scotland¹⁷. However, brown/sea trout and brown trout (*Salmo trutta ssp. fario*) have been recorded using the Burn Gill during surveys in 2022 undertaken by RPS to inform the XLCC EIA¹⁸. The nearest watercourse to the site which is considered to 'likely host' salmon by Marine Scotland is the Gogo Water, approximately 6km north of the site.

To the south, the nearest salmonid rivers on the same coastline, are the Irvine and Garnock, which both have significant and robust salmon and sea trout populations. To the north the Noddsdale Water and Gogo Water at Largs both have salmon and sea trout runs, although small and precarious. In the

¹⁴ IUCN Redlist available at: <http://www.iucnredlist.org/> last accessed 12/12/2023

¹⁵ The Shark Trust basking shark sightings available at: <https://www.sharktrust.org/basking-shark-project> last accessed 23/10/2023

¹⁶ Marine Scotland Salmon and sea trout fishery statistics: 1952 to 2022 season - reported catch by district and method, available at: <https://data.marine.gov.scot/dataset/salmon-and-sea-trout-fishery-statistics-1952-2022-season-reported-catch-district-and-method> (Accessed 11/01/2024)

¹⁷ Marine Scotland Salmon and Sea Trout – Scottish Salmon Rivers, available at: <https://marine.gov.scot/information/atlantic-salmon-distribution-scotland>, last accessed 09/01/2023

¹⁸ XLCC Hunterston Environmental Statement Volume 1 (2022), available at: https://www.eplanning.north-ayrshire.gov.uk/OnlinePlanning/files/AD5A00C8DD23C97A3D2DAC6D37FEF908/pdf/22_00133_PPPM-EIA_REPORT_CHAPTER_5_ECOLOGY_AND_NATURE_CONSERVATION-1048167.pdf (Accessed 11/01/2023)

inner Clyde estuary there are several salmon rivers, including the Kelvin, Clyde and Leven with large salmon and sea trout runs.

A recent site visit undertaken by EnviroCentre considered the Burn Gill to offer some suitability for European eel (*Anguilla anguilla*), lamprey (sea, brook and river) and other fish species.

The Atlantic salmon, sea trout, sea lamprey (*Petromyzon marinus*) and European eel are PMFs (marine part of life cycle). There is potential for these species to be present, at least during part of their lifecycle within the vicinity of the Proposed Development and there is potential for impact to occur.

2.4.3 Other Marine Fish

A range of fish species have been recorded on NBN Atlas¹⁹ within 2km of the Hunterston development between 2004-2019, some of which are PMFs (as indicated by *). Species recorded include:

- Atlantic cod (*Gadus morhua*)*
- Ballan wrasse (*Labrus bergylta*)
- Butterfish (*Pholis gunnellus*)
- Common dragonet (*Callionymus lyra*)
- Five-bearded Rockling (*Ciliata mustela*)
- Goldsinny (*Ctenolabrus rupestris*)
- Greater Pipefish (*Syngnathus acus*)
- Hook-nose (*Agonus cataphractus*)
- Lesser Spotted Dogfish (*Scyliorhinus canicula*)
- Lumpsucker (*Cyclopterus lumpus*)
- Painted Goby (*Pomatoschistus pictus*)
- Pipefish (*Syngnathidae*)
- Plaice (*Pleuronectes platessa*)
- Pollock (*Pollachius*)
- Poor cod (*Trisopterus minutus*)
- Rock cod (*Centrolabrus exoletus*)
- Saithe (*Pollachius Virens*)*
- Sand goby (*Pomatoschistus minutus*)*
- Sea Scorpion (*Taurulus bubalis*)
- Shanny (*Lipophrys pholis*)
- Topknot (*Zeugopterus punctatus*)
- Two-spotted Goby (*Gobiusculus flavescens*)
- Worm Pipefish (*Nerophis lumbriciformis*)
- Yarrell's Blenny (*Chirolophis ascanii*)

Data available from a number of surveys undertaken in The Firth of Clyde by Seasearch volunteers collected via dives/snorkels/inter-tidal walks provides lists of species at defined locations. Fish species recorded at the nearest survey location to the site was Cell 4527 (2019) adjacent to the site which recorded species including goby (*Pomatoschistus*) and small-spotted catshark (*Scyliorhinus canicula*).

SWSEIC returned two records of plaice between 2010-2022 and 1 record of brown trout in 2020, within a 2km radius of the site.

¹⁹ Data on fish species obtained through NBN Atlas, via data resources: Porcupine Marine Natural History Society, Seasearch, Marine Biological Association and NatureScot accessed on 23/10/2023

The following PMF fish species, have either been recorded in proximity to the site ⁽ⁱ⁾ or are marine mammal prey sources ⁽ⁱⁱ⁾. Information (where possible) on, nursery and spawning ground areas ^{20 21 22} as well as distribution has been used to assess whether the species could be present within the Hunterston development site. As currently no benthic habitat surveys have been undertaken for the site, habitat preferences of species whose spawning and nursery grounds do not cover the site cannot be discounted at this stage. Those of relevance are detailed in Table 2-2.

Table 2-1: Fish PMFs in Relation to Hunterston Development Site

PMF	Spawning Grounds Cover the Site	Nursery Grounds Cover the Site	Distribution Covers the Site
Anglerfish (<i>Lophius piscatorius</i>)	No	Yes (low density)	Yes
Atlantic halibut ⁽ⁱⁱ⁾	No	No	No
Atlantic herring ^{(i) (ii)}	No	Yes (high density)	Yes
Atlantic mackerel ^{(i) (ii)}	No	No	Yes
Atlantic salmon ⁽ⁱⁱ⁾	No	No	Yes
Blue whiting ^{(i) (ii)}	No	No	No
Cod ^{(i) (ii)}	No	No	Yes
Flapper skate and blue skate (formerly common skate) (<i>Dipturus intermedius</i> and <i>D. batis</i>) ^{(i) (ii)}	Yes	No	Yes
Horse mackerel ^{(i) (ii)}	No	No	No
Ling ⁽ⁱ⁾	No	No	Yes
Saithe ⁽ⁱⁱ⁾	No	Yes (density undetermined)	Yes
Sandeels (<i>Ammodytes marinus</i> & <i>Ammodytes tobianus</i>) ⁽ⁱⁱ⁾	Yes (low density)	Yes (low density)	Yes
Sand goby ^{(i) (ii)}	Highly likely	Highly likely	Yes
Sandy ray (<i>Leucoraja circularis</i>) ⁽ⁱⁱ⁾	No	No	No
Spiny dogfish (<i>Squalus acanthias</i>)	No	Yes (high density)	Yes
Whiting ^{(i) (ii)}	No	Yes (high density)	Yes

2.5 Marine Mammals and Fish Species Likely to be Impacted

From the proposed works associated with the development, some of the following potential impacts may occur:

- Under water noise generated during construction works may temporarily or permanently impact marine mammals, seals and fish.
- Potential impacts on water quality as a result of pollution events (fuel spills, sediment runoff etc.) during and post construction.
- Removal of benthic habitat during construction.

²⁰ MS NMPi data available at: https://marine.gov.scot/maps/nmpi?title=&items_per_page=25

²¹ CEFAS Ellis, J.R., Milligan, S.P., Readdy, L., Taylor, N. and Brown, M.J. 2012. Spawning and nursery grounds of selected fish species in UK waters. Sci. Ser. Tech. Rep., Cefas Lowestoft, 147: 56pp.,

²² NatureScot <https://www.nature.scot/sites/default/files/Publication%202016%20-%20SNH%20Commissioned%20Report%20406%20-%20Descriptions%20of%20Scottish%20Priority%20Marine%20Features%20%28PMFs%29.pdf>

- Any dredging will remove bottom biota and dumping of dredged material covers bottom habitat, both of which may reduce fish resources.
- Introduction or further spread of any non-native species during and post construction.
- Increased ship movement may result in collisions with marine mammals, seals or basking sharks.

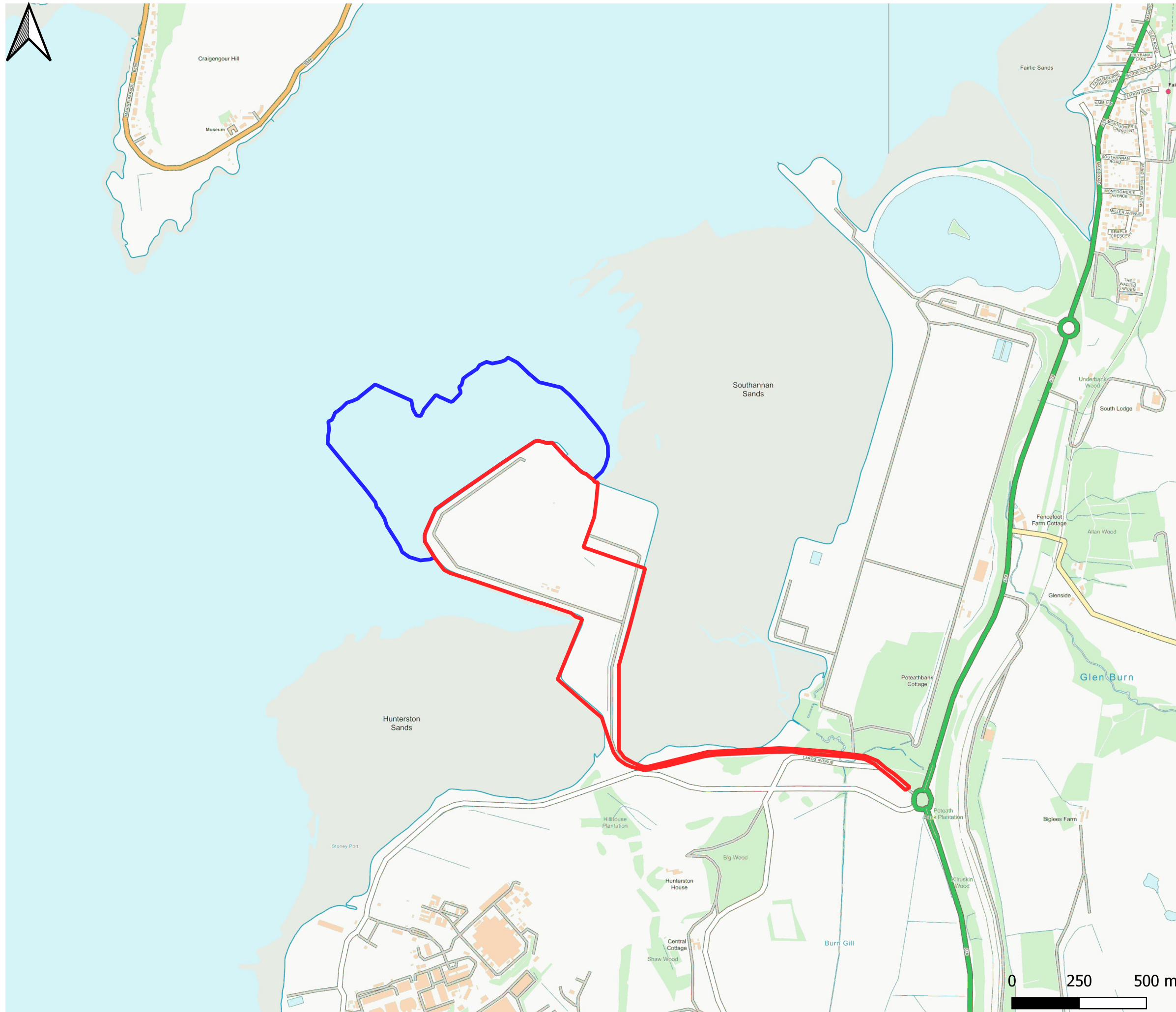
Based on the above information, it has been assessed that the most frequently observed species, and therefore the species considered to be of most concern within the zone of influence of the proposed SDWQ development, are harbour porpoise, Atlantic white-sided dolphin, bottlenose dolphin, short-beaked common dolphin, minke whale, killer whale, long-finned pilot whale, grey seal, harbour seal, basking sharks, diadromous fish, European eel, lamprey and some fish PMFs. The other species aforementioned are less frequently observed in Orkney waters and therefore are less likely to be of concern within the zone of influence.

Table 2-2: Marine Mammals and Fish Species Likely to be Impacted by Proposed Development

Species	Regularly Present near Hunterston	Likely to be Impacted
Harbour porpoise	Yes	Yes
Minke whale	Yes	Yes
Killer whale	Yes	Yes
Bottlenose dolphin	Yes	Yes
Short-beaked common dolphin	Yes	Yes
Atlantic white-sided dolphin	No	No
Long-finned pilot whale	No	No
Fin whale	No	No
Risso's dolphin	No	No
Short-beaked common dolphin	No	No
Striped dolphin	No	No
White beaked dolphin	No	No
Humpback whale	No	No
Sperm whale	No	No
Cuvier's beaked whale	No	No
Sei whale	No	No
Short-finned pilot whale	No	No
Sowerby's beaked whale	No	No
Northern bottlenose whale	No	No
False killer whale	No	No
Blue whale	No	No
Narwhal	No	No
Beluga	No	No
Harbour seal	Yes	Yes
Grey seal	Yes	Yes
Basking shark	Yes	Yes
Diadromous fish	Yes	Yes
European Eel	Yes	Yes
Lamprey	Yes	Yes
PMF fish species with nursery and spawning grounds covering the site	Yes	Yes

APPENDICES

A SITE LOCATION PLAN



Legend

- Terrestrial Boundary
- Marine Boundary

Do not scale this map

Client
Clydeport Operations Ltd

Project
Hunterston Construction Yard

Title
Location Map

Status
FINAL

Drawing No. 176482-QGIS004	Revision -	Date 10 May 2024
Drawn JSH	Checked GD	Approved GD

Scale
1:13,812 @ A3

Rev	Date	Amendment	Initials
-	-	-	-



8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA.
T: 0141 341 5040 E: info@envirocentre.co.uk
W: www.envirocentre.co.uk